

## **NOTICE**

The publication "Greenwich Photo-Heliographic Results; 1907, 1908" has been divided into its component years. The contents of the new files are as follows

1. Greenwich Photo-Heliographic Results; 1907

- Photographs of the Sun; 1907

- Measures of Positions and Areas of Sun Spots and Faculae; 1907

- Ledgers of Areas and Positions of Groups of Sun Spots; 1907

2. Greenwich Photo-Heliographic Results; 1908

- Photographs of the Sun; 1908

- Measures of Positions and Areas of Sun Spots and Faculae; 1908

- Ledgers of Areas and Positions of Groups of Sun Spots; 1908

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(144) → 144, 165, 211, 279, 290, ~~313~~ 304, 313

GREENWICH  
PHOTO-HELIOGRAPHIC  
RESULTS.

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1907, 1908.

# RESULTS OF MEASURES

MADE AT THE

ROYAL OBSERVATORY, GREENWICH,

UNDER THE DIRECTION OF

SIR W. H. M. CHRISTIE, K.C.B., M.A., D.Sc., F.R.S.  
ASTRONOMER ROYAL,

OF

# PHOTOGRAPHS OF THE SUN

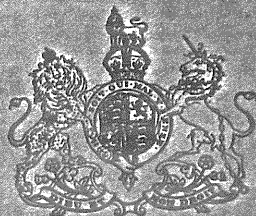
TAKEN AT

GREENWICH, IN INDIA, AND IN MAURITIUS,

IN THE YEAR

1907.

PUBLISHED BY ORDER OF THE BOARD OF ADMIRALTY, IN OBEDIENCE TO  
HIS MAJESTY'S COMMAND.



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1910.

# ERRATA.

## GREENWICH PHOTO-HELIOGRAPHIC RESULTS, 1907.

### MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ, 1907.

Page.	Column.	Line.	
5	1	41	Area of Umbra, <i>for</i> 58, <i>read</i> 28.
		42	Area of Umbra, <i>for</i> 13, <i>read</i> 58.
		43	Area of Umbra, <i>for</i> 28, <i>read</i> 13.
	Footnote.		Group 6076, <i>for</i> January 9, <i>read</i> January 8.
8	Footnote.		Group 6089, <i>for</i> January 16-18, <i>read</i> January 16-19.
10	Footnote.		Group 6096, <i>for</i> January 22-27, <i>read</i> January 22-31, and <i>insert</i> , The Group is not seen on January 28, 29, and 30.
12	Footnote.		<i>Insert</i> January 30. There is an uncertainty in the time of this photograph, and therefore in the longitudes of the spots and faculæ.
15	Footnote.		Group 6107, <i>for</i> February 5-16, <i>read</i> February 5-17.
20	Footnote.		Group 6113, <i>for</i> February 13-24, <i>read</i> February 13-23.
22	Footnote.		Group 6117, <i>for</i> February 18, <i>read</i> February 17.
28	1	36	Group 6134, Distance from Centre, 0.728, <i>delete</i> this line.
		44	Group 6134*, <i>delete</i> No. of Group, 6134*; Area of Umbra, 0; Area of Whole Spot, 5; and letter <i>n</i> to Faculæ.
28	2	5	Total Area of Whole Spots, <i>for</i> 1983, <i>read</i> 1972.
		15	No. of Group, <i>for</i> 6131*, <i>read</i> 6131.
43	2	14	No. of Group, <i>for</i> 6184, <i>read</i> 6185.
46	Footnote.		Group 6188, <i>for</i> May 14-17, <i>read</i> May 14-19, and <i>insert</i> , The Group is not seen on May 18.
49	Footnote.		Group 6204, <i>for</i> not seen on January 11, <i>read</i> not seen on June 11, and <i>insert</i> , Return of Group 6194.
55	Footnote.		Group 6215, <i>for</i> July 11-22, <i>read</i> July 11-23.
	Footnote.		Group 6216, <i>for</i> July 12-22, <i>read</i> July 11-23.
57	2	25	No. of Group, <i>for</i> 6217, <i>read</i> 6215.
57	Footnote.		Group 6220, <i>for</i> accompanying, <i>read</i> accompany.
	Footnote.		Group 6222, <i>for</i> July 23, <i>read</i> July 22.
58	Footnote.		Group 6226, <i>for</i> August 7, <i>read</i> August 8.
62	1	13	No. of Group, <i>for</i> 6237, <i>read</i> 6233†.
		35 }	No. of Group, <i>for</i> 6237, <i>read</i> 6233†.
		36 }	
	2	3	No. of Group, <i>for</i> 6237, <i>read</i> 6233†.
	Footnote.		<i>Insert</i> Group 6233†. August 16-18. Some small unstable spots, <i>n</i> of Group 6233.



- 66 Footnote. Group 6249, *insert* Return of Group 6234.  
 67 Footnote. Group 6255, *insert* Return of Group 6236.  
 69 Footnote. Group 6260, *insert* Return of Group 6244.  
 Footnote. Group 6262, *for* September 18-21, *read* September 18-23, and *insert*, The Group  
 is not seen on September 22.  
 70 Footnote. Group 6266, *for* not seen on September 30, *read* not seen on September 29 and 30.  
 Footnote. Group 6267, *for* September 26, *read* September 25.  
 75 Footnote. Group 6283, *for* Return of Group 6265, *read* Return of Group 6259.  
 76 Footnote. Group 6284, *for* and with it the return of Group 6265, *read* Return of Group 6265.  
 83 Footnote. Group 6300, *insert* Return of Group 6286.  
 88 Footnote. Group 6314, *insert* Revival after two days of Group 6209.  
 90 Footnote. Group 6318, *insert* With Group 6319, the return of Group 6300.  
 Footnote. Group 6319, *for* Return of Group 6300, *read* With Group 6318, the return of  
 Group 6300.  
 91 Footnote. Group 6321, *for* Return of Group 6301, *read* Return of Groups 6301 and 6306.  
 93 Footnote. Group 6324, *insert* Return or revival of Group 6310.  
 Footnote. *Insert* Group 6321\*. December 16. Some small spots far *n* of Group 6321.  
 96 Footnote. Group 6324†, *insert* A revival of Group 6324\*.  
 97 Footnote. *Insert* Group 6334, 1907 December 31—1908 January 1. Some very small spots.

## LEDGERS OF SUN SPOTS, 1907.

Page.	Group.	
120	6204	Head-note. <i>Insert</i> Return of Group 6194.
127	6252	Head-note. <i>For</i> it consist, <i>read</i> it consists.
	6249	Head-note. <i>Insert</i> Return of Group 6234.
128	6255	Head-note. <i>Insert</i> Return of Group 6236.
129	6260	Head-note. <i>Insert</i> Return of Group 6244.
133	6283	Head-note. <i>For</i> Return of Group 6265, <i>read</i> Return of Group 6259.
	6284	Head-note. <i>Insert</i> Return of Group 6265.
136	6300	Head-note. <i>Insert</i> Return of Group 6286.
139	6324	Head-note. <i>Insert</i> Return or revival of Group 6310.

# GREENWICH PHOTO-HELIOGRAPHIC RESULTS, 1907.

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## INTRODUCTION.

§ 1. *Measures of Positions and Areas of Sun Spots and Faculae on Photographs taken at the Royal Observatory, Greenwich, at Dehra Dûn and at the Kodaikânal Observatory in India, and at the Royal Alfred Observatory, Mauritius, in the year 1907; with the deduced Heliographic Longitudes and Latitudes.*

The photographs from which these measures were made were taken either at Greenwich; at Dehra Dûn, North-West Provinces, India; at the Kodaikânal Observatory, Southern India; or at the Royal Alfred Observatory, Mauritius.

The photographs of the Greenwich series were taken either with the Thompson or with the Dallmeyer Photoheliograph. The Thompson Photoheliograph, which was in regular use for the greater part of the year, is a photographic refractor of 9 inches aperture, presented to the Royal Observatory by Sir Henry Thompson, which has been fitted with an enlarging doublet by Ross, and with a camera and shutter for rapid exposure so as to take photographs of the Sun on a scale of about 7.5 inches to the solar diameter. The Dallmeyer,—which was substituted for the Thompson for a few days in 1907 November, when the equatorial carrying the latter was being repainted,—is an instrument used in the Transit of Venus expedition to New Zealand, which, as now adapted, gives a solar image of nearly 8 inches diameter on the photographic plate.

The photographs have been taken throughout the year on gelatine dry plates, "Lantern" plates supplied by R. W. Thomas & Co. being used, with hydroquinone development.

The photographs from Dehra Dûn, which have been forwarded by the Solar Physics Committee to fill the gaps in the Greenwich series, were taken under the superintendence of the Deputy Surveyor-General, Trigonometrical Survey of India;

the Kodaikáanal photographs were taken under the superintendence of Professor C. Michie Smith, Director of that Observatory; and the Mauritius photographs were taken under the superintendence of Mr. T. F. Claxton, Director of the Royal Alfred Observatory, Mauritius. At each observatory the instrument employed was a Dallmeyer Photoheliograph giving an image of the Sun about 8 inches in diameter. The plates and development used have been much the same at each of the four collaborating observatories.

Photographs of the Sun were available for measurement upon each day in 1907. For 60 of these days photographs taken at the observatory at Dehra Dûn, India, were measured and reduced, but during the preparation of the copy for press of the Ledger of Spot-Groups for 1906, it was found that the latitudes of spot-groups, as determined from the Dehra Dûn photographs, showed considerable discordances as compared with each other and with the latitudes derived from the Greenwich and Kodaikáanal photographs. These discordances were found to be due to a disturbance of the adjustment of the Dehra Dûn photoheliograph. So far as possible, therefore, photographs taken at Kodaikáanal or Mauritius were substituted for those taken at Dehra Dûn, but for 6 days there were no photographs available except those taken at Dehra Dûn. The photographs finally selected for measurement were supplied by the different observatories as under:—

Greenwich	.	.	.	.	.	.	183
Dehra Dûn	.	.	.	.	.	.	6
Kodaikáanal	.	.	.	.	.	.	78
Mauritius	.	.	.	.	.	.	98
Total							365

The *first* column on each page contains the Greenwich civil time at which each photograph was taken, expressed by the day of the year and decimals of a day, reckoning from Greenwich mean midnight January 1d. 0h., and also by the day of the month (civil reckoning), which latter is placed opposite the total area of Spots and Faculæ for the day. The photographs taken at Greenwich are distinguished by the letter G, those taken at Dehra Dûn, in India, by the letter D, those taken at Kodaikáanal Observatory, India, by the letter K, and those taken in Mauritius by the letter M.

The *second* column contains the initials of the two persons measuring the photograph; the initial on the left being that of the person who measured the photograph on the left of the centre of the measuring instrument, and that on the right being that of the person who measured on the right of the centre.

The following are the signatures of those persons who measured the photographs for the year 1907 :—

E. W. Maunder	-	M	C. F. Lait	-	-	CL
R. Fowler	-	RF	F. A. Saville	-	-	FS
A. H. Smith	-	AS				

The *third* column gives the No. of the group, and the letter for the spot. The groups are numbered in order of their appearance.

The *next two* columns give the distance from the centre of the Sun in terms of the Sun's radius, and the position-angle from the Sun's axis, reckoned from the Sun's north pole in the direction *n, f, s, p*, both results being corrected for the effects of astronomical refraction.

The measures of the photographs were made with a large position-micrometer specially constructed by Messrs. Troughton and Simms for the measurement of photographs of the Sun up to 12 inches in diameter. In this micrometer the photograph is held with its film-side uppermost on three pillars fixed on a circular plate, which can be turned through a small angle, about a pivot in its circumference, by means of a screw and antagonistic spring acting at the opposite extremity of the diameter. The pivot of this plate is mounted on the circumference of another circular plate, which can be turned by screw-action about a pivot in its circumference, 90° distant from that of the upper plate, this pivot being mounted on a circular plate with position-circle which rotates about its centre. By this means small movements in two directions at right angles to each other can be readily given, and the photograph can be accurately centred with respect to the position-circle. When this has been done, a positive eyepiece, having at its focus a glass diaphragm ruled with cross-lines into squares, with sides of one-hundredth of an inch (for measurement of areas), is moved along a slide diametrically across the photograph, the diaphragm being nearly in contact with the photographic film, so that parallax is avoided. The distance of a spot or facula from the centre of the Sun is read off by means of a scale and vernier to 1-250th of an inch (corresponding to 0.001 of the Sun's radius for photographs having a solar diameter of 8 inches). The position-angle is read off on a large position-circle which rotates with the photographic plate. The photograph is illuminated by diffused light reflected from white paper placed at an angle of 45° between the photograph and the plate below.

The following is the process of measurement of a photograph:—By means of the screws attached to the circular plates carrying the pillars which hold the photograph, the image of the Sun is centred as accurately as possible by rotation. The position-

circle is then set to the readings  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$ , and  $270^\circ$  in succession, and the scale readings taken for the two limbs. The scale being so adjusted that its zero coincides with the centre of rotation of the position-circle, the mean of the eight readings for the limb gives the mean radius of the Sun directly.

At the principal focus of the photoheliograph are two cross-spider-lines which serve to determine the zero of position-angles on the photograph.

The zero of position-angles for the Thompson Photoheliograph employed at Greenwich has been determined by the measurement of a plate which has been exposed to the Sun's rays twice, with an interval of about 100 seconds between the two exposures, the instrument being firmly clamped. Two images of the Sun, overlapping each other by about a fifth part of the Sun's diameter, were therefore produced upon the plate, and the exposures having been so given that the line joining the cusps passed approximately through the centre of the plate, the inclination of the wires of the photoheliograph to this line was measured with the position-micrometer, and a small correction for the inclination of the Sun's path was then applied. The following table gives the correction for zero of position for the mean of the two wires as thus determined :—

Thompson Photoheliograph.

Date, Greenwich Civil Time.			Correction for Zero.	Date, Greenwich Civil Time.			Correction for Zero.
	d	h	'		d	h	'
1906 October	1.	12	+ 0. 5	1907 August	20.	11	— 0. 3
1907 January	4.	12	— 0. 2		22.	12	— 0. 11
	29.	12	+ 0. 3		25.	12	— 0. 11.5
March	6.	11	— 0. 11	September	28.	11	— 0. 3
April	2.	13	— 0. 5	November	28.	12	— 0. 6.5
	17.	12	— 0. 3		28.	12	— 0. 5
May	8.	12	— 0. 7	December	7.	11	+ 0. 2
July	29.	13	+ 0. 5		9.	13	+ 0. 3
	31.	12	+ 0. 2	1908 February	12.	11	— 0. 10

A correction of  $-0.1$  for zero of position has been applied to all photographs taken with the Thompson Photoheliograph throughout the year 1907.

The Thompson Photoheliograph was mounted on the tube of the 26-inch Thompson Photographic refractor throughout the year. It is not fitted with a position-circle, and the position-angle of the wires, which are approximately parallel and perpendicular to the circle of declination, cannot be altered.

The Dallmeyer Photoheliograph was mounted throughout the year on the equatorial



stand belonging to it, which was erected on the terrace roof of the South Wing of the New Physical Observatory.

In the use at Greenwich of the Dallmeyer Photoheliograph the position-circle has usually been set to some convenient reading near that for zero, so that the wires are respectively very nearly parallel and perpendicular to the circle of declination, and a correction for zero of position of the photoheliograph for the mean of the two wires has been applied to the zero of the position-circle of the micrometer. The position-circle was set to the reading  $354^{\circ}0$  throughout 1907.

The zero of the position-circle of the micrometer has been determined from the readings of the position-circle for the four extremities of the two wires. The resulting combined correction is applied to all position-circle readings for spots and faculæ, so as to give true position-angles.

In the use of the photoheliograph in Mauritius the zero of position during the years 1906 and 1907 has been determined in the same way as at Greenwich, by the measurement of a plate which has been exposed to the sun's rays twice, with an interval of about 100 seconds between the two exposures. The following table gives the correction for zero of position for the mean of the two wires :—

Mauritius Photoheliograph.

Date, Greenwich Civil Time.			Correction for Zero.	Date, Greenwich Civil Time.			Correction for Zero.
1906	February	<sup>d</sup> 13. <sup>h</sup> 5	— 3.49	1907	January	<sup>d</sup> 5. <sup>h</sup> 5	— 4.30
	March	25. 5	— 3.53		February	18. 10	— 5.38
	April	12. 5	— 3.31		March	13. 6	— 5. 9
	May	11. 5	— 3.32		April	20. 6	— 6.17
	June	27. 5	— 4. 6		May	8. 8	— 4.47
	August	16. 5	— 3.19		June	9. 6	— 4.18
		29. 6	— 4.37		July	7. 8	— 6.11
	September	13. 5	— 3.46		October	26. 6	— 5.30
	November	6. 5	— 4. 3		November	18. 8	— 5.17
		26. 5	— 4.33		December	31. 9	— 5. 9
	December	15. 5	— 4.17	1908	January	29. 10	— 5.41

New wires were inserted on 1907 February 18.

As in the year 1906, a correction of  $-4^{\circ}0'$  for zero of position has been applied to all photographs taken with the Mauritius photoheliograph, up to 1907 February 18, when the new wires were inserted. After that date a correction of  $-5^{\circ}4'$  has been applied.

The Director of the Kodaikānal Observatory has reported, for each of the photographs that he has supplied, the amount of the correction for zero of position of wires that it is necessary to apply.

GREENWICH OBSERVATIONS, 1907.

(b)

In the case of the six photographs taken at Dehra Dûn, for which the error of position of the wires is not known, the measures of the areas have been used, and, for the identification of the spots and faculæ, a correction for zero of position has been estimated from a comparison with the photographs taken on the days immediately preceding and following. The heliographic longitudes and latitudes thus deduced for these six photographs are only approximate and have been placed in brackets.

The uncorrected distance from the Sun's centre for spots and faculæ is read off directly to 1-250th of an inch by means of a scale and vernier, the zero of the scale of the micrometer being adjusted to coincide with the centre of the instrument.

Two sets of measures of the Sun's limb and of spots and faculæ on each photograph have been taken, and the mean of the two sets adopted.

No correction has been applied to the photographs on account of distortion.

The correction for the effect of refraction has been thus found, the Sun's image being assumed to be sensibly an ellipse. The refraction being sensibly  $c \tan z$  where  $c = \sin 57''.5 = \frac{1}{3600}$  nearly, and  $z$  is the apparent zenith-distance, we shall have—

$$\frac{\text{Vertical Diameter}}{\text{Horizontal Diameter}} = \frac{1 - c \sec^2 z}{1 - c} = 1 - c \tan^2 z;$$

and thus the effect of refraction will be to diminish any vertical ordinate  $y$  by the quantity  $c \tan^2 z$ . Resolving this along and perpendicular to the radius vector  $r$ , and putting  $v$  for the position-angle of the vertex, we have for  $\delta r$  and  $\delta \theta$ , the corrections to radius vector and position-angle for the effect of refraction—

$$\delta r = + c \cdot \tan^2 z \times r \cdot \cos^2 (\theta - v) = + c \cdot \tan^2 z \times r \times \frac{1 + \cos 2 (\theta - v)}{2},$$

$$\delta \theta = - c \cdot \tan^2 z \cdot \sin (\theta - v) \cdot \cos (\theta - v) = - c \cdot \tan^2 z \cdot \frac{\sin 2 (\theta - v)}{2}.$$

The quantity  $\delta r$  thus found is the correction, on the supposition that a horizontal diameter of the Sun is taken as the scale. But, as the mean of two diameters at right angles has been used, the scale itself requires the correction  $\delta R = + c \cdot \tan^2 z \times R \times \frac{1}{2} \left\{ \frac{1 + \cos 2 (\theta_0 - v)}{2} + \frac{1 + \cos 2 (\theta_0 + 90^\circ - v)}{2} \right\} = + \frac{1}{2} c R \cdot \tan^2 z$ , where  $R$  is the Sun's mean radius and  $\theta_0$ ,  $\theta_0 + 90^\circ$  the position-angles of the two diameters measured. Thus the final correction to  $r$  becomes—

$$\delta r = + c \cdot \tan^2 z \times r \times \frac{\cos 2 (\theta - v)}{2}.$$

The quantities  $c \tan^2 z$ ,  $-\frac{\sin 2(\theta - v)}{2}$ , and  $\frac{\cos 2(\theta - v)}{2}$  have been tabulated for use as follows,  $c \tan^2 z$  being expressed in circular measure and in arc for application to distances and position-angles respectively:—

$c \tan^2 z$ .

$z$ .	In Circular Measure.	In Arc.	$z$ .	In Circular Measure.	In Arc.	$z$ .	In Circular Measure.	In Arc.
0			0			0		
80	·0089	31	70	·0021	7	60	·0008	3
79	·0073	25	69	·0019	6½	58	·0007	2
78	·0061	21	68	·0017	6	56	·0006	2
77	·0052	18	67	·0015	5½	54	·0005	2
76	·0045	15	66	·0014	5	52	·0005	2
75	·0039	13	65	·0013	4½	50	·0004	1
74	·0034	11½	64	·0012	4	45	·0003	1
73	·0030	10	63	·0011	4	40	·0002	1
72	·0026	9	62	·0010	3	30	·0001	0
71	·0023	8	61	·0009	3			

Factors for Refraction.

$\theta - v$	$\theta - v$	$-\frac{\sin 2(\theta - v)}{2}$	$\frac{\cos 2(\theta - v)}{2}$	$\theta - v$	$\theta - v$	$-\frac{\sin 2(\theta - v)}{2}$	$\frac{\cos 2(\theta - v)}{2}$
0	0			0	0		
0	180	— ·00	+ ·50	90	270	·00	— ·50
5	185	— ·09	+ ·49	95	275	+ ·09	— ·49
10	190	— ·17	+ ·47	100	280	+ ·17	— ·47
15	195	— ·25	+ ·43	105	285	+ ·25	— ·43
20	200	— ·32	+ ·38	110	290	+ ·32	— ·38
25	205	— ·38	+ ·32	115	295	+ ·38	— ·32
30	210	— ·43	+ ·25	120	300	+ ·43	— ·25
35	215	— ·47	+ ·17	125	305	+ ·47	— ·17
40	220	— ·49	+ ·09	130	310	+ ·49	— ·09
45	225	— ·50	·00	135	315	+ ·50	·00
50	230	— ·49	— ·09	140	320	+ ·49	+ ·09
55	235	— ·47	— ·17	145	325	+ ·47	+ ·17
60	240	— ·43	— ·25	150	330	+ ·43	+ ·25
65	245	— ·38	— ·32	155	335	+ ·38	+ ·32
70	250	— ·32	— ·38	160	340	+ ·32	+ ·38
75	255	— ·25	— ·43	165	345	+ ·25	+ ·43
80	260	— ·17	— ·47	170	350	+ ·17	+ ·47
85	265	— ·09	— ·49	175	355	+ ·09	+ ·49
90	270	·00	— ·50	180	360	·00	+ ·50

The position-angle of the vertex  $v$  is readily taken from a globe.

The distance from centre in terms of the Sun's radius given in the *fourth* column is then readily found by dividing the measured distance  $r_0$ , as corrected for refraction,

by the measured mean radius of the Sun,  $R$ ; and the position-angle from the Sun's axis given in the *fifth* column is obtained by applying to the position-angle (from the N. point) corrected for refraction the position-angle of the Sun's axis derived from the *Auxiliary Tables for determining the Angle of Position of the Sun's Axis, and the Latitude and Longitude of the Earth referred to the Sun's Equator*, by Warren De La Rue, F.R.S. This position-angle of the Sun's axis from the North point is also given (in brackets) in the *fifth* column.

The *sixth* and *seventh* columns give the heliographic longitude and latitude of the spot, which are thus computed.\* Let  $r$  be the measured distance of a spot from the centre of the Sun's apparent disk,  $R$  the measured radius of the Sun on the photograph, ( $R$ ) the tabular semidiameter of the Sun in arc, and  $\rho, \rho'$  the angular distances of a spot from the centre of the apparent disk as viewed from the Sun's centre and from the Earth respectively. Then we have—

$$\rho' = \frac{r}{R}(R); \text{ and } \sin(\rho + \rho') = \frac{r}{R},$$

$$\text{whence } \rho = \sin^{-1} \frac{r}{R} - \rho'.$$

Log.  $\sin \rho$  and log.  $\cos \rho$ , as computed from this formula, are given in *Tables for the Reduction of Solar Observations No. 2*, by Warren De La Rue, F.R.S. Then, if  $D, \lambda$  are the heliographic latitudes of the Earth and the spot respectively, referred to the Sun's equator, and  $l$  the heliographic longitude of the spot from the solar meridian passing through the centre of the disk, longitudes west of the centre being reckoned as positive, and  $\chi$  the position-angle from the Sun's axis, we have by the ordinary equations of spherical trigonometry—

$$\begin{aligned} \sin \lambda &= \cos \rho \sin D + \sin \rho \cos D \cos \chi \\ \sin l &= -\sin \chi \sin \rho \sec \lambda. \end{aligned}$$

The position-angle  $\chi$  is found from the position-angle from the North Point by subtracting from it algebraically,  $P$ , the position-angle of the N end of the Sun's axis, measured eastward from the North Point of the disk. The heliographic longitude of the spot is found from  $l$ , its heliographic longitude from the Central Meridian, by adding  $l$  algebraically to  $L$ , the heliographic longitude of the centre of the disk. The three quantities  $P, D$ , and  $L$  for the time of the exposure of each photograph are derived from the Ephemeris for Physical Observations of the Sun given on p. 18 of

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\* "Researches on Solar Physics: Heliographical Positions and Areas of Sun Spots observed with the Kew Photoheliograph during the years 1862 and 1863," by W. De La Rue, B. Stewart, and B. Loewy. *Phil. Trans.*, 1869.

the *Appendix* to the *Nautical Almanac* for 1907, and are printed (in brackets) in the *fifth*, *sixth*, and *seventh* columns respectively. *D*, the heliographic latitude of the Earth, is of course the same as the latitude of the centre of the Sun's disk.

The inclination of the Sun's axis to the ecliptic is assumed to be  $82^{\circ} 45'$ , the longitude of the ascending node for 1907.0 to be  $74^{\circ} 27'.7$ , and the period of the Sun's sidereal rotation to be 25.38 days; the meridian which passed through the ascending node 1854 January 1, Greenwich Mean Noon, being taken as the zero meridian.

The measures of areas given in the *last three* columns were made with a glass diaphragm ruled into squares, with sides of one-hundredth of an inch, and placed as nearly as possible in contact with the photographic film. The integral number of squares and parts of a square contained in the area of a spot or facula was estimated by the observer, two independent sets of measures being made by two observers. The mean of the two sets of measures has been taken for each photograph. The factor for converting the areas, as measured in ten-thousandths of a square inch, into millionths of the Sun's visible hemisphere, allowing for the effect of foreshortening, has been inferred by means of a table of double entry, giving the equivalent of one square for different values of the Sun's radius, and for different distances of the spot or facula from the Sun's centre as measured by means of the position-micrometer.

The individual spots in a group have in many cases not been measured separately, but combined into a cluster of two or three small spots close together, the position of the centre of gravity and the aggregate area of the cluster being given.

§ 2. *Ledgers of Areas and Heliographic Positions of Groups of Sun Spots deduced from the measurement of the Solar photographs for each day in the year 1907.*

In these ledgers the daily results for each group are collected together from the measures of the individual spots and given in a condensed form. The first column gives, for each day on which the group was observed, the Greenwich civil time at which each photograph was taken, expressed by the day of the month (civil reckoning) and the decimals of a day reckoning from Greenwich mean midnight. The second column indicates by the initial letter of the observatory, the place where the photograph was taken; the letters G, D, K, and M, standing for Greenwich, Dehra Dûn, Kodaikânal, and Mauritius respectively. The third and fourth columns give the sums, for each day, of the projected areas of all the umbræ and whole spots comprised in the group, the projected area being the area as it is measured upon the photograph,



uncorrected for foreshortening, and expressed in millionths of the Sun's apparent disk. The fifth and sixth columns give the sums for each day of the areas of all the umbræ and whole spots comprised in the group, corrected for foreshortening, and expressed in millionths of the Sun's visible hemisphere. The seventh and eighth columns give the mean longitude and latitude of the group, found by multiplying the longitude and latitude of each separately measured component of the group by its area, and dividing the sum of the products by the sum of the areas. The last column gives the mean longitude of the group from the central meridian, and is found by subtracting the longitude of the centre of the disk from the mean longitude of the group. At the foot of these daily results for each group are given the mean areas of umbræ and whole spots and the mean longitude and latitude for the period of observation.

§ 3. *Catalogue of Recurrent Groups of Sun Spots compiled from the Ledgers of Groups of Sun Spots for the year 1907.*

This catalogue is in continuation of the Catalogue of Recurrent Groups of Sun Spots for the Years 1874 to 1906, published as an *Appendix* to the *Greenwich Observations*, 1907; and, therefore the reference numbers contained in the first column, run on from those given therein. The number of the spot group is given in the second column and the third column gives the synodic Rotation of the Sun, when the spot group crossed the central meridian, the Rotations being numbered as on pp. 154 and 155. The third and fourth columns give, for each group, the Date of the photograph upon which the group was first seen, and the Heliographic Longitude from the Central Meridian of the group as measured on that photograph; the sixth and seventh columns, in like manner, give the Date of the photograph on which the group was last seen, with its Longitude from the Central Meridian then; whilst the eighth column gives the number of days for which photographs are available on which the group was measured. The four columns next following give respectively the Mean Daily Area as corrected for fore-shortening, for the Umbræ and for the Whole Spots of the group, together with its Mean Heliographic Longitude and Latitude, and are derived directly from the Ledger of Spot Groups; and the last column supplies a brief description of the group.

The method of forming the Catalogue has been this:—If any spot group when first seen was  $60^\circ$  or more to the east of the Central Meridian—the detail given in the fifth column,—then the Spot Ledgers, and, if necessary, the Daily Heliographic Results also, were searched some fifteen or sixteen days earlier, to ascertain whether a spot group of similar heliographic longitude and latitude was then near the west limb of

the Sun. Similarly, if any spot group when last seen was  $60^\circ$  or more to the west of the Central Meridian—the detail given in the seventh column,—then the Spot Ledgers, and, if necessary, the Daily Heliographic Results also, were searched some fifteen or sixteen days later, to ascertain whether a spot group of similar heliographic longitude and latitude was then near the east limb of the Sun. Both the search forward and the search backward have been made in the case of every spot group that was observed close to both the east and west limbs, in order that no possible case of identity might be overlooked. When there appeared to be a case of probable identity between spot groups observed in two consecutive rotations of the Sun, the character of the second group has been carefully compared with that of the first in each of the three elements—area, longitude, and latitude. In cases where the weight of evidence appeared to render probable the continued existence of the spot, it has been numbered in the catalogue and where there has been some element of uncertainty, a note has been added. If, on the other hand, the weight of evidence appeared to go in the other direction, but was not quite decisive, the series has been printed in the catalogue but a separate number has not been given it. It has been distinguished by the number of the preceding series, placed in brackets and marked with an asterisk. In cases where a well-defined series has been recorded, there have sometimes been included in brackets spot groups undoubtedly belonging to the same general disturbance, but for which the evidence of continuity of action was not sufficient. All cases have been excluded from the catalogue wherein there has been a clear unmistakable breach of continuity of action.

§ 4. *Total Areas of Sun Spots and Faculae for each day, and Mean Areas and Mean Heliographic Latitude of Sun Spots and Faculae for each Rotation of the Sun, and for the year 1907.*

This section requires no further explanation.

W. H. M. CHRISTIE.

*Royal Observatory, Greenwich,*  
1910 June 18.

ROYAL OBSERVATORY, GREENWICH.

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MEASURES OF POSITIONS AND AREAS  
OF  
SUN SPOTS AND FACULÆ  
ON  
PHOTOGRAPHS

TAKEN WITH THE  
PHOTOHELIOGRAPHS

AT GREENWICH, IN INDIA, AND IN MAURITIUS,

WITH THE DEDUCED  
HELIOGRAPHIC LONGITUDES AND LATITUDES.

---

1907.

MEASURES of POSITIONS and AREAS of SUN SPOTS and FACULÆ on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, at KODAIKĀNAL and at DEHRA DŪN in INDIA, and at the ROYAL ALFRED OBSERVATORY, MAURITIUS, in the Year 1907.

NOTE.—The Greenwich Civil Time at which the Photograph was taken is expressed by the Day of the Year and decimals of a day, reckoning from Midnight, January 1<sup>st</sup> 0<sup>h</sup>. For convenience of reference, the Month and Day of the Month (Civil Reckoning) are added.

The letter G. signifies that the photograph was taken at Greenwich; the letter K. that it was taken at Kodaikānal; the letter D. that it was taken at Dehra Dūn; the letter M. that it was taken in Mauritius; the time given is Greenwich Civil Time.

The position-angles are reckoned from the North Pole of the Sun's Axis in the direction N., E., S., W., N.

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculæ relative to the Spots with which they are associated are indicated by the letters n, s, p, f, c, denoting respectively north, south, preceding, following, concentric.

The Areas of Spots and Faculæ are expressed in millionths of the Sun's visible Hemisphere.

In the line immediately below the results for each day are given in brackets:—1. The Position Angle of the Sun's Axis (from the North point); 2. The Heliographic Longitude and Latitude of the Centre of the Disc; 3. The total areas for each day of Spots and Faculæ.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 0.135	AS, M		0.973 0.932 0.824 0.597 0.576 0.539 0.528 0.289 0.169 0.212 0.217 0.260 0.285 0.233 0.296 0.313 0.209 0.580 0.570 0.603 0.617 0.624 0.630 0.641 0.645 0.668 0.693 0.708 0.952 0.989 0.831 0.902 0.959	290.3 280.4 291.1 288.8 289.7 290.5 291.1 3.5 148.0 141.7 137.0 132.7 132.0 127.6 127.9 125.3 104.7 72.7 78.2 77.6 74.7 75.6 73.6 76.1 74.6 77.6 76.0 74.5 70.1 80.8 72.3 62.7 102.7	217.2 210.4 195.4 177.4 175.8 173.2 172.4 141.7 137.5 135.0 134.0 131.4 130.1 129.5 128.9 127.5 131.0 108.9 108.8 106.6 106.0 105.4 105.3 104.1 104.0 101.9 100.2 99.2 72.8 62.0 88.6 82.5 69.1	+18.9 +8.5 +15.3 +8.5 +8.6 +8.2 +8.2 +13.6 -11.3 -12.6 -12.2 -13.1 -14.0 -13.0 -13.5 -13.4 -6.1 +7.4 +4.1 +5.0 +6.9 +6.5 +7.8 +6.4 +7.4 +5.9 +7.4 +8.6 +17.8 +8.6 +12.8 +22.8 -13.1	1 0 0 1 0 0 0 0 0 0 0 0 0 0 4 1 2 85 0 0 0 5 0			

Group 6056, 1906 December 27–1907 January 1. A number of spots, most of them very small, in a short irregular stream. The group is not seen on 1906 December 31.  
 Group 6059, 1906 December 29–1907 January 9. A magnificent stream, chiefly composed of two very large composite spots, *a* and *b*. Of these *a* has become regular in form by January 3, and *b* has broken up, and the group has taken the form of a great circular leader spot, followed by a long straight train of small spots.  
 Group 6058, 1906 December 30–1907 January 7. A number of small spots in a straggling stream. Group 6061, 1906 December 31–1907 January 3. A few small unstable spots in a short stream, *sp* Group 6060.  
 Group 6062, 1906 December 31–1907 January 7. A few small unstable spots, *sp* Group 6058 and *f* Group 6062, and forming with the latter group an irregular straggling stream.  
 Group 6063, 1906 December 31–1907 January 3. A few small unstable spots, *sp* Group 6058 and *f* Group 6062, and forming with the latter group an irregular straggling stream.  
 Group 6065, 1907 January 1–3. A disturbed area with one or two small unstable spots.  
 Group 6066, January 1–10. Return of Group 6044. A regular spot, *a*, on January 1. A number of small spots form around *a*, on January 3, and the succeeding days, and *a* has broken up by January 8; the group now appearing as an irregular stream of small unstable spots.  
 Group 6067, January 2–6. Two small clusters at first, rapidly developing into a very irregular stream, inclined to the equator. The principal spot, *a*, is in the rear of the group, and develops into a large regular spot with double nucleus.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

MEASURES OF POSITIONS AND DISTANCES										MEASURES OF POSITIONS AND DISTANCES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
1907. 1'418	CL, AS	6065 6071 6066a	0°863 0°826 0°912	69°3 105°5 79°7	69°0 70°8 61°1	+16°0 -14°6 +8°1	0 0 14	8 3 144	490m/f	1907. 2°502	CL, RF	6059 6059 6059 6059 6059 6059 6059 6059 6059 6070 6070a 6071 6065 6066a 6066 6066	0°234 0°264 0°245 0°306 0°272 0°290 0°237 0°265 0°288 0°296 0°629 0°633 0°682 0°719 0°783 0°802 0°812	49°1 42°1 51°2 37°9 46°1 43°0 57°5 49°9 46°3 48°6 108°5 108°3 105°1 63°2 75°9 75°8 75°7	101°4 101°3 100°6 100°6 100°2 100°1 100°1 99°9 99°5 98°7 73°8 73°5 69°3 61°6 59°8 58°9 56°9	+5°5 +8°0 +5°6 +10°7 +7°6 +9°0 +4°1 +6°6 +8°2 +8°1 -14°1 -14°1 -12°7 +16°5 +8°9 +9°3 +9°6	0 0 0 0 0 0 0 11 0 0 0 0 0 0 16 0 0 0	1 7 25 7 4 11 3 163 5 4 1 17 2 3 90 8 6	648f 281f 180 234 192 67 136 114 117 66 133 96																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

Group 6068, January 3-6. One or two small unstable spots. Not seen on January 4.  
 Group 6069, January 3. A pair of very small faint spots.  
 Group 6070, January 3-7. A small regular spot, *a*, with occasionally a very small companion.  
 Group 6071, January 2-5. One or two very small unstable spots, *f* Group 6070.  
 Group 6072, January 4-6. A few small unstable spots in a short stream.



Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 3.511   																			

Group 6073, January 4. Two very small spots, *nf* Group 6059.  
Group 6073\*, January 5. Two very small spots, *p* the place of Group 6073.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 5.267	FS, CL	6066	0.286	41.0	64.3	+ 8.8	0	2		1907. 8.122	AS, CL	6059a	0.918	292.5	101.0	+ 18.8			80
		6066	0.290	45.1	63.3	+ 8.1	1	9				6066	0.891	281.0	99.4	+ 7.9			532
		6066a	0.309	44.4	62.6	+ 9.1	9	26				6066	0.780	295.5	84.8	+ 16.9			174
M.		6066	0.304	50.8	61.5	+ 7.4	0	11				6066	0.960	278.5	110.4	+ 7.0	66	397	200c
		6066	0.325	47.1	61.3	+ 9.2	7	29				6066	0.502	294.1	65.1	+ 8.3	0	4	
		6066	0.340	51.1	59.7	+ 8.7	6	41				6066	0.510	300.8	64.0	+ 11.5	0	2	
		0.972	79.6	359.8	+ 9.2							6066	0.479	296.7	63.1	+ 8.8	2	13	
Jan. 6			(-0.1)	(75.2)	(-3.7)	(169)	(1560)	(493)				6079	0.246	29.0	30.7	+ 8.4	0	10	
								(2469)				6074a	0.945	72.2	328.9	+ 15.4	6	48	378m
6.125	AS, M		0.974	288.5	138.7	+ 17.1		116				6074a	0.946	102.6	326.4	+ 13.2	23	118	
			0.949	251.9	135.5	+ 18.4		156				6076	0.966	103.3	322.3	+ 13.8	53	373	313c
			0.954	280.8	135.2	+ 9.1		143				6076	0.971	106.1	321.1	+ 16.6	12	98	
		6062	0.950	257.7	135.8	+ 12.9	0	6	171c			6076	0.980	107.2	318.5	+ 17.7	0	37	
		6062	0.918	257.1	130.5	+ 13.4	0	5				6077a	0.974	110.2	320.3	+ 20.6	26	215	290c
		6058	0.946	263.4	134.9	+ 7.5	0	5	285f			6077a	0.750	63.6	353.3	+ 16.6			201
		6059a	0.738	283.3	110.0	+ 7.1	97	456				6077a	0.804	70.7	346.7	+ 12.8			415
		6059	0.711	280.6	108.1	+ 4.8	0	11				6077a	0.887	104.0	335.2	+ 14.3			80
		6059	0.700	282.5	107.0	+ 6.0	0	3				6077a	0.956	95.3	324.6	+ 6.3			100
		6059	0.645	286.2	102.3	+ 7.4	0	2						(-1.4)	(37.6)	(-4.0)	(188)	(1315)	(2763)
		6070a	0.260	228.7	75.3	+ 13.6	0	5						0.977	278.6	99.5	+ 7.4		429
		6066	0.212	359.4	63.9	+ 8.4	0	9						0.974	288.1	97.7	+ 16.6		266
		6066a	0.224	5.4	62.6	+ 9.1	9	33						0.895	295.8	82.2	+ 20.9		361
		6066	0.234	10.3	61.4	+ 9.5	0	3						0.735	256.0	60.7	+ 13.1		109
		6066	0.209	12.0	61.3	+ 8.0	0	3						0.769	297.6	68.4	+ 18.0		169
		6066	0.235	18.0	59.6	+ 9.1	7	30						0.959	259.7	96.6	+ 11.1	14	92
		0.942	75.9	355.0	+ 11.9									0.926	261.4	90.7	+ 9.5	1	17
Jan. 7			(-0.6)	(63.8)	(-3.8)	(113)	(571)	(1037)						0.925	260.4	90.6	+ 10.4	0	31
								(1908)						0.918	259.4	89.5	+ 11.4	7	26
7.303	AS, CL		0.976	260.2	126.1	+ 10.4		332						0.915	258.3	89.1	+ 12.4	0	17
			0.940	294.2	115.1	+ 21.2		100						0.677	283.7	64.1	+ 6.1	0	3
			0.853	277.1	106.3	+ 4.0		146						0.678	289.1	63.2	+ 9.7	0	5
			0.797	284.5	99.6	+ 9.1		510						0.332	324.4	34.1	+ 11.6	0	5
			0.831	298.8	99.5	+ 21.1		283						0.294	323.8	32.9	+ 9.7	2	14
		6059a	0.895	281.1	110.7	+ 8.1	92	436	163c					0.295	329.4	31.6	+ 10.6	0	5
		6059	0.873	281.5	108.0	+ 8.1	0	10						0.281	334.2	29.9	+ 10.5	3	14
		6066	0.348	308.9	64.2	+ 8.8	4	40						0.838	67.6	329.2	+ 16.2	0	4
		6066	0.339	312.5	63.0	+ 9.4	4	26						0.841	70.1	328.3	+ 14.3	13	46
		6066	0.318	316.9	61.1	+ 9.6	0	4						0.852	68.6	327.5	+ 15.7	0	4
		6066	0.340	323.9	60.2	+ 12.1	0	13						0.854	70.1	326.9	+ 14.6	6	11
		6066	0.298	320.0	59.5	+ 9.3	0	7						0.868	71.6	325.1	+ 13.7	0	6
		6074a	0.986	75.5	329.5	+ 13.6	0	75	161n					0.834	104.4	326.6	+ 14.3	23	99
		6075a	0.990	103.7	326.1	+ 14.1	58.2	115						0.848	103.8	325.0	+ 13.8	0	6
		6076	0.996	104.4	322.2	+ 14.7	13.5	365	339p					0.876	105.3	321.8	+ 15.4	63	363
		6076	0.998	107.2	321.0	+ 17.5	28.5	95						0.880	109.2	321.6	+ 18.0	0	19
			0.808	73.0	356.6	+ 11.3								0.892	108.1	320.0	+ 18.0	0	52
			0.888	75.8	347.4	+ 10.7								0.904	108.7	318.4	+ 18.6	0	13
			0.954	73.4	337.8	+ 14.5								0.895	112.1	320.0	+ 21.5	36	206
Jan. 8			(-1.0)	(48.4)	(-3.9)	(199)	(1186)	(3448)						0.712	62.6	341.8	+ 16.0		3848f
														0.851	96.0	324.5	+ 7.3		168
																			103

Group 6074, January 8-14. Return of Group 6045. Third apparition. Final stage. A small regular spot,  $\alpha$ , with occasionally one or two very small companions.

Group 6075, January 8-19. A regular spot,  $\alpha$ , with a few very small companions.

Group 6076, January 9-20. Return of Group 6046. A very fine irregular cluster,  $f$  Group 6075. It is confused together with Group 6075, through the effect of foreshortening, on January 8. Groups 6075, 6076 and 6077 together represent the return of Group 6046.

Group 6077, January 9-20. A large regular spot,  $\alpha$ , with two or three very small companions,  $sf$  Group 6076.

Group 6078, January 10. A considerable stream appearing suddenly near the W. limb.

Group 6079, January 9-14. A few small spots in a sparse but straight stream.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

[illegible]

Group 6080, January 11-13. A few very small spots in a sparse stream.  
 Group 6081, January 11-21. A few small spots at first, forming *f* Group 6076. The group rapidly increases and becomes an irregular unstable stream, of which *a*, a pair of spots merging into a double spot, is the most permanent member. *a* is measured as two spots on January 12 and 20. The four Groups, Nos. 6075, 6076, 6077 and 6081, make up together a single disturbance of magnificent proportions.  
 Group 6082, January 12-16. A few very faint formless spots, irregularly arranged. The group is not seen on January 14.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 12.149	FS, CL	6082*	0.332	324.5	355.8	+11.3	2	11	
		6082*	0.287	321.9	354.8	+8.6	0	7	
		6082	0.287	337.8	350.8	+10.9	0	21	
		6082	0.268	345.5	348.4	+10.6	0	15	
		6082†	0.315	348.7	348.1	+13.5	0	6	
		6082†	0.352	355.9	346.0	+16.1	2	14	
		6074a	0.419	39.6	328.6	+14.5	9	16	
		6074	0.474	40.6	325.8	+16.8	0	11	
		6074	0.451	44.3	325.6	+14.6	0	10	
		6075	0.279	118.9	330.1	-12.0	0	4	
		6075a	0.301	120.7	329.2	-13.0	15	67	
		6075	0.323	123.4	328.4	-14.4	0	7	
		6076	0.364	114.3	324.7	-12.7	5	28	
		6076	0.379	120.1	324.7	-15.0	6	22	
		6076	0.399	120.6	323.7	-15.8	0	1	
		6076	0.392	116.3	323.4	-14.1	36	174	
		6076	0.394	113.4	322.8	-13.1	0	4	
		6076	0.411	118.7	322.6	-15.4	2	9	
		6076	0.392	109.1	322.4	-11.4	25	147	
		6076	0.423	121.4	322.4	-16.8	2	8	
		6076	0.426	114.9	321.1	-14.3	36	285	
		6076	0.434	114.6	320.6	-14.4	0	3	
		6077	0.470	121.4	319.6	-18.1	0	6	
		6077a	0.495	126.2	319.3	-20.9	27	154	
		6077	0.530	126.4	317.3	-22.2	0	8	
		6081	0.521	113.6	314.9	-15.9	0	6	
		6081a	0.531	114.9	314.4	-16.7	21	83	
		6081	0.543	115.8	313.8	-17.4	1	8	
		6081	0.561	116.9	312.8	-18.4	0	2	
		6081	0.566	113.1	311.8	-16.5	0	3	
		6081	0.586	115.8	310.9	-18.4	23	93	
		6081	0.598	112.9	309.5	-17.1	1	8	
		6081	0.604	115.4	309.5	-18.6	0	1	
		6083	0.595	62.5	312.0	+12.2	2	6	
		6083	0.635	61.4	309.6	+14.1	0	4	228c
			0.788	47.4	303.1	+28.9			112
			0.777	94.7	293.5	-6.5			177
			0.801	108.0	291.9	-17.0			156
			0.861	58.8	291.0	+23.9			136
			0.880	72.2	285.3	+13.3			135
			0.893	129.4	285.2	-36.8			110
			0.907	118.2	280.5	-27.4			204
			0.917	88.7	278.3	-0.6			135
			0.956	67.1	274.9	+20.3			92
			0.955	103.2	271.4	-13.9			124
Jan. 13				(-3.4)	(344.5)	(-4.4)	(225)	(1315)	(3076)
13.115	CL, AS	6079	0.955	273.8	44.1	+2.3			165
K.			0.905	282.4	35.1	+9.2	0	8	272c
1907. 13.115	CL, AS	6074a	0.328	9.8	328.5	+14.3	0	7	
		6075a	0.155	166.3	329.6	-13.1	8	51	
		6076	0.210	146.9	325.0	-14.6	0	9	
		6076	0.228	136.8	322.6	-14.0	56	608	
		6076	0.268	124.3	318.7	-13.1	0	4	
		6077a	0.354	143.2	318.7	-20.8	28	140	
		6081a	0.347	127.3	315.1	-16.5	6	75	
		6081	0.370	124.4	313.3	-16.3	0	13	
		6081	0.422	124.4	310.4	-18.0	13	87	
			0.930	115.2	263.9	-25.0			134
				(-3.8)	(331.8)	(-4.5)	(111)	(1002)	(571)
Jan. 14									
14.326	FS, AS		0.973	282.5	31.1	+11.0			230
			0.766	289.0	3.3	+11.3			214
		6082	0.629	297.1	350.8	+12.8	0	7	
		6082†	0.639	305.5	348.9	+17.9	0	19	
		6075a	0.291	241.1	331.0	-12.6	11	61	
		6075	0.259	235.2	328.5	-13.0	0	6	
		6075	0.271	231.1	328.4	-14.3	0	7	
		6076	0.240	226.4	326.2	-14.0	2	10	
		6076	0.222	226.4	325.4	-13.3	8	45	
		6076	0.226	220.4	324.6	-14.4	0	11	
		6076	0.235	214.0	323.7	-15.7	3	16	
		6076	0.208	218.6	323.5	-13.8	14	71	
		6076	0.181	224.1	323.3	-12.0	28	289	
		6076	0.192	213.7	322.2	-13.7	2	13	
		6076	0.216	208.0	321.9	-15.5	13	221	
		6076	0.171	210.7	321.0	-13.0	0	5	
		6076	0.211	200.5	320.3	-15.9	4	24	
		6076	0.159	196.8	318.6	-13.3	0	12	
		6077	0.282	202.7	322.5	-19.6	0	3	
		6077a	0.282	190.2	319.0	-20.6	25	141	
		6077	0.295	181.5	316.4	-21.7	0	10	
		6081	0.225	191.9	318.7	-17.2	0	8	
		6081	0.205	187.8	317.6	-16.3	2	14	
		6081	0.218	187.4	317.6	-17.0	0	4	
		6081	0.240	186.6	317.6	-18.3	0	3	
		6081a	0.203	179.5	315.8	-16.3	9	64	
		6081	0.187	173.7	314.7	-15.3	5	17	
		6081	0.191	164.1	312.8	-15.1	2	11	
		6081	0.235	167.0	312.7	-17.8	2	10	
		6081	0.221	162.7	312.0	-16.7	4	23	
		6081	0.234	162.8	311.8	-17.5	0	2	
		6081	0.201	156.8	311.2	-15.2	0	6	
		6081	0.249	161.6	311.2	-18.2	22	62	
		6081	0.242	156.1	310.0	-17.4	11	51	
		6083	0.284	3.9	314.8	+11.8	0	4	
		6083	0.284	8.6	313.4	+11.7	0	4	
		6083	0.280	13.6	312.1	+11.1	1	8	

Group 6082\*, January 13. A few very faint spots similar in character to Group 6082, and in the same general area of disturbance.

Group 6082†, January 13. Another group like Group 6082 in the same region.

Group 6082‡, January 13. A third group like Group 6082 in the same region.

Group 6083, January 13-17. A few small spots in a sparse stream. The group is not seen on January 14.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 14.326	FS, AS	6083	0.290	17.3	310.9	+11.4	0	3			1907. 15.231	FS, AS	6088	0.969	105.3	227.8	-16.0	24	67		
		6083	0.309	18.7	310.1	+12.4	0	6					6089	0.989	104.2	221.9	-14.7	0	26	213c	
		6083	0.333	19.9	309.2	+13.6	0	9						0.695	135.9	268.6	-33.7			151	
		6083	0.333	23.3	308.2	+13.2	0	6						0.672	120.3	264.9	-23.5			106	
			0.732	52.5	277.0	+22.8			101					0.744	77.9	257.2	+5.8			103	
			0.763	138.7	276.0	-38.4			236					0.821	123.4	252.0	-29.8			155	
			0.748	64.5	271.6	+15.5			96					0.807	111.2	251.1	-19.8			91	
			0.745	119.1	270.4	-24.5			191					0.880	133.1	247.7	-39.6			93	
			0.885	68.3	257.0	+16.7			158					0.941	82.3	234.7	+5.6			216	
			0.878	105.1	254.6	-15.4			102					0.954	71.3	234.0	+16.2			122	
			0.896	78.4	253.6	+8.2			132						(-4.8)	(304.0)	(-4.7)	(230)	(1571)	(2471)	
			0.911	120.1	251.6	-29.2			201												
			0.977	67.2	241.2	+21.1			204												
				(-4.4)	(315.9)	(-4.6)	(168)	(1286)	(1865)												
Jan. 15											16.546	AS, RF		0.932	287.1	353.1	+14.0			783	
														0.724	295.2	329.1	+14.4			139	
													6075a	0.718	256.0	332.3	-13.4	6	21		
													6076	0.649	257.5	326.8	-11.7	0	26		
													6076	0.649	253.0	326.4	-14.6	0	19		
													6076	0.636	253.2	325.5	-14.4	0	8		
													6076	0.620	255.0	324.5	-13.0	36	425		
													6076	0.618	249.8	323.7	-16.2	1	13		
													6076	0.576	261.9	321.8	-8.6	0	19		
													6076	0.592	249.8	321.8	-15.7	10	56		
													6076	0.592	247.1	321.4	-17.3	0	32		
													6077a	0.570	240.2	318.4	-20.5	19	116		
													6081a	0.533	246.9	317.3	-16.2	23	101		
													6081	0.492	246.8	314.6	-15.4	0	23		
													6081	0.478	244.4	313.3	-16.2	8	39		
													6081	0.477	241.3	312.6	-17.5	7	68		
													6081	0.453	245.8	311.9	-15.0	0	5		
													6081	0.453	242.6	311.4	-16.4	2	9		
													6081	0.454	240.0	310.9	-17.5	5	39		
													6081	0.427	241.3	309.6	-16.2	0	20		
													6081	0.414	243.9	309.2	-14.9	0	11		
													6083	0.552	300.1	315.8	+11.9	0	20		
													6083	0.524	299.2	314.3	+10.6	5	17		
													6086a	0.827	55.6	238.2	+24.7	19	75		
													6086	0.848	58.3	235.0	+23.5	0	21		
													6087a	0.864	63.0	231.7	+20.4	17	61		
													6088a	0.849	104.6	228.7	-14.9	14	59		
													6089	0.909	103.3	221.1	-14.1	0	19		
														0.794	79.1	235.3	+5.6			78	
														0.927	76.4	220.5	+10.7			112	
														(-5.4)	(286.7)	(-4.8)	(172)	(1322)	(1963)		
														0.956	294.9	345.2	+22.1			166	
														0.940	285.8	344.0	+13.1			413	
														0.828	293.8	328.0	+16.5			289	
														0.682	299.8	313.8	+15.9			135	

Group 6074\*, January 16. Some small spots, *n*, of the place of Group 6074.Group 6085, January 16. A small spot, *n*, Group 6076.Group 6086, January 16-20. A small regular spot, *a*, usually with one or two very small companions.Group 6087, January 16-27. Return of Group 6053. A regular spot, *a*, with occasionally one or two very small companions.Group 6088, January 16-27. A few small spots developing into a fine straight stream. The leader, *a*, on January 22 and the succeeding days is a large composite spot.Group 6089, January 16-27. A small faint spot, *f*, Group 6088.





Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 19'22.2	FS, CL		0°57	40°5	216°6	+30°9			64	
			0°84	65°3	198°3	+17°5			109	
M.			0°92	72°3	187°0	+14°1			118	
Jan. 20			0°94	61°8	186°1	+24°3			151	
			(-6°7)	(251°4)	(-5°1)	(171)	(1165)	(3020)		
20°45.1	AS, CL		0°98	248°6	316°0	-22°0			243	
			0°97	289°1	309°7	+17°2			457	
			0°87	250°4	296°6	-19°7			97	
		6081a	0°98	256°4	317°4	-14°2	6	71	494.8f	
		6092	0°98	273°4	314°7	+2°4	0	22	154.f	
		6091	0°97	267°9	311°3	-3°3	0	10	194p	
		6088	0°198	173°6	233°9	-16°5	1	5		
		6088a	0°198	165°5	232°3	-16°2	30	197		
		6088	0°177	163°1	232°2	-14°9	0	7		
		6088	0°22	160°0	230°6	-17°4	0	6		
		6088	0°23	153°7	229°1	-17°1	0	2		
		6088	0°22	147°0	227°9	-15°9	0	2		
		6088	0°22	139°9	226°4	-15°2	1	5		
		6088	0°25	137°3	224°9	-15°9	10	47		
		6088	0°25	132°0	223°8	-15°1	0	4		
		6087a	0°437	94	230°9	+20°3	15	73		
		6090a	0°890	82°1	173°2	+4°6	26	150		
		6093a	0°98	80°3	157°6	+8°4	22	243	551c	
			0°65	18°3	221°1	+33°1			59	
			0°74	58°9	193°4	+18°6			77	
			0°88	61°6	178°6	+22°0			166	
			0°92	74°6	170°2	+12°0			100	
Jan. 21			(-7°3)	(235°2)	(-5°2)	(111)	(844)	(2592)		
21°24.5	FS, CL		0°94	254°8	296°2	-16°1			216	
			0°88	308°7	278°0	+30°5			148	
			0°78	245°5	275°6	-22°5			232	
		6094	0°68	304°3	261°4	+18°5	1	7	46c	
		6094	0°64	306°5	257°6	+18°0	1	8		
		6088a	0°23	216°3	233°1	-16°2	30	181		
		6088	0°21	211°4	231°5	-15°9	2	10		
		6088	0°22	206°5	230°8	-16°8	0	6		
		6088	0°20	206°2	230°2	-15°8	4	17		
		6088	0°17	208°2	229°6	-13°9	0	2		
		6088	0°17	199°2	228°2	-14°7	0	6		
		6088	0°18	181°5	225°1	-15°7	2	14		
		6088	0°19	178°3	224°5	-16°3	0	29		
		6088	0°18	169°2	222°8	-15°4	0	4		
		6088	0°19	163°2	221°5	-16°0	0	5		
		6087a	0°44	346°8	231°0	+20°4	14	72		
		6087	0°43	349°7	229°5	+19°9	0	5		
		6090a	0°79	80°3	173°2	+4°4	24	152	172c	
1907. 21°24.5	FS, CL	6096	0°86	79°1	166°6	+6°6	0	9		
		6093	0°90	79°4	161°4	+7°2	0	7		
		6093a	0°93	79°0	157°6	+8°2	45	182	566c	
			0°74	43°8	189°3	+28°1			85	
			0°70	99°7	180°2	-10°6			86	
			0°86	57°4	171°7	+24°6			224	
			0°90	86°2	160°7	+1°1			142	
			(-7°6)	(224°8)	(-5°3)	(123)	(716)	(1917)		
Jan. 22										
22°24.7	FS, AS		0°95	295°3	280°0	+22°2			170	
			0°90	237°4	275°6	-31°8			176	
			0°88	253°8	274°0	-16°8			168	
		6094	0°82	296°7	262°3	+18°4	0	8	117c	
		6094	0°79	297°1	259°8	+17°8	0	7		
		6088a	0°41	242°6	233°8	-15°8	23	162		
		6088	0°39	247°5	233°3	-13°5	0	2		
		6088	0°38	242°8	232°2	-15°0	12	30		
		6088	0°37	240°2	231°5	-15°9	2	14		
		6088	0°35	239°9	230°0	-15°2	0	6		
		6088	0°32	244°1	229°2	-13°3	0	2		
		6088	0°31	238°9	227°9	-14°6	3	10		
		6088	0°33	232°5	227°8	-16°9	0	2		
		6088	0°30	231°9	226°1	-16°0	0	3		
		6088	0°28	226°8	223°9	-16°3	0	5		
		6088	0°25	229°5	223°2	-14°7	0	4		
		6087a	0°53	324°1	231°2	+20°7	12	57		
		6095	0°58	330°0	230°2	+25°0	0	8		
		6095	0°58	331°7	229°6	+26°1	0	4		
		6090	0°60	75°0	175°6	+4°8	0	5		
		6090a	0°63	76°2	173°3	+4°6	31	165		
		6090	0°66	73°9	171°7	+6°6	0	3	45c	
		6096	0°73	74°0	166°2	+8°0	0	8		
		6093b	0°82	74°7	157°7	+9°5	7	49		
		6093c	0°82	76°5	157°3	+8°1	15	118	470c	
			0°74	68°2	166°6	+12°3			110	
			0°76	87°5	161°9	-1°6			92	
			0°93	68°1	145°1	+18°4			170	
			0°93	102°5	141°6	-13°6			209	
			0°94	81°5	141°4	+6°3			197	
			(-8°1)	(211°6)	(-5°3)	(105)	(672)	(1924)		
Jan. 23										
23°12.2	FS, AS		0°94	248°6	271°2	-21°9			178	
			0°91	233°5	263°7	-35°3			191	
			0°90	219°5	258°7	-47°5			106	
			0°94	322°8	255°4	+46°0			214	
			0°79	250°7	252°6	-18°6			91	
			0°80	238°7	251°2	-28°1			142	
			0°72	311°7	236°7	+24°6			189	

Group 6091, January 21. A small spot, seen only near the West limb.

Group 6092, January 21. A small spot, seen only near the West limb.

Group 6093, January 21-February 2. Return of Group 6067. A large double spot, *a*, which has divided into two spots, *b* and *c*, by January 23. *b* has broken up by January 28, and *c* by January 31. Some small companions are occasionally seen.Group 6094, January 22-25. A few small spots rapidly developing into a considerable stream, consisting chiefly of three large spots, *a*, *b*, and *c*, on January 24 and 25.Group 6095, January 23. Some small spots, *a* Group 6087.

Group 6096, January 22-24. Some small unstable spots forming between Groups 6090 and 6093.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 23.12.22	PS, AS	6094a	0.922	291.8	263.9	+17.7	36	168	192c	
		6094b	0.895	291.7	260.1	+16.7	27	115		
		6094	0.896	293.0	259.9	+17.8	0	4		
		6094c	0.879	293.1	257.8	+17.4	23	60		
		6087a	0.643	310.5	231.3	+20.0	12	30	46p	
		6088a	0.569	249.2	233.6	-16.2	38	206		
		6088	0.546	247.7	231.8	-16.5	0	6		
		6088	0.537	250.5	231.6	-15.0	0	7		
		6088	0.521	247.5	230.0	-16.2	0	2		
		6088	0.487	245.5	227.5	-16.4	0	7		
		6088	0.464	246.8	226.2	-15.3	0	3		
		6088	0.457	243.5	225.3	-16.6	0	3		
		6088	0.459	240.7	224.9	-17.9	0	3		
		6088	0.429	243.1	223.5	-16.1	0	5		
		6088	0.425	239.5	222.6	-17.4	0	4		
		6090a	0.473	69.1	173.9	+4.8	34	164		
		6096	0.574	67.3	167.9	+8.2	1	10	221c	
		6096	0.595	64.2	167.2	+10.4	0	9		
		6093b	0.704	69.3	158.2	+10.4	8	42		
		6093c	0.704	71.8	157.7	+8.7	18	102		
		6093	0.718	71.1	156.7	+9.5	0	4	388c	
		6093	0.718	72.8	156.4	+8.4	0	4		
		6093	0.733	69.0	156.0	+11.4	0	3		
		6093	0.724	74.4	155.6	+7.4	0	6		
		6097a	0.897	75.9	138.2	+10.1	0	6	158c	
		0.707	45.0	166.6	+25.4			127		
		0.660	95.5	158.8	-7.7			146		
		0.701	85.2	156.0	-0.5			167		
		0.822	47.7	155.8	+29.7			191		
		0.775	62.0	154.4	+17.5			126		
		0.816	74.6	147.5	+9.2			94		
		0.839	85.1	143.6	+1.1			118		
		0.865	105.5	140.1	-16.2			187		
		0.906	64.6	139.5	+20.3			280		
		0.884	97.0	137.7	-8.7			190		
		0.954	85.8	128.1	+2.3			163		
Jan. 24			(-8.5)	(200.1)	(-5.4)		(197)	(973)	(3905)	
24.12.25	CL, AS	0.903	247.1	251.3	-23.0			97		
		0.897	256.8	251.0	-14.3			112		
		0.850	239.5	243.2	-28.6			254		
		0.904	311.7	241.1	+33.8			121		
		0.836	293.2	239.7	+15.9			108		
		0.848	227.5	239.5	-38.3			103		
		0.783	281.1	237.2	+5.2			223		
		0.826	306.2	234.3	+25.5			289		
		0.705	314.2	220.6	+24.9			235		
		0.757	325.3	218.0	+33.7			213		
1907. 24.12.25	CL, AS	6094a	0.600	318.9	211.9	+21.8			127	
		6094b	0.985	288.8	264.4	+17.4			170c	
		6094c	0.971	288.9	260.4	+16.9				
		6094c	0.959	290.1	257.5	+17.5				
		6088a	0.740	253.3	234.2	-16.0				
		6088	0.708	254.3	231.6	-15.0				
		6088	0.710	252.3	231.5	-16.4				
		6088	0.687	251.8	229.6	-16.5				
		6087a	0.773	301.8	231.1	+20.1				
		6090a	0.279	52.0	174.2	+4.5				
		6090	0.332	48.4	172.5	+7.4				
		6090	0.311	56.8	171.8	+4.5				
		6090	0.331	53.0	171.6	+6.1				
		6096	0.417	51.4	167.7	+9.9				
		6093b	0.539	61.7	158.2	+9.9				
		6093c	0.536	64.6	157.7	+8.5				
		6093	0.556	60.8	157.4	+10.9				
		6097	0.741	72.3	141.4	+9.2				
		6097a	0.784	72.2	137.7	+10.3				
		6098a	0.969	79.3	112.6	+8.9				
		0.577	82.2	152.2	0.0					
		0.816	59.5	138.3	+20.8					
		0.775	98.7	136.0	-10.2					
		0.867	110.9	127.1	-20.8					
		0.882	91.7	125.0	-4.2					
		0.934	66.7	121.7	+19.4					
Jan. 25			(-8.9)	(186.9)	(-5.5)		(216)	(1271)	(4165)	
25.23.1	AS, M	0.956	240.1	245.6	-30.2				91	
		0.930	301.3	234.6	+26.4				252	
		0.896	279.2	234.8	+5.6				99	
		0.812	302.9	219.7	+22.4				118	
		0.820	313.6	215.6	+30.3				137	
		6087a	0.895	297.2	230.7	+21.2	3	13		
		6088a	0.882	256.1	234.5	-14.9	31	218		
		6088	0.877	258.3	233.9	-13.0	0	9		
		6088	0.859	257.2	231.7	-13.8	3	46		
		6090a	0.184	349.4	174.2	+4.8	27	157		
		6090	0.191	5.2	171.3	+5.3	0	2		
		6096	0.299	31.5	163.2	+9.2	0	6		
		6093b	0.373	43.9	157.1	+10.1	11	34		
		6093c	0.357	47.6	156.9	+8.5	16	64		
		6097a	0.613	65.7	137.9	+10.0	0	4		
		6098a	0.878	77.7	112.5	+8.0	35	226		
		0.870	63.3	116.8	+19.9					
		0.950	71.8	103.2	+15.3					
		0.957	101.0	98.7	-12.1					
Jan. 26			(-9.4)	(172.3)	(-5.6)		(126)	(779)	(1742)	

Group 6097, January 24-28. Probably a return of Group 6072. A small spot, *a*, with a companion on January 25. The group is not seen on January 27.  
 Group 6098, January 25-February 5. Return of Group 6059. A large regular spot, *a*, with occasionally some very small companions.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		Greenwich Civil Time.	Measures.	No. of Group and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Area for each Group (and for Day).	Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).		
1907. 26 <sup>23</sup> 32	CL, AS		0°944	302°8	223°4	+28°4			237		1907. 27 <sup>11</sup> 18	FS, CL	0°640	55°4	114°3	+16°5			31		
			0°888	232°8	219°1	-35°4			181				0°814	43°1	106°5	+32°2			145		
			0°849	266°8	217°3	-5°8			112				0°705	88°1	102°8	-2°7			133		
			0°879	307°3	211°9	+28°8			174				0°786	58°1	102°2	+20°5			248		
		6088a	0°966	255°8	234°9	-15°2	26	180					0°752	71°7	101°3	+9°7			347		
		6088	0°953	257°1	232°1	-14°0	8	43	439f		K.		0°794	124°6	98°3	-30°5			110		
		6087a	0°966	293°7	230°4	+21°1	0	11	174f				0°801	99°9	94°1	-11°3			190		
		6090*	0°584	306°2	188°2	+15°1	0	4					0°911	53°2	90°2	+30°1			167		
		6090a	0°319	304°6	174°3	+4°9	25	133					0°899	73°4	85°9	+12°2			107		
		6096	0°312	326°1	169°2	+9°4	0	3			Jan. 28		0°925	103°7	79°4	-14°8			111		
		6093b	0°274	6°0	157°4	+10°0	4	22					(-10°2)	(147°5)	(-5°7)	(155)	(834)	(3625)			
		6093c	0°250	8°1	157°1	+8°6	13	69													
		6093	0°267	10°4	156°3	+9°5	0	2													
		6093*	0°521	27°6	144°1	+21°9	0	4													
		6093*	0°533	30°6	142°2	+21°8	0	4													
		6098	0°740	69°6	114°3	+10°9	0	4													
		6098a	0°748	74°3	112°7	+7°8	37	247	96e				6090a	0°733	281°9	175°3	+4°6	26	143	141n	
			0°862	66°1	103°7	+17°2		164					6093	0°538	291°8	159°5	+6°4	0	8		
			0°838	87°5	102°5	-1°1		95					6093c	0°534	295°9	158°4	+8°3	0	46		
			0°865	77°4	100°9	+7°9		371					6098a	0°358	48°2	113°9	+8°1	33	207		
			0°894	100°9	95°4	-12°3		208					6099a	0°795	57°0	83°9	+21°5	61	352	333c	
			0°985	69°6	81°9	+18°9		265					6099	0°806	59°0	82°1	+20°6	0	8		
Jan. 27			(-9°8)	(159°1)	(-5°7)	(113)	(726)	(2516)					6099	0°830	60°2	79°4	+20°6	4	18		
													6099	0°841	61°6	77°7	+20°0	2	11		
													6099	0°850	60°4	77°2	+21°2	0	4		
													6099	0°864	61°4	75°3	+21°1	2	17		

Group 6090\*, January 27. A very small spot, *np* Group 6090.

Group 6093\*, January 27-28. A pair of very small spots, *nf* Group 6093. Only one spot remains on January 28.

Group 6099, January 28-February 7. A magnificent stream, composed of a very large spot, *a*, with single umbra, followed by a considerable train of spots, and with smaller attendants near, principally to the south.

Group 6100, January 28-February 8. A fine irregular stream, of which the central portion disappears by February 2, leaving two clusters widely separated. The leader is a large regular spot, *a*; and a large composite spot, *b*, forms near the rear of the group.

Group 6101, January 29-February 8. A large composite spot, *a*, followed by a small train of spots. The group breaks up into a cluster of small spots by February 4.

907-January 30. There is an uncertainty in the longitude of the spot and focus and.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS		FACULAE	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS		FACULAE
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 29.549	CL, RF	6099	0.677	51.3	(81.3)	+20.1	0	23		1907. 30.476	AS, RF	0.769	59.4	59.0	+18.7			106	
		6099	0.680	54.1	(80.0)	+18.6	9	45				0.866	60.2	49.2	+22.0			62	
		6099	0.698	53.3	(79.0)	+19.9	0	13		G.		0.951	75.2	33.4	+12.0			154	
		6099	0.711	52.7	(78.3)	+20.8	5	11		Jan. 31			(-11.7)	(103.2)	(-6.0)	(287)	(2253)	(1179)	
		6099	0.720	54.0	(77.1)	+20.4	5	22											
		6099	0.714	55.1	(77.1)	+19.5	8	62											
		6099	0.744	53.5	(75.5)	+21.7	3	17											
		6099	0.738	56.3	(74.8)	+19.7	0	5		31.240	FS, AS	0.919	294.3	155.7	+19.5			112	
		6099	0.760	55.5	(73.4)	+21.1	16	108				0.856	260.2	152.4	+11.6			143	
		6100a	0.681	68.2	(75.6)	+10.1	26	264				0.795	288.2	143.2	+10.4			122	
		6100	0.694	71.2	(73.9)	+8.5	0	2				0.813	304.0	140.1	+22.9			269	
		6100	0.713	70.7	(72.6)	+9.3	3	18				0.991	276.3	173.6	+5.4	29	135	169	
		6100	0.738	70.8	(70.5)	+9.9	11	63	194c			0.942	282.1	161.9	+9.2	0	13		
		6100	0.755	69.2	(69.5)	+11.4	21	172				0.917	280.6	158.2	+7.1	0	5	664c	
		6100	0.793	71.1	(65.7)	+11.1	0	10				0.918	282.3	158.1	+8.7	0	9		
		6101a	0.898	74.2	(53.8)	+11.4	35	216				6102	0.817	277.9	147.1	+2.8	12	34	104c
		0.838	61.5	(64.0)	+20.0							6102	0.760	278.0	141.9	+2.1	0	18	
		0.844	108.1	(57.9)	-18.4							6098a	0.412	305.5	112.9	+8.1	27	149	
		0.863	89.1	(55.9)	-2.3							6098	0.388	310.8	110.4	+8.8	0	2	
		0.923	83.4	(48.9)	+3.7							6098*	0.320	339.1	99.9	+11.3	0	6	
		0.967	77.4	(41.9)	+10.6							6098*	0.292	348.0	96.7	+10.4	0	6	
Jan. 30				(-11.2)	(115.4)	(-5.9)	(281)	(2031)	(2292)			6099	0.487	13.6	86.1	+22.1	0	10	
												6099	0.512	13.3	85.8	+23.7	0	7	
												6099	0.523	14.9	84.8	+24.2	0	2	
												6099	0.544	14.6	84.5	+25.6	0	8	
												6099	0.540	16.8	83.3	+25.0	1	6	
30.476	AS, RF	6090a	0.957	276.7	175.4	+4.6	19	124	551c			6099a	0.506	19.9	82.5	+22.3	128	689	
		6096	0.872	283.0	162.1	+8.2	0	13				6099	0.543	20.3	81.3	+24.5	2	24	
		6093†	0.849	278.4	160.3	+3.9	0	10				6099	0.480	25.1	80.8	+19.7	0	37	
		6093†	0.845	279.9	159.7	+5.1	0	9				6099	0.492	26.0	80.0	+20.2	0	11	
		6093†	0.843	281.4	159.2	+6.2	0	13				6099	0.521	24.4	79.8	+22.3	0	10	
		6093	0.841	283.4	158.6	+7.8	4	16				6099	0.533	23.6	79.8	+23.2	0	6	
		6102	0.692	279.8	146.1	+2.4	3	18				6099	0.499	27.5	79.0	+20.3	0	8	
		6102	0.651	279.0	143.0	+1.2	3	14				6099	0.520	26.9	78.6	+21.6	6	35	
		6098a	0.303	322.0	114.0	+7.8	30	181				6099	0.500	28.7	78.5	+20.0	0	4	
		6099	0.581	29.6	84.9	+24.6	0	6				6099	0.509	31.4	76.9	+19.8	5	26	
		6099a	0.564	34.1	83.3	+22.2	112	755				6099	0.534	30.5	76.3	+21.5	8	43	
		6099	0.561	39.7	80.9	+20.0	0	21				6099	0.527	33.4	75.3	+20.3	6	87	
		6099	0.583	38.7	80.2	+21.5	0	6				6099	0.550	33.0	74.5	+21.6	0	10	
		6099	0.561	42.2	79.8	+19.0	3	20				6099	0.572	32.5	73.8	+23.0	0	2	
		6099	0.574	41.2	79.6	+20.0	7	35				6099	0.561	34.7	73.2	+21.7	0	2	
		6099	0.599	41.8	78.0	+21.0	17	179				6099	0.576	36.1	71.8	+22.0	10	51	
		6099	0.632	42.1	76.0	+22.6	1	5				6100a	0.398	46.2	76.3	+10.1	37	203	
		6099	0.630	44.8	74.9	+21.2	0	24				6100	0.429	47.6	74.5	+11.0	2	20	
		6099	0.652	45.0	73.5	+22.2	6	51				6100	0.430	49.7	73.8	+10.3	0	14	
		6100a	0.521	57.9	76.6	+10.7	34	294				6100	0.446	53.9	71.9	+9.5	5	22	
		6100	0.559	62.4	73.2	+9.8	0	13				6100	0.456	52.5	71.7	+10.4	0	2	
		6100	0.574	60.8	72.6	+11.0	0	7				6100	0.484	50.3	70.9	+12.3	0	7	
		6100	0.616	61.9	69.6	+11.8	28	236				6100b	0.506	55.1	68.3	+11.3	39	292	
		6101a	0.791	69.7	54.1	+12.0	20	191				6100*	0.347	107.1	73.5	-11.6	0	6	
		6101	0.849	69.9	48.3	+13.5	0	12	306c										

Group 6102, January 30–February 3. Two very small spots on January 30. A small regular spot, *a*, has appeared preceding the rest of the group by January 31, and moves forward rapidly in longitude.

Group 6093†, January 31. Three very small spots appearing, *s* Group 6093.

Group 6098\*, February 1. A pair of very small spots, *u*/ Group 6098.

Group 6100\*, February 1. A very small spot, on the same meridian as Group 6100, but in the southern hemisphere.

# MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 31 <sup>st</sup> 240	FS, AS	6101	0.675	67.3	54.1	+10.3	11	54	} 225n		1907. 33 <sup>rd</sup> 156	AS, CL		0.960	279.6	140.3	+7.4			96	
		6101	0.694	66.7	52.8	+11.3	19	118						0.923	256.5	135.9	+14.9			186	
M.			0.677	56.1	57.3	+17.2								0.935	291.8	133.5	+17.8			118	
			0.719	80.5	48.2	+2.5								0.851	278.3	125.2	+3.7			53	
			0.812	72.4	41.5	+10.4								0.835	284.1	122.6	+8.2			90	
Feb. 1			0.907	74.4	30.4	+11.4							0.832	298.2	118.7	+19.3			76		
				(-12.0)	(93.2)	(-6.1)	(347)	(2193)	(2302)					0.799	289.8	117.8	+11.7			91	
32 <sup>nd</sup> 181	CL, M		0.883	281.7	141.3	+7.4							6102a	0.989	272.5	149.0	+1.6	0	39		
			0.866	260.1	141.2	-11.7			158				6102	0.973	272.7	144.1	+1.2	0	32		
			0.882	296.4	137.7	+19.8			149				6098a	0.733	285.8	113.0	+7.1	23	102		
		6093	0.966	282.3	154.1	+10.2	2	21	78n				6098	0.733	287.7	112.6	+8.5	0	4		
		6102a	0.931	274.8	148.7	+2.2	4	18	139c				6098†	0.640	293.0	104.4	+9.5	0	5		
		6102	0.909	276.7	145.3	+3.5	0	4					6102*	0.529	263.6	99.9	-8.6	0	6		
		6098a	0.579	292.8	113.3	+7.8	29	153					6099	0.571	326.1	88.0	+22.4	0	1		
		6098	0.573	299.0	111.4	+10.9	0	2	92c				6099	0.553	325.1	87.6	+21.1	0	5		
		6102*	0.344	258.5	100.7	-9.7	0	2					6099	0.534	324.6	87.0	+19.9	8	53		
		6102*	0.323	259.4	99.5	-9.2	1	6					6099	0.540	326.6	86.4	+20.9	0	8		
		6102*	0.301	259.0	98.1	-9.1	0	1					6099	0.585	332.4	85.3	+25.2	4	30		
			0.275	258.2	96.5	-9.1	0	3					6099	0.591	333.7	84.8	+26.0	1	5		
		6099	0.478	346.5	87.7	+21.5	0	7					6099	0.492	326.9	84.3	+18.3	5	26		
		6099	0.460	348.7	86.3	+20.7	3	20					6099	0.504	328.1	84.2	+19.3	0	2		
		6099	0.440	351.0	85.0	+19.5	1	12					6099a	0.536	330.9	84.2	+21.9	107	608		
		6099	0.531	353.9	84.4	+25.7	0	9					6099	0.562	333.1	84.0	+24.0	1	5		
		6099a	0.483	354.5	83.7	+22.5	116	670					6099	0.491	328.6	83.5	+18.7	0	5		

Group 6102\*, February 2-4. A few very small unstable spots in a straight stream.  
Group 6098†, February 3. A very small spot, *nf* Group 6098.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued.*

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 33.156	AS, CL	6101	0.390	29.9	56.4	+13.6	0	7		1907. 34.128	AS, M	6101	0.273	1.4	54.8	+9.5	3	10	
K.		6101	0.383	34.1	55.3	+12.4	0	3				6101	0.262	5.3	53.8	+8.8	0	2	
		6101a	0.377	39.3	53.9	+10.9	17	69				6101	0.345	4.7	53.5	+13.7	0	2	
		6101	0.415	34.9	53.8	+13.8	0	7				6101	0.290	5.8	53.5	+10.4	6	22	
		6101	0.425	42.3	50.9	+12.3	0	1				6101	0.277	8.3	52.9	+9.6	1	5	
			0.933	71.4	1.9	+14.9						6101	0.292	11.1	51.9	+10.3	2	11	
Feb. 3				(-12.7)	(67.9)	(-6.2)	(253)	(1670)	(464) (1510)	K.		6104*	0.545	101.9	22.3	-11.7	1	5	
34.128	AS, M		0.965	253.6	131.1	-17.5			112			6104*	0.567	101.1	20.8	-11.5	0	4	
			0.915	289.0	118.4	+14.6			113			6104	0.677	104.0	12.7	-14.1	0	7	
			0.905	295.6	115.3	+20.0			125	Feb. 4		6104	0.694	102.8	11.3	-13.4	0	17	
			0.874	276.6	115.3	+2.7			122			6103a	0.985	102.8	334.1	-13.7	56	759	397 <sup>c</sup>
			0.809	295.9	104.4	+16.6			149				0.875	68.3	357.9	+15.5			755
K.			0.775	290.0	102.9	+11.1			251				(-13.1)	(55.2)	(-6.3)	(301)	(2239)	(2461)	
		6098a	0.861	282.4	112.9	+7.3	25	133	437 <sup>nf</sup>	35.118	OL, AS		0.924	270.8	109.4	-1.7			155
		6102*	0.718	263.3	101.3	-9.2	1	9					0.901	292.8	102.4	+17.4			165
		6099	0.678	312.2	87.8	+21.7	0	5					0.883	287.3	101.4	+12.0			111
		6099	0.655	310.3	87.1	+19.7	4	42					0.825	261.0	98.0	-11.0			149
K.		6099	0.686	315.5	86.8	+23.9	0	4					0.844	298.5	94.0	+19.9			61
		6099	0.689	318.1	85.7	+25.4	0	11					0.743	293.6	86.2	+12.8			96
		6099a	0.642	315.3	84.1	+21.6	116	585				6098a	0.951	279.8	112.7	+7.3	13	108	235 <sup>n</sup>
		6099	0.663	319.2	83.5	+24.5	0	11				6099	0.783	302.3	86.8	+20.3	1	10	
		6099	0.632	311.2	85.3	+19.1	0	4				6099a	0.761	305.3	83.8	+21.4	103	562	
K.		6099	0.612	310.9	84.2	+18.1	0	6				6099	0.731	302.2	82.5	+18.1	0	6	
		6099	0.610	313.0	83.2	+19.0	0	10				6099	0.727	307.8	80.1	+21.5	3	30	
		6099	0.600	312.4	82.9	+18.3	2	16				6099	0.707	304.7	79.8	+18.7	8	59	192 <sup>c</sup>
		6099	0.585	312.0	82.2	+17.4	0	4				6099	0.703	310.9	77.0	+22.2	1	28	
		6099	0.582	313.6	81.4	+18.0	1	18				6099	0.682	310.1	75.9	+20.8	8	59	
K.		6099	0.602	318.4	80.4	+21.0	4	26				6099	0.672	311.8	74.5	+21.3	0	3	
		6099	0.583	316.5	80.3	+19.3	2	30				6100a	0.620	295.5	76.6	+10.3	32	191	
		6099	0.593	319.6	79.4	+21.0	0	1				6100	0.604	298.3	74.8	+11.3	1	7	
		6099	0.580	319.0	79.0	+20.1	0	9				6100	0.544	303.7	69.5	+12.0	8	49	
		6099	0.556	320.3	77.2	+19.5	2	17				6100b	0.493	307.1	65.7	+11.4	14	68	
K.		6100a	0.564	323.5	76.2	+21.0	10	79				6100	0.481	309.8	64.2	+12.1	0	2	
		6100a	0.461	306.8	77.1	+10.2	37	201				6101	0.375	327.9	53.8	+12.3	0	15	
		6100	0.450	311.0	75.4	+11.2	1	6				6101	0.338	324.7	53.5	+9.8	8	89	
		6100	0.429	310.7	74.4	+10.3	3	14				6101	0.385	332.8	52.5	+13.8	3	18	
		6100	0.443	314.7	73.9	+12.1	0	2				6101	0.351	331.1	52.0	+11.6	0	11	
K.		6100	0.389	319.3	70.1	+11.0	0	4				6104*	0.356	105.8	21.7	-11.5	2	10	
		6100	0.395	322.7	69.3	+12.1	4	16				6104	0.483	106.6	13.8	-13.5	22	104	
		6100	0.375	322.4	68.6	+11.1	2	10				6104	0.517	106.8	11.6	-14.0	0	11	
		6100	0.381	324.6	68.2	+11.9	0	3				6104	0.541	105.8	9.8	-13.8	20	123	
		6100	0.354	324.4	67.2	+10.5	0	6				6103a	0.915	100.3	335.4	-12.0	44	331	
K.		6100	0.388	328.4	67.2	+13.1	0	2				6103a	0.929	103.4	333.2	-14.8	51	367	729 <sup>c</sup>
		6100	0.346	326.8	66.3	+10.6	0	3				6105	0.958	106.2	327.9	-17.3	14	87	
		6100b	0.359	328.0	66.3	+11.5	18	97				6106	0.961	101.3	327.4	-12.6	4	42	
		6100	0.353	333.1	64.6	+12.1	0	8				6107a	0.988	93.0	320.9	-3.9	28	175	
		6101	0.328	354.0	57.2	+12.7	0	3					0.691	64.1	2.7	+12.7			200

Group 6103, February 4-16. Return of Group 6075. A fine large composite spot,  $\alpha$ , followed by a train of small unstable spots. The leader,  $\alpha$ , is sometimes measured in two parts.

Group 6104\*, February 4-5. Two very small spots,  $\eta$  Group 6104. Only one spot remains by February 5.

Group 6104, February 4-13. A few small spots, rapidly increasing to form a fine irregular stream. A large double spot,  $\alpha$ , is the leader, and another,  $\beta$ , the rearmost of the group. Both  $\alpha$  and  $\beta$  are sometimes measured as each being two separate spots.

Group 6105, February 5-10. With Group 6106, a return of Group 6076. A number of small unstable spots,  $\zeta$  Group 6103.

Group 6106, February 5-7. A few small spots,  $\eta$  Group 6105.

Group 6107, February 5-16. Return of Group 6061. A large regular spot,  $\alpha$ , with occasionally some small companions.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

[illegible]

Group 6108, February 6-19. Return of Group 6081. A magnificent stream. The leader, *a*, is a very large composite spot, and *b*, *c* and *d* are very large spots in the following portion of the group. The individual spots undergo many changes, coalescing and dividing again, so that even the principal spots cannot be clearly identified for any long time.









Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.																																						
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).																																							
1907. 43'249	FS, AS	6103	0°608	255°1	339°3	-15°3	0	3	102c	Feb. 13	FS, AS	0°915	61°6	234°7	+22°5	(656)	(3881)	183																																							
		6103a	0°680	258°1	338°0	-13°1	105	544			130																																														
		6103	0°656	256°6	336°0	-13°9	0	6			(2790)																																														
		6103	0°643	253°0	334°7	-16°1	0	5			114c	CL, BF	0°935	265°4	348°2			-6°7	39	214	151																																				
		6103	0°638	256°0	334°6	-14°1	1	5					181																																												
		6103	0°628	254°5	333°7	-15°0	3	22					64																																												
		6111a	0°750	295°8	339°1	+14°1	29	171					317c	0°802	302°7			324°8			+21°0	5	27	32																																	
		6111	0°742	297°4	337°9	+15°0	0	5							262c			6111a			0°906				288°5	340°7	+13°6	0	13	9																											
		6111	0°709	297°0	335°5	+13°6	3	18													90				6111	0°892	289°7				338°5	+14°1	1	20	8																						
		6111	0°712	299°9	334°8	+15°6	0	3																		188	6111				0°865	288°4				335°6	+12°1	0	18	11																	
		6111b	0°689	298°3	333°6	+13°7	13	64	1240	6111						0°858	291°4														334°1	+14°4				0	30				13																
		6107	0°504	275°3	325°1	-3°2	1	10								12	6111b														0°848	289°5										333°5	+12°6	0	168	10											
		6107	0°485	275°3	323°9	-3°5	2	9																							30	6111										0°847	291°0				333°0	+13°8	0	10	6						
		6107a	0°461	274°6	322°4	-3°9	42	189			16	6103a							0°856	258°0																						338°0	-13°8				0	13				16					
		6108a	0°345	237°9	312°8	-17°0	127	659											12	6103																						0°846	260°8										336°9	-11°4	0	55	96
		6108	0°283	248°4	310°7	-12°6	20	98																																		47	6103										0°837	258°6			
		6108	0°291	243°9	310°6	-13°9	23	82					3	6103								0°835	255°8	335°7																													-15°6	0			
		6108	0°323	229°9	310°1	-18°6	0	4							0			6103				0°757	255°3	328°0				-15°6	0	3																							3				
		6108	0°263	252°6	309°9	-11°1	0	2													0	6107	0°709	271°6	323°8			-3°7					0	70	3																						
		6108	0°282	239°1	309°5	-14°9	0	2															0	6107	0°703	267°5	323°5	-6°6										0	3	3																	
		6108	0°259	243°8	308°8	-13°1	6	39	0	6107a															0°690	271°0	322°3	-4°3								0	3				3																
		6108	0°280	234°3	308°7	-16°0	2	15								0	6108								0°551	258°8	312°1	-11°9																0	3	3											
		6108	0°258	239°5	308°3	-14°1	0	5																	0	6108a	0°545	251°6			311°0	-15°6																	0	3	3						
		6108	0°287	227°8	307°9	-17°7	3	25			0	6108															0°546	244°9			310°1	-19°2															0	3				3					
		6108																																																							

Group 6113, February 13-24. Return, or rather revival, of Group 6087. A composite spot,  $\alpha$ , followed by a short train of small spots. The train undergoes a great development on February 17, and the group has taken the form of two compact clusters by February 20. The following cluster soon disappears.



## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

[illegible]

Group 6117, February 18-March 1. Return of Group 6093†. A large regular spot,  $\alpha$ , usually followed by a short train of small spots.

Group 6116, February 18-21. A few small spots.

Group 6116\*, February 19. A small spot, sp Group 6116.

Group 6118, February 20-March 1. A number of spots in a straight stream, that rapidly increases in size, and develops into a fine stream of normal type. The first and last spots, *a*, and *b*, are the two largest, and eventually become very large regular spots.

Group 6119, February 20-27. A number of small unstable spots in a straight stream,  $n$  Group 6115. The group increases in size, and finally becomes a stream of normal type.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 50°23'2	AS, OL		0°722	63°7	161°7	+13°4			259	1907. 51°34'4	FS, CL		0°794	99°2	135°5	-11°7			212
			0°808	70°6	152°4	+11°2			227	M. Feb. 21			0°967	79°9	114°8	+7°8	(200)	(1195)	164
			0°789	83°5	151°8	+0°8			235					(-19°3)	(188°5)	(-7°1)		(1831)	
M.			0°920	54°3	144°7	+29°0			164										
			0°923	64°4	140°8	+20°4			206										
			0°913	100°0	136°6	-12°0			207										
Feb. 20			0°937	75°4	136°0	+11°0			156	52°11'5	OL, AS								
				(-18°9)	(203°2)	(-7°0)	(147)	(794)	(2205)										
51°34'4	FS, OL		0°872	278°9	248°0	+4°2			131			6113a	0°765	295°3	223°6	+14°1	20	78	
			0°887	290°1	247°5	+14°1			246			6113	0°712	299°5	218°1	+15°1	1	10	
			0°829	303°9	236°6	+22°8			150			6113	0°675	297°8	215°9	+12°7	0	3	
		6113	0°676	300°8	225°2	+14°6	3	15				6119	0°322	354°9	180°0	+11°6	0	3	
		6113	0°654	300°5	223°8	+13°6	0	9				6119	0°286	355°3	179°7	+9°5	6	42	
		6113a	0°651	302°7	222°9	+14°7	15	64	104c			6119	0°282	3°8	177°2	+9°2	7	37	
		6113	0°637	304°4	221°4	+15°1	0	4				6119	0°306	6°7	176°2	+10°5	0	1	
		6113	0°634	311°3	218°5	+18°6	0	6				6119	0°298	9°9	175°3	+9°9	3	9	
		6113	0°613	308°8	218°2	+16°4	0	9				6119	0°308	16°3	173°3	+10°0	4	28	
		6113	0°602	308°0	217°9	+15°5	11	40				6115a	0°228	5°2	177°1	+6°0	1	7	
		6119	0°338	31°4	178°2	+9°8	22	41				6115	0°246	9°9	175°9	+6°9	0	4	
		6119	0°336	34°5	177°4	+9°1	0	7				6118a	0°106	136°0	174°0	-11°4	15	116	
		6119	0°354	38°5	175°7	+9°1	5	13				6118	0°150	122°8	170°9	-11°7	9	64	
		6119	0°390	39°1	174°1	+10°7	2	10				6118	0°182	122°9	169°3	-12°7	0	60	
		6119	0°392	44°5	172°4	+9°3	5	14				6118b	0°215	123°7	167°7	-13°8	27	206	
		6119	0°415	41°6	172°3	+11°2													

Group 6120, February 21-26. A few small unstable spots.  
 Group 6121, February 21-March 2. A revival, rather than a return, of Group 6102\*. A regular spot,  $\alpha$ , followed by a short train of small spots.  
 Group 6113†, February 23-25. Some small spots,  $n$  Group 6113, quickly developing into a stream of normal type. The first and last spots,  $\alpha$  and  $b$ , are the two largest. Only  $b$  remains in sight on February 25.





Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC.		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC.		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 55.115	CL, M	6113 <sup>b</sup>	0.986	293.2	215.4	+21.4	29	364	153 <sup>p</sup>	1907. 56.200	FS, AS	6120	0.366	14.0	119.3	+13.6	0	9	
		6119	0.686	292.9	178.6	+10.0	18	162				6120	0.426	13.6	118.5	+17.2	0	4	
		6118 <sup>a</sup>	0.613	259.9	176.7	-11.9	83	495				6120	0.401	15.5	118.1	+15.5	0	4	
		6118	0.579	259.8	174.2	-11.7	1	7				6120	0.417	16.9	117.3	+16.3	0	9	
		6118	0.562	262.3	173.1	-10.3	0	7				6124	0.253	28.6	117.5	+5.6	0	2	
		6118	0.547	259.6	172.0	-11.7	4	33				6124	0.280	36.1	115.0	+5.9	4	19	
		6118	0.537	257.0	171.1	-13.0	0	4				6124	0.300	40.0	113.4	+6.2	3	12	
		6118 <sup>b</sup>	0.482	253.5	167.1	-14.2	44	308				6121 <sup>a</sup>	0.228	94.9	111.3	-8.1	16	88	
		6117 <sup>a</sup>	0.467	293.0	164.2	+4.0	41	244				6121	0.243	91.6	110.4	-7.4	0	4	
		6117	0.447	289.0	163.7	+1.9	1	7				6123	0.818	53.4	78.6	+24.2	0	17	156 <sup>f</sup>
		6120	0.484	36.0	121.6	+16.1	2	9				6123 <sup>a</sup>	0.821	55.1	77.6	+23.2	52	271	
		6120	0.498	42.6	118.5	+14.7	3	12				6125 <sup>a</sup>	0.971	74.2	50.9	+13.4	4	31	292 <sup>c</sup>
		6124	0.426	59.8	117.2	+5.6	5	10				6125	0.996	75.1	42.0	+14.0	0	69	
		6124	0.471	63.0	114.0	+5.8	5	11					0.755	46.2	87.4	+25.7		87	
		6121 <sup>a</sup>	0.462	94.1	111.2	-8.3	15	98					0.710	58.8	85.5	+16.0		190	
		6123 <sup>a</sup>	0.919	61.1	78.1	+23.0	47	314	239 <sup>c</sup>				0.885	48.3	73.8	+31.6		96	
			0.867	56.9	86.3	+24.0			75				0.842	119.9	68.2	-28.9		83	
			0.859	69.2	83.3	+13.7			400				0.858	89.4	65.5	-3.2		107	
			0.930	55.1	78.6	+28.7			122				0.886	70.7	65.4	+13.4		257	
			0.958	73.0	68.2	+14.0			216				0.916	61.3	64.1	+22.7		148	
Feb. 25				(-20.4)	(138.8)	(-7.2)	(298)	(2085)	(1573)				0.890	101.4	61.0	-13.2		76	
													0.976	69.9	50.5	+17.7		135	
														(-20.7)	(124.5)	(-7.2)	(284)	(1878)	(2832)
56.200	FS, AS		0.957	286.2	195.0	+13.2			136	Feb. 26									
			0.848	306.7	173.4	+25.8			75										
		6119	0.870	286.5	182.3	+10.5	0	19		57.117	FS, CL		0.921	291.4	175.6	+16.5		75	
		6119	0.865	287.9	181.5	+11.6	0	5					0.831	270.1	168.6	-4.0		122	
		6119	0.857	286.8	180.8	+10.4	25	125					0.863	302.7	164.6	+23.4		99	
		6119	0.850	288.0	179.8	+11.2	0	6					0.814	294.7	162.3	+15.3		147	
		6119	0.834	286.5	178.5	+9.5	4	14	543 <sup>c</sup>				0.683	283.9	153.9	+4.0		137	
		6119	0.822	288.4	176.8	+10.7	0	30				6119	0.947	283.1	181.6	+9.9	40	196	
		6119	0.800	287.4	175.0	+9.3	3	19				6119	0.928	283.8	178.4	+9.9	0	3	
		6119	0.805	289.1	175.0	+10.7	13	89				6119	0.901	284.6	174.4	+9.8	21	85	
		6119	0.796	290.6	173.8	+11.6	0	6				6119	0.890	284.4	173.0	+9.3	0	7	
		6118 <sup>a</sup>	0.800	260.7	178.1	-11.8	73	380				6118 <sup>a</sup>	0.909	259.5	178.5	-12.6	69	366	
		6118	0.791	262.8	177.2	-10.1	0	30				6118	0.898	261.0	176.9	-11.3	0	14	
		6118	0.778	260.1	175.9	-12.2	3	23				6118	0.899	258.2	177.1	-13.7	0	6	
		6118	0.773	262.0	175.5	-10.7	0	12				6118	0.829	257.1	168.8	-14.7	0	13	
		6118	0.735	261.2	172.1	-11.3	0	8				6118	0.814	258.0	167.3	-13.9	2	13	
		6118	0.709	257.7	169.8	-13.8	3	32				6118	0.813	255.8	167.1	-15.7	0	3	
		6118	0.683	258.3	167.7	-13.3	3	33				6118 <sup>b</sup>	0.792	256.5	165.1	-15.1	38	179	
		6118	0.682	256.4	167.6	-14.6	0	8				6117 <sup>a</sup>	0.799	280.4	164.2	+3.9	44	267	167 <sup>c</sup>
		6118 <sup>b</sup>	0.659	256.0	165.7	-14.7	36	197	232 <sup>c</sup>			6124	0.232	349.6	114.8	+5.9	1	4	
		6126	0.689	268.6	168.2	-6.2	0	6	125 <sup>c</sup>			6124	0.228	354.1	115.7	+5.9	2	5	
		6117	0.698	285.0	166.9	+5.1	0	10	94 <sup>c</sup>			6121 <sup>a</sup>	0.024	158.9	111.9	-8.5	14	66	
		6117	0.691	283.0	166.8	+3.6	0	5				6121	0.047	164.6	111.7	-9.8	0	4	
		6117	0.663	280.8	165.0	+1.7	0	3				6123	0.698	44.7	80.1	+23.7	0	4	
		6117 <sup>a</sup>	0.666	285.3	164.5	+4.6	42	271				6123 <sup>a</sup>	0.711	47.0	78.1	+23.1	57	280	
		6120	0.368	10.1	120.7	+14.0	0	6				6123	0.750	48.9	74.4	+23.9	0	7	159 <sup>nf</sup>
		6120	0.397	9.8	120.5	+15.7	0	2				6125 <sup>a</sup>	0.907	70.7	50.6	+14.1	2	27	

Group 6124, February 25-27. A few small spots in a short stream.

Group 6125, February 26-March 3. Return, or more probably a revival of Group 6101. A few small scattered spots. The leader, *a*, is the largest member of the group, but has disappeared before March 3.

Group 6126, February 26. A very small spot, probably a revival of Group 6116.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Area of each Group (and for Day).	Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).		Area of WHOLE for each Spot (and for Day).
1907. 57 <sup>117</sup>	FS, CL	6125	0°942	71°9	45°1	+14°3	0	13	} 294c	1907. 59 <sup>122</sup>	FS, AS		0°693	302°1	123°5	+15°9			181	
K.		6125	0°945	73°1	44°3	+13°3	0	6		188		6118	0°985	256°3	167°4	-14°7	0	125	} 275c	
			0°771	40°6	77°1	+30°0			114		6118	0°977	257°1	164°9	-14°1	0	72	} 297f		
			0°888	37°4	67°9	+39°8			207		6118b	0°975	256°0	164°4	-15°2	16	62		} 297f	
			0°786	65°3	65°1	+14°3			143		6117a	0°984	274°9	164°9	+3°5	55	264	} 297f		
			0°776	122°9	63°9	-29°8			253		6121a	0°445	265°3	112°5	-8°4	8	28		} 297f	
			0°852	56°4	61°8	+23°7			179		6128	0°301	334°0	93°6	+8°5	0	10	} 297f		
			0°791	102°1	59°8	-14°0			122		6128	0°304	338°5	92°5	+9°2	0	2		} 297f	
			0°832	112°2	56°2	-22°4			88		6128	0°287	342°5	91°0	+8°6	2	20	} 297f		
			0°858	83°5	54°1	+1°8			155		6128	0°291	344°8	90°4	+9°1	0	2		} 297f	
			0°915	123°4	46°4	-33°4			236		6128	0°290	351°0	88°6	+9°4	2	10	} 297f		
Feb. 27			(-20°9)	(112°4)	(-7°2)	(290)	(1568)	(3887)		6123a	0°521	14°6	77°8	+23°0	33	236	} 297f			
58°625	CL, RF		0°953	266°3	165°2	-5°8			95		6129	0°443	110°8	60°6	-15°6	4		14	} 297f	
			0°954	288°7	161°9	+15°4			227		6129	0°448	109°6	60°2	-15°1	2	13	} 297f		
		6118a	0°995	258°8	177°9	-11°9					6129	0°477	109°5	58°3	-15°5	0	6		} 297f	
		6118b	0°943	256°5	164°0	-15°1	10	153	} 490c		6129	0°494	108°9	57°1	-15°5	0	3	} 297f		
		6117a	0°954	276°0	164°1	+3°5	43	232		} 393f		6129	0°511	108°6	56°0	-15°6	0		10	} 297f
		6121a	0°336	265°1	112°2	-8°4	12	32	} 393f			6129	0°515	106°4	55°4	-14°6	0	2	} 297f	
		6128	0°280	8°8	90°0	+8°8	2	8		} 393f		6129	0°532	108°8	54°5	-16°0	10	39		} 297f
		6128	0°303	13°6	88°4	+9°9	0	4	} 393f			6125a	0°655	58°4	51°0	+14°1	4	17	} 297f	
		6123a	0°555	24°7	77°9	+23°2	33	225		} 393f		6125	0°681	58°5	49°2	+15°1	0	1		} 297f
		6129	0°548	107°1	59°7	-15°3	7	21	} 393f			6125	0°695	57°5	48°5	+16°2	0	4	} 297f	
G.		6129	0°585	105°7	57°0	-15°0	0	2			6125	0°719	61°3	45°5	+14°7	1	8	} 297f		
		6129	0°598	106°9	56°2	-15°9	0	1		6127a	0°815	78°2	32°9	+5°3	22	73	} 297f			
		6129	0°608	110°1	55°8	-17°9	0	1		6127	0°826	78°1	31°9	+5°6	0	6		} 297f		
		6129	0°612	106°1	55°1	-15°5	8	32		6127	0°850	78°5	29°3	+5°9	0	6	} 297f			
		6125	0°721	62°8	51°3	+13°8	0	5		6127	0°859	74°9	29°1	+9°0	0	5		} 297f		
		6125a	0°730	62°5	50°7	+14°3	3	24		6127	0°856	77°4	28°9	+6°9	5	14	} 297f			
		6125	0°736	61°5	50°6	+15°2	0	2		6127	0°871	77°3	27°3	+7°3	0	10		} 297f		
		6125	0°764	61°2	48°4	+16°5	1	8		6127	0°870	78°7	27°1	+6°2	3	13	} 297f			
		6125	0°785	64°7	45°5	+14°7	2	8		6131	0°885	76°6	25°7	+8°3	4	28		} 297f		
		6127a	0°878	79°8	32°5	+5°4	20	76		6131a	0°897	76°9	24°2	+8°4	25	133	} 297f			
	6127	0°888	79°5	31°3	+5°9	1	8		6131	0°904	75°3	23°6	+10°0	0	2	} 297f				
	6127	0°907	79°7	28°9	+6°2	0	11		6130	0°882	100°1	23°5	-12°3	0	5		} 297f			
Feb. 28		6127	0°910	78°8	28°6	+7°1	5	15		6130	0°892	101°4	22°2	-13°4	0	7		} 297f		
		6127	0°924	79°9	26°4	+6°5	0	7		6133	0°957	71°9	15°9	+14°9	3	27	} 297f			
		6131a	0°942	78°2	23°9	+8°5	32	193	244c		0°657	43°4	56°9	+22°2				153	} 297f	
		6130	0°931	100°3	23°2	-12°2	0	7	} 764c		0°792	112°9	34°0	-22°5			98	} 297f		
		6130	0°935	101°3	22°5	-13°1	0	18				0°936	109°4	15°5	-20°7				106	} 297f
				(-21°3)	(92°5)	(-7°2)	(212)	(1478)	(2213)	Mar. 1		0°944	102°3	14°4	-14°0			485	} 297f	
											0°960	79°7	13°9	+7°7			80	} 297f		
	59°122	FS, AS		0°960	291°9	155°8	+18°6		160		59°122	FS, AS		0°961	262°1	146°0	-9°6			107
	K.			0°914	266°4	152°3	-6°2		148		60°237	CL, AS		0°924	283°7	136°7	+9°8		143	} 297f
				0°790	254°7	138°4	-16°5		139				0°910	271°0	136°6	-2°1		102	} 297f	
			0°899	312°7	138°1	+33°3		125				0°942	296°6	136°4	+22°0		229	} 297f		
			0°834	302°0	135°3	+21°5		100				0°884	257°9	134°0	-14°0		149		} 297f	
			0°751	287°6	132°1	+8°2		121				0°830	290°8	123°8	+12°8		129	} 297f		

Group 6127, February 28-March 4. A regular spot,  $\alpha$ , followed by a scattered train.  
Group 6128, February 28-March 5. A compact cluster of small spots.  
Group 6129, February 28-March 7. A number of small spots in a long straight stream.  
Group 6130, February 28-March 2. Return of Group 6104. Some small faint unstable spots.  
Group 6131, February 28-March 9. A large regular spot,  $\alpha$ , frequently with some small companions.  
Group 6133, March 1-3. A small spot.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 60°237	CL, AS		0°825	298°1	121°2	+18°3				163
			0°718	286°9	114°9	+6°8				104
		6121a	0°663	265°8	113°0	-8°2	3	11		57c
		6121	0°645	265°2	111°7	-8°6	0	4		
		6121*	0°545	266°2	104°5	-8°1	0	5		
		6128	0°406	307°5	94°8	+10°9	0	5		
		6128	0°462	307°1	93°1	+9°5	10	36		
		6128	0°451	312°3	91°1	+10°9	0	2		
		6128	0°428	311°2	90°3	+9°6	1	5		
		6128	0°419	313°2	89°3	+9°8	0	9		
		6128	0°418	316°6	88°2	+10°7	0	6		
		6123a	0°523	350°0	77°0	+23°7	26	201		
		6129	0°220	131°0	61°4	-15°3	12	54		
		6129	0°295	144°5	60°8	-20°9	0	3		
		6129	0°249	128°2	59°6	-15°9	1	16		
		6129	0°279	129°9	58°4	-17°3	2	9		
		6129	0°269	124°1	58°0	-15°7	3	8		
		6129	0°293	127°7	57°3	-17°3	2	7		
		6129	0°300	121°9	56°0	-16°1	0	5		
		6129	0°336	123°9	54°4	-17°7	0	4		
		6129	0°338	120°1	53°6	-16°6	6	37		
		6132	0°412	123°0	49°9	-19°7	0	2		
		6125a	0°508	44°0	50°0	+14°7	0	5		
		6125	0°548	44°6	47°8	+16°3	0	2		
		6125	0°543	48°2	46°7	+14°7	0	7		
		6125	0°570	49°7	44°6	+15°1	1	4		
		6125	0°570	51°6	44°0	+14°3	0	2		
		6127a	0°654	73°3	32°5	+5°2	15	61		187c
		6127	0°707	74°1	28°3	+5°9	2	19		
		6131a	0°766	72°5	23°9	+8°5	16	119		
		6130	0°711	97°5	25°7	-10°4	0	6		321c
		6130	0°734	99°4	23°8	-11°8	0	5		
		6133	0°861	67°7	15°9	+15°0	0	10		1218f
		6134a	0°981	75°2	354°8	+12°9	35	157		241c
			0°847	109°4	13°2	-20°2				122
			0°866	102°0	10°7	-14°0				348
			0°877	91°8	9°9	-5°1				104
Mar. 2			(-21°8)	(71°3)	(-7°2)	(135)	(826)	(2627)		
61°125	CL, AS		0°948	254°7	132°1	-16°8				141
			0°936	279°5	127°6	+6°2				85
			0°913	292°7	121°3	+17°3				184
			0°871	283°5	118°2	+8°0				235
			0°823	254°0	115°3	-17°2				97
			0°750	263°1	108°5	-9°9				260
			0°809	302°5	106°4	+20°9				197
			0°770	291°8	106°3	+11°7				130
			0°717	281°2	104°2	+2°9				130
			0°629	335°9	76°5	+28°1				129
1907. 61°125	CL, AS		0°624	294°2	94°6	+8°9	6	41		57f
			0°601	330°7	78°4	+24°7	0	8		
		6123	0°573	329°1	78°1	+22°5	3	18		90c
		6123a	0°577	331°6	76°9	+23°5	34	172		
		6123	0°549	332°5	75°4	+22°1	0	7		
		6129	0°148	198°9	62°4	-15°2	11	57		
		6129	0°151	188°0	60°8	-15°8	3	8		
		6129	0°171	175°3	58°8	-17°0	1	7		
		6129	0°148	169°6	58°0	-15°6	2	13		
		6129	0°179	162°8	56°4	-17°0	0	5		
		6129	0°193	149°5	53°8	-16°7	7	18		
		6125	0°443	32°6	45°4	+14°8	0	5		
		6125	0°435	35°5	44°6	+13°7	0	7		
		6127a	0°490	65°2	33°2	+5°4	14	45		
		6127	0°544	67°4	29°4	+5°9	4	13		
		6131a	0°625	65°7	24°5	+9°0	19	115		
		6133	0°744	61°7	17°0	+15°4	2	7		76c
		6138	0°758	92°2	10°1	-6°4	0	3		102c
		6134a	0°915	71°6	35°5	+13°6	17	167		610f
		6135	0°962	103°9	344°3	-15°3	16	67		
		6135	0°965	105°0	343°7	-16°3	0	19		
		6136a	0°981	102°1	339°6	-13°3	51	275		473c
		6136	0°986	107°2	337°7	-18°1	0	29		
			0°758	67°6	14°1	+11°8				80
			0°724	101°2	13°0	-13°1				232
			0°835	71°3	6°0	+11°3				173
			0°807	108°2	5°7	-18°9				106
			0°933	90°3	35°0	-2°9				180
Mar. 3			(-22°0)	(59°6)	(-7°2)	(190)	(1106)	(3767)		
62°527	CL, RF		0°948	278°0	111°4	+5°2				195
			0°916	286°9	104°7	+12°3				142
			0°888	261°2	104°3	-11°1				322
			0°900	299°2	99°1	+22°4				131
			0°739	297°1	83°7	+14°4				255
			0°617	321°9	65°3	+22°4				146
		6128	0°843	285°6	96°2	+9°0	3	28		104c
		6123a	0°722	312°6	76°3	+23°3	26	150		160c
		6129	0°393	247°3	63°1	-15°4	8	51		
		6129	0°372	244°8	61°5	-15°9	0	7		
		6129	0°340	243°3	59°4	-15°6	4	24		
		6129	0°327	237°9	57°9	-16°9	0	2		
		6129	0°305	238°1	56°7	-16°2	4	16		
		6129	0°265	229°7	53°2	-16°9	2	8		
		6137	0°099	241°2	46°1	-9°9	22	167		
		6127a	0°258	33°4	32°9	+5°3	14	42		
		6131a	0°393	45°5	24°7	+9°1	22	134		
		6138	0°456	90°6	13°9	-6°7	3	8		
		6138	0°504	90°4	10°8	-6°4	0	10		

Group 6132, March 2. A very small spot.

Group 6134, March 2-13. Perhaps a return of the leading spot of Group 6111; but more probably a new formation. A large regular spot, *a*, frequently with some small companions.

Group 6135, March 3-13. Some small spots in a straight stream.

Group 6136, March 3-15. Return of Group 6103. Third apparition. A large regular spot, *a*, with several companions, closely following Group 6135. The group undergoes considerable change after March 3, a large ill-defined mass forming just behind *a*.

Group 6138, March 3-11. One or two small spots when first seen. The group suddenly increases in size by March 8, and becomes a fine cluster, that eventually straightens out into an ordinary stream.

Group 6137, March 4-7. A number of small spots in a straight stream suddenly appearing, *n*f Group 6129, and quickly diminishing in size.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 62.527	CL, RF	6134a	0.745	64.7	357.4	+13.4	26	181	94c	1907. 63.494	AS, RF		0.901	82.5	325.1	+3.5			85
		6135	0.833	104.6	344.3	-16.2	15	112		G.			0.936	68.9	322.8	+16.8		233	
		6136	0.856	102.2	341.7	-14.1	0	13		Mar. 5			0.967	75.2	315.5	+12.3		177	
		6136	0.867	106.2	340.5	-17.6	0	2					(-22.5)	(28.4)	(-7.2)	(320)	(1983)	(3503)	
		6136	0.874	107.7	339.7	-18.9	0	4	610c										
		6136a	0.876	100.9	339.4	-13.0	53	314											
		6136	0.876	104.5	339.3	-16.2	0	18		64.680	CL, RF		0.937	284.1	80.2	+10.4		308	
			0.885	68.3	342.8	+15.4			1372				0.913	310.4	68.1	+32.3		98	
			0.924	88.0	333.9	-0.9			44				0.837	290.0	66.3	+12.3		110	
			0.955	93.9	328.0	-5.9			200				0.684	300.8	50.2	+14.7		173	
			0.979	102.5	321.7	-13.7			495				6123a	0.930	299.0	75.3	+23.6	0	16
Mar. 4			(-22.3)	(41.1)	(-7.2)	(202)	(1291)	(4270)					6129	0.763	255.1	62.8	-16.0	2	24
													6129	0.728	254.6	59.7	-16.2	0	5
													6137	0.599	264.2	49.9	-9.3	9	37
													6137	0.517	262.6	44.2	-10.1	7	47
													6131	0.392	302.8	32.1	+5.4	0	4
													6131a	0.350	324.2	24.8	+9.3	11	113
													6138	0.067	280.6	16.7	-6.6	0	5
													6138	0.048	289.1	15.5	-6.4	3	9
													6138	0.021	328.9	13.5	-6.3	0	2
													6138	0.004	326.1	13.0	-7.1	0	6
													6138	0.039	39.5	11.5	-5.6	1	6
													6134a	0.432	38.4	357.0	+12.7	31	181
													6134	0.461	40.6	355.0	+13.5	0	4
													6134	0.482	38.8	354.7	+15.1	0	3
													6135	0.469	102.2	345.1	-12.1	0	2
													6135	0.490	112.1	344.7	-17.1	0	1
													6135	0.488	110.6	344.6	-16.3	11	69
													6135	0.482	107.1	344.6	-14.6	0	6
													6135	0.504	106.1	343.0	-14.4	0	7
													6136	0.545	108.9	340.5	-16.3	6	24
													6136	0.548	107.5	340.2	-15.6	0	5
													6136a	0.561	103.5	338.9	-13.6	68	313
													6136	0.590	100.1	336.6	-11.9	0	2
													6139	0.809	107.4	318.7	-18.3	0	7
													6139	0.822	104.9	317.2	-16.4	0	8
													6139a	0.826	106.8	316.9	-18.0	16	92
													6139	0.838	105.5	315.5	-17.0	0	11
													6139	0.846	106.5	314.7	-17.8	0	2
													6140	0.861	106.4	312.9	-17.8	0	3
													6140	0.863	101.5	312.6	-13.6	0	7
													6140	0.873	108.9	311.6	-20.0	0	20
													6140a	0.881	105.3	310.5	-16.9	116	680
													6140	0.903	101.8	307.6	-13.8	0	8
													0.704	53.4	336.4	+18.9		185	
													0.736	115.1	326.6	-23.3		101	
													0.728	89.9	326.1	-5.0		184	
													0.839	63.9	321.0	+17.2		231	
													0.882	52.1	320.8	+28.4		115	
													0.890	72.7	312.9	+11.8		263	

Group 6139\*, March 5. Return, or perhaps only a revival of Group 6107. A small spot, *np* Group 6139.Group 6139, March 5-12. A regular spot, *a*, crossed by a bright bridge. It is usually attended by several small companions and it diminishes steadily from day to day.Group 6140, March 5-17. Return of Group 6108. Third apparition. A very fine composite spot, *a*, with a number of small attendants, *f* Group 6139.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group and Letter for Spot	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 64°68'0	CL, RF		0°967	64°1	302°6	+22°7			100	1907. 65°348	FS, AS	6142	0°831	102°6	307°3	-14°5	4	25	156
G.			0°938	114°6	302°1	-25°6			375				0°677	46°1	332°4	+21°7			193
Mar. 6			0°952	108°5	299°5	-19°8	(281)	(1729)	389	M.			0°690	58°6	326°5	+15°3			96
				(-22°7)	(12°9)	(-7°3)			(4305)				0°821	44°3	322°4	+30°5			193
													0°821	71°1	311°9	+11°0			104
													0°878	61°3	308°6	+20°9			571
													0°896	107°5	299°7	-18°9			396
65°348	FS, AS		0°968	280°3	77°9	+8°0			137	Mar. 7			0°904	116°3	298°9	-26°9	(296)	(1772)	(3744)
			0°906	288°6	65°8	+13°4			188					(-22°9)	(4°0)	(-7°3)			
			0°920	298°6	64°9	+22°7			356										
			0°911	308°2	59°9	+30°3			96										
			0°769	299°3	48°3	+16°9			196										
6129			0°856	255°9	63°4	-15°8	0	7	285c	66°327	FS, CL		0°965	289°0	62°7	+16°2			234
6129			0°808	255°3	58°2	-16°2	0	3					0°920	255°4	58°9	-16°3			293
6141			0°769	287°6	51°6	+8°5	0	6	102c				0°952	301°4	56°6	+26°9			203
6141			0°753	289°6	49°8	+9°6	0	8					0°881	293°1	48°5	+16°4			211
6137			0°726	264°6	50°8	-9°0	4	12					0°835	264°1	48°1	-8°9			155
6137			0°711	265°2	49°6	-8°6	0	4	76s				0°848	304°6	40°9	+24°2			113
6137			0°654	264°3	45°1	-9°2	5	20					0°643	291°0	28°2	+7°6	1	5	
6131			0°463	301°4	27°4	+7°2	2	10					0°631	291°5	27°3	+7°6	3	13	
6131			0°451	304°5	25°9	+8°0	0	1					0°609	293°2	25°4	+7°9	2	13	
6131a			0°459	308°0	25°4	+9°6	18	100					0°621	296°3	25°4	+10°0	13	50	
6131			0°434	305°5	24°8	+7°7	0	12					0°598	291°7	25°0	+6°8	0	3	
6138			0°233	274°4	17°4	-6°1	2	11					0°598	295°1	24°2	+8°6	3	9	
6138			0°194	279°0	15°0	-5°5	0	5					0°446	273°5	17°5	-4°9	2	10	
6138			0°168	271°1	13°7	-7°0	0	5					0°434	268°5	16°9	-7°1	0	6	
6138			0°161	278°6	13°2	-5°8	3	13					0°427	270°7	16°4	-6°2	11	52	
6138			0°158	284°2	12°8	-5°0	1	8					0°418	273°3	15°8	-5°2	0	4	
6134a			0°364	19°7	356°8	+12°7	23	183					0°408	271°5	15°2	-5°9	10	20	
6135			0°331	113°6	345°8	-14°6	0	5					0°384	272°4	13°7	-5°8	0	10	
6135			0°352	118°4	345°2	-16°5	13	58					0°370	275°7	12°7	-4°7	0	3	
6135			0°356	113°8	344°4	-15°1	0	16					0°358	273°6	12°0	-5°5	32	65	
6135			0°373	115°2	343°5	-16°0	1	7					0°355	267°9	12°0	-7°5	13	37	
6136			0°404	112°8	341°3	-15°7	0	4					6134a	0°354	345°0	356°5	+12°8	39	205
6136			0°422	113°7	340°3	-16°5	4	20					6135	0°185	147°8	345°2	-16°2	11	28
6136a			0°429	107°6	339°2	-14°1	55	344					6135	0°191	139°4	343°7	-15°4	0	2
6136			0°460	104°6	336°9	-13°2	0	6					6135	0°179	133°0	343°4	-14°1	0	9
6139			0°727	106°5	317°4	-17°0	0	6					6136	0°216	125°9	340°7	-14°3	0	4
6139a			0°737	108°2	316°7	-18°3	21	96					6136	0°237	132°4	340°6	-16°3	4	23
6139			0°749	107°0	315°5	-17°5	0	9					6136a	0°238	120°2	338°9	-13°9	64	303
6140			0°776	109°3	313°2	-19°6	3	22					6136	0°267	126°6	338°3	-16°2	0	3
6140			0°785	108°1	312°2	-18°7	0	5					6136	0°263	122°1	337°8	-15°0	1	8
6140			0°789	110°6	312°1	-20°7	0	10					6136	0°261	114°6	337°1	-13°2	0	9
6140			0°799	109°0	310°9	-19°5	27	134					6136	0°277	112°4	335°9	-13°0	0	5
6140a			0°806	105°1	310°0	-16°5	105	537					6144	0°407	24°6	341°1	+14°6	1	8
6140			0°810	108°1	309°7	-18°9	2	10					6144	0°429	24°7	340°4	+15°8	0	4
6142			0°745	99°2	315°5	-11°7	0	5					6142	0°544	101°5	318°2	-12°3	2	7
6142			0°768	100°9	313°4	-13°1	0	10					6142	0°566	102°2	316°7	-12°8	0	2
6142			0°780	102°3	312°4	-14°1	0	9	599c				6142	0°567	98°6	316°4	-10°8	0	4
6142			0°795	98°6	310°9	-11°3	0	3					6142	0°581	96°9	315°4	-9°9	0	5
6142			0°800	100°8	310°5	-13°0	3	23					6142	0°608	102°5	313°7	-13°3	4	15

Group 6142, March 7-13. A few small spots in a short stream, *np* Group 6140.  
Group 6144, March 8-10. Some very small spots.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.																					
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 66.327	FS, CL	6142	0.620	100.9	312.7	-12.4	0	2	218c		1907. 67.209	AS, CL	6135	0.183	213.1	345.4	-15.9	10	29		
		6142	0.654	99.6	310.0	-11.7	0	3					6135	0.137	213.3	343.9	-13.7	0	11		
		6142	0.661	101.7	309.6	-13.1	2	8					6135	0.215	197.8	343.5	-18.9	0	7		
		6142	0.684	102.1	307.8	-13.6	0	3					6136	0.173	193.2	341.9	-16.8	0	9		
		6139a	0.577	111.3	316.8	-18.1	20	76					6136	0.137	196.0	341.7	-14.7	0	14		
		6139	0.586	109.7	315.9	-17.3	4	9					6136	0.156	188.7	340.9	-16.0	2	11		
		6140	0.618	112.2	313.9	-19.3	0	3					6136a	0.114	178.4	339.3	-13.8	62	273		
		6140	0.634	114.6	313.1	-21.0	1	4					6136	0.150	173.3	338.5	-15.7	0	3		
		6140	0.642	111.8	312.1	-19.4	1	11					6136	0.061	149.5	337.7	-10.2	0	3		
		6140	0.659	114.1	311.1	-21.2	0	5					6136	0.115	161.5	337.4	-13.5	6	36		
M.		6140a	0.662	111.4	310.4	-19.5	25	133				6136	0.144	162.7	337.0	-15.1	4	34			
		6140	0.665	106.9	309.7	-16.6	107	524				6136	0.099	153.6	336.9	-12.3	2	13			
		6140	0.686	104.5	307.8	-15.1	0	11				6136	0.175	161.7	336.2	-16.7	0	2			
		6140	0.700	103.8	306.6	-14.8	5	38				6136	0.129	153.6	336.1	-13.8	13	58			
		6140*	0.673	62.8	313.5	+12.2	0	3				6142	0.336	113.4	321.0	-14.5	0	2			
			0.762	37.2	318.6	+31.2			122			6142	0.342	101.2	319.6	-10.6	1	5			
			0.689	46.4	318.6	+22.3			62			6142	0.378	100.7	317.4	-10.7	4	19			
			0.672	63.0	313.5	+12.1			116			6142	0.410	97.6	315.3	-9.7	3	9			
			0.812	57.0	304.3	+21.4			142			6142	0.424	103.4	314.7	-12.2	0	3			
			0.763	97.1	301.1	-10.0			105		M.	6142	0.429	105.9	314.5	-13.3	2	21			
			0.818	113.9	296.5	-23.7			592			6142	0.452	98.4	312.6	-10.2	0	5			
Mar. 8			0.911	51.4	295.4	+30.7			67			6142	0.470	109.0	312.2	-15.2	0	11			
			(-23.1)	(351.1)	(-7.2)	(381)	(1777)	(2697)				6142	0.481	100.9	310.8	-11.6	0	4			
												6142	0.501	103.3	309.6	-12.9	1	8			
67.209	AS, CL		0.971	254.4	57.0	-16.9			268			6142	0.536	104.5	307.3	-13.8	3	36			
			0.958	290.3	49.4	+17.1			260			6142	0.553	102.7	306.0	-13.0	0	5			
			0.923	263.3	47.4	-9.0			233			6139a	0.416	119.1	317.1	-18.3	7	52			
			0.933	280.1	46.9	+6.7			165			6139	0.417	116.6	316.6	-17.4	3	24			
			0.805	281.2	31.7	+4.6			127			6139	0.423	113.8	315.8	-16.5	0	3			
			0.728	263.2	26.5	-9.9			204			6140	0.450	115.0	314.3	-17.5	0	5			
		6131	0.768	286.4	27.3	+7.7	0	12	122c			6140	0.464	117.3	313.8	-18.7	0	3			
		6131	0.753	290.3	25.2	+10.1	3	18					6140	0.490	123.8	313.5	-22.2	0	7		
		6131	0.743	287.8	24.9	+8.1	3	13					6140	0.491	116.3	311.9	-18.9	8	39		
		6138	0.633	271.5	18.8	-	0	3					6140	0.515	118.9	310.8	-20.8	0	4		
		6138	0.615	270.2	17.5	-5.6	33	149					6140	0.513	115.5	310.3	-19.0	18	122		
		6138	0.616	272.3	17.4	-4.3	0	4					6140a	0.512	110.1	309.6	-16.4	98	521		
		6138	0.595	270.9	16.0	-5.3	6	19					6140	0.542	107.1	307.1	-15.3	2	12		
		6138	0.591	268.0	15.9	-7.0	1	6					0.733	115.2	293.5	-23.3					
		6138	0.573	270.3	14.5	-5.8	6	41				Mar. 9			(-23.3)	(339.5)	(-7.2)	(358)	(2106)	(1739)	360
		6138	0.537	272.1	12.0	-5.0	19	133													
		6138	0.535	265.7	12.0	-8.4	8	51													
		6138	0.534	268.1	11.9	-7.1	2	24													
		6138	0.519	271.1	10.8	-5.6	0	5													
		6134a	0.445	319.4	356.7	+12.8	26	157													
		6143	0.411	336.4	349.3	+15.0	0	19													
		6144	0.378	354.2	341.8	+14.9	2	14													
		6144	0.387	358.1	340.3	+15.4	0	3													
		6144	0.378	1.6	338.9	+14.9	0	5													
		6135	0.213	208.2	345.5	-18.0	0	7													
						</															

Group 6140\*, March 8. A very small spot on the same meridian as Group 6140, but in the northern hemisphere.  
Group 6143, March 9. A very small spot,  $\rho$  Group 6144.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).			
1907. 68°49'	AS, RF	6138*	0°709	257°6	7°9	-13°9	5	21	4158	1907. 70°48'	AS, RF	0°954	283°8	6°7	+10°8			133			
		6138*	0°687	257°6	6°1	-13°7	2	11				0°919	247°6	3°8	-23°4			123			
		6138*	0°667	257°0	4°5	-14°0	6	19				0°820	308°0	341°8	+25°4			80			
		6134a	0°631	299°4	356°7	+12°1	28	186				0°735	297°3	338°5	+14°4			228			
		6135	0°408	246°0	345°3	-16°2	8	19				0°920	256°9	4°1	-14°9	0	7	516np			
		6144	0°505	317°3	343°3	+15°0	0	8				6134a	0°896	287°2	357°1	+11°9	34	186	449mf		
		6144	0°481	320°1	341°1	+14°8	0	16				6135	0°752	254°4	345°2	-16°5	2	10			
		6135	0°365	250°5	343°2	-13°7	0	15				6136a	0°678	257°9	339°1	-13°5	38	242	245c		
		6136a	0°301	247°0	339°1	-13°7	44	297				6136	0°658	261°7	337°7	-10°9	0	3			
		6136	0°260	247°7	336°8	-12°6	5	32				6136	0°648	257°0	336°7	-13°9	8	60			
		6136	0°271	241°4	336°8	-14°4	10	74				6139a	0°405	238°9	317°7	-18°8	1	6			
		6142	0°095	126°2	318°1	-10°4	2	21				6142	0°374	251°7	317°6	-13°4	0	4			
		6142	0°125	106°0	315°6	-9°1	0	2				6142	0°347	253°7	316°1	-12°4	0	13			
		6142	0°215	111°5	310°9	-11°6	0	11				6142	0°336	248°5	315°0	-13°9	0	5			
		6139a	0°211	155°1	317°3	-18°2	9	34				6142	0°285	251°3	312°3	-12°1	0	2			
		6139	0°196	150°4	316°8	-16°9	0	12			6142	0°290	245°7	312°0	-13°8	0	2				
		6139	0°217	145°2	315°2	-17°4	0	9			6140	0°347	240°4	314°6	-16°7	0	2				
		6139	0°235	143°5	314°2	-18°0	0	8			6140	0°338	228°0	311°7	-20°0	0	5				
		6140	0°253	137°2	312°2	-17°7	5	39			6140	0°311	233°9	311°5	-17°5	0	7				
		6140	0°285	134°4	310°3	-18°5	13	80			6140	0°300	226°4	309°5	-18°9	6	29				
		6140	0°266	126°3	309°8	-16°1	98	530			6140	0°248	220°2	305°9	-18°0	1	14				
		6140	0°280	116°6	307°7	-14°1	0	26			6140a	0°268	233°5	309°2	-16°2	75	468				
			0°895	115°8	258°9	-26°2			141		6140	0°253	243°7	309°7	-13°4	1	5				
			0°927	703°9	253°8	-15°6			129		6140	0°230	238°6	307°9	-13°9	0	12				
				(-23°6)	(322°6)	(-7°2)	(274)	(1740)	(1944)		6145a	0°687	103°2	252°8	-14°3	9	22				
											6145	0°710	102°5	250°9	-14°0	2	8	103c			
												0°856	109°7	237°1	-20°6			188			
												0°902	122°5	232°3	-32°4			86			
												0°905	98°5	230°9	-10°7			289			
												0°953	70°4	227°3	+16°2			581			
												0°945	106°1	224°3	-17°6			113			
													(-24°0)	(296°3)	(-7°2)	(177)	(1112)	(3134)			
													0°990	257°2	6°4	-13°6			237		
													0°869	315°8	329°9	+33°7			57		
													0°815	305°1	329°6	+23°0			554		
													6134a	0°970	284°5	356°9	+12°1	13	163	1115n	
													6135	0°874	254°9	344°8	-16°6	0	5	605c	
													6135	0°856	255°3	342°7	-16°3	0	2		
													6136	0°822	257°8	339°0	-14°1	8	80		
													6136	0°820	259°5	338°8	-12°7	14	106		
													6136	0°806	259°3	337°4	-12°9	0	5		
													6136	0°797	258°2	336°5	-13°7	3	76		
													6142	0°560	259°6	317°4	-11°8	0	5		
													6142	0°517	259°7	314°4	-11°4	0	2		
													6140	0°499	247°4	312°0	-17°4	3	8		
													6140	0°495	242°2	310°9	-19°7	0	15		
													6140	0°461	242°7	308°8	-18°7	1	25		
													6140a	0°448	247°9	308°8	-16°2	68	446		

Group 6145, March 12-19. A small regular spot,  $\alpha$ , occasionally with a small companion.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 71°467	CL, RF	6140	0°438	253°4	308°8	-13°7	0	5		
		6145a	0°500	105°2	253°6	-13°8	0	37		
		6145	0°519	104°0	252°3	-13°4	9	3		
		6145	0°566	105°0	249°1	-14°7	3	9		
G.			0°713	107°5	238°0	-17°5			155	
			0°823	98°4	227°5	-11°0			293	
			0°854	110°3	224°4	-21°1			94	
			0°915	66°5	221°4	+18°1			824	
Mar. 13			(-24°2)	(283°3)	(-7°2)	(122)	(992)	(3934)		
72°499	AS, RF		0°959	289°0	340°0	+15°9			702	
			0°932	280°0	337°0	+6°6			126	
			0°947	298°5	335°2	+24°0			213	
			0°840	268°1	327°0	-5°5			148	
			0°895	303°0	325°6	+25°3			96	
			0°840	294°5	322°2	+16°1			211	
			0°800	244°1	322°1	-25°0			81	
G.		6136	0°924	258°6	338°0	-13°3	13	183	358c	
		6140	0°669	252°1	311°3	-17°2	6	25		
		6140	0°663	250°9	310°7	-18°0	0	5		
		6140	0°643	249°5	309°0	-18°6	2	19	465c	
		6140a	0°626	252°8	308°1	-16°3	69	457		
		6147	0°651	238°0	307°4	-25°9	10	54		
		6146	0°598	237°6	303°3	-24°7	11	65		
		6145a	0°291	113°6	253°8	-13°6	4	22		
			0°809	60°2	222°0	+18°9			507	
Mar. 14			(-24°3)	(269°7)	(-7°2)	(115)	(830)	(2907)		
73°125	AS, CL		0°911	267°4	327°4	-5°4			128	
			0°882	249°2	323°9	-21°7			134	
			0°900	291°7	321°9	+16°0			393	
			0°860	305°1	312°5	+25°2			163	
		6136	0°971	256°8	339°0	-14°6	10	58		
		6136	0°970	258°4	338°6	-13°0	12	57	264c	
		6140	0°767	253°6	311°8	-17°2	0	13		
		6140a	0°735	253°8	308°9	-16°8	65	395	517p	
		6147	0°755	241°2	309°0	-26°3	5	25		
		6147	0°719	242°6	306°0	-24°5	0	4		
		6146	0°690	241°2	303°2	-24°9	13	57		
K.		6145*	0°086	156°3	259°6	-11°7	0	8		
		6145a	0°163	132°0	254°5	-13°4	5	14		
		6150	0°890	76°6	200°7	+8°4	4	18	70f	
		6151	0°984	79°0	183°6	+9°4	11	33	159n	
		6152a	0°984	98°6	181°0	-9°8	11	94	261p	
			0°815	41°6	222°1	+32°0			70	
			0°759	55°1	220°1	+20°4			359	
Mar. 15			(-24°4)	(261°6)	(-7°2)	(136)	(776)	(2518)		
1907. 74°122	AS, CL		0°959	247°2	323°2	-23°8			89	
			0°931	292°0	313°1	+17°5			248	
			0°910	305°3	305°5	+28°0			97	
		6140	0°896	255°6	312°7	-16°0	0	11		
		6140a	0°871	251°4	309°4	-19°7	0	4	777c	
		6140	0°861	255°2	308°3	-16°3	54	398		
		6147	0°881	244°3	310°1	-25°9	2	26	65c	
		6146	0°816	244°4	302°4	-24°9	1	26	243f	
		6148	0°754	249°0	296°9	-20°4	2	12	72c	
		6145a	0°148	223°7	254°4	-13°2	6	24		
		6145	0°132	199°8	251°0	-14°3	0	6		
		6149	0°380	43°1	233°2	+9°2	2	7		
		6149	0°403	46°0	231°4	+9°5	1	7		
		6150	0°754	72°1	202°1	+8°5	4	11		
		6150	0°776	73°5	199°9	+8°1	1	5	48c	
		6151	0°923	76°2	183°2	+9°8	3	18	82f	
		6152a	0°926	97°2	180°1	-9°3	15	96	266s	
			0°927	70°7	183°7	+14°9			235	
			0°970	103°9	171°3	-15°2			236	
Mar. 16			(-24°6)	(248°4)	(-7°1)	(91)	(651)	(2458)		
75°502	CL, RF	6140a	0°972	255°2	307°8	-16°0	46	289		
		6148	0°920	251°5	298°0	-19°8	15	133		
		6148	0°887	250°5	293°2	-20°6	10	70	941c	
		6145a	0°420	253°5	254°5	-13°3	3	13		
		6150	0°507	60°3	203°9	+8°1	0	2		
		6150	0°534	63°1	201°6	+7°7	1	13		
		6150	0°585	63°3	198°4	+9°2	0	8		
		6152a	0°766	96°1	179°9	-9°3	12	70	173c	
		6153	0°835	103°0	173°2	-14°7	2	6	351f	
		6154	0°900	86°0	166°6	+0°5	3	15	280n	
			0°768	69°8	183°2	+10°6			233	
			0°909	69°7	168°4	+15°1			217	
Mar. 17			(-24°8)	(230°2)	(-7°1)	(92)	(619)	(2195)		
76°628	CL, RF		0°786	294°5	262°7	+14°3			112	
		6148	0°984	250°8	296°7	-20°1	19	107	538sf	
		6145a	0°634	257°3	254°6	-13°6	0	5	66c	
		6150	0°322	38°7	203°6	+7°5	2	12		
		6150	0°343	43°7	201°5	+7°4	0	7		
		6150	0°373	46°3	199°6	+8°1	0	26		
		6152a	0°584	95°8	179°4	-9°2	19	60	43c	
		6153	0°719	105°6	169°4	-16°1	5	45	313c	
		6154	0°758	83°4	166°7	+0°3	0	15	238p	
			0°795	68°1	166°4	+12°6			124	
			0°936	67°2	150°1	+18°4			154	
			0°935	76°7	148°1	+9°8			64	
Mar. 18			(-25°0)	(215°3)	(-7°1)	(45)	(277)	(1652)		

Group 6146, March 14-16. A short stream of small spots.

Group 6147, March 14-16. A few small spots, p Group 6146.

Group 6145\*, March 15. A very small spot, up Group 6145.

Group 6150, March 15-25. A few small spots in a scattered stream. The group gradually increases in size as it crosses the disc.

Group 6151, March 15-16. Return of Group 6119. A very small spot.

Group 6152, March 15-22. A regular spot, a, with occasionally one or two very small companions.

Group 6153, March 17-18. Return of Group 6118. A very small spot.

Group 6154, March 17-22. Return of Group 6117. Third apparition. A very small spot.



## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 77°48'	AS, CL		0°968	242°9	281°3	-28°0			215	1907. 79°66'	CL, RF		0°919	111°6	107°8	-22°6			148
			0°900	251°7	268°9	-19°5			145				0°937	100°6	105°0	-12°4			149
		6145a	0°743	259°1	252°3	-12°8	0	5					0°973	79°5	100°2	+8°5			214
		6150	0°266	359°1	204°3	+8°3	4	2									(30)	(220)	(2495)
		6150	0°271	3°1	203°3	+8°5	0	2											
		6150	0°270	16°3	199°7	+7°9	2	10											
		6152a	0°415	96°0	179°5	-9°0	8	45											
		6152	0°438	97°8	178°1	-9°8	0	1											
		6154	0°612	80°3	167°2	+0°3	4	8											
			0°851	72°7	148°5	+10°7			81										
			0°886	64°4	146°8	+18°7			149										
			0°925	103°2	135°6	-14°9			211										
			0°973	78°4	129°2	+9°5			246										
				(-25°1)	(204°1)	(-7°1)	(18)	(87)	(1047)										
Mar. 19																			
78°513	AS, RF		0°885	256°7	253°4	-15°0			211										
			0°717	256°3	236°4	-14°7			166										
		6150	0°365	317°0	205°0	+8°6	9	64											
		6150	0°338	318°1	203°6	+7°7	0	19											
		6150	0°327	322°5	202°0	+8°1	14	102											
		6152	0°154	113°7	182°3	-10°4	0	2											
		6152a	0°192	100°9	179°5	-9°0	7	30											
		6154	0°413	73°9	167°2	+0°2	3	11											
			0°815	101°9	135°5	-13°8			150										
			0°894	61°4	133°0	+21°7			206										
			0°951	77°2	120°4	+9°9			888										
			0°947	97°8	118°6	-9°7			179										
				(-25°2)	(190°5)	(-7°0)	(33)	(228)	(1800)										
Mar. 20																			
79°669	CL, RF		0°957	256°7	249°4	-14°			144										
			0°862	287°3	232°1	+11°			143										
			0°818	259°2	230°6	-12°8			201										

Group 6155, March 23-29. A few small spots, developing quickly into a stream of normal type. The first and last spots on March 24,  $a$  and  $b$ , are the most important. Only  $a$  remains on March 27.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 82°476	CL, AS	6150	0°950	282°9	208°0	+9°9	0	61	449c	
		6150	0°942	283°6	206°5	+10°3	0	38		
		6150	0°908	283°1	201°4	+8°8	12	116		
		6155a	0°395	124°0	118°0	-19°2	8	79		
		6155	0°429	123°4	115°9	-20°0	0	4		
		6155	0°435	119°7	114°8	-18°7	0	6		
		6155	0°456	122°5	114°1	-20°4	0	12		
		6155	0°462	120°0	113°2	-19°6	6	28		
		6155b	0°477	122°6	112°8	-21°1	1	21		
			0°816	67°5	87°5	+13°8				196
			0°948	59°9	72°9	+25°6				135
			0°953	70°6	69°1	+16°1				239
			0°980	107°0	58°3	-18°0				71
Mar. 24				(-25°7)	(138°2)	(-6°9)	(27)	(365)		(2161)
83°113	FS, AS		0°902	258°0	194°8	-13°8				140
			0°846	290°6	184°1	+13°4				276
			0°796	259°8	182°9	-12°3				351
			0°709	295°6	170°6	+12°6				144
			0°768	309°6	170°1	+24°1				158
			0°654	251°6	170°1	-17°2				268
		6150	0°983	281°1	207°6	+9°6	0	70	286c	
		6150	0°982	282°1	207°0	+10°4	13	84		
		6150	0°956	281°4	201°0	+8°7	14	120		
		6155a	0°290	138°5	118°1	-19°3	23	134		
		6155	0°309	137°5	117°0	-19°8	0	3		
		6155	0°333	133°1	114°9	-19°8	0	2		
		6155	0°325	131°1	114°9	-19°0	1	7		
		6155b	0°369	132°1	112°8	-20°9	13	57		
			0°774	49°5	89°5	+24°9				160
			0°734	64°4	87°1	+13°4				291
			0°774	104°4	78°9	-15°5				208
			0°894	57°0	73°9	+25°4				191
			0°828	95°5	73°6	-8°5				117
			0°911	68°2	68°0	+16°6				331
			0°935	103°2	59°7	-14°8				128
Mar. 25				(-25°8)	(129°8)	(-6°9)	(64)	(477)		(3049)
84°664	CL, RF		0°966	284°0	182°3	+11°6				133
			0°945	259°7	181°0	-12°0				345
			0°896	291°5	169°2	+15°8				132
			0°838	255°1	166°6	-16°2				309
			0°830	277°1	164°7	+2°1				239
			0°806	264°4	163°4	-8°5				44
		6155	0°222	223°6	118°5	-15°9	0	2	96	
		6155a	0°260	213°7	118°1	-19°2	18			
		6155	0°255	189°8	112°1	-21°3	1	4		
		6155	0°227	187°7	111°2	-19°7	0	1		
1907. 84°664	CL, RF	6155	0°262	185°0	110°8	-21°9	0	3	5556	
		6155*	0°573	53°0	81°4	+14°1	0	5		
		6155*	0°602	54°5	79°1	+14°6	0	1		
		6155†	0°609	71°8	74°0	+5°4	0	6		
			0°745	48°9	71°6	+24°0				62
			0°775	60°2	64°6	+17°8				110
			0°883	49°4	58°2	+30°9				154
			0°778	103°9	58°1	-15°1				134
			0°867	65°7	53°8	+17°1				91
			0°844	76°9	53°7	+7°2				70
			0°878	104°1	47°5	-15°6				103
			0°923	72°1	44°9	+13°6				72
			0°949	82°5	38°8	+4°9				246
			0°963	100°0	34°2	-11°4				351
Mar. 26				(-25°9)	(109°4)	(-6°8)	(20)	(122)		(2595)
85°668	AS, RF		0°937	255°5	166°5	-16°0				495
			0°944	272°7	166°4	+0°3				314
			0°937	286°4	163°0	+12°7				215
		6155a	0°419	238°0	118°1	-19°2	15	65	104	
			0°721	56°7	56°9	+18°1				100
			0°772	103°6	45°4	-14°9				90
			0°858	67°1	41°1	+15°7				211
			0°869	80°0	37°1	+5°2				411
			0°931	93°1	27°3	-5°4				381
			0°919	102°0	28°7	-13°7				(2321)
Mar. 27				(-26°0)	(96°1)	(-6°8)	(15)	(65)		
86°519	CL, RF	6155a	0°990	270°6	166°5	-0°4				120
			0°569	245°7	118°1	-19°2	6	31		60c
			0°850	95°3	26°4	-8°1				891
			0°893	75°2	23°9	+10°0				231
			0°952	104°7	11°8	-16°0				414
			0°984	123°2	3°0	-33°8				96
Mar. 28				(-26°1)	(84°9)	(-6°7)	(6)	(31)		(1812)
87°481	AS, RF		0°986	281°5	150°9	+10°1				102
			0°903	271°6	139°0	+11°5				122
			0°866	257°9	132°6	-13°8				139
			0°825	281°2	126°4	+5°4				164
			0°723	265°6	118°7	-7°8				126
			0°703	292°8	113°3	+10°8				310
		6155a	0°725	249°5	118°1	-19°4	3	19	10	
		6162	0°309	24°0	64°9	+9°7	0	9		
		6162	0°319	33°0	62°1	+8°9	0	10		
		6156	0°977	75°9	356°6	+12°2	11	139		164sp
			0°798	64°8	23°9	+15°4				58

Group 6155\*, March 26. A pair of very small spots.

Group 6155†, March 26. A very small spot.

Group 6162, March 29. Some small spots.

Group 6156, March 29-April 9. Return of Group 6134. A regular spot, a, with a small companion on April 1.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 87.481	AS, RF		0.764	91.4	22.5	-3.3			394	
			0.870	72.3	14.6	+11.8			118	
	G.		0.883	104.4	9.7	-15.9			296	
			0.970	70.9	359.4	+16.6			130	
			0.970	102.9	355.3	-14.1			212	
Mar. 29			(-26.1)	(7.2)	(-6.7)		(14)	(177)	(2335)	
88.244	FS, CL		0.918	282.3	126.9	+8.5			229	
			0.920	292.7	125.0	+17.8			109	
			0.807	261.6	116.2	-10.7			214	
			0.811	285.9	114.0	+8.8			182	
			0.789	249.5	113.9	-20.2			190	
			0.779	295.7	108.6	+15.3			89	
			0.763	303.9	104.4	+20.3			94	
	M.	6156a	0.932	74.5	355.7	+11.9	23	99	119c	
			0.777	67.8	14.8	+12.6			113	
			0.795	101.9	9.2	-13.4			209	
			0.876	79.4	2.4	+6.0			63	
			0.959	65.3	353.0	+21.4			194	
			0.977	75.0	346.6	+13.1			175	
			0.971	106.2	344.8	-17.3			292	
Mar. 30			(-26.2)	(62.1)	(-6.6)		(23)	(99)	(2272)	
89.383	CL, RF		0.983	275.7	125.6	+4.3			93	
			0.917	250.6	114.2	-20.4			261	
			0.905	260.9	112.4	-11.0			156	
			0.899	281.0	109.6	+6.9			231	
			0.900	293.8	106.9	+18.0			126	
			0.802	310.0	90.2	+26.2			68	
			0.734	294.9	90.1	+13.2			163	
		6157	0.258	219.6	57.0	-18.0	0	1		
	G.	6157	0.227	211.2	54.2	-17.7	0	15		
		6156a	0.812	70.2	356.0	+11.9	18	107	199c	
		6159a	0.990	77.5	327.1	+11.3	84	389		
			0.869	61.6	352.5	+20.7			246	
			0.889	106.2	343.9	-17.4			253	
			0.916	72.6	343.5	+13.0			266	
			0.973	64.0	335.1	+23.3			136	
			0.983	101.5	326.6	-12.6			342	
Mar. 31			(-26.2)	(47.1)	(-6.6)		(102)	(512)	(2540)	
90.476	AS, RF		0.957	260.0	106.5	-11.4			228	
			0.946	247.3	104.5	-23.5			231	
	G.		0.957	283.1	103.9	+10.5			218	
			0.953	293.7	100.9	+20.2			124	
1907. 90.476	AS, RF		0.850	288.9	87.9	+12.3			264	
			0.836	299.5	83.4	+20.3			138	
			0.726	311.8	68.8	+23.7			111	
		6157	0.468	243.0	58.6	-18.1	3	12		
		6157	0.432	240.6	55.9	-18.2	1	12		
		6157	0.384	240.5	53.1	-17.0	0	6		
		6156a	0.658	63.3	355.9	+12.0	19	93		
	G.	6156	0.683	64.9	353.7	+11.7	0	6		
		6158	0.780	64.9	345.9	+14.9	0	11		
		6158	0.807	66.0	343.1	+15.0	2	15		
		6160a	0.920	100.4	325.2	-12.1	3	34		
		6160b	0.930	98.8	323.7	-10.6	9	57		
		6159	0.947	75.4	323.6	+11.6	113	998		
			0.784	103.7	340.9	-14.8			247c	
			0.916	61.6	332.0	+22.7			282	
April 1			(-26.3)	(32.7)	(-6.5)		(150)	(1244)	(3513)	
91.538	AS, RF		0.949	285.2	88.0	+12.2			293	
			0.947	294.5	85.7	+20.8			180	
			0.830	292.4	71.0	+14.6			73	
			0.774	306.4	61.0	+22.6			221	
			0.772	322.5	52.4	+32.4			119	
		6157	0.703	249.1	62.6	-19.2	0	10		
		6157	0.644	249.0	57.9	-18.4	3	17		
		6157	0.612	247.4	55.2	-18.7	0	4		
		6156a	0.488	51.5	355.8	+11.8	13	88		
		6158	0.584	51.0	350.7	+15.9	1	12		
		6158	0.611	54.7	347.7	+15.2	0	3		
		6158	0.620	56.2	346.6	+14.7	0	25		
		6158	0.647	58.4	344.1	+14.6	1	5		
		6160	0.781	96.1	327.1	-8.8	0	7		
		6160a	0.798	100.5	325.5	-12.3	0	4		
	G.	6160b	0.818	98.3	323.5	-10.4	2	13		
		6160	0.852	96.8	320.0	-9.2	0	12		
		6159a	0.820	71.4	326.5	+11.3	79	589		
		6159	0.855	71.3	322.9	+12.4	4	77		
		6159	0.856	73.4	322.3	+10.6	0	13		
		6159b	0.874	74.0	320.2	+10.6	31	143		
		6159c	0.887	71.7	319.1	+13.0	30	251		
		6159	0.889	74.0	318.4	+11.1	0	8		
		6161a	0.954	105.3	305.3	-16.5	8	125		
			0.792	48.5	337.1	+26.9			221c	
			0.891	58.5	322.4	+24.3			76	
			0.861	116.1	319.8	-25.7			210	
			0.926	98.4	310.4	-10.2			114	
			0.973	116.0	300.7	-26.7			153	
April 2			(-26.3)	(18.7)	(-6.4)		(172)	(1406)	(3392)	

Group 6157, March 31–April 4. A few small unstable spots in a sparse stream.

Group 6159, March 31–April 12. A very fine group. The leader, *a*, is a very large double spot, and is followed by a considerable train, in which *b* and *c* are the two principal spots. *b* soon breaks up, and disappears.

Group 6158, April 1–10. At first a few small spots, *f* Group 6156. The group develops later into a fine irregular stream, and finally into a large regular spot, *a*, followed by an irregular train.

Group 6160, April 1–4. A pair of small spots, *a* and *b*, sometimes with one or two companions.

Group 6161, April 2–13. Return of Group 6140. Fourth and last apparition. A regular spot, *a*, with a very small companion on April 10.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 92.168	CL, AS		0.966	287.4	82.9	+15.0				254
			0.898	300.0	68.1	+23.3				185
			0.836	308.5	57.5	+27.0				42
		6157	0.754	252.0	59.1	-17.8	2	10		
		6157	0.720	252.4	56.1	-17.1	0	5		
		6163	0.638	249.5	49.1	-17.9	0	4		
		6163	0.625	246.0	47.6	-19.8	0	10		
		6156d	0.399	39.7	355.4	+11.7	13	94		
		6158	0.493	41.8	350.5	+15.5	0	5		
		6158	0.523	44.4	348.1	+16.0	0	5		
		6158	0.547	50.3	344.7	+14.7	0	56		
		6159a	0.733	69.4	326.4	+10.3	72	581		
		6159	0.778	69.9	322.4	+11.3	0	16		
		6159	0.776	72.4	322.0	+9.3	0	21		240c
		6159b	0.805	73.2	319.2	+9.5	24	174		
		6159c	0.816	70.4	318.8	+11.9	18	255		
		6160a	0.719	100.4	324.3	-12.0	4	17		537c
		6160b	0.771	98.1	319.7	-10.3	0	24		
		6161a	0.907	106.7	304.8	-17.8	19	135		252c
			0.833	59.8	320.2	+20.7				185
			0.855	117.3	312.4	-26.6				84
			0.948	49.9	308.5	+34.8				143
			0.892	92.2	307.2	-4.9				43
			0.953	97.6	297.5	-9.2				58
			0.958	119.1	296.4	-29.6				528
April 3			(-26.4)	(10.4)	(-6.4)	(152)	(1412)	(2551)		
93.128	FS, CL		0.919	246.4	64.9	-24.2				97
			0.921	296.2	59.9	+21.1				249
			0.870	285.2	55.9	+9.9				93
			0.820	268.5	52.8	-4.8				116
			0.924	316.3	52.1	+38.4				140
			0.815	312.1	40.1	+28.6				132
		6157	0.879	252.5	59.5	-18.4	0	15		160nf
		6156a	0.315	6.5	355.6	+11.9	15	94		
		6158	0.394	16.6	351.0	+15.9	3	7		
		6158	0.404	21.7	348.8	+15.8	10	40		
		6158	0.434	22.5	347.7	+17.4	0	5		
		6158	0.414	25.8	347.0	+15.6	10	25		
		6158	0.407	28.5	346.2	+14.7	0	22		
		6158	0.435	26.4	346.1	+16.7	0	9		
		6158	0.449	29.1	344.6	+16.9	0	3		
		6158	0.407	33.2	344.5	+13.7	0	4		
		6158	0.442	32.6	343.4	+15.6	26	79		
		6159a	0.581	61.2	326.6	+10.9	84	534		
		6159	0.624	64.0	323.0	+10.7	4	31		338c
		6159	0.630	67.4	321.8	+8.9	1	23		
1907. 93.128	FS, CL		0.670	64.6	319.7	+11.7				
		6159b	0.663	67.4	319.4	+9.8	7	43		
		6159c	0.688	63.8	318.6	+12.8	29	188		
		6160	0.529	102.3	326.0	-11.8	37	178		
		6160a	0.547	101.7	324.7	-11.7	0	22		
		6160b	0.621	97.6	319.2	-9.6	3	22		
		6161a	0.800	107.0	304.6	-17.4	0	16		102c
			0.632	112.8	319.8	-19.1	17	121		214c
			0.794	55.0	313.1	+22.6				132
			0.874	43.8	310.3	+34.9				134
			0.782	94.7	306.1	-7.6				131
			0.879	75.4	298.3	+9.6				164
			0.899	120.4	294.3	-30.0				117
			0.917	109.0	290.7	-19.9				429
			0.940	97.8	287.2	-9.5				210
April 4			(-26.4)	(357.7)	(-6.3)	(246)	(1481)	(3121)		163
94.640	AS, RF		0.773	260.8	28.6	-11.1				302
		6156a	0.438	315.5	356.0	+12.1	16	76		
		6158a	0.427	330.2	350.5	+15.6	19	143		
		6158	0.404	336.6	347.3	+15.5	4	36		
		6158	0.381	337.4	346.5	+14.3	0	8		
		6158	0.343	336.8	345.7	+12.1	0	3		
		6158	0.366	343.5	343.9	+14.2	4	21		
		6158	0.411	346.9	343.4	+17.2	0	5		
		6158	0.392	347.6	342.8	+16.2	7	36		
		6158	0.354	346.3	342.7	+13.7	0	2		
		6158	0.353	349.7	341.5	+14.0	0	6		
		6159	0.338	21.4	330.6	+12.0	0	4		
		6159a	0.349	31.5	327.1	+11.1	83	509		
		6159	0.382	32.3	325.8	+12.7	0	5		
		6159	0.321	41.4	325.5	+7.7	1	5		
		6159	0.377	40.8	323.4	+10.4	5	50		
		6159	0.383	50.0	320.6	+8.2	1	7		
		6159	0.424	43.5	320.5	+11.9	5	29		
		6159b	0.405	47.7	320.2	+9.8	15	93		
		6159c	0.446	43.5	319.5	+12.8	31	130		
		6159	0.428	48.5	318.9	+10.5	2	33		
		6159	0.473	44.8	317.8	+13.6	0	5		
		6161a	0.562	111.1	304.7	-16.9	21	114		
		6164*	0.907	103.0	272.2	-14.4	3	12		
		6164	0.944	105.5	266.3	-16.7	23	137		
		6164	0.958	104.5	263.6	-15.7	36	273		435c
			0.786	123.3	288.8	-29.8				291
			0.932	95.5	268.7	-7.4				223
April 5			(-26.4)	(337.8)	(-6.3)	(276)	(1742)	(1251)		

Group 6163, April 3. Some small spots, f Group 6157.

Group 6164\*, April 5. Two very small spots, p Group 6164.

Group 6164, April 5-15. Apparently a revival, not a return, of Group 6145. A number of unstable spots in an irregular cluster. The group undergoes many changes.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 95°500	CL, RF		0°902	260°3	31°2	-11°4			303	1907. 97°239	FS, AS		0°924	261°7	11°3	-10°0			225
			0°870	285°9	24°5	+10°5			330				0°921	282°7	8°7	-9°2			144
			0°783	269°4	17°9	-4°3			173			6156a	0°818	290°5	355°0	+12°9	11	39	554c
		6156a	0°565	302°7	355°4	+12°3	11	64				6158	0°806	294°1	352°9	+15°3	0	4	
		6158a	0°535	312°4	350°5	+15°4	16	138				6158a	0°787	295°4	350°8	+15°6	31	193	
		6158	0°515	315°1	348°5	+15°6	10	40				6158	0°775	294°8	349°9	+14°8	0	3	
		6158	0°482	318°6	345°6	+15°3	0	9				6158	0°746	299°2	346°1	+16°9	0	29	
		6158	0°493	320°3	345°5	+16°4	8	38				6158	0°720	300°0	343°8	+16°5	2	10	
		6158	0°460	325°6	342°0	+16°3	1	23				6159a	0°486	308°6	326°2	+12°0	82	549	
		6159a	0°303	359°5	326°6	+11°4	89	506				6159	0°467	304°8	326°2	+9°8	0	13	
		6159	0°342	2°3	325°6	+13°7	0	5				6159	0°437	306°0	324°3	+9°1	2	18	
		6159	0°290	9°1	323°7	+10°4	0	8				6159	0°449	314°0	322°6	+12°4	0	5	
		6159	0°322	17°7	320°7	+11°7	0	14				6159	0°416	312°1	322°6	+10°3	0	3	
		6159	0°300	21°8	319°9	+10°0	7	38				6159	0°394	312°1	320°6	+9°4	0	5	
		6159c	0°347	20°6	319°2	+12°8	22	146				6159	0°388	314°7	319°6	+9°9	1	13	
		6159	0°320	26°8	318°0	+10°4	2	24				6159c	0°419	319°7	319°5	+12°7	24	125	
		6161a	0°416	118°3	304°0	-17°1	17	118				6159	0°367	317°8	318°6	+10°6	1	9	
		6164	0°867	105°6	266°0	-16°6	2	53				6159	0°371	321°5	316°9	+10°9	4	21	
		6164	0°889	103°4	263°2	-14°7	11	102				6161	0°198	179°8	303°3	-17°5	14	86	
		6164	0°891	105°3	263°0	-16°4	10	64	522c			6165	0°546	93°1	270°2	-6°8	0	5	
			0°727	129°3	285°1	-32°0		230				6165a	0°621	90°7	265°0	-5°2	1	14	
			0°864	94°8	266°4	-7°3		260				6165b	0°637	93°0	263°7	-6°6	5	20	
			0°971	96°7	249°8	-8°0		120				6165	0°651	91°8	262°7	-5°8	0	6	
April 6			(-26°5)	(326°4)	(-6°2)	(206)	(1390)	(1938)				6164	0°595	108°7	267°7	-16°0	0	11	
												6164	0°615	106°1	265°9	-14°7	0	8	
												6164	0°622	108°2	265°6	-16°0	1	9	
												6164	0°638	105°8	264°2	-14°7	15	41	
												6164	0°640	107°9	264°2	-16°1	0	12	
												6164	0°653	108°9	263°4	-16°9	17	51	
												6164	0°655	107°5	263°0	-16°0	1	11	
												6164†	0°687	113°8	261°4	-20°6	0	4	
												6164†	0°712	113°5	259°2	-20°9	0	5	
													0°765	84°2	254°0	+0°5			79
													0°872	99°5	242°3	-11°3			124
													0°960	70°4	232°7	+16°9			144
													0°974	115°2	225°2	-25°9			111
										April 8			(-26°4)	(303°4)	(-6°1)	(212)	(1322)	(1739)	
													0°955	256°8	5°2	-14°4			77
													0°931	280°6	358°8	+7°5			90
													0°853	256°4	350°5	-14°7			64
													0°903	300°5	350°0	+24°2			237
													0°776	256°6	342°6	-14°1			81
												6156	0°912	288°2	354°7	+13°9	1	9	97c
												6158a	0°891	291°8	351°0	+16°3	19	168	422f
												6159a	0°627	298°6	325°9	+12°4	66	521	
												6159	0°596	293°7	325°1	+8°8	0	4	
												6159b	0°550	304°1	319°4	+12°7	14	116	
												6159	0°516	299°4	318°7	+9°3	0	3	
April 7																			

Group 6165, April 7-15. A pair of small spots, *a* and *b*, *n* of Group 6164. Other small spots are sometimes seen near.  
 Group 6164†, April 8. Two very small spots, *s* Group 6164.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 98-128	CL, M	6159	0.510	303.3	317.3	+10.8	0	12		
		6161	0.280	224.2	303.4	-17.4	6	45		
		6165a	0.434	89.8	266.0	-5.3	0	6		
		6165b	0.465	92.8	263.9	-6.7	0	6		
		6164	0.472	110.9	264.7	-15.0	5	36		
		6164	0.494	114.5	263.8	-17.1	5	34		
		6164	0.498	109.4	262.8	-14.8	0	2		
			0.892	115.7	228.9	-25.6			68	
			0.919	67.5	228.8	+17.9			195	
			0.980	79.5	214.6	+9.0			106	
April 9			(-26.4)	(291.7)	(-6.0)		(116)	(962)	(1437)	
99-252	CL, AS		0.946	297.4	343.0	+23.5			109	
			0.903	253.6	341.8	-17.4			378	
			0.829	265.8	333.0	-6.8			218	
			0.879	305.0	330.5	+26.8			191	
			0.743	256.0	324.8	-14.3			319	
			0.846	315.0	322.0	+32.6			100	
			0.743	303.2	318.0	+19.5			84	
		6158a	0.972	287.6	350.8	+15.5	21	150	664f	
		6159	0.787	288.1	326.2	+10.3	0	13		
		6159a	0.792	290.7	326.1	+12.4	84	518		
		6159b	0.725	293.3	319.7	+12.3	21	121	411c	
		6159	0.705	289.1	319.2	+9.0	0	4		
		6159	0.709	291.6	318.9	+10.7	1	9		
		6161	0.472	242.3	302.9	-18.0	8	30		
		6161	0.439	243.8	301.1	-16.5	0	5		
		6165	0.120	71.7	270.4	-3.7	0	10		
		6165	0.169	86.6	267.2	-5.2	0	2		
		6165a	0.189	83.7	266.1	-4.6	5	15		
		6165	0.226	90.1	263.8	-5.8	6	32		
		6165b	0.231	96.1	263.6	-7.1	0	10		
		6165	0.276	99.6	261.0	-8.3	0	11		
		6164	0.201	123.9	267.1	-12.3	0	5		
		6164	0.226	128.9	266.5	-13.9	0	4		
		6164	0.248	122.9	264.6	-13.5	3	13		
		6164	0.258	126.9	264.6	-14.6	7	25		
		6164	0.292	138.3	265.1	-18.3	0	4		
		6164	0.282	128.8	263.8	-15.9	0	4		
		6164	0.294	130.1	263.4	-16.6	6	41		
			0.797	60.2	230.0	+19.3			168	
			0.836	109.1	220.3	-19.2			167	
			0.866	120.0	218.3	-28.8			193	
			0.886	68.1	218.2	+16.3			104	
			0.935	58.0	214.2	+27.1			200	
			0.935	76.2	209.6	+10.6			371	
April 10			(-26.4)	(276.9)	(-5.9)		(162)	(1026)	(3677)	
1907. 100-653	CL, RF		0.973	267.0	335.1	-4.3			75	
			0.952	297.7	325.6	+24.1			151	
			0.896	256.9	322.4	-14.4			616	
			0.914	307.1	315.8	+30.3			215	
			0.837	241.0	313.7	-27.4			128	
			0.794	263.1	311.2	-9.1			154	
			0.838	300.4	309.1	+21.4			112	
			0.696	233.8	298.1	-28.8			86	
		6159a	0.937	285.2	325.7	+12.0			50	
		6159b	0.900	286.2	320.2	+11.8			19	
		6161	0.702	249.7	302.1	-18.3			541	
		6165	0.164	274.9	267.8	-5.0	0	109	664c	
		6165	0.124	262.1	265.5	-6.9	0	20	198p	
		6165	0.109	298.4	263.9	-2.9	0	8		
		6164	0.180	218.4	265.0	-14.0	0	6		
		6164	0.202	203.6	263.2	-16.5	0	10		
		6164	0.147	207.3	262.4	-13.4	0	2		
		6167	0.217	130.9	248.7	-14.0	0	17		
			0.816	49.7	213.9	+27.7			24	
			0.800	71.2	208.0	+11.2			5	
			0.926	100.9	190.1	-12.3				
April 11			(-26.4)	(258.4)	(-5.9)		(75)	(742)	(3020)	
101-110	AS, CL		0.927	256.0	320.8	-15.1			530	
			0.889	242.8	314.6	-26.8			139	
			0.891	297.7	310.1	+21.4			118	
			0.841	260.8	309.9	-10.9			170	
			0.699	233.1	292.1	-29.3			200	
		6159a	0.970	283.7	326.4	+11.7			71	
		6159b	0.940	284.5	320.4	+11.5			453	
		6159	0.917	285.5	316.7	+11.7	0	75	515c	
		6161	0.770	250.1	302.2	-19.0	0	15		
		6165	0.274	269.3	268.3	-5.8	3	11	103c	
		6165	0.236	264.3	266.0	-7.0	0	4		
		6164	0.298	232.9	266.7	-16.0	0	2		
		6164	0.278	236.7	266.2	-14.4	0	7		
		6164	0.251	239.5	265.2	-13.0	1	5		
		6164	0.279	227.9	264.8	-16.4	0	6		
		6164	0.261	223.8	263.2	-16.6	0	10		
		6164	0.218	231.4	262.5	-13.6	3	13		
			0.798	51.0	209.0	+25.9	0	15		
			0.705	77.5	208.9	+4.6			118	
			0.758	67.0	206.8	+13.2			72	
			0.903	56.7	195.0	+26.6			156	
			0.892	66.3	193.4	+18.1			107	
			0.886	100.0	189.6	-11.6			101	
			0.920	73.5	187.9	+12.6			319	
			0.988	105.4	170.3	-16.1			150	
April 12			(-26.4)	(252.4)	(-5.8)		(78)	(616)	(2959)	

Group 6167, April 11. A very small spot, f Group 6164.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 102°495	AS, CL		0°991	278°9	315°2	+ 8°0			191
			0°964	262°4	309°2	- 8°9			204
			0°948	290°6	302°3	+17°4			155
			0°824	251°7	289°4	-18°3			139
			0°819	238°7	286°8	-28°6			592
		6161	0°920	251°7	301°3	-19°0	0	16	389c
		6165	0°562	270°1	268°3	- 4°7	1	13	
		6165	0°523	267°2	265°7	- 6°3	2	11	
		6165	0°518	270°3	265°3	- 4°7	1	5	
		6165	0°496	269°6	263°8	- 5°1	0	7	
		6165	0°489	266°9	263°4	- 6°5	3	11	
		6165	0°555	248°5	266°6	-16°6	1	7	
		6164	0°541	251°5	266°0	-14°7	1	11	
		6164	0°529	247°7	264°7	-16°5	0	15	
		6164	0°515	246°1	263°5	-17°0	11	34	
		6164	0°506	248°9	263°3	-15°5	1	8	
		6164	0°474	249°9	261°3	-14°4	0	19	
		6168	0°161	245°3	242°6	- 9°5	0	4	
		6168	0°153	238°2	241°7	-10°3	3	8	
		6168	0°130	232°7	240°1	-10°2	0	5	
		6168	0°105	229°3	238°7	- 9°6	1	10	
		6169	0°456	54°8	212°0	+ 9°9	0	9	
		6169	0°471	56°0	210°8	+10°0	3	19	
			0°767	66°9	187°7	+13°6			173
			0°736	97°9	186°6	- 9°6			467
			0°913	69°7	171°4	+15°9			257
			0°899	89°7	170°2	- 2°3			186
			0°909	106°3	168°4	-17°2			350
April 13			(-26°3)	(234°1)	(-5°7)		(28)	(212)	(3103)
103°114	FS, CL		0°964	252°8	301°3	-18°1			229
			0°905	243°4	290°3	-26°4			240
			0°890	254°3	289°1	-16°6			95
			0°871	235°0	284°0	-33°0			293
			0°804	230°4	274°5	-34°6			52
			0°744	255°7	273°8	-14°4			239
		6165	0°689	268°9	269°5	- 4°9	4	21	
		6165	0°657	267°8	267°0	- 5°7	3	12	
		6165	0°631	266°0	265°1	- 6°9	0	8	
		6165	0°604	266°2	263°1	- 6°9	5	19	
		6164	0°661	251°1	266°5	-16°7	3	18	
		6164	0°645	249°0	265°0	-17°8	0	3	
		6164	0°629	249°4	263°8	-17°2	11	22	
		6164	0°615	252°0	263°1	-15°4	3	14	
		6164	0°603	249°0	261°8	-17°1	0	5	
		6168	0°326	254°7	244°5	-10°3	0	6	
		6168	0°300	254°1	242°9	-10°2	14	57	
1907. 103°114	FS, CL		0°277	251°6	241°3	-10°5	0	9	
			0°280	247°5	241°1	-11°6	0	9	
			0°262	255°3	240°7	- 9°3	2	7	
			0°233	250°2	238°7	-10°1	0	27	
			0°228	253°9	238°7	- 9°2	8	12	
			0°223	247°1	237°9	-10°6	3	11	
			0°223	247°1	237°9	-10°6	3	11	
			0°339	39°9	213°2	+ 9°5	4	12	
			0°330	43°0	212°8	+ 8°4	0	3	
			0°368	43°8	211°0	+ 9°9	7	14	
			0°879	66°4	168°5	+17°5			225
			0°852	104°7	167°3	-15°5			304
			0°862	88°4	166°6	-1°6			116
			0°924	78°2	160°0	+ 8°6			160
			0°936	113°0	156°2	-23°5			174
			(-26°3)	(225°9)	(-5°7)		(67)	(289)	(2330)
April 14									
104°518	CL, RF		0°945	241°2	278°4	-29°0			257
			0°849	267°7	265°5	- 5°0	4	23	
			0°826	265°4	263°2	- 7°0	4	22	
			0°821	253°9	262°5	-16°4	0	4	
			0°609	264°5	245°0	- 7°8	0	4	
			0°609	261°2	244°9	- 9°8	16	95	
			0°586	260°9	243°2	- 9°9	4	38	
			0°570	258°7	242°0	-11°0	0	15	
			0°552	262°1	240°9	- 9°1	9	38	
			0°548	257°4	240°4	-11°6	11	39	
			0°515	262°1	238°4	- 8°9	0	6	
			0°514	259°1	238°1	-10°4	9	50	
			0°278	334°4	214°4	+ 8°9	0	5	
			0°795	56°1	162°0	+22°4			270
			0°810	74°8	155°3	+ 8°8			189
			0°957	82°4	135°2	+ 5°6			292
			(-26°2)	(207°4)	(-5°6)		(57)	(339)	(2057)
April 15									
105°614	AS, RF		0°947	264°3	264°3	- 7°1			226
			0°931	254°3	261°9	-16°6			638
			0°798	261°5	246°0	-10°1	12	87	
			0°777	262°1	244°0	- 9°6	7	54	
			0°759	262°9	242°4	- 9°0	7	54	
			0°752	261°2	241°7	-10°2	0	3	
			0°719	260°4	238°9	-10°7	9	52	
			0°911	77°5	128°9	+ 9°0			398
			0°953	105°2	120°0	-16°1			192
			(-26°2)	(192°9)	(-5°5)		(35)	(250)	(1659)
April 16									

Group 6168, April 13-19. A number of spots in a large irregular cluster rapidly developing in size, and becoming an irregular stream.  
 Group 6169, April 13-15. A few small spots in a straight stream.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULAE ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 106.511	CL, RF		0.993	263.8	264.7	-6.6			125	
			0.980	253.0	260.4	-17.7			521	
			0.852	293.1	235.6	+16.4			176	
		6168	0.887	262.1	243.8	-9.5	41	257		
		6168	0.856	259.5	240.1	-11.8	7	40	285c	
		6168	0.844	261.0	238.7	-10.5	14	68		
			0.804	72.5	129.9	+10.6			369	
			0.861	102.6	121.4	-13.6			121	
			0.927	113.4	113.0	-23.7			171	
			0.960	76.2	109.1	+11.6			311	
April 17			(-26.1)	(181.0)	(-5.4)	(62)	(365)	(2079)		
107.116	AS, CL		0.894	289.5	233.4	+14.7			87	
			0.854	302.2	225.0	+23.8			74	
			0.844	310.0	220.7	+29.3			43	
		6168	0.946	261.6	244.4	-9.6	16	236		
		6168	0.918	260.2	239.9	-11.1	28	275	195c	
		6170	0.978	75.6	97.0	+12.8	10	127	250c	
April 18			0.899	70.3	111.9	+15.1			94	
			(-26.0)	(173.0)	(-5.3)	(54)	(638)	(743)		
108.334	FS, CL		0.941	289.6	224.4	+16.5			128	
			0.881	249.8	218.5	-20.2			97	
			0.905	301.1	215.7	+25.2			179	
			0.846	285.7	212.7	+10.3			178	
		6168	0.992	261.0	240.3	-9.6	0	82		
		6168	0.985	259.6	237.6	-11.1	55	318	248c	
		6171	0.248	243.2	170.0	-11.5	0	8		
		6171	0.225	238.9	168.3	-11.7	0	2		
		6171	0.208	243.3	167.8	-10.5	0	2		
		6170	0.878	72.9	98.0	+12.3	0	14		
		6170	0.886	73.4	96.9	+12.1	7	35		
		6170	0.897	73.1	95.6	+12.7	0	9		
		6176	0.908	74.2	93.9	+12.0	0	5		
		6176	0.927	72.5	91.5	+14.1	3	34	497c	
		6176	0.929	71.1	91.5	+15.4	0	5		
		6172a	0.992	81.6	75.3	+7.6	0	70	295f	
April 19			0.819	62.0	107.2	+19.3			134	
			(-25.9)	(157.0)	(-5.2)	(65)	(584)	(1756)		
109.515	AS, M		0.929	283.8	207.9	+10.8			165	
			0.934	292.3	207.0	+18.7			65	
			0.940	301.5	205.5	+27.2			55	
			0.775	289.9	189.3	-11.9			194	
			0.739	257.0	188.9	-13.0			209	
			0.723	248.2	186.5	-19.2			85	
		6171	0.503	255.3	171.1	-11.8	0	10		
1907. 109.515	AS, M	6171	0.460	254.5	168.2	-11.6			0	9
		6170	0.730	67.7	97.8	+12.4			9	36
		6176	0.784	67.8	93.2	+13.8			2	43
		6172a	0.918	79.1	76.1	+7.9	47	232		
		6172	0.929	80.9	74.2	+6.5	0	16		
		6172	0.942	79.4	72.3	+8.2	0	12		
		6172	0.959	80.8	69.0	+7.3	12	86		
			0.893	51.9	86.9	+30.5				94
			0.911	62.9	80.5	+22.1				40
			0.947	71.2	72.8	+16.0				109
			0.985	66.9	64.4	+21.7				183
April 20			(-25.8)	(141.4)	(-5.1)	(70)	(444)	(2186)		
110.253	CL, AS		0.865	284.7	189.5	+10.0				148
			0.834	258.4	188.2	-12.5				194
		6170	0.619	62.5	97.5	+12.4			9	36
		6170	0.633	63.9	96.2	+12.0	0	3		
		6176	0.662	63.4	94.3	+13.1	0	10		
		6176	0.690	62.3	92.6	+14.7	1	14		
		6176	0.694	64.8	91.6	+13.3	0	6		
		6176	0.704	63.4	91.2	+14.5	1	14		
		6172a	0.833	77.6	76.7	+7.4	16	116		
		6172	0.847	76.6	75.4	+8.5	0	4		
		6172	0.854	78.0	74.4	+7.4	12	67		
		6172	0.862	79.3	73.3	+6.6	2	13		
		6172	0.877	76.7	72.0	+9.1	0	4		
		6172	0.884	78.4	70.9	+7.8	5	21		
		6172	0.902	79.6	68.5	+7.1	19	61		
		6172	0.919	79.0	66.2	+8.0	4	20		
		6174a	0.942	66.0	65.0	+20.6	0	26		
		6174b	0.958	65.1	62.2	+22.0	0	11		
			0.820	58.5	82.8	+22.0				102
			0.905	70.7	69.6	+15.0				84
April 21			(-25.8)	(131.6)	(-5.1)	(69)	(426)	(1175)		
111.635	CL, M		0.956	257.2	186.8	-13.7				119
			0.962	281.9	186.1	+10.0				107
		6173	0.838	256.7	170.3	-13.8	0	3		
		6173	0.835	254.2	169.8	-15.9	0	9		
		6170	0.354	37.7	100.7	+11.4	0	3		
		6170	0.391	41.2	98.2	+12.3	2	16		
		6170	0.377	45.1	97.7	+10.7	0	2		
		6172a	0.624	72.2	76.8	+7.0	38	236		
		6172	0.697	72.9	71.3	+8.2	5	25		
		6172	0.721	75.0	69.0	+7.3	3	20		
		6174a	0.808	59.3	65.5	+21.1	2	12		

Group 6170, April 18-25. A number of small unstable spots in an irregular, straggling stream.

Group 6171, April 19-20. Two or three very small spots.

Group 6176, April 19-25. Some small unstable spots, *f* Group 6170. The group is not seen on April 22 and 24.

Group 6172, April 19-30. A large regular spot, *a*, followed by a train of small spots.

Group 6174, April 21-23. A pair of small spots, *a* and *b*.

Group 6175, April 22. Some very small spots.



## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

[illegible]

Group 6175, April 24-May 1. A number of small spots in an irregular stream.  
Group 6178, April 24-25. A very small spot, *f* Group 6175.  
Group 6179, April 25-26. A pair of very small spots, *a* and *b*.  
Group 6177, April 27-28. Some very small spots, *n* Group 6175.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 117°544	AS, M		0°902	287°0	97°5	+13°3			680	
		6172a	0°700	284°5	78°2	+6°9	20	177		
		6172	0°663	286°8	75°0	+7°6	0	6		
		6175*	0°353	273°9	56°1	+9°6	6	36		
		6175	0°365	264°5	56°6	+6°1	10	79		
		6175	0°321	260°1	53°8	+7°4	11	70		
		6179	0°316	280°1	53°3	+1°1	0	2		
			0°773	65°4	348°6	+15°7			537	
			0°846	51°4	346°4	+29°0			144	
			0°820	111°6	341°2	+20°1			134	
			0°823	95°6	339°9	+7°1			94	
			0°924	104°1	327°6	+14°7			383	
			0°944	74°5	326°5	+13°0			602	
				(-24°8)	(35°3)	(-4°4)	(47)	(370)	(2574)	
Apr. 28										
118°634	CL, AS		0°971	285°5	95°2	+13°9			219	
		6172a	0°858	280°9	78°8	+7°0	32	185	167 <sup>n</sup>	
		6175	0°591	270°4	57°0	+3°3	1	21		
		6175	0°586	265°1	56°7	+6°4	6	37		
		6175	0°545	262°1	53°8	+7°9	9	48		
			0°811	106°9	327°2	+16°2			258	
			0°850	96°7	322°6	+8°0			89	
			0°871	71°8	322°8	+13°6			394	
			0°915	54°9	321°7	+29°6			91	
			0°972	112°4	304°1	+22°8			124	
				(-24°7)	(20°9)	(-4°3)	(48)	(291)	(1342)	
Apr. 29										
119°379	CL, AS		0°960	294°2	81°4	+21°8			82	
			0°899	255°7	75°0	+14°7			106	
			0°827	291°9	63°6	+15°4			101	
			0°836	302°7	61°3	+24°2			122	
			0°744	253°6	58°5	+15°0			85	
		6172a	0°929	280°3	78°1	+8°0	42	206	309 <sup>f</sup>	
		6175	0°719	266°5	56°9	+5°5	10	25		
		6175	0°707	267°2	56°0	+5°0	0	5		
		6175	0°685	263°5	54°2	+7°5	1	16		
		6175	0°671	263°7	53°1	+7°3	5	25		
		6180	0°336	152°0	1°3	+21°4	3	10		
		6180	0°367	147°7	358°8	+22°1	0	6		
		6180	0°382	144°1	357°1	+22°0	0	5		
			0°748	110°4	323°7	+18°0			234	
			0°767	70°3	323°6	+12°1			233	
			0°860	52°8	319°9	+28°6			106	
			0°819	99°5	316°1	+10°2			99	
			0°880	65°1	313°3	+19°5			141	
			0°921	114°5	304°5	+24°2			126	
			0°973	122°5	294°3	+32°6			144	
				(-24°6)	(11°0)	(-4°2)	(61)	(298)	(2101)	
Apr. 30										
1907. 120°666	CL, AS		0°972	281°6	69°2	+10°3			186	
			0°951	294°7	62°5	+22°0			114	
		6175	0°888	265°3	56°6	+6°0	3	14	197 <sup>c</sup>	
		6180	0°350	210°3	4°9	+21°5	0	2		
			0°816	115°4	301°0	+23°0			77	
			0°930	120°5	286°8	+29°8			207	
			0°961	103°0	279°8	+13°6			285	
				(-24°4)	(354°0)	(-4°1)	(3)	(16)	(1066)	
May 1										
121°607	AS, CL		0°945	264°1	52°6	+6°9			358	
			0°813	254°1	35°6	+15°3			86	
		6180	0°401	228°7	5°0	+22°5	0	12		
			0°868	123°0	284°3	+30°3			332	
			0°914	102°4	275°5	+13°0			592	
				(-24°2)	(341°6)	(-4°0)	(0)	(12)	(1368)	
May 2										
122°519	AS, CL		0°891	255°1	32°3	+15°0			104	
		6180	0°638	238°6	5°5	+22°5	0	6		
		6180	0°606	238°9	3°2	+21°4	0	4		
		6183	0°413	321°2	345°0	+15°0	0	4		
		6181	0°128	132°8	324°1	+8°8	4	16		
		6181	0°162	122°2	321°6	+8°8	0	14		
		6184	0°991	100°8	246°9	+11°2	51	711	215 <sup>p</sup>	
			0°843	127°5	276°6	+33°2			264	
			0°825	105°4	274°3	+14°9			512	
			0°949	94°9	257°9	+5°9			140	
				(-24°0)	(329°5)	(-3°9)	(55)	(755)	(1235)	
May 3										
123°470	AS, CL		0°919	276°0	23°1	+4°0			232	
			0°866	261°2	17°0	+9°5			106	
			0°846	249°6	13°9	+19°3			172	
			0°861	290°7	13°5	+15°6			110	
			0°746	245°5	3°3	+20°6			116	
			0°791	302°1	3°2	+22°2			164	
			0°675	317°9	347°3	+26°7			217	
		6181	0°163	239°7	325°1	+8°5	16	65		
		6181	0°138	222°9	322°4	+9°6	11	36		
		6181	0°108	218°0	320°8	+8°7	24	173		
		6184	0°945	101°1	246°0	+11°7	136	994	646 <sup>c</sup>	
			0°768	132°8	274°2	+34°2			331	
			0°772	106°6	267°2	+15°1			456	
			0°890	94°0	254°1	+5°3			52	
				(-23°8)	(317°0)	(-3°8)	(187)	(1268)	(2002)	
May 4										

Group 6175\*, April 28. A small spot, on the same meridian as Group 6175, but in the northern hemisphere.

Group 6180, April 30-May 3. Some very small unstable spots.

Group 6181, May 3-10. A fine stream, taking its rise near the centre of the disc and developing rapidly. The chief spot,  $\alpha$ , is in the rear of the group.

Group 6183, May 3. A very small spot.

Group 6184, May 3-15. Return of Group 6168. A very large regular spot,  $\alpha$ , with companions forming closely around it.







## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 139°118	FS, AS	6191	0°82.1	83°2	55°4	+4°4	0	4	125c	139f
		6191	0°84.1	82°9	53°3	+4°9	9	48		
		6190	0°90.1	95°1	45°9	+5°5	0	10		
			0°60.6	70°2	74°7	+10°2				
			0°71.7	98°6	64°5	+7°5				
			0°82.3	108°9	55°9	+16°6				
			0°82.0	92°7	55°1	+3°4				
			0°94.5	105°9	39°5	+15°7				
			0°95.0	75°1	39°5	+13°5				
				(-19°9)	(110°0)	(-2°0)	(25)	(143)	(1972)	
May 20										
140°492	CL, M		0°94.6	244°0	161°7	-25°2			183	
			0°82.9	287°1	146°1	+13°0			118	
		6192	0°42.0	324°4	106°7	+18°1	0	7		
		6189a	0°23.3	44°8	82°4	+7°7	8	50		
		6191	0°58.4	81°1	56°7	+3°6	10	40		
		6191	0°63.0	83°3	53°3	+2°7	0	5		
		6190	0°70.7	95°9	47°1	+5°5	5	13	181f	
			0°79.6	104°1	39°9	+12°3			148	
			0°94.2	84°2	22°0	+4°8			265	
			0°95.9	110°4	19°0	+20°1			125	
				(-19°5)	(91°9)	(-1°9)	(23)	(115)	(1020)	
May 21										
141°619	AS, M		0°98.6	260°3	157°3	-9°9			175	
			0°91.8	284°8	142°3	+12°8			209	
		6193	0°83.0	255°5	132°3	+13°0	2	26	76c	
		6192	0°57.2	307°2	105°6	+18°6	0	6		
		6189a	0°19.0	329°5	82°6	+7°6	7	20		
		6191	0°34.7	75°8	57°4	+3°2	7	33		
		6191	0°38.1	74°0	55°5	+4°4	1	5		
		6191	0°41.4	72°5	53°7	+5°5	0	18		
		6190	0°48.7	97°2	48°1	+5°1	2	10		
		6190	0°55.0	99°5	44°0	+6°7	3	17		
			0°82.2	83°5	22°2	+4°3			231	
			0°88.7	111°5	15°9	+19°8			374	
			0°92.4	75°4	10°8	+12°7			202	
				(-19°1)	(77°0)	(-1°8)	(22)	(135)	(1267)	
May 22										
142°499	CL, M		0°85.9	299°3	120°1	+23°8			88	
			0°76.8	284°3	114°2	+9°8			298	
		6193	0°93.8	257°6	134°6	+12°2	3	41	216c	75p
		6193	0°91.9	256°8	131°6	+12°8	8	36		
		6194	0°82.1	246°9	118°5	+19°8	0	7		
		6189a	0°33.9	298°9	82°7	+7°8	5	11		
May 23										
1907. 142°499	CL, M	6191	0°16.0	57°6	57°6	+3°2				
		6191	0°22.0	59°2	54°4	+4°8				
		6190	0°30.0	101°9	48°2	+5°2				
		6190	0°35.3	105°4	45°3	+7°0				
			0°93.2	71°3	358°4	+16°7				
			0°96.7	106°8	350°4	+16°7				
				(-18°9)	(65°3)	(-1°7)	(26)	(137)	(425 130 1232)	
May 23										
143°607	AS, CL		0°84.8	284°7	107°3	+11°6				
		6193	0°98.4	257°4	130°3	+12°7				
		6194	0°92.4	249°6	117°1	+19°3	26	177	371 129c 99p	
		6189a	0°55.2	286°4	82°9	+7°7	0	26		
		6191	0°16.3	300°5	58°7	+3°2	4	9		
		6191	0°14.9	305°0	57°7	+3°4	1	7		
		6191	0°12.5	300°0	56°9	+2°1	0	2		
		6191	0°14.6	313°9	56°7	+4°3	0	2		
		6191	0°12.7	325°0	54°9	+4°5	0	1		
		6190	0°12.0	133°8	45°7	+6°3	0	8		
			0°87.5	69°8	351°9	+16°8				
			0°91.9	109°3	344°9	+18°3				
			0°97.9	75°8	333°3	+13°6				
			0°97.7	99°7	333°2	+9°8				
				(-18°5)	(50°7)	(-1°5)	(31)	(236)	(320 361 187 207 1074)	
May 24										
144°269	CL, RF		0°93.5	(280°9)	110°3	+9°6				
			0°93.0	(294°8)	107°6	+22°4				
			0°83.1	(292°1)	95°5	+17°4				
		6194	0°96.9	(251°2)	117°1	+18°6	0	56	217 61 40 280p	
		6189	0°66.6	(279°5)	83°0	+5°3	0	2		
		6191	0°31.0	(285°2)	59°3	+3°3	2	10		
		6191	0°29.7	(280°1)	58°8	+1°7	0	1		
		6191	0°29.2	(287°7)	58°0	+3°7	1	5		
		6191	0°27.6	(284°9)	57°3	+2°8	0	1		
		6191	0°27.8	(292°9)	56°7	+4°9	0	2		
		6191	0°22.3	(298°7)	53°2	+4°8	0	2		
		6190	0°12.4	(212°5)	45°7	+7°4	0	5		
		6190	0°10.1	(219°0)	45°5	+5°9	0	7		
		6190	0°11.2	(208°7)	45°0	+7°0	0	3		
		6190	0°08.7	(205°8)	44°1	+5°9	0	5		
		6190	0°10.8	(197°6)	43°8	+7°3	0	1		
		6195a	0°98.8	(77°7)	321°6	+11°9	0	50	216p 290 119 331 395 1949	
			0°80.1	(68°8)	351°2	+15°9				
			0°84.0	(95°5)	345°0	+5°4				
			0°88.9	(111°3)	340°6	+19°5				
			0°95.5	(9°0)	329°4	+9°0				
				(-18°3)	(41°9)	(-1°4)	(3)	(150)	(1949)	
May 25										

Group 6191, May 20-26. A few small unstable spots.

Group 6192, May 21-22. A very small spot.

Group 6193, May 22-24. A short stream of spots, forming near the West limb.

Group 6194, May 23-25. A small spot forming near the West limb.

May 25. The position-angles and therefore the heliographic longitudes and latitudes are only approximate on this day.

Group 6195, May 25-30. A regular spot, ".

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

MEASURES OF POSITIONS AND LETTERS FOR SPOTS.										MEASURES OF POSITIONS AND LETTERS FOR SPOTS.									
Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1907. 145°130	AS, M		0°945 0°820 0°799	288°1 251°8 281°3	99°9 84°3 82°6	+16°6 -15°6 +8°2			87 128 91	1907. 148°245	FS, AS		0°887 0°907 0°886 0°918	47°5 123°2 104°1 79°0	295°4 288°1 287°7 283°5	+36°2 -30°2 -12°9 +9°7			124 108 146 197
		6191	0°522	280°0	61°4	+4°1	0	7		M.				(-16°9)	(349°3)	(-1°0)	(40)	(265)	(1886)
		6191	0°500	280°6	59°9	+4°2	0	7		May 29									
		6191	0°463	278°5	57°7	+2°8	0	1											
		6191	0°467	281°8	57°7	+4°3	1	7											
K.		6195a	0°938	78°0	321°7	+10°8	8	60	213c										
			0°786	110°2	340°4	-16°6			42	149°147	FS, CL		0°976	274°9	54°4	+4°6			177
			0°860	103°1	331°9	-11°9			174				0°971	288°0	52°3	+17°2			216
			0°874	72°1	331°3	+14°9			97				0°936	263°4	46°4	-6°5			252
			0°909	110°4	326°4	-19°0			188				0°897	254°1	40°2	-14°6			106
			0°913	99°3	324°9	-9°0			243				0°932	312°7	38°5	+38°7			201
			0°970	69°9	316°1	+19°1			96				0°848	287°5	33°7	+14°3			168
May 26				(-18°0)	(30°5)	(-1°3)	(9)	(82)	(1359)				6195a	0°338	46°3	322°9	+12°6	4	13
										K.			6195*	0°463	62°2	312°7	+11°6	0	6
													6195*	0°476	61°1	312°2	+12°4	0	4
													6197a	0°922	106°6	271°0	-15°6	19	110
														0°765	104°5	288°4	-11°6		345c
														0°917	125°8	275°2	-32°8		114
														0°893	75°3	275°2	+12°7		197
														0°975	83°2	260°6	+6°4		151
														0°979	98°4	259°3	-8°4		186
										May 30				(-16°6)	(337°3)	(-0°9)	(23)	(133)	(2366)

Group 6196. May 27. A very small spot.

Group 6195\*. May 29-30. One or two very small spots, f Group 6195.

Group 6195\*, May 29-30. One or two very small spots, *f*. Group 6195.  
Group 6197, May 29-June 9. A large regular spot, *a*, with occasionally some small companions.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 152°115	CL, M		0°953	251°5	9°4	-17°8			51	1907. 155°652	FS, AS		0°947	257°2	321°9	-12°2			223
			0°923	282°5	4°5	+11°3			41				0°882	285°4	312°1	+13°5			260
			0°848	288°2	354°3	+15°0			91				0°898	241°8	312°0	-25°1			116
			0°826	296°7	350°2	+21°4			56				0°858	298°4	306°8	+24°0			76
		6197a	0°513	121°0	270°9	-15°7	23	128				6197a	0°422	229°6	270°7	-15°9	15	102	
K.		6197	0°529	122°9	270°4	-17°1	0	3		G.		6199	0°239	217°9	259°9	-11°0	0	5	
		6199	0°646	107°7	259°2	-11°7	0	7				6200	0°199	194°3	254°2	-11°2	0	10	
		6199	0°640	103°6	259°1	-9°1	0	2				6198a	0°497	61°5	224°7	+13°6	0	10	
		6198a	0°959	75°4	225°4	+13°8	11	29	75f			6200*	0°917	103°7	185°6	-12°6	0	10	293n
			0°882	111°9	238°0	-19°4			67				0°849	70°6	195°0	+16°3			79
			0°890	100°0	235°6	-9°1			126	June 5				(-14°2)	(251°3)	(-0°1)	(15)	(137)	(1047)
				(-15°5)	(298°0)	(-0°5)	(34)	(169)	(507)										
153°277	FS, CL		0°942	285°8	352°1	+14°7			131	156°652	FS, CL		0°943	285°5	307°6	+14°6			304
			0°905	275°2	347°2	+4°6			98				0°921	241°7	302°2	-25°9			192
			0°916	294°9	346°5	+22°5			117			6197a	0°591	242°3	270°8	-15°9	9	45	
			0°883	246°3	342°4	-20°9			278			6200	0°344	237°7	255°1	-10°6	2	12	
			0°837	259°2	338°9	-9°2			124	G.		6200	0°301	233°9	252°2	-10°2	0	8	
			0°873	307°1	337°3	+31°5			149			6200*	0°800	105°3	186°1	-12°2	0	9	
			0°774	289°6	331°5	+14°8			215			6200*	0°849	102°9	180°8	-10°9	0	14	141c
			0°721	241°7	325°1	-20°3			136	June 6			0°932	95°2	169°6	-4°8			107
			0°675	258°1	324°4	-8°3			163				0°884	71°6	177°4	+16°2			186
		6197a	0°330	144°1	271°1	-15°9	22	119						(-13°8)	(238°0)	(0°0)	(11)	(88)	(930)
		6199	0°375	115°1	262°6	-9°5	2	18											
		6199	0°402	117°6	261°5	-11°0	0	3				157°124	AS, CL	0°974	285°6	308°0	+15°2		114
		6199	0°398	113°1	261°0	-9°3	0	9						0°928	239°4	296°5	-28°1		39
		6198a	0°639	73°8	224°8	+13°6	15	63	123c					0°857	259°2	290°1	-9°2		56
		6198	0°890	74°5	221°0	+13°6	2	8				6197a	0°669	245°1	270°8	-16°3	11	45	36
			0°704	118°1	241°6	-19°6			176			6199	0°552	250°6	263°6	-10°5	0	6	
			0°701	104°4	239°2	-10°3			153	K.		6200	0°451	243°8	256°1	-11°3	0	6	
			0°870	61°7	225°8	+24°2			169			6200*	0°808	103°9	178°9	-11°1	0	7	
				(-15°0)	(282°7)	(-0°4)	(41)	(220)	(2032)	June 7				(-13°6)	(231°8)	(+0°1)	(11)	(64)	(479)
154°254	AS, CL		0°900	262°0	333°5	-7°3			143										
			0°900	287°4	332°5	+15°5			143										
			0°863	250°6	327°7	-16°8			258										
			0°775	260°3	319°9	-7°6			124										
			0°760	288°9	317°4	+14°1			200	(158°514)	AS, M		0°913	283°7	(278°5)	+12°6			103
		6197a	0°269	184°5	271°0	-15°7	25	135					0°790	256°5	(264°6)	-10°4			98
		6197	0°293	187°9	272°1	-17°0	0	6				6197a	0°873	251°6	(272°6)	-15°8	11	52	246c
		6199	0°193	147°0	263°6	-9°5	0	4				6199	0°780	257°8	(263°8)	-9°3	0	11	
		6198a	0°732	71°0	224°5	+13°7	6	22	138f	G.		6201a	0°993	108°7	(131°1)	-18°5	0	177	341mp
		6198	0°755	71°6	222°4	+13°7	0	6					0°834	78°0	(157°6)	+10°2			109
				(-14°7)	(269°7)	(-0°2)	(31)	(173)	(1006)	June 8				(-13°0)	(213°4)	(+0°3)	(11)	(240)	(897)

Group 6198, June 2-5. A small spot,  $\alpha$ , with occasionally a small companion.

Group 6199, June 2-9. Some small faint spots. The group is not seen on June 6.

Group 6200, June 5-7. One or two small spots.

Group 6200\*, June 5-7. Return, or more probably a revival, of Group 6187. One or two small spots.

Group 6201, June 8-18. A large regular spot,  $\alpha$ , with occasionally some small companions.

June 8. The longitudes of the spots and faculæ upon this photograph appear to be in error, probably due to a mistake in the time.





Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 165.060 D. June 15	AS, CL		0.786 ( 89.9 0.936 ( 94.7 (-10.3)	75.1 + 0.8 57.7 - 4.0 (+1.1)			(804)	(2874)	156 168 (1364)										
166.316	FS, CL		0.875 259.6 0.831 290.7 0.446 226.6 0.450 217.9 0.426 205.4 0.442 202.1 0.417 201.1 0.400 195.7 0.379 194.3 0.386 193.6 0.305 294.0 0.271 299.3 0.256 322.2 0.227 322.8 0.224 329.4 0.207 326.9 0.178 344.9 0.189 353.2 0.181 3.8 0.188 8.2 0.655 112.2 0.689 110.4 0.706 115.9 0.739 119.6 0.725 111.3 0.743 114.2 0.764 110.7 0.763 109.7 0.787 109.8 0.776 106.1 0.809 103.8 0.886 101.7 0.956 87.1 0.968 101.6	170.4 - 8.5 164.6 + 17.8 129.8 - 16.6 127.1 - 19.6 121.4 - 21.4 120.5 - 22.9 119.4 - 21.6 116.7 - 21.4 115.8 - 20.3 115.6 - 20.8 126.4 + 8.2 123.9 + 8.8 119.3 + 12.8 118.1 + 11.6 116.8 + 12.3 116.7 + 11.1 112.8 + 11.1 111.4 + 12.0 109.4 + 11.6 108.5 + 11.9 71.7 - 13.4 68.7 - 13.0 68.7 - 17.0 66.9 - 20.5 66.1 - 14.3 65.2 - 16.9 62.6 - 14.8 62.5 - 14.0 60.3 - 14.7 60.7 - 11.7 57.3 - 10.4 48.6 - 9.8 37.4 + 3.1 35.4 - 10.9	- 8.5 + 17.8 - 16.6 - 19.6 - 21.4 - 22.9 - 21.6 - 21.4 - 20.3 - 20.8 + 8.2 + 8.8 + 12.8 + 11.6 + 12.3 + 11.1 + 11.1 + 12.0 + 11.6 + 11.9 - 13.4 - 13.0 - 17.0 - 20.5 - 14.3 - 16.9 - 14.8 - 14.0 - 14.7 - 11.7 - 10.4 - 9.8 + 3.1 - 10.9	0 0 0 9 0 0 0 12 0 0 0 0 0 8 0 0 2 0 2 5 0 0 1 3 172 0 43 0 6 3 0 0 121 0	4 21 2 2 10 35 9 3 20 8 4 16 3 7 10 6 22 6 8 17 723 3 546 23 76 8 17 883 4	400c	118 238 176 (1287)										
June 16			(-9.7)	(110.1)	(+1.2)		(387)	(2496)	(1287)										
167.511	FS, AS		0.938 257.0 0.871 280.8 0.665 239.4 0.623 235.4 0.556 223.4 0.515 221.4 0.515 219.0 0.547 283.3	163.0 - 11.7 154.4 + 10.1 131.3 - 18.6 127.1 - 19.5 118.6 - 22.5 115.7 - 21.4 114.7 - 22.2 126.7 + 8.4	- 11.7 + 10.1 - 18.6 - 19.5 - 22.5 - 21.4 - 22.2 + 8.4	0 0 5 5 5 0 0 2	8 24 12 20 5 30	181 122											
G.																			
1907. 167.511	FS, AS	6202 6202 6202 6202 6205 6205 6205ab 6205 6205c	0.434 294.6 0.416 296.4 0.368 296.9 0.321 302.3 0.443 125.1 0.471 121.1 0.536 130.4 0.526 122.9 0.572 115.7 0.592 110.3	294.6 296.4 296.9 302.3 125.1 121.1 130.4 122.9 115.7 110.3	118.0 + 11.7 116.6 + 11.9 113.7 + 10.9 110.3 + 11.2 72.5 - 13.4 70.0 - 12.7 68.8 - 19.0 67.2 - 15.3 62.5 - 13.1 60.0 - 10.7	1 0 0 0 0 1 0 175 1 95	12 1 10 10 10 16 26 1274 77 690	86 120 229 190 98 (1026)											
June 17			(-9.1)	(94.3)	(+1.4)		(285)	(2225)	(1026)										
168.692	FS, CL		0.871 257.7 0.776 276.5 0.718 280.0 0.791 243.8 0.661 286.8 0.626 285.7 0.533 289.7 0.684 235.5 0.291 155.6 0.284 149.5 0.343 147.8 0.427 152.3 0.430 150.4 0.386 144.0 0.381 139.8 0.365 133.9 0.336 122.3 0.374 124.6 0.731 109.2 0.904 109.6	138.2 - 9.9 129.3 + 6.0 124.1 + 8.2 127.3 - 19.4 118.9 + 12.1 116.4 + 10.9 109.4 + 11.6 115.8 - 21.5 71.6 - 13.8 70.2 - 12.7 67.8 - 15.3 66.5 - 20.6 65.7 - 20.4 65.1 - 16.7 64.0 - 15.4 63.1 - 13.2 62.1 - 8.9 60.5 - 10.8 33.8 - 12.8 16.0 - 17.0	- 9.9 + 6.0 + 8.2 - 19.4 + 12.1 + 10.9 + 11.6 - 21.5 - 13.8 - 12.7 - 15.3 - 20.6 - 20.4 - 16.7 - 15.4 - 13.2 - 8.9 - 10.8 - 12.8 - 17.0	0 0 0 0 4 0 3 3 0 6 161 0 0 3 0 3 75 1 56	9 26 10 50 11 12 14 4 16 1475 4 5 30 3 75 9 592	220 161c 328p 315p											
June 18			(-8.7)	(78.7)	(+1.5)		(240)	(2345)	(1483)										
169.467	FS, M		0.944 255.3 0.909 248.3 0.858 279.1 0.786 284.4 0.757 284.1 0.706 285.6 0.786 240.6 0.275 190.9 0.252 186.9	255.3 248.3 279.1 284.4 284.1 285.6 240.6 190.9 186.9	137.9 - 13.3 131.4 - 18.9 127.1 + 8.6 119.4 + 12.3 116.8 + 11.7 112.3 + 12.1 115.7 - 21.6 71.5 - 14.0 70.2 - 12.8	3 0 0 3 0 2 0 3	30 11 3 12 5 23	199 158 129 151c 642p											

Group 6206, June 17. A very small spot, p Group 6201.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 169°467	FS, M	6205	0°348	187°4	71°1	-18°5	6	69		1907. 171°514	FS, AS		0°778	70°8	351°6	+16°0			67
		6205a	0°313	180°7	68°6	-16°5	133	625					0°888	57°6	342°1	+29°4			104
		6205	0°354	177°2	67°4	-19°0	3	79					0°899	116°9	340°8	-23°1			184
		6205b	0°269	171°9	66°2	-13°8	61	666					0°919	66°7	336°0	+22°0			159
		6205	0°319	169°4	64°9	-16°6	1	9					0°912	93°8	335°9	-2°7			116
		6205	0°204	159°9	63°1	-12°7	7	82					0°923	104°6	335°2	-12°7			342
		6205c	0°257	147°3	60°3	-10°9	79	613					0°974	76°8	324°5	+13°3			496
		6205	0°303	147°9	58°9	-13°2	0	6						(-7°4)	(41°3)	(+1°8)	(282)	(1988)	(2119)
		6205	0°242	136°0	58°7	-8°4	0	2		June 21									
		6205	0°237	128°5	57°7	-6°9	0	3											
		6205	0°959	73°5	355°3	+16°3			116										
June 19				(-8°4)	(68°4)	(+1°6)	(298)	(2238)	(1395)	172°486	FS, M		0°921	244°1	92°3	-22°8			215
													0°825	279°2	83°7	+8°6			234
												6205	0°732	248°7	73°0	-14°0	6	69	
170°694	FS, AS		0°935	246°3	118°7	-21°4			674				6205	0°736	244°3	72°3	-17°2	0	13
		6202	0°932	282°1	120°5	+11°9	0	17					6205	0°722	247°0	71°8	-15°0	0	21
		6202	0°912	282°7	117°5	+12°3	0	7	472f				6205	0°692	248°0	69°6	-13°6	10	68
		6205	0°467	223°6	71°8	-18°1	3	42					6205a	0°688	243°4	68°3	-16°5	137	634
		6205	0°414	231°8	71°5	-13°2	5	62					6205	0°697	239°5	67°8	-19°2	2	74
		6205	0°454	219°8	69°9	-18°7	0	16					6205b	0°650	246°7	66°2	-13°4	60	586
		6205	0°383	230°0	69°5	-12°6	1	10					6205	0°647	241°9	64°8	-16°2	0	28
		6205a	0°416	221°1	68°6	-16°6	143	665					6205c	0°571	247°2	60°8	-11°1	27	295
		6205	0°433	215°4	67°4	-18°9	5	79					6205	0°585	239°3	59°9	-15°7	0	9
		6205b	0°355	221°4	66°0	-13°7	82	723						0°751	124°2	346°0	-23°5		164
		6205	0°405	213°0	65°5	-18°1	0	8						0°868	56°1	332°4	+30°0		84
		6205	0°308	219°0	63°5	-12°1	6	105						0°863	108°5	330°8	-14°9		664
		6205	0°284	212°7	61°1	-12°1	28	123		June 22			0°901	75°4	324°8	+14°0			649
		6205	0°319	203°2	59°6	-15°3	0	4						(-7°0)	(28°5)	(+1°9)	(242)	(1797)	(2010)
		6205c	0°247	211°7	59°6	-10°4	52	347											
			0°881	70°9	351°5	+17°5			202										
			0°936	109°1	344°5	-17°2			339										
June 20				(-7°9)	(52°1)	(+1°7)	(325)	(2208)	(1687)	173°631	FS, CL		0°910	285°0	78°3	+14°5			115
													0°794	265°8	65°5	-2°1			198
												6205	0°885	249°7	73°2	-16°8	0	23	
												6205	0°880	252°0	73°0	-14°7	4	58	
												6205	0°850	252°8	69°7	-13°4	0	60	
												6205a	0°842	248°6	68°0	-16°6	107	626	
												6205b	0°819	251°7	66°2	-13°6	27	499	
												6205	0°811	248°0	64°7	-16°3	0	16	
												6205	0°800	252°5	64°5	-12°6	0	4	
												6205	0°786	256°0	63°8	-9°6	0	6	
												6205c	0°761	253°2	61°1	-11°3	17	231	
												6205	0°763	250°5	60°8	-13°3	0	9	
												6205	0°766	248°4	60°6	-14°9	3	18	
													0°759	103°3	325°2	-8°6			185
													0°792	73°9	321°8	+14°0			704
													0°843	118°8	320°3	-22°7			558
													0°937	65°4	305°0	+23°7			171
													0°959	98°9	300°5	-7°9			137
										June 23				(-6°5)	(13°3)	(+2°1)	(158)	(1550)	(3276)

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*[illegible]

Group 6209, June 25-July 1. A few small unstable spots in a short stream.  
Group 6208, June 25-27. Some small unstable spots.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1907. 180°581	FS, AS	6209	0°200	83°9	269°9	+ 4°0	0	5		1907. 183°132	FS, AS	6210a	0°666	284°3	288°6	+11°8	3	10	70c
G.			0°822	138°1	239°0	-35°6			295	K.		6211	0°818	86°5	192°7	+ 4°7	29	7	264c
			0°764	118°5	236°1	-19°3			122			6211	0°835	87°1	191°0	+ 4°2	0	170	
			0°882	81°0	219°6	+ 9°3			178			6211	0°852	86°4	189°2	+ 4°7	0	16	
			0°897	107°4	219°5	-14°2			142			6211	0°862	84°9	188°0	+ 6°0	14	126	
			(-3°4)	(281°3)	(+2°8)	(3)	(43)	(1550)	6211			0°865	86°7	187°7	+ 4°4	3	29		
June 30											6211	0°885	85°2	185°3	+ 5°7	18	88		
181°191	FS, AS		0°864	263°6	332°4	- 4°0		125	6211	0°898	85°5	183°7	+ 5°4	0	5			151f	
K.			0°870	254°1	331°9	-12°3			138	July 3		6212	0°925	98°7	180°7	- 6°8	0	11	95
			0°863	302°5	329°5	+29°2			94			0°834	124°4	197°7	-26°1			141	
			0°862	243°4	328°7	-21°1			186			0°802	113°7	197°6	-16°8			131	
			0°801	284°6	325°8	+13°4			149			0°877	103°6	187°7	-10°3			129	
			0°680	300°2	312°4	+22°2			100			0°913	62°7	183°1	+26°1			122	
		6209	0°056	306°4	275°8	+ 4°8	2	6				0°939	113°9	180°8	-21°1				
		6209	0°048	328°3	274°6	+ 5°3	0	10				(-2°2)	(247°5)	(+3°1)	(67)	(462)	(2412)		
		6209	0°036	9°5	272°9	+ 5°0	0	4											
		6209	0°058	62°6	270°3	+ 4°5	0	7											
		0°794	143°6	237°0	-37°2			121											
		0°864	134°3	224°3	-35°1			136											
		0°819	77°7	218°6	+11°7			166											
0°895	108°1	211°8	-14°7			82													
July 1			(-3°1)	(273°2)	(+2°9)	(2)	(27)	(1297)	184°626	FS, M		0°911	251°3	291°1	-15°5			123	
182°443	FS, AS		0°951	257°8	327°4	-10°6		134	G.		6211	0°893	262°5	290°2	- 5°2			129	
M.		0°923	283°9	323°8	+14°0			326			0°877	280°3	288°8	+10°6			187		
		0°933	241°8	321°4	-24°9			116			0°917	231°0	286°3	-33°5			120		
		0°784	232°8	300°5	-26°1			101			0°734	274°0	274°8	+ 5°2			223		
		6210a	0°532	288°3	287°6	+12°1	3	9			0°740	238°2	269°7	-20°4			309		
		6210	0°516	285°8	286°4	+12°1	0	10			6211	0°530	89°2	195°8	+ 3°2	0	2		
		6210	0°504	290°0	285°5	+12°5	0	9			6211	0°554	89°8	194°2	+ 2°9	41	191		
		6211	0°924	88°1	189°2	+ 2°9	35	246			6211	0°586	89°9	191°9	+ 2°8	0	5		
		6211	0°941	86°5	186°5	+ 4°3	12	200			6211	0°626	87°7	189°0	+ 4°0	16	115		
		6211	0°953	87°8	184°3	+ 3°0	0	38			6211	0°668	86°6	185°9	+ 4°7	2	41		
		0°798	144°0	220°4	-37°7			113			6212	0°729	103°3	182°2	- 7°3	3	9		
		0°880	115°4	198°7	-20°6			99			0°838	88°4	170°9	+ 3°2			138f		
		0°869	74°3	196°8	+15°1			127	0°899	115°3	167°4	-21°0			138				
0°974	96°0	180°3	- 5°2			182	0°901	104°8	165°1	-11°8			116						
July 2			(-2°5)	(256°6)	(+3°0)	(50)	(512)	(1402)	0°930	58°5	161°2	+30°3			110				
183°132	FS, AS		0°958	247°3	318°2	-20°7		163	July 4	185°637	FS, CL		0°923	282°6	281°7	+13°0			78
K.		0°946	259°1	317°5	- 9°2			105	G.		6211*	0°901	258°0	277°4	- 9°3			248	
		0°933	283°8	316°3	+14°0			406			0°880	273°3	276°0	+ 4°5			214		
		0°922	295°9	313°5	+25°0			149			0°837	242°8	266°8	-20°4			252		
		0°923	234°9	308°5	-30°5			164			0°778	272°1	265°4	+ 3°7			124		
		0°813	258°7	300°8	- 7°3			100			0°772	249°7	262°3	-13°3			162		
		0°829	241°1	298°7	-21°7			103			6211	0°238	326°5	222°2	+14°8				
		0°846	223°6	293°1	-35°5			119			6211	0°296	91°8	197°2	+ 2°8	2	11		
											6211	0°311	86°0	196°4	+ 4°5	0	3		
											6211	0°326	91°4	195°4	+ 2°8	38	217		
											6211	0°354	89°2	193°7	+ 3°5	5	30		
							6211	0°389	88°4	191°6	+ 3°8	8	36						

Group 6210, July 2-3. Three very small spots on July 2. Only  $\alpha$ , the leader, remains on July 3.

Group 6211, July 2-12. A fine but somewhat irregular and unstable stream of spots.

Group 6212, July 3-6. A very small spot.

Group 6211\*, July 5. A small spot at a considerable distance,  $\eta p$ , from Group 6211.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 185°637	FS, CL	6211	0°42'1	86°8	189°6	+ 4°4	12	55		
		6211	0°44'3	86°0	188°2	+ 4°8	0	16		
		6211	0°48'6	88°8	185°4	+ 3°6	0	24		
G.		6212	0°55'0	108°4	182°8	- 7°1	0	7	70 <sup>f</sup>	
			0°73'8	108°9	169°2	- 11°4			143	
			0°95'7	111°7	143°8	- 19°7			144	
July 5				(- 1°1)	(214°4)	(+ 3°4)	(65)	(400)	(1435)	
186°485	FS, AS		0°93'6	273°6	272°5	+ 4°7			153	
			0°89'2	249°3	263°4	- 16°6			290	
		6211	0°11'1	95°3	196°8	+ 2°9	18	175		
		6211	0°14'6	87°8	194°7	+ 3°8	3	19		
		6211	0°16'1	95°2	193°9	+ 2°6	0	4		
		6211	0°19'1	87°4	192°1	+ 4°0	5	30		
		6211	0°19'9	93°5	191°7	+ 2°8	0	2		
G.		6211	0°22'0	89°5	190°4	+ 3°6	0	4		
		6211	0°23'3	83°7	189°7	+ 4°8	6	32		
		6211	0°26'9	83°5	187°6	+ 5°1	0	4		
		6212	0°31'8	132°2	189°4	- 8°9	0	3		
			0°45'4	113°1	178°3	- 7°1	0	2		
			0°90'1	112°7	142°0	- 18°6			131	
			0°94'2	80°5	132°6	+ 10°2			107	
July 6				(- 0°7)	(203°1)	(+ 3°5)	(32)	(275)	(681)	
187°309	FS, AS		0°95'7	268°0	265°0	- 0°9			215	
			0°96'1	250°8	263°9	- 17°3			300	
			0°92'4	238°9	254°5	- 26°8			150	
			0°86'8	224°0	240°4	- 36°2			211	
			0°75'6	239°5	235°9	- 20°0			128	
		6211	0°10'6	262°2	198°2	+ 2°8	30	141		
		6211	0°08'7	272°7	197°2	+ 3°9	0	8		
		6211	0°07'7	260°9	196°5	+ 2°9	3	14		
		6211	0°06'2	275°9	195°7	+ 4°0	0	12		
		6211	0°03'7	260°5	194°3	+ 3°3	5	19		
M.		6211	0°01'5	250°2	193°0	+ 3°3	0	9		
		6211	0°01'0	39°9	191°8	+ 4°1	14	53		
		6211	0°02'1	152°5	191°6	+ 2°5	0	7		
		6211	0°02'6	114°3	190°8	+ 3°0	8	50		
		6211	0°04'3	52°3	190°3	+ 5°1	5	28		
			0°75'0	109°6	146°1	- 12°0			87	
			0°81'7	117°7	142°0	- 20°0			191	
			0°77'6	78°8	141°6	+ 11°0			91	
			0°89'9	106°1	130°1	- 12°7			95	
			0°95'1	113°9	123°4	- 21°4			336	
			0°93'8	80°5	122°4	+ 10°2			241	
July 7				(- 0°3)	(192°2)	(+ 3°6)	(65)	(341)	(2045)	
1907. 188°115	CL, AS		0°94'3	251°3	249°8	- 16°2				91
			0°92'0	233°2	241°3	- 31°6				60
			0°85'2	226°3	229°1	- 33°5				85
		6211	0°30'2	264°8	199°0	+ 2°0	15	97		
		6211	0°28'1	273°6	197°9	+ 4°6	0	8		
		6211	0°27'2	260°5	197°1	+ 1°0	0	4		
K.		6211	0°24'7	268°7	195°9	+ 3°3	7	28		
		6211	0°27'6	302°9	195°3	+ 12°2	1	10		
		6211	0°17'4	271°6	191°6	+ 4°0	37	207		
			0°87'6	77°1	120°6	+ 13°1				229
			0°91'3	114°6	119°3	- 20°6				373
			0°95'1	124°2	115°3	- 30°9				76
July 8				(+ 0°1)	(181°6)	(+ 3°7)	(60)	(354)	(914)	
189°285	FS, CL		0°91'7	251°3	230°2	- 15°4				118
			0°84'4	286°1	223°2	+ 15°6				137
			0°89'7	224°5	218°3	- 37°4				213
			0°78'2	244°8	213°6	- 16°9				118
		6211	0°55'9	268°2	199°9	+ 2°2	22	124		
		6211	0°54'2	268°2	198°8	+ 2°3	0	3		
		6211	0°50'1	272°4	196°1	+ 4°5	5	18		
		6211	0°49'9	270°5	196°0	+ 3°5	0	6		
		6211	0°47'1	270°9	194°1	+ 3°8	11	60		
		6211	0°45'1	270°0	192°8	+ 3°4	0	6		
		6211	0°44'9	272°7	192°7	+ 4°6	2	20		
M.		6211	0°43'7	274°5	191°9	+ 5°4	6	31		
		6211	0°43'2	269°3	191°6	+ 3°2	13	40		
		6211	0°41'9	276°7	190°7	+ 6°3	10	28		
		6211	0°40'9	271°5	190°2	+ 4°2	1	10		
		6211	0°39'1	276°9	189°0	+ 6°2	0	9		
		6211	0°36'8	273°6	187°6	+ 4°9	0	11		
		6211	0°33'3	274°1	185°5	+ 5°0	0	5		
		6214	0°72'6	77°9	119°9	+ 11°4	0	4		1928 <sup>f</sup>
			0°69'7	129°0	130°3	- 22°8				102
			0°86'9	130°0	114°8	- 31°6				180
			0°84'1	118°0	113°6	- 20°9				205
July 9				(+ 0°6)	(166°1)	(+ 3°8)	(70)	(375)	(1265)	
190°483	FS, M		0°93'4	282°6	219°4	+ 13°2				100
			0°93'5	226°0	209°3	- 38°5				152
		6211	0°77'1	269°2	200°5	+ 1°9	18	131		
		6211	0°76'2	270°5	199°7	+ 2°9	0	5		
G.		6211	0°72'7	271°2	190°7	+ 3°6	7	58		
		6211	0°72'1	269°4	196°2	+ 2°3	0	9		
		6211	0°70'3	271°0	194°8	+ 3°5	0	27		
		6211	0°65'9	272°2	191°4	+ 4°4	6	43		

Group 6214, July 9-17. See small unstable spots. The group is not seen on July 10 or 14.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1907. 190483 G. July 10	FS, M	6211	0.611 0.916 0.960	271.5 78.8 107.7 (+1.1)	187.8 83.8 78.6 (150.2)	+4.0 +11.9 -15.8 (+3.9)	1 (32)	9 (282)	135 383 (770)	1907. 194248 AS, CL			0.896 0.889 0.811 0.720 0.699 0.637 0.655 0.686 0.678 0.691 0.712 0.745 0.749 0.761 0.772 0.796 0.801 0.829 0.637 0.787 0.915	279.8 259.7 249.0 277.7 278.2 277.9 126.5 127.8 124.1 121.0 122.5 101.4 96.5 98.2 100.8 99.4 96.8 100.3 112.8 120.5 104.9 (+2.8)	164.1 162.0 151.6 146.4 144.6 139.9 66.6 65.0 64.1 62.2 61.1 53.4 52.5 51.6 51.0 48.6 47.8 45.5 63.8 54.2 36.1 (100.4)	+10.7 -7.1 -14.2 +8.5 +8.8 +8.4 -19.3 -21.3 -18.9 -17.5 -19.1 -5.5 -2.0 -3.4 -5.5 -4.8 -2.8 -6.0 -10.8 -20.6 -11.7 (+4.3)	11 0 11 1 0 82 0 0 81 2 0 5 13 5 13 2 26 (234)	76 6 53 17 6 449 16 4 471 13 12 57 78 30 320 (1608)	106 143 117 114c 122c 344c 82 120 137 (1285)
191425 G. July 11	FS, CL	6211 6211 6211 6213 6214 6215a 6216a	0.857 0.896 0.867 0.840 0.807 0.080 0.296 0.966 0.997	282.9 271.0 271.7 272.1 273.3 318.1 57.2 110.1 95.0 (+1.6)	196.5 201.2 197.7 194.8 191.5 140.8 123.0 65.1 52.7 (137.7)	+13.1 +2.7 +3.5 +4.0 +5.0 +7.4 +13.1 -18.3 -4.7 (+4.0)	16 29 0 4 1 0 9 46 0 (96)	173 175 16 21 18 9 485 398 (1295)	82 347f 97op (1399)	M.									
192440 G. July 12	FS, M	6211 6211 6213 6213 6214 6214 6214 6217 6215a 6216a 6216	0.957 0.874 0.982 0.961 0.336 0.286 0.265 0.149 0.155 0.196 0.837 0.892 0.952 0.984 0.763	285.8 259.3 272.1 272.5 282.0 282.2 284.3 21.2 31.1 37.2 109.8 113.4 96.4 96.8 115.7 (+2.0)	197.7 184.0 203.4 198.3 143.6 140.6 139.2 121.2 119.6 117.3 70.2 64.7 52.9 45.4 78.7 (124.3)	+16.3 -7.3 +2.9 +3.6 +7.8 +7.4 +7.7 +12.1 +11.7 +13.0 -14.1 -18.7 -4.8 -5.9 -16.5 (+4.1)	6 47 15 1 0 0 0 0 0 0 25 80 78 33 (260)	231 277 61 5 32 3 3 4 25 477 580 404 233 (2102)	103 124 449f 854 557c 233 (2320)	July 14	195106 FS, AS			0.936 0.881 0.848 0.773 0.671 0.676 0.843 0.770 0.563 0.530 0.522 0.432 0.455 0.464 0.557 0.590 0.567 0.564 0.579 0.582 0.599 0.610 0.615 0.626 0.638 0.669	279.1 254.7 241.5 249.3 262.8 241.5 276.5 276.4 286.2 286.1 288.6 131.4 132.4 128.0 133.7 134.0 130.0 108.0 100.1 102.1 104.9 99.4 97.2 101.3 106.0 103.9	158.5 148.6 141.9 136.7 130.6 126.9 146.5 139.3 122.5 120.3 119.4 69.7 68.9 67.1 64.0 62.2 62.0 56.5 54.4 54.4 53.6 52.1 51.5 51.2 51.0 48.4	+10.0 -11.2 -21.2 -12.9 -1.6 -15.3 +7.9 +7.7 +12.7 +12.2 +13.4 -12.4 -13.7 -12.5 -18.6 -20.2 -17.4 - 		

Group 6213, July 11-15. A few small spots gradually developing into a pair of clusters.

Group 6215, July 11-22. Return of Group 6205. A very large well-defined regular spot,  $\alpha$ , with occasionally some very small spots.

Group 6215, July 11-22. Return of Group 6205. A very large well-defined regular spot,  $\alpha$ , with occasionally some very small spots.  
Group 6216, July 12-24. A very large composite spot,  $\alpha$ , followed by a very fine irregular train of spots undergoing continual change.

Group 6217, July 12-15. Some very small spots. The group is not seen on July 13 and 14.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 195°106	FS, AS	6216	0°663	98°3	48°1	— 2°1	3	41	
		6216	0°674	100°9	47°6	— 4°0	0	4	
		6216	0°697	101°4	45°9	— 4°7	25	149	
		6216	0°711	103°6	45°1	— 6°5	14	89	
			0°557	118°5	59°1	— 11°6			102
			0°814	125°7	42°2	— 25°3			109
			0°794	106°9	38°6	— 10°5			95
			0°785	97°2	37°9	— 2°9			111
			0°936	135°0	30°5	— 39°2			178
			0°900	115°8	29°0	— 20°9			168
			0°899	104°9	26°8	— 11°3			72
			0°898	87°6	25°1	+ 4°1			83
			0°938	76°4	19°1	+ 14°3			166
			(+ 3°2)	(89°0)	(+ 4°4)	(269)	(1731)	(2295)	
K.									
July 15									
196°661	FS, M		0°949	277°3	140°3	+ 8°4			360
			0°894	245°3	127°9	— 19°7			227
			0°785	234°5	112°6	— 23°8			136
		6214	0°800	281°8	121°5	+ 12°1	4	16	186c
		6215a	0°409	168°6	63°6	— 19°0	75	416	
		6215	0°380	165°5	63°1	— 17°0	1	21	
		6216	0°261	119°2	55°4	— 2°9	3	16	
		6216a	0°300	126°5	54°5	— 5°9	93	489	
		6216	0°350	117°6	50°4	— 5°0	13	400	
		6216	0°404	119°3	47°8	— 7°1	10	56	
		6216	0°378	110°1	47°8	— 3°2	5	35	
		6216	0°398	113°6	47°1	— 5°0	9	39	
		6216	0°434	117°1	45°7	— 7°2	21	188	
			0°889	72°7	5°9	+ 17°4			235
			(+ 3°8)	(68°5)	(+ 4°5)	(234)	(1676)	(1144)	
July 16									
197°218	FS, CL		0°982	278°0	140°6	+ 8°8			177
			0°883	256°1	121°4	— 10°0			146
			0°897	245°5	120°9	— 19°5			231
			0°859	233°3	112°3	— 28°1			195
		6214	0°874	282°1	122°1	+ 12°8	0	15	242c
		6215a	0°403	186°9	64°0	— 18°9	69	392	
		6215	0°368	185°4	63°2	— 16°8	0	20	
		6216	0°156	149°5	56°6	— 3°1	0	4	
		6216	0°156	141°0	55°5	— 2°4	0	9	
		6216a	0°206	150°0	55°2	— 5°7	64	512	
		6216	0°247	151°1	54°2	— 7°9	0	7	
		6216	0°237	140°4	52°4	— 5°9	7	57	
		6216	0°219	134°0	52°1	— 4°2	12	108	
		6216	0°258	131°2	49°9	— 5°2	20	159	
		6216	0°242	125°8	49°8	— 3°6	8	75	
		6216	0°248	119°8	48°7	— 2°5	5	27	
		6216	0°285	124°2	47°5	— 4°7	11	57	
1907. 197°218	FS, CL	6216	0°319	128°7	46°6	— 7°0			
			0°876	74°1	0°0	+ 16°2			
			0°846	87°8	3°4	+ 4°3			207
			0°917	105°9	35°6	— 12°6			218
			(+ 4°2)	(61°1)	(+ 4°6)	(247)	(1732)	(1587)	
M.									
July 17									
198°690	FS, AS		0°961	282°6	116°0	+ 13°4			215
			0°941	242°1	107°1	— 24°2			212
			0°690	243°0	80°9	— 14°6			92
		6215a	0°527	220°8	62°9	— 19°0	68	391	
		6216a	0°300	232°8	55°4	— 5°9	63	447	
		6216	0°254	225°9	52°1	— 5°5	3	55	
		6216	0°193	222°0	49°0	— 3°6	0	11	
		6216	0°194	220°1	48°8	— 3°9	5	137	
		6216	0°200	212°5	47°8	— 5°0	12	49	
		6216	0°224	205°5	47°2	— 7°0	17	164	
		6216	0°249	202°0	47°0	— 8°6	0	7	
			0°902	114°4	341°1	— 19°6			409
			0°911	100°3	337°2	— 7°4			116
			0°936	65°8	332°3	+ 24°3			136
			0°940	76°6	331°3	+ 14°2			254
			(+ 4°7)	(41°6)	(+ 4°7)	(168)	(1261)	(1434)	
July 18									
199°245	FS, AS		0°848	271°4	92°2	+ 3°7			109
			0°830	232°0	81°6	— 27°5			85
			0°745	245°3	78°5	— 14°7			126
			0°601	230°1	63°3	— 18°5			66c
		6215a	0°407	245°9	56°1	— 5°2	67	366	
		6216a	0°377	251°6	55°2	— 2°4	104	450	
		6216	0°384	242°5	54°2	— 5°8	0	4	
		6216	0°374	241°6	53°5	— 5°8	0	3	
		6216	0°383	237°4	53°2	— 7°4	0	3	
		6216	0°355	242°9	52°7	— 4°8	0	15	
		6216	0°324	244°4	51°2	— 3°5	0	8	
		6216	0°366	232°2	51°2	— 8°5	0	4	
		6216	0°315	239°9	50°1	— 4°6	7	50	
		6216	0°301	242°6	49°8	— 3°4	0	66	
		6216	0°292	236°5	48°4	— 4°7	18	46	
		6216	0°277	241°1	48°3	— 3°1	0	9	
		6216	0°304	231°2	48°0	— 6°4	17	162	
		6216	0°317	223°9	47°1	— 8°6	1	7	
		6216	0°280	230°9	46°9	— 5°5	0	17	
		6216	0°287	224°5	45°9	— 7°1	2	17	
		6216	0°253	230°7	45°6	— 4°6	0	10	
			0°753	126°7	353°4	— 23°2			64
			0°725	69°6	348°9	+ 18°0			69
			0°852	121°0	341°9	— 23°2			211
			0°852	104°5	337°7	— 9°8			111



## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 199°245	FS, AS		0°896	111°6	334°0	—16°9			165	1907. 201°328	FS, AS		0°748	75°3	318°6	+14°3			191
K.			0°876	77°0	333°1	+13°7			125	M.			0°821	122°0	318°0	—22°5			147
July 19			0°898	66°0	331°1	+23°5			107	July 21			0°909	74°9	301°2	+15°7			107
			0°965	75°0	319°0	+15°7			168				(+6°0)	(6°7)	(+4°9)	(235)	(1295)	(1925)	
200°468	FS, M		0°898	250°1	79°1	—15°4			272	202°490	FS, CL	6215a	0°961	249°0	62°3	—18°6	77	350	276c
			0°794	252°8	68°4	—10°4			168			6216a	0°926	261°4	58°1	—6°0	41	455	335f
		6219	0°875	248°0	75°7	—16°5	0	6				6216	0°918	263°9	57°2	—3°6	0	29	
		6215a	0°767	240°5	62°8	—18°7	66	436	169c			6216	0°858	258°6	49°0	—7°1	2	29	
		6216a	0°643	255°3	56°6	—5°5	110	520				6216	0°833	259°4	46°5	—5°9	0	4	
		6216	0°604	259°8	54°4	—2°2	0	3				6218	0°756	239°2	34°6	—19°1	11	37	
G.		6216	0°599	253°8	53°3	—5°6	2	17				6218	0°735	238°9	32°7	—18°5	0	6	
		6216	0°541	252°4	49°2	—5°2	17	164				6218	0°719	233°7	29°6	—21°2	0	20	
		6216	0°508	254°8	47°4	—3°3	0	6				6220	0°722	106°5	307°1	—8°2	2	12	
		6216	0°515	248°3	46°8	—6°7	4	8				6220	0°747	106°3	305°0	—8°6	0	5	
		6218	0°461	210°0	32°1	—18°7	7	34				6220a	0°762	103°8	303°3	—7°1	23	188	228f
		6218	0°455	203°9	29°3	—19°7	0	26				6220b	0°772	106°0	302°8	—8°9	5	63	
July 20		6220a	0°968	99°3	303°7	—7°7	0	76	252c			6220	0°806	104°0	299°3	—8°2	2	20	
			0°834	117°5	326°5	—19°7			141			6222	0°822	97°1	296°7	—2°9	0	4	77p
			0°877	73°6	316°9	+16°7			268				0°791	71°8	299°6	+17°4			142
				(+5°6)	(18°1)	(+4°9)	(206)	(1296)	(1270)	July 22			0°909	80°9	285°7	+10°4			93
													0°925	88°7	283°7	+3°1			157
201°328	FS, AS		0°901	255°3	69°1	—11°0			266	203°226	CL, AS		0°884	255°8	41°9	—10°0			123
		6219	0°959	251°7	77°7	—15°9	11	48	308c			6216	0°992	251°3	62°0	—17°8	105	282	331f
		6215a	0°870	245°4	63°1	—18°6	55	371				6216	0°979	263°1	59°0	—5°6	28	230	698f
		6215	0°859	248°0	62°5	—16°0	0	2	222c			6216	0°970	265°5	57°0	—3°1	0	21	
		6216	0°800	262°2	59°1	—3°2	0	11				6216	0°969	263°0	56°5	—5°5	23	201	
		6216a	0°789	259°2	57°6	—5°4	103	518	130c			6218	0°844	244°7	34°8	—18°1	12	51	
		6216	0°786	256°7	57°0	—7°3	0	19				6218	0°814	239°5	30°1	—21°0	0	8	235c
		6216	0°705	257°3	50°2	—5°4	9	40				6218	0°796	240°2	28°7	—19°8	0	5	
		6216	0°701	259°4	50°2	—3°9	0	19				6221	0°380	289°7	3°0	+12°1	5	29	
		6216	0°692	255°0	48°8	—6°7	16	36	174c			6221	0°335	289°6	0°3	+11°3	0	7	
		6216	0°677	256°0	47°8	—5°8	2	16				6221	0°324	292°9	359°3	+12°1	3	8	
		6216	0°668	257°9	47°4	—4°3	0	14				6220	0°597	112°4	307°8	—8°9	7	16	
M.		6216	0°674	253°3	47°2	—7°4	0	1				6220	0°635	111°1	304°9	—9°1	0	20	
		6218	0°591	227°5	34°1	—19°1	9	29				6220a	0°650	108°2	303°2	—7°7	26	197	100c
		6218	0°563	226°8	32°2	—18°1	0	10				6220b	0°663	110°2	302°7	—9°2	11	73	
		6218	0°575	222°3	31°0	—20°6	3	13				6220	0°669	108°7	301°9	—8°5	0	6	
		6218	0°537	224°4	29°9	—18°0	0	7				6220	0°699	107°9	299°5	—8°6	4	24	
		6218	0°552	220°3	29°0	—20°3	0	8				6222a	0°672	100°1	300°3	—2°9	3	12	
		6218	0°568	219°9	29°6	—21°3	0	4				6222	0°715	100°1	296°9	—3°6	0	8	101c
		6220	0°896	102°8	304°6	—9°2	0	9				6222	0°713	98°3	296°9	—2°3	2	9	
		6220a	0°907	101°0	302°9	—7°8	27	97	304c				0°752	110°0	295°7	—11°3			131
		6220	0°929	101°3	299°8	—8°6	0	23					0°847	112°7	287°4	—16°1			108
			0°652	62°9	328°4	+21°1			76										

Group 6218, July 20-23. A number of small unstable spots in an irregular stream.

Group 6219, July 20-21. A small spot.

Group 6220, July 20-August 1. A large regular spot, *a*, with a large irregular spot, *b*, close to it on the south. The two gradually merge to form a large composite spot, *c*. A number of small companions accompany the principal spots.

Group 6221, July 23-26. Some small unstable spots. The group is not seen on July 25.

Group 6222, July 23-24. A small spot, *a*, followed by a close pair, *n* of Group 6221. Only *a* remains on July 24.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 203'226 M. July 23	CL, AS		0°910 0°860 0°965	132°0 89°5 111°1	286°5 282°4 269°8	-34°6 +3°1 -18°8	(+6°8) (341°6) (+5°1)	(229) (1207) (2296)	132 179 158		1907. 207'542 FS, AS		0°958 0°862 0°824 0°434 6220c 6220c 6220c 6223 6223 6223 6223a 0°833 0°968	283°3 237°2 245°6 236°6 235°9 231°6 223°6 86°1 84°2 84°6 80°9 77°9 89°5	358°5 337°2 335°8 305°9 303°5 302°6 299°2 253°3 252°1 248°8 201°1 228°0 209°1	+14°3 -24°6 -16°5 -8°8 -7°5 -8°9 -10°0 +6°7 +7°7 +7°5 +9°7 +13°0 +1°9	0 38 5 0 10 0 15 32	0 238 42 13 73 4 101 124	135 136 111
204'247 K. July 24	CL, M	6221 6220 6220 6220c 6220 6222a 6223	0°931 0°904 0°557 0°417 0°469 0°494 0°553 0°481 0°983 0°963	247°9 244°4 283°9 125°0 119°7 116°2 113°0 104°5 84°0 122°6	33°3 28°3 1°5 308°0 303°9 301°6 297°3 300°4 248°3 259°7	-18°4 -20°4 +12°0 -8°9 -8°6 -7°9 -8°0 -2°3 +6°9 -29°4	(+7°2) (328°1) (+5°2)	(46) (472)	183 108 1 12 2 14 43 8 0 10 135 95p 116 (502)		G. July 27		0°909 0°869 0°889 0°873 0°811 6220c 6220 6220 6223 6223 6223 6223 6223 6223a 6225a 0°927 0°978 0°858 0°910 0°922 0°948	257°7 291°5 240°1 246°4 280°9 249°1 245°9 249°4 83°0 90°3 84°8 81°4 86°6 82°0 99°4 93°1 70°7 87°2 59°1	333°4 329°6 326°5 326°4 323°9 303°8 303°2 301°5 257°2 255°2 253°8 250°0 247°8 201°3 192°9 210°9 203°9 202°3 198°2	-8°8 +21°4 -23°3 -17°5 +12°0 -7°8 -9°6 -6°7 +6°9 +5°3 +6°7 +8°1 +6°4 +9°5 -8°0 +0°3 +19°8 +4°7 +31°0	41 5 0 0 0 18 12 2 5 10 11	210 30 18 2 3 119 133 5 72 79	151 194 157 160 175
205'543 G. July 25	FS, CL	6220c 6220 6224 6223* 6223 6223 6223 6223 6223 0°794	0°983 0°794 0°773 0°269 0°290 0°374 0°884 0°845 0°879 0°889 0°893 0°794	248°5 289°7 280°4 148°7 140°5 132°4 126°4 85°3 86°3 83°3 84°8 112°5	27°6 3°0 1°7 302°9 300°3 291°8 257°1 253°2 249°4 248°0 247°6 262°0	-20°0 +18°8 +11°4 -8°0 -7°7 -9°5 -28°5 +6°9 +5°8 +8°4 +7°0 -14°3	(+7°8) (311°0) (+5°3)	(24) (500)	180 94 76 24 286 29 6 13 60 8 5 93 99 (752)		208°670 FS, CL		0°909 0°869 0°889 0°873 0°811 6220c 6220 6220 6223 6223 6223 6223 6223 6223a 6225a 0°927 0°978 0°858 0°910 0°922 0°948	257°7 291°5 240°1 246°4 280°9 249°1 245°9 249°4 83°0 90°3 84°8 81°4 86°6 82°0 99°4 93°1 70°7 87°2 59°1	333°4 329°6 326°5 326°4 323°9 303°8 303°2 301°5 257°2 255°2 253°8 250°0 247°8 201°3 192°9 210°9 203°9 202°3 198°2	-8°8 +21°4 -23°3 -17°5 +12°0 -7°8 -9°6 -6°7 +6°9 +5°3 +6°7 +8°1 +6°4 +9°5 -8°0 +0°3 +19°8 +4°7 +31°0	41 5 0 0 0 18 12 2 5 10 11	210 30 18 2 3 119 133 5 72 79	151 194 157 160 175
206'625 G. July 26	FS, AS	6221 6220c 6220 6223* 6223 6223 6223 6223† 0°897 0°936	0°935 0°861 0°786 0°875 0°247 0°219 0°787 0°703 0°742 0°766 0°805 0°897 0°936	288°3 254°5 236°9 282°2 201°8 191°2 133°8 85°9 84°3 85°4 113°7 124°2 74°8	6°2 353°9 341°5 357°9 301°9 299°0 256°3 251°9 248°6 246°5 246°9 240°2 226°7	+19°0 -10°4 -21°6 +13°3 -7°8 -7°0 -28°9 +6°7 +7°8 +7°0 -15°4 -27°3 +16°2	(+8°2) (296°6) (+5°4)	(71) (583)	202 159 87 155c 41 325 7 15 82 24 123 4 157c 162 271 (1646)		209'527 FS, AS		0°904 0°882 0°921 6220c 6220 6220 6223† 6223† 6223 6223 6223 6223	282°1 291°1 243°3 254°4 251°3 255°1 179°5 173°4 63°2 74°7 102°4 75°3	323°3 320°0 320°6 304°1 303°1 302°3 258°1 256°1 255°9 254°8 254°1 253°0	+13°3 +21°2 -21°9 -7°5 -9°7 -6°6 -13°3 -13°1 +6°8 +6°6 +4°8 +7°0	38 0 0 0 0 0 0 0 0 5 0 0	206 4 3 8 2 31 8 10	189 102 130 83p

Group 6223, July 24-August 4. A number of unstable spots, mostly small, in an irregular stream. The stream undergoes considerable change, diminishing rapidly after July 28, and reviving again later.

Group 6224, July 25. A small spot.

Group 6223\*, July 25-26. A small spot forming on the same meridian as Group 6223, but in the southern hemisphere.

Group 6223†, July 26. A very small spot forming on the same meridian as Group 6223, but in the southern hemisphere.

Group 6225, July 27-August 5. A double spot, *a*, with a very small companion on July 30 and 31.

Group 6226, July 28-August 18. A regular spot, *a*, frequently with one or two companions.

Group 6223‡, July 29-30. Some small spots forming on the same meridian as Group 6223, but in the southern hemisphere.





Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1907. 220°24'1	FS, CL	6231	0°434	278°2	142°3	+ 9°2	2	23		1907. 224°314	FS, CL	6231	0°978	276°6	141°1	+ 7°8	0	69	443c
M.		6231	0°422	272°0	141°6	+ 6°6	0	10				6235a	0°545	295°1	94°0	+19°0	6	21	
		6231	0°414	275°3	141°1	+ 8°0	6	24				6235	0°506	299°2	90°6	+20°1	2	9	
		6232a	0°559	127°1	89°3	-14°1	15	138				6235b	0°485	298°2	89°5	+19°2	2	13	
		6232	0°581	125°4	87°5	-14°1	0	5				6233a	0°443	168°6	57°4	-19°1	34	161	
		6233a	0°896	115°8	57°8	-19°8	28	190	148c			6233	0°457	165°4	55°7	-19°6	0	8	
			0°693	117°0	77°3	-13°5			131		M.	6234	0°588	75°4	27°0	+13°9	0	6	
Aug. 9			0°804	104°9	65°1	- 8°0			255			6234a	0°593	73°1	26°8	+15°3	31	185	87f
			0°923	99°9	50°6	- 6°6			393			6234	0°616	75°0	25°0	+14°4	0	7	
			(+13°7)	(116°6)	(+6°3)	(136)	(790)	(1302)				6234	0°652	73°5	22°4	+15°7	0	3	
													0°660	128°6	29°8	-18°7			118
													0°776	71°2	12°0	+18°7			107
													(+15°1)	(62°7)	(+6°6)	(75)	(653)	(1134)	
221°47'0	FS, M		0°895	256°7	161°9	- 8°9			107	Aug. 13									
G.		6231a	0°724	276°0	146°9	+ 8°8	38	307	273c			6235a	0°740	288°6	94°9	+18°2	4	19	80c
		6231b	0°658	273°9	141°6	+ 7°4	12	158				6235b	0°675	290°7	89°1	+18°7	5	20	
		6231	0°656	276°2	141°4	+ 8°9	3	10		225°47'1	FS, CL	6232	0°709	243°6	88°1	-13°4	0	5	126p
		6232a	0°391	152°1	89°5	-13°8	10	46				6233*	0°436	237°2	69°1	- 7°5	0	12	
		6233a	0°757	122°4	57°9	-19°2	18	174	188c			6233	0°438	231°3	67°7	- 9°7	0	8	
		6233	0°795	122°1	54°5	-20°6	0	11				6233a	0°457	198°7	56°4	-19°0	22	155	
Aug. 10		6234a	0°954	76°2	26°9	+15°1	30	194	330c			6233	0°454	192°0	53°2	-19°7	1	6	
			0°781	103°0	50°6	- 6°0			363			6234	0°338	62°7	29°5	+15°1	0	3	
			0°938	115°9	35°3	-21°6			274		G.	6234a	0°367	64°6	27°5	+15°3	18	150	
			(+14°1)	(100°3)	(+6°4)	(111)	(900)	(1535)				6236a	0°954	116°1	339°8	-22°4	36	253	
												6236	0°981	114°9	332°8	-22°8	0	59	575c
												6236	0°980	113°3	332°8	-21°2	0	85	
222°39'1	FS, AS	6231a	0°858	276°0	147°5	+ 8°5	15	214	297c			6236b	0°994	117°1	328°0	-25°9	74	369	
G.		6231	0°838	275°3	145°3	+ 8°0	0	9					0°880	111°2	349°5	-15°1			169
		6231b	0°799	274°4	141°3	+ 7°4	18	101				0°927	70°7	338°8	+20°4	(160)	(1144)	(1093)	
		6232a	0°349	183°6	89°4	-13°8	12	37			Aug. 14								
		6232	0°378	176°0	86°5	-15°6	0	7				0°801	249°6	83°5	-12°0			440	
		6233a	0°638	130°5	57°4	-18°9	28	176	78c			0°799	241°3	80°9	-18°0			169	
		6234a	0°874	75°9	26°8	+15°4	33	160	254c			6235a	0°877	287°1	95°3	+18°2	4	14	208c
Aug. 11		6234	0°880	78°0	26°0	+13°6	0	5				6235b	0°828	287°9	89°6	+18°6	4	21	
			0°701	111°7	46°8	-10°2			176			6237	0°575	235°9	62°7	-12°9	0	2	
			0°855	117°3	34°7	-19°3			173			6237	0°523	232°1	58°5	-12°6	3	13	
			(+14°5)	(88°1)	(+6°5)	(106)	(709)	(978)				6233a	0°558	220°1	55°9	-19°0	17	120	
												6234	0°185	34°1	27°5	+15°4	18	119	
												6234	0°207	38°9	25°9	+15°9	0	4	
223°234	M	6231a	0°939	276°4	147°3	+ 8°2	0	121	389c			6234	0°192	44°5	25°6	+14°5	0	5	
K.		6231b	0°896	274°4	140°9	+ 6°9	12	71					6234	0°239	43°5	23°8	+16°5	0	4
		6232a	0°407	211°9	89°7	-13°8	0	11				6236a	0°879	120°8	338°7	-23°0	32	336	818c
		6233a	0°539	143°1	57°0	-19°3	31	156				6236	0°919	117°8	332°3	-22°3	20	105	
		6234a	0°771	76°0	26°5	+14°9	33	148				6236b	0°956	120°2	326°7	-26°2	32	286	
			(+14°7)	(77°0)	(+6°5)	(76)	(507)	(389)				6238a	0°997	98°5	309°5	- 7°8	0	146	245p
													0°861	76°3	333°7	+15°2	(130)	(1175)	(2056)
224°314	FS, CL		0°875	285°7	124°2	+16°9			145	Aug. 15									
M.			0°895	240°9	120°2	-22°3			117										
			0°830	266°8	118°5	+ 1°1			117										
		6231	0°985	278°5	143°4	+ 9°5	0	171											

Group 6234, August 10-22. A large regular spot, *a*, usually with some small companions.

Group 6234, August 10-22. A large regular spot, *a*, usually with some small companions.  
August 12. The photograph on this day was taken through cloud and is very badly defined. The measures are only approximate.

Group 6235, August 13-16. A pair of small spots, *a* and *b*. A small companion lies between them on August 13.

Group 6233\*, August 14. Some small spots, *np* Group 6233.

Group 6236, August 14. Some small spots,  $np$  Group 6233. The leader,  $a$ , is a large composite spot. A number of small spots are rather loosely scattered,  $n$  and  $f$  of  $a$ , whilst the rear of the group is made up of a compact cluster of spots, of which  $b$  is the largest.  $b$  has broken up by August 22.

Group 6237, August 15-18. Some small unstable spots, *n* Group 6233.

Group 6238. August 15-26. Return of Group 6220. A large regular spot,  $\alpha$ , usually with one or two very small companions.









## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC.		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC.		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).		
1907. 244°40'9	FS, M		0°84'0	284°5	214°8	+16°0			98	1907. 245°64'3	FS, AS		0°84'1	112°1	87°6	-14°2			263
			0°80'2	269°3	210°5	+3°7			317	G.			0°93'9	101°2	72°7	-7°9			806
			0°78'3	250°9	205°7	-10°1			133	Sept. 3			(+21°6)	(140°9)	(+7°2)	(156)	(1155)	(2524)	
		6244	0°98'2	249°3	232°9	-18°7	6	34	359 <sup>n</sup>										
		6241a	0°03'3	253°9	159°0	+6°7	30	159											
		6241	0°04'9	181°8	157°3	+4°4	0	7											
		6241b	0°01'7	114°5	156°3	+6°8	31	214											
		6241	0°04'9	75°5	154°5	+7°9	7	57											
		6241d	0°10'9	71°3	151°2	+9°2	21	120											
		6241c	0°10'4	81°3	147°8	+8°5	55	283											
		6243a	0°56'2	135°7	133°1	-17°1	9	38											
		6243	0°58'8	133°0	130°6	-17°1	0	4											
		6243	0°61'9	134°4	129°4	-19°2	4	20											
		6243	0°60'9	131°8	128°9	-17°5	6	30											
		6245	0°92'8	87°0	88°9	+5°5	25	199											
		6245	0°93'3	85°4	87°9	+6°9	11	79	398 <sup>nf</sup>										
			0°93'2	108°6	91°6	-14°4		195											
			(+21°3)	(157°2)	(+7°2)	(205)	(1244)	(1500)											

Group 6245, September 2-13. A number of spots, mostly unstable, in a short irregular stream, undergoing several changes. The group consists chiefly of the leader,  $a$ , a small stable spot, and  $b$ , a large composite spot undergoing disintegration.

Group 6248, September 5-9. A small spot,  $nf$  Group 6243.

Group 6248\*, September 5. A small spot,  $np$  Group 6248.

Group 6246, September 5-11. Return of Group 6237. A small spot,  $a$ , with occasionally some small unstable spots preceding it.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 247'462 G.	FS, CL		0°890 0°943 0°932	85°7 116°9 69°4	53°7 51°6 47°2	+7°1 -22°4 +21°8			168 177 146
Sept. 5			(+22°0)	(116°9)	(+7°2)		(123)	(1128)	(2031)
248°593	FS, M		0°949 0°898 0°825	256°4 247°1 271°7	171°3 161°5 157°6	-10°4 -16°9 +5°5			131 147
		6241a	0°751	275°5	150°9	+8°9	5	34	108c
		6241	0°714	275°6	147°7	+9°1	7	62	
		6241c	0°715	273°3	147°7	+7°4	29	215	304c
		6243a	0°642	234°0	134°5	-16°1	13	71	
		6243	0°633	230°9	132°8	-17°4	5	10	547c
		6243	0°630	228°3	131°5	-18°4	6	17	
		6248	0°448	224°9	120°7	-11°7	5	12	121
		6245a	0°166	94°8	92°4	+6°3	4	25	
		6245b	0°214	89°5	89°5	+7°1	15	95	464
		6246	0°738	115°0	58°7	-12°9	0	7	
		6246a	0°770	113°5	55°6	-13°0	0	12	122
		6247a	0°929	102°3	35°5	-8°6	25	111	
		6252a	0°958	101°5	30°3	-8°8	16	122	
			0°843	123°1	52°1	-22°8			
			0°940	76°3	30°9	+15°3			
Sept. 6			(+22°3)	(101°9)	(+7°2)		(151)	(1032)	(1822)
249°228	CL, AS		0°933 0°699	279°8 232°0	168°1 129°3	+17°7 -19°7			215 109
		6241a	0°911	272°7	159°4	+5°5	13	60	389s
		6241	0°906	273°8	158°8	+6°5	2	30	
		6241	0°901	271°8	158°0	+4°8	4	20	504c
		6241b	0°891	273°3	156°8	+6°2	15	118	
		6241	0°856	277°4	152°9	+10°0	0	7	127
		6241	0°821	276°5	149°2	+9°5	3	15	
		6241c	0°810	274°3	148°0	+7°7	35	222	6
		6243	0°736	240°5	135°2	-15°9	32	127	
		6243	0°726	237°6	133°4	-17°4	0	6	7
		6243	0°720	235°3	132°1	-18°6	0	7	
		6248	0°547	234°8	120°7	-12°0	3	12	25
		6245a	0°026	134°9	92°5	+6°2	5	25	
		6245	0°037	111°7	91°6	+6°4	0	4	16
		6245	0°053	74°0	90°7	+8°0	0	16	
		6245	0°066	125°2	90°5	+5°0	0	8	5
		6245	0°064	63°7	90°3	+8°8	0	5	
		6245b	0°061	100°6	90°2	+6°6	15	101	12
		6245	0°104	90°2	87°6	+7°2	2	12	
		6254a	0°453	128°9	72°7	-9°8	0	9	7
		6246	0°644	121°4	59°3	-13°7	0	7	
		6246a	0°680	119°1	56°1	-13°6	0	3	67c
1907. 249°228	CL, AS		0°861 0°864 0°878 0°880 0°892 0°912 0°901 0°925 0°787	105°0 103°0 106°7 104°3 104°1 103°5 76°5 75°5 122°2	36°4 35°7 34°9 34°1 32°6 29°9 28°6 25°1 48°7	-9°1 -7°4 -11°0 -8°9 -9°1 -9°2 +15°3 +16°1 -19°7			26 0 2 0 3 38 5 0 0
Sept. 7	M.		(+22°4)	(93°6)	(+7°2)		(203)	(1240)	(2202)
250°551	FS, AS		0°830 0°993 0°986 0°944 0°943 0°890 0°733 0°305 0°257 0°233 0°229 0°425 0°392 0°361 0°291 0°469 0°663 0°736 0°756 0°712 0°774 0°969	240°4 274°1 274°6 274°8 276°7 248°0 246°2 269°2 269°4 266°3 274°8 214°0 332°1 332°6 173°3 136°2 110°7 107°3 108°5 75°8 73°9 82°2	126°0 159°6 156°8 147°2 147°2 135°0 119°2 93°9 91°0 89°6 89°4 90°2 88°0 86°7 74°1 56°7 37°5 31°1 29°7 30°6 25°3 359°8	-19°7 +4°9 +5°7 +6°9 +8°7 -15°8 -12°0 +6°6 +6°8 +6°2 +8°1 -13°6 +27°2 +25°7 -9°6 -13°0 -8°0 -7°5 -8°9 +15°1 +17°0 +9°3			0 0 16 0 14 0 0 0 11 0 0 0 0 0 0 0 19 14 9 0 0
Sept. 8	G.		(+22°7)	(76°1)	(+7°2)		(83)	(1252)	(1594)
251°603	FS, M		0°924 0°815 0°968 0°862 0°531 0°481 0°595 0°563 0°525 0°523 0°492 0°355 0°355	284°8 233°6 251°4 252°0 271°1 270°9 234°4 231°6 307°5 312°4 312°3 215°6 176°0	130°5 107°9 134°5 118°8 94°4 91°0 92°0 89°1 89°4 87°8 86°0 74°2 60°7	+16°4 -24°0 -15°9 -11°6 +6°7 +6°7 -14°0 -14°0 +25°0 +27°1 +25°9 -9°7 -13°5			19 5 4 16 0 0 5 2 16 0 2 0
	G.								399 133 222f 97p

Group 6247, September 6-16. A large regular spot, *a*, frequently with some small companions.

Group 6252, September 6-18. A very variable group, *f* Group 6247. At first it consists of a large composite spot, *a*, with some small companions. The group diminishes from day to day until September 12, when a great cluster of spots suddenly appears. The cluster gradually lengthens out to form a fine irregular stream, with three principal composite spots, *b*, *c*, and *d*.

Group 6249, September 7-15. A compact cluster of small spots.

Group 6254, September 7-12. A small variable spot, *a*, with a very small companion on September 10. *a* has disappeared by September 12, but a small spot is seen on that day at some distance from its place.

Group 6251, September 8-14. A straight stream of normal type, suddenly forming a little West of the centre of the disc. The first and last spots, *a* and *b*, are soon left alone. The rear spot, *b*, is a large regular spot, and the chief member of the group.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group and Letter for Spot	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.				
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).					
1907. 251.603	FS, M	6246a	0.355	165.0	56.8	-12.8	4	28		1907. 253.654	FS, AS	6252	0.242	163.8	31.2	-6.2	0	4					
G.		6247a	0.477	121.2	38.0	-7.7	27	203				6252a	0.295	166.2	31.0	-9.4	5	30					
		6247	0.526	121.1	35.2	-9.3	0	2				6252	0.263	149.5	27.4	-5.9	0	5					
		6252	0.559	117.8	32.3	-8.9	0	9				6252	0.270	139.5	25.0	-4.7	0	16					
		6252a	0.589	115.5	29.8	-8.6	11	79				6252	0.310	142.4	24.2	-7.1	0	5					
		6249	0.527	72.1	31.0	+15.5	6	34				6253*	0.401	82.1	11.4	+9.8	0	12					
		6253a	0.857	83.6	2.8	+9.2	5	24	} 196c			6253a	0.507	84.6	4.5	+8.9	0	15					
		6253b	0.879	82.9	0.2	+9.7	5	19				6255a	0.956	117.8	327.6	-23.9	18	135					
Sept. 9			(+23.0)	(62.2)	(+7.2)	(127)	(762)	(1047)				6256a	0.996	83.9	309.7	+6.7	0	360	495p				
252.464	FS, AS		0.939	280.3	121.4	+12.1		153		G.			0.930	87.0	326.5	+5.5			175				
			0.929	252.7	116.2	-13.1		285				0.965	98.0	321.5	-5.8			156					
			0.889	239.8	107.0	-22.7		161			Sept. 11			0.980	106.5	319.2	-14.5			233			
												(+23.4)	(35.1)	(+7.2)	(102)	(1258)	(1875)						
			6245a	0.693	272.4	94.8	+6.9	0	10		} 77c	254.517	FS, CL		0.905	287.0	89.3	+18.4			131		
			6245b	0.655	272.1	91.9	+6.9	10	71							0.928	252.1	88.9	-13.7			173	
			6250	0.721	242.2	91.8	-14.3	0	7		} 119np					0.909	239.9	82.6	-23.5			99	
			6250	0.694	241.2	89.4	-13.9	0	11							6245	0.937	274.4	93.6	+6.6	17	114	402f
			6251a	0.656	300.3	89.3	+25.0	11	58						6251a	0.922	294.0	91.6	+24.9	0	55	} 183c	
			6251	0.646	305.8	87.1	+28.1	0	6						6251b	0.870	296.1	84.0	+26.2	17	148		
			6251b	0.612	304.3	84.9	+26.1	15	167						6254	0.779	252.1	72.2	-9.1	0	15	211p	
			6254a	0.497	235.5	75.3	-9.8	3	39						6247a	0.342	223.3	37.3	-7.4	28	227		
			6254	0.471	232.1	72.9	-10.1	0	4						6247	0.311	228.9	37.2	-4.8	4	11		
			6246	0.438	206.0	62.3	-16.0	0	3						6249	0.188	328.6	29.5	+16.3	1	10		
			6246	0.398	206.4	61.2	-13.7	0	5						6252	0.287	202.1	29.9	-8.2	5	16		
			6246a	0.356	195.4	56.3	-12.8	5	26						6252b	0.245	201.2	28.8	-6.0	15	126		
			6247	0.293	133.7	38.6	-4.6	0	5						6252	0.229	192.3	26.5	-5.7	2	16		
			6247a	0.336	138.6	37.9	-7.5	20	152						6252c	0.200	185.9	24.9	-4.2	11	79		
			6247	0.366	138.3	36.6	-8.8	0	7						6252d	0.239	181.6	24.1	-6.6	11	60		
			6247	0.339	133.8	36.6	-6.6	0	11						6257	0.279	153.8	16.6	-7.3	2	9		
			6252	0.423	132.9	32.5	-9.9	0	12						6257	0.257	148.6	16.0	-5.5	4	16		
			6252a	0.441	126.8	30.0	-8.5	11	61						6253a	0.322	83.0	4.9	+9.1	3	12		
			6249	0.366	64.1	30.9	+16.0	8	44						6255	0.889	123.6	328.8	-25.4	15	98	} 547c	
			6249	0.376	68.3	29.7	+14.7	0	5						6255a	0.895	121.2	327.1	-23.8	24	148		
			6253*	0.634	84.6	11.2	+9.0	0	3						6256a	0.966	84.7	308.2	+7.0	45	361	302c	
			6253a	0.728	84.4	3.8	+9.0	0	17		} 183c					0.913	104.5	320.1	-10.0			252	
			6253b	0.783	83.0	358.9	+9.9	0	14								(+23.6)	(23.7)	(+7.2)	(204)	(1521)	(2300)	
			0.908	79.2	344.9	+12.8		161		Sept. 12													
			0.951	111.4	342.6	-17.8		436															
Sept. 10			(+23.1)	(50.8)	(+7.2)	(83)	(738)	(1575)															
253.654	FS, AS		0.870	246.6	91.2	-16.3		251		G.	255.519			FS, AS		0.895	254.8	71.6	-10.2			330	
			0.846	273.3	93.1	+6.6	16	95	286f						0.818	258.5	63.9	-5.1			123		
			6245	0.822	295.6	89.8	+25.1	9	97						0.772	239.2	54.6	-18.1			176		
			6251a	0.822	295.6	89.8	+25.1	9	97			} 166c				6245	0.994	275.3	94.6	+6.0	0	62	349f
			6251b	0.772	298.2	84.2	+26.2	19	169							6251a	0.984	294.3	92.2	+25.1	0	71	} 229c
			6254a	0.712	248.7	77.2	-9.7	0	8			} 113c				6251b	0.950	295.4	83.6	+26.4	15	112	
			6246a	0.487	226.2	56.2	-12.9	0	14							6247	0.508	245.9	38.2	-5.6	0	8	
			6247a	0.258	189.7	37.6	-7.5	26	258						6247a	0.510	241.9	37.4	-7.4	30	231		
			6247	0.224	188.4	37.0	-5.6	0	7						6249	0.360	298.6	29.7	+16.7	0	6		
			6249	0.159	20.7	31.8	+15.7	9	28						6252	0.416	232.8	30.0	-7.8	0	5		

Group 6253, September 9-17. Two small spots, *a* and *b*, of which *b* disappears before September 11.Group 6253\*, September 10-11. A very small spot, *p* Group 6353.Group 6255, September 11-22. A large composite spot, *a*, with several companions round it, making up with it, an irregular cluster.Group 6256, September 11-24. A very large regular spot, *a*, with occasionally some very small companions.

Group 6257, September 12. A cluster of small spots.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 255°519	FS, AS	6252b	0°393	237°1	29°8	— 5°5	21	209		
		6252	0°365	235°0	27°9	— 5°2	0	23		
		6252	0°364	228°0	26°2	— 7°1	5	23		
		6252	0°326	235°5	26°0	— 3°6	2	14		
		6252c	0°298	231°4	23°9	— 3°7	21	113		
		6252d	0°323	223°5	23°4	— 6°5	33	322		
		6253a	0°097	71°3	5°2	+ 9°0	2	8		
		6255	0°787	130°3	329°1	— 25°2	7	55		
		6255	0°779	128°4	328°9	— 23°6	6	34		451c
		6255a	0°794	127°3	327°1	— 23°5	15	160		
		6256a	0°881	86°1	308°4	+ 6°9	60	479		432f
		6256	0°896	83°7	306°4	+ 8°8	0	44		
			0°816	108°0	318°6	— 10°2				224
			0°942	109°7	303°5	— 15°8				226
Sept. 13				(+23°8)	(10°5)	(+7°2)	(217)	(1979)		(2540)
256°504	FS, M		0°944	243°6	63°1	— 22°0		142		
			0°903	261°6	60°9	— 4°4		178		
			0°899	250°9	58°3	— 13°7		281		
			0°856	237°1	48°8	— 23°3		165		
		6251b	0°992	295°5	82°8	+ 26°1	0	99		
		6247a	0°673	250°3	37°1	— 7°5	14	171		
		6249	0°544	289°7	29°7	+ 16°6	0	6		
		6252b	0°574	249°4	30°0	— 5°6	36	233		
		6252	0°535	244°2	26°4	— 7°1	2	10		
		6252	0°515	248°9	26°2	— 4°3	0	5		
		6252c	0°482	249°1	24°2	— 3°5	12	70		
		6252d	0°475	242°9	22°6	— 6°0	57	314		
		6253a	0°146	285°2	5°7	+ 9°3	0	6		
		6255	0°681	139°3	328°3	— 24°8	10	43		130c
		6255a	0°689	136°2	326°2	— 23°7	22	210		
		6256a	0°757	87°5	308°1	+ 6°6	54	506		367f
		6256	0°782	88°7	305°9	+ 5°5	0	25		
			0°828	134°1	314°3	— 30°0		126		
			0°806	112°0	307°6	— 13°0		179		
			0°899	101°7	295°1	— 7°3		134		
			0°959	109°5	287°4	— 16°3		144		
Sept. 14				(+23°9)	(357°5)	(+7°2)	(207)	(1698)		(1846)
257°411	FS, M		0°957	263°7	57°7	— 3°9		291		
			0°951	252°3	54°5	— 14°3		510		
			0°948	242°5	51°5	— 23°2		184		
		6247a	0°809	254°6	37°3	— 8°0	21	181		
		6252b	0°732	255°0	30°6	— 5°8	40	212		
		6252	0°711	255°1	29°0	— 5°4	5	38		
		6252	0°673	254°7	26°0	— 4°8	6	24		570c
		6252	0°648	255°3	24°3	— 3°9	0	25		
		6252c	0°631	253°1	22°6	— 4°8	17	74		
1907. 257°411	FS, M	6252d	0°637	250°2	22°5	— 6°7	28	220		
		6249	0°680	288°0	28°0	+ 17°5	0	2		
		6253a	0°353	278°7	6°1	+ 9°8	2	7		
		6255	0°586	151°8	327°9	— 24°2	5	31		
		6255a	0°593	148°4	325°8	— 23°5	22	206		257c
		6255	0°586	142°0	322°9	— 20°8	4	28		
		6256a	0°603	88°2	308°3	+ 6°9	62	496		
		6256	0°635	85°2	305°9	+ 8°6	0	7		
		6256	0°637	89°4	305°8	+ 6°0	0	7		
			0°906	112°0	284°6	— 16°4				277
			0°951	86°3	273°2	+ 5°8				340
Sept. 15				(+24°1)	(345°5)	(+7°2)	(212)	(1558)		(2429)
258°328	FS, AS		0°854	284°5	32°6	+ 16°2		148		
			0°825	237°1	21°5	— 21°9		91		
		6247a	0°914	258°6	37°8	— 7°4	25	167		
		6252b	0°857	259°5	31°0	— 5°2	38	223		
		6252	0°834	259°8	28°6	— 4°4	0	9		
		6252	0°815	259°5	26°7	— 4°3	4	28		
		6252	0°789	259°9	24°3	— 3°5	0	18		
		6252c	0°783	258°1	23°5	— 4°7	21	104		
		6252d	0°785	255°9	23°2	— 6°4	35	161		
		6253a	0°553	278°1	7°1	+ 10°5	2	7		
		6255	0°501	167°1	326°5	— 22°0	0	2		
		6255	0°474	165°3	326°1	— 20°0	9	29		
		6255a	0°531	166°9	325°9	— 23°9	38	168		
		6255	0°524	159°1	321°8	— 22°2	6	18		
		6256a	0°423	89°5	308°3	+ 6°8	94	473		
		6256	0°433	82°9	307°7	+ 9°6	0	3		
		6256	0°482	90°2	304°5	+ 6°2	0	3		
			0°827	117°6	283°2	— 18°0				192
			0°868	89°5	273°1	+ 4°0				166
			0°917	105°5	269°4	— 11°1				142
			0°924	78°1	265°1	+ 13°7				121
Sept. 16				(+24°2)	(333°4)	(+7°2)	(272)	(1413)		(1265)
259°626	FS, AS		0°954	285°9	30°0	+ 17°3		165		
			0°809	299°2	9°0	+ 27°7		160		
		6252b	0°967	262°5	30°4	— 5°4	21	235		
		6252c	0°936	262°2	24°6	— 4°7	0	27		
		6252d	0°926	260°4	22°7	— 6°0	37	257		
		6253a	0°771	277°8	7°1	+ 10°6	0	7		
		6255	0°487	201°1	327°0	— 19°8	5	45		
		6255a	0°527	195°1	324°9	— 23°3	22	191		
		6255	0°479	194°8	323°8	— 20°4	0	6		
		6255	0°491	188°6	320°8	— 21°8	4	22		
		6256a	0°135	90°2	308°5	+ 7°1	76	470		

Group 6258, September 17-18. A small spot.

Group 6259, September 17-28. A number of spots in a straight stream. The last spot of the group,  $\alpha$ , is a large regular spot, and the largest and best defined member of it.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 259°626	FS, AS	6258	0°260	73°2	301°7	+11°3	0	16	
		6259	0°948	84°5	244°4	+7°5	15	62	221f
		6260a	0°971	110°0	243°5	-17°4	63	292	396nf
			0°792	113°3	268°0	-13°5			145
Sept. 17				(+24°5)	(316°3)	(+7°2)	(243)	(1630)	(1758)
260°528	FS, AS		0°641	186°7	309°4	-32°4		162	
			0°853	277°7	3°3	+10°3		191	
		6252d	0°981	262°1	22°0	-6°3	0	107	365p
		6255*	0°586	254°0	338°5	-3°5	0	9	
		6255	0°588	219°4	327°7	-20°4	13	63	
		6255	0°566	218°8	326°3	-19°5	0	4	
		6255	0°583	215°3	325°5	-21°7	0	1	
		6255	0°549	217°6	325°0	-19°1	0	6	
		6255a	0°594	212°2	324°4	-23°4	12	156	
		6255	0°549	212°2	322°5	-20°9	3	8	
		6256a	0°071	271°5	308°4	+7°2	48	434	
		6256	0°043	246°2	306°6	+6°1	1	4	
		6258	0°085	28°9	301°9	+11°4	0	2	
		6261*	0°402	71°1	281°3	+14°0	0	6	
		6259	0°861	85°9	244°6	+7°1	9	162	
		6259a	0°895	84°6	240°4	+8°0	8	137	
		6260a	0°909	113°0	243°2	-17°5	51	315	
		6262	0°917	107°9	240°8	-13°3	0	16	
		6263	0°947	107°8	236°0	-14°3	0	22	
		6263a	0°969	106°8	231°3	-14°3	23	166	
Sept. 18				(+24°6)	(304°3)	(+7°1)	(168)	(1618)	(1930)
261°637	FS, M		0°926	278°0	358°1	+10°1		279	
			0°820	237°7	337°6	-21°3		451	
		6255	0°733	233°0	328°3	-20°6	10	47	
		6255a	0°714	226°8	324°1	-23°4	8	123	
		6255	0°685	229°0	323°2	-20°8	0	13	
		6255	0°672	226°3	321°1	-21°5	3	20	
		6256	0°325	272°1	308°7	+7°4	62	419	
		6261a	0°153	64°9	281°6	+10°7	0	11	
		6261	0°202	77°6	278°2	+9°5	0	3	
		6259	0°702	87°4	244°9	+6°9	12	127	
		6259a	0°757	85°5	240°2	+8°1	14	130	
		6260a	0°789	119°0	243°5	-17°7	40	302	
		6262	0°798	113°0	240°8	-13°6	4	35	
		6263a	0°886	110°0	230°8	-14°0	16	139	
			0°903	92°1	225°4	+1°2			873f
			0°978	77°8	210°6	+13°4			597f
Sept. 19				(+24°8)	(289°7)	(+7°1)	(169)	(1369)	(2999)
1907. 262°632	FS, CL		0°924	248°3	340°2	-16°9			
		6255	0°840	240°2	327°4	-20°3			
		6255	0°807	239°4	323°9	-19°5	7	34	
		6255a	0°825	234°9	323°9	-23°6	10	116	
		6255	0°797	235°5	321°5	-21°9	9	90	
		6256	0°537	272°9	309°2	+7°5	67	395	
		6261a	0°113	304°2	282°0	+10°7	0	4	
		6259	0°487	90°0	247°4	+6°2	4	13	
		6259	0°521	88°1	245°1	+7°1	12	79	
		6259	0°549	87°2	243°2	+7°5	0	1	
		6259a	0°587	85°7	240°5	+8°3	15	77	
		6260a	0°651	127°6	244°0	-17°4	42	298	
		6260	0°676	126°2	241°8	-17°7	0	10	
		6262	0°658	118°8	240°5	-12°8	13	75	
		6262	0°700	120°4	238°0	-15°1	0	6	
		6263a	0°771	114°6	230°6	-13°8	22	132	
			0°810	124°2	230°4	-22°2			
			0°828	96°5	221°4	-1°3			
			0°923	107°3	212°1	-13°0			
			0°905	80°5	211°2	+11°6			
Sept. 20				(+24°9)	(276°6)	(+7°1)	(201)	(1367)	(2677)
263°487	FS, M		0°899	288°0	330°0	+19°3			
			0°843	252°2	319°9	-10°9			
			0°839	227°1	310°3	-29°9			
		6255	0°924	244°3	327°8	-20°4	0	37	
		6255	0°897	243°9	323°9	-19°7	0	11	
		6255a	0°897	239°7	322°5	-23°2	21	156	
		6256	0°695	273°6	309°5	+7°6	70	376	
		6261a	0°307	283°0	282°9	+10°7	4	17	
		6261	0°255	282°8	279°9	+10°2	0	7	
		6259	0°347	88°8	244°9	+7°1	6	40	
		6259	0°401	88°9	241°6	+7°0	5	32	
		6259	0°419	84°1	240°5	+8°9	2	8	
		6259a	0°439	86°2	239°2	+8°1	13	75	
		6260a	0°540	139°6	243°8	-17°7	40	297	
		6262	0°529	130°4	240°9	-13°6	4	16	
		6262	0°552	129°1	239°2	-14°0	0	7	
		6263a	0°654	121°0	230°2	-13°8	20	128	
		6264	0°984	105°6	188°1	-13°8	0	35	
			0°738	126°6	226°2	-20°6			
			0°770	99°6	216°0	-2°8			
			0°829	80°4	208°8	+12°0			
			0°870	109°8	208°2	-13°4			
Sept. 21				(+25°0)	(265°3)	(+7°1)	(185)	(1242)	(2785)

Group 6260, September 17-29. A large circular spot, *a*, with occasionally a small companion. *a* is crossed by a bright bridge, and slowly divides to form two separate spots, *b* and *c*.  
 Group 6255\*, September 18. A small spot a good way, *np* Group 6255.  
 Group 6261\*, September 18. A very small spot, *a* of Group 6261.  
 Group 6262, September 18-21. A cluster of small spots.  
 Group 6263, September 18-29. A large regular spot, *a*, with occasionally some small companions.  
 Group 6261, September 19-23. A small spot, *a*, usually with one or two small companions.  
 Group 6264, September 21-23. A small spot.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 264.280	FS, M		0.938	295.9	325.4	+26.7				279
			0.927	266.4	322.2	-0.7				136
			0.932	255.2	321.2	-11.0				112
			0.876	235.5	307.8	-25.6				138
			0.822	250.1	306.8	-12.0				152
		6255	0.977	247.4	328.6	-20.2				52
		6255	0.959	246.9	324.2	-19.8				18
		6255a	0.951	243.3	321.7	-22.7	20	134	449c	134
		6256	0.817	274.8	309.9	+8.0	73	395	304f	395
		6261	0.490	279.6	284.1	+10.8	0	13		13
		6261a	0.474	278.7	283.1	+10.3	0	13		13
		6261	0.458	279.6	282.0	+10.6	0	4		4
		6259	0.159	90.9	245.6	+6.8	0	5		5
		6259	0.175	88.7	244.7	+7.1	5	37		37
		6259	0.192	94.1	243.7	+6.1	23	60		60
		6259	0.211	93.8	242.6	+6.0	0	4		4
		6259	0.229	88.0	241.5	+7.3	5	53		53
		6259	0.235	91.4	241.2	+6.5	0	12		12
		6259	0.249	81.6	240.4	+8.9	0	8		8
		6259	0.255	88.3	240.0	+7.2	0	10		10
		6259a	0.275	86.2	238.8	+7.8	24	113		113
		6259	0.197	74.5	243.7	+9.9	0	4		4
		6260a	0.456	157.1	244.1	-17.8	56	302		302
		6263a	0.541	130.7	229.9	-14.3	29	155	85c	155
		6264	0.952	108.3	185.7	-15.0	0	22	338n	22
			0.673	142.8	228.0	-26.1				110
			0.657	124.7	220.7	-16.2				169
			0.661	85.3	213.2	+8.4				82
			0.793	116.2	207.3	-15.8				143
			0.751	80.2	205.8	+12.0				246
			0.834	74.9	197.9	+16.5				102
			0.947	98.2	184.8	-5.4				174
Sept. 22			(+25.2)	(254.8)	(+7.0)	(235)	(1414)	(3019)		
265.233	AS, CL		0.992	245.4	321.0	-23.2				412
			0.970	236.1	311.0	-30.4				156
			0.894	253.2	302.9	-11.6				159
			0.841	279.6	299.9	+11.9				274
		6256	0.917	275.3	309.1	+7.7	60	334	194f	334
		6261a	0.646	278.4	282.6	+10.7	0	6		6
		6261	0.619	278.4	280.6	+10.7	0	8	49c	8
		6259	0.097	272.3	247.8	+7.2	0	8		8
		6259	0.084	239.7	246.4	+4.6	0	6		6
		6259	0.073	253.0	246.2	+5.8	11	46		46
		6259	0.047	267.4	244.9	+6.9	5	34		34
		6259	0.043	334.3	243.3	+9.2	0	4		4
		6259	0.009	0.1	242.2	+7.5	0	8		8
		6259	0.009	168.2	242.1	+6.5	0	10		10
		6259	0.018	72.0	241.2	+7.3	26	67		67
1907. 265.233	AS, CL		0.034	95.8	240.3	+6.9				0
		6259a	0.058	76.6	239.0	+7.8	33	158		158
		6260a	0.426	185.2	244.5	-18.0	39	211		211
		6262	0.408	173.8	239.6	-16.9	0	4		4
		6263a	0.410	151.1	230.5	-14.1	23	130		130
		6263	0.413	142.7	227.4	-12.4	0	5		5
		6263	0.440	143.8	226.7	-14.0	1	19		19
		6264	0.857	112.0	187.1	-14.8	0	12		12
			0.684	117.0	203.7	-12.6				333n
			0.960	85.3	168.1	+6.5				88
Sept. 23			(+25.3)	(242.2)	(+7.0)	(198)	(1081)	(2188)		523
266.634	FS, AS		0.833	277.5	280.6	+10.2				212
			0.861	250.8	279.2	-12.6				345
		6256	0.998	276.8	310.6	+7.2	69	735	414f	735
		6259	0.407	269.4	247.9	+6.2	8	37		37
		6259	0.381	266.6	246.2	+6.3	0	29		29
		6259	0.343	268.8	243.9	+6.2	0	26		26
		6259	0.328	277.3	243.0	+9.0	0	5		5
		6259	0.318	273.9	242.4	+7.9	3	56		56
		6259	0.301	270.5	241.4	+6.9	4	66		66
		6259a	0.255	275.5	238.6	+8.2	21	154		154
		6260a	0.528	219.0	244.1	-17.6	31	271		271
		6265	0.150	272.4	232.5	+7.3	7	61		61
		6265	0.126	283.9	230.9	+8.7	4	32		32
		6265	0.091	274.3	229.0	+7.4	9	99		99
		6265	0.097	298.2	228.8	+9.6	0	11		11
		6263a	0.377	196.6	230.1	-14.1	14	91		91
		6263	0.356	188.9	227.0	-13.6	0	4		4
			0.728	115.7	181.6	-13.2				120
			0.851	87.1	165.3	+6.2				669
			0.936	80.1	153.7	+11.7				891
Sept. 24			(+25.4)	(223.8)	(+7.0)	(170)	(1677)	(2651)		
267.500	FS, CL		0.911	275.1	278.3	+7.5				354
			0.885	248.3	270.7	-15.6				220
			0.786	274.3	264.4	+7.7				104
			0.864	232.9	262.9	-27.1				157
			0.718	282.0	258.3	+13.4				118
		6259	0.590	270.9	248.5	+6.1	6	41		41
		6259	0.555	271.4	246.1	+6.5	6	55		55
		6259	0.503	274.9	242.6	+8.5	0	35		35
		6259	0.490	271.1	241.7	+6.6	35	96		96
		6259	0.454	271.4	239.4	+6.8	0	8		8
		6259a	0.438	274.4	238.4	+8.1	18	118		118
		6260a	0.641	231.7	244.0	-17.5	23	233		233
		6265a	0.363	272.6	233.7	+7.4	38	269		269
		6265	0.310	277.0	230.4	+8.7	0	9		9
		6265b	0.265	274.9	227.7	+8.0	44	296		296

Group 6265, September 24-30. A fine stream arising suddenly, *f* Group 6259, and rapidly developing until it unites with it to form an unusually long straight stream. The first and last spots of the stream are *a* and *b*, two large composite spots. Both have broken up by September 29.

Group 6266, September 26-October 2. Return of Group 6241. Third apparition. A small faint spot. The group is not seen on September 30.

Group 6267, September 26-October 7. Return of Group 6243. A regular spot, *a*, with a small companion on October 3.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 267°500	FS, CL	6265	0°253	284°2	226°7	+10°2	5	28		
		6263a	0°467	219°1	229°9	-14°6	9	67		
		6263	0°428	215°2	226°9	-13°7	0	7		
		6269*	0°929	86°1	143°8	+6°2	0	22	799p	
		6267a	0°981	109°2	136°4	-17°3	0	95		
			0°740	89°4	164°5	+5°1			626	
			0°983	100°4	134°3	-8°9			125	
Sept. 25			(+25°5)	(212°3)	(+6°9)	(184)	(1379)	(2503)		
268°626	FS, M		0°928	250°0	262°2	-15°7			203	
		6259	0°780	272°2	248°9	+6°1	15	148		
		6259	0°747	273°5	246°0	+7°2	6	51		
		6259	0°710	276°4	243°0	+9°4	0	3	220c	
		6259	0°705	272°5	242°5	+6°6	6	28		
		6259	0°684	273°5	240°8	+7°4	0	7		
		6259a	0°647	274°6	238°0	+8°2	9	75		
		6260	0°805	241°8	245°5	-17°8	0	7		
		6260a	0°788	241°5	243°9	-17°4	19	233	167c	
		6260	0°759	241°2	241°3	-16°5	0	5		
		6265a	0°606	273°7	235°0	+7°8	61	372		
		6265	0°574	275°5	232°7	+8°9	0	3		
		6265	0°567	273°9	232°2	+7°9	0	9		
		6265	0°544	274°5	230°6	+8°2	6	42		
		6265	0°543	270°2	230°4	+5°9	0	6		
		6265	0°541	277°5	230°3	+9°9	2	11		
		6265	0°494	278°9	227°1	+10°4	0	14		
		6265b	0°483	273°7	226°5	+7°8	53	429		
		6263a	0°626	235°5	229°6	-14°9	7	27		
		6268a	0°158	87°7	188°4	+7°2	2	7		
		6266	0°721	83°9	151°1	+9°2	3	12	83sf	
		6267a	0°911	112°4	135°9	-17°1	8	82	233/	
			0°832	84°4	140°9	+8°5			179	
			0°909	104°3	134°3	-9°9			210	
			0°951	79°9	124°8	+11°7			319	
Sept. 26			(+25°6)	(197°5)	(+6°9)	(197)	(1571)	(1614)		
269°666	FS, CL	6259	0°905	273°5	248°8	+6°2	19	148	625c	
		6259	0°859	273°7	243°2	+6°7	11	36		
		6259a	0°813	275°1	238°4	+8°2	15	60		
		6260a	0°809	247°3	243°6	-16°9	13	133	226f	
		6265a	0°786	274°6	235°8	+7°9	72	430		
		6265	0°761	274°8	233°5	+8°1	0	9		
		6265	0°739	272°6	231°5	+6°6	8	29		
		6265	0°689	277°3	227°5	+10°0	0	20		
		6265b	0°676	274°3	226°4	+8°0	80	676		
		6263a	0°774	244°0	229°6	-15°1	5	16	328s	
		6268a	0°106	266°8	189°8	+6°5	15	68		
		6268	0°063	257°2	187°2	+6°1	0	15		
1907. 269°666	FS, CL	6268b	0°028	267°3	185°3	+6°9	5	31		
		6266	0°545	83°9	150°6	+9°1	3	9		
		6269	0°723	85°5	137°2	+8°0	4	26		47c
		6270a	0°752	107°9	137°5	-8°6	5	30		132c
		6270b	0°802	107°7	133°1	-9°8	1	27		196f
		6267a	0°807	117°3	135°2	-17°2	11	83		298
			0°860	79°7	123°9	+12°4				292
			0°986	84°9	103°0	+6°2				292
Sept. 27			(+25°8)	(183°7)	(+6°9)	(267)	(1846)	(2144)		
270°475	FS, M		0°897	239°0	230°1	-23°9				322
			0°815	260°9	226°5	-3°4				131
			0°846	228°7	219°6	-29°3				99
		6259	0°974	274°0	250°1	+5°4	18	157	1457c	
		6259	0°934	274°7	242°4	+6°9	6	26		
		6260a	0°961	250°1	243°6	-16°9	8	88		614f
		6265a	0°892	275°6	236°5	+8°1	75	411		
		6265	0°851	274°7	231°6	+7°6	16	191		
		6265	0°826	272°4	228°8	+5°8	0	10		
		6265b	0°800	274°9	226°4	+8°0	134	731		186sf
		6263a	0°872	248°1	229°8	-15°3	0	21		
		6268a	0°306	269°5	190°8	+6°3	15	134		
		6268	0°244	267°3	187°1	+6°0	2	7		
		6268	0°241	272°4	187°0	+7°2	0	3		
		6268b	0°216	273°1	185°5	+7°4	8	49		
		6268*	0°371	215°1	185°5	-11°0	0	8		
		6266	0°360	85°1	151°9	+8°1	0	4		
		6269	0°555	86°9	139°2	+7°4	4	30		
		6269	0°599	85°9	136°1	+7°9	0	11		
		6270a	0°617	114°2	138°4	-9°1	8	34		233c
		6270b	0°686	112°9	133°2	-10°3	0	16		83c
		6267a	0°702	123°2	135°2	-17°2	12	87		182
			0°733	78°5	125°7	+13°1				186
			0°866	114°5	117°6	-17°2				491
			0°933	84°1	103°7	+8°0				3984
Sept. 28			(+25°9)	(173°0)	(+6°8)	(306)	(2018)	(3984)		
271°103	FS, CL		0°919	(240°2)	225°4	-24°0				152
			0°872	(268°5)	225°3	+2°0				84
			0°848	(259°7)	221°5	-5°0				176
		6260b	0°987	(252°6)	242°9	-15°9	17	90		157f
		6260c	0°985	(251°3)	241°9	-17°0	0	53		
		6265	0°971	(275°9)	241°4	+7°4	11	43		
		6265	0°942	(277°0)	235°7	+8°9	84	437		
		6265	0°916	(276°0)	231°5	+8°2	27	242		
		6265	0°878	(276°7)	226°6	+9°1	5	34		707c
		6265	0°871	(275°5)	225°7	+8°2	98	468		
		6265	0°854	(278°6)	223°9	+10°9	34	189		

Group 6269\*, September 25. A pair of very faint small spots, *p* Group 6269.

Group 6268, September 26–October 3. A small stream appearing suddenly near the centre of the disc. The first and last spots, *a* and *b*, are the largest; *a* being a regular spot, and the largest and most stable member of the group.

Group 6269, September 27–October 7. A number of small spots in a straight stream of normal type. The first and last spots, *a* and *b*, are the most stable. The group increases up to October 3, and diminishes afterwards.

Group 6270, September 27–October 4. A small sparse stream of normal type. The first and last spots, *a* and *b*, are the largest. Only *a* remains on October 2, but it has broken up by October 3, and *b* has reappeared by October 4.

Group 6268\*, September 28–October 1. A very small spot, on the same meridian as Group 6268, but in the southern hemisphere. The group is not seen on September 29 and 30.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.			
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).				
1907. 271 <sup>h</sup> 10 <sup>m</sup> 3	FS, CL	6263a	0° 9' 27"	(250° 5')	229° 5'	-15° 2'	0	12	3018f		1907. 272 <sup>h</sup> 22 <sup>m</sup> 7	FS, CL	6270	0° 4' 14"	137° 7'	133° 5'	-11° 4'	0	3				
		6263*	0° 8' 48"	(246° 8')	218° 6'	-15° 6'	0	11	76c				6270b	0° 4' 01"	135° 4'	133° 4'	-10° 1'	4	16				
		6268a	0° 44' 9"	(270° 9')	191° 5'	+6° 5'	20	138					6269	0° 2' 96"	81° 7'	132° 7'	+8° 9'	0	2				
		6268	0° 41' 1"	(269° 9')	189° 1'	+6° 2'	0	8					6271a	0° 9' 89"	104° 8'	70° 6'	-13° 5'	27	121	310p			
		6268	0° 37' 7"	(271° 1')	187° 0'	+6° 7'	3	19						0° 7' 23"	88° 8'	103° 5'	+5° 5'			252			
		6268b	0° 35' 2"	(272° 1')	185° 5'	+7° 1'	6	30						0° 8' 68"	114° 5'	94° 2'	-17° 4'			103			
		6268	0° 33' 4"	(271° 9')	184° 4'	+7° 1'	0	4						0° 8' 54"	80° 6'	90° 8'	+11° 5'			255			
		6269	0° 40' 8"	(88° 0')	140° 7'	+7° 0'	2	10						63° 2'	82° 9'	+27° 2'			271				
		6269	0° 43' 2"	(87° 5')	139° 1'	+7° 3'	1	8						(+26° 0')	(149° 9')	(+6° 7')	(279)	(1847)	(2772)				
		6269	0° 47' 1"	(88° 4')	136° 6'	+6° 8'	0	0															
		6269	0° 47' 3"	(84° 6')	136° 5'	+8° 5'	0	3															
		6269	0° 48' 8"	(86° 8')	135° 5'	+7° 5'	6	26															
		6270a	0° 51' 5"	(121° 8')	138° 6'	-9° 6'	7	20															
		6270	0° 52' 9"	(121° 4')	137° 6'	-9° 9'	0	3															
		6270	0° 54' 3"	(119° 2')	136° 2'	-9° 3'	4	9															
		6270	0° 56' 2"	(116° 7')	134° 4'	-8° 8'	0	2															
		6270b	0° 58' 6"	(117° 4')	133° 1'	-9° 9'	12	34															
		6270	0° 59' 2"	(119° 0')	133° 1'	-10° 9'	0	6															
		6267a	0° 62' 6"	(130° 0')	134° 7'	-17° 8'	14	89	49c														
			0° 62' 7"	(81° 0')	125° 9'	+10° 9'			141														
			0° 87' 5"	(116° 0')	108° 8'	-18° 8'			124														
			0° 92' 2"	(85° 0')	97° 3'	+7° 3'			365														
			(+25° 9')	(164° 8')	(+6° 8')	(351)	(1994)	(2332)															
Sept. 29																							
272 <sup>h</sup> 22 <sup>m</sup> 7	FS, CL		0° 9' 46"	263° 5'	220° 1'	-3° 9'			140														
			0° 8' 55"	276																			

September 29. The position-angles and therefore the heliographic longitudes and latitudes are only approximate on this day.  
 Group 6263<sup>+</sup>, September 29-30. A small spot forming when close to the West limb behind Group 6263. It has developed into a considerable stream by September 30.  
 Group 6271, September 30-October 9. A regular spot, *a*, usually with a small companion.  
 Group 6274, October 1-4. Two small spots, *a* and *b*. A third, *c*, is seen with them on October 2, and alone remains on October 4.  
 Group 6267<sup>+</sup>, October 1. Two very small spots, distantly following Group 6267.  
 Group 6268<sup>+</sup>, October 2. A small spot, *np* the place of Group 6268<sup>+</sup>.



## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 274°602	FS, AS	6269	0°342	276°8	138°6	+ 8°5	0	5		
		6269	0°305	274°5	136°4	+ 7°7	0	8		
		6269	0°293	278°1	135°6	+ 8°7	15	82		
		6269	0°288	270°3	135°4	+ 6°4	0	2		
G.		6271a	0°772	112°3	71°7	-12°6	8	40	688f	
		6271	0°781	110°6	70°5	-11°6	0	13		
		6272a	0°817	76°4	63°6	+14°9	0	15	256s	
		6273a	0°992	95°4	36°6	-4°5	0	197	224p	
			0°909	121°0	59°8	-24°6		181		
Oct. 2			(+26°2)	(118°6)	(+6°6)		(44)	(647)	(3065)	
275°339	FS, AS		0°986	260°3	187°9	- 8°4		238		
			0°971	252°4	182°4	-15°3		105		
			0°867	278°0	169°5	+10°3		316		
			0°819	269°0	163°8	+ 3°0		134		
			0°731	277°4	156°1	+ 9°9		165		
		6268a	0°990	275°6	191°1	+ 6°5	0	63	244f	
		6274a	0°924	253°5	173°8	-12°5	0	11	240c	
		6274c	0°905	253°4	171°2	-12°0	0	8		
		6269	0°554	277°4	142°6	+ 9°6	0	5		
		6269	0°538	273°0	141°5	+ 7°2	16	71		
		6269	0°507	275°0	139°4	+ 8°2	5	30		
		6269	0°465	278°3	136°6	+ 9°7	0	5		
		6269	0°457	274°4	136°2	+ 7°9	0	5		
		6269	0°444	277°1	135°3	+ 9°1	20	104		
M.		6270	0°587	247°0	141°8	- 7°7	0	9		
		6270	0°595	244°3	141°7	- 9°3	0	5		
		6270	0°582	245°9	141°2	- 8°1	0	10		
		6267	0°570	232°5	136°6	-14°4	0	10		
		6267a	0°573	226°8	134°7	-17°1	15	67		
		6271a	0°669	117°9	71°7	-13°0	10	60	58c	
		6271	0°677	116°1	70°6	-12°1	0	8		
		6272a	0°710	76°3	63°7	+14°3	4	15	83c	
		6272	0°761	76°2	59°2	+14°8	0	13		
		6273a	0°960	97°5	36°2	- 5°2	25	136	416c	
			0°786	124°8	65°0	-21°9		124		
			0°723	106°1	64°7	- 6°9		200		
			0°837	117°0	57°3	-18°3		130		
			0°967	72°9	32°5	+18°2		198		
Oct. 3			(+26°2)	(108°9)	(+6°6)		(95)	(635)	(2651)	
276°472	FS, M		0°925	268°4	161°3	+ 1°0		395		
			0°904	278°3	159°1	+10°3		623		
			0°847	287°6	152°0	+18°4		218		
G.		6274c	0°984	255°8	171°6	-12°7	0	48	151f	
		6269	0°751	273°3	142°7	+ 6°8	5	21		
		6269	0°727	274°5	140°7	+ 7°8	0	9	197c	
		6269	0°668	277°5	136°0	+ 9°8	0	4		
1907. 276°472	FS, M	6269	0°657	276°0	135°1	+ 8°9	13	91		
		6270	0°716	251°7	137°1	- 8°3	0	6		
		6270b	0°694	249°0	134°8	- 9°5	3	16	117c	
		6267a	0°728	239°2	134°6	-16°9	9	41		
G.		6271a	0°482	132°1	72°5	-12°8	6	44		
		6271	0°485	128°5	71°2	-11°6	0	5		
		6272a	0°486	70°8	65°7	+14°9	3	17		
		6273a	0°855	100°4	36°5	- 5°4	12	81	323c	
			0°801	109°5	43°7	-11°4			116	
			0°870	72°5	33°2	+18°4			188	
Oct. 4			(+26°3)	(93°9)	(+6°5)		(51)	(383)	(2328)	
277°500	FS, M		0°960	277°9	154°7	+ 9°4		575		
			0°898	288°0	144°7	+10°0		296		
			0°853	256°7	137°1	- 7°8		211		
			0°805	238°6	127°4	-20°4		132		
		6269	0°886	274°2	143°0	+ 6°7	4	12		
G.		6269	0°811	276°0	134°9	+ 8°7	10	67	372c	
		6267a	0°848	245°6	133°9	-16°7	9	46	243n	
		6271a	0°356	156°8	72°2	-12°6	7	42		
		6272a	0°297	59°1	65°2	+15°0	0	5		
		6273a	0°718	103°9	36°1	- 5°3	12	86	338nf	
			0°733	70°3	33°8	+18°8		146		
Oct. 5			(+26°3)	(80°4)	(+6°5)		(42)	(258)	(2313)	
278°288	FS, CL		0°955	287°0	143°6	+18°1		203		
			0°914	260°5	134°8	- 6°0		286		
			0°820	279°0	125°4	+11°0		119		
			0°832	238°5	119°6	-21°7		275		
		6269	0°901	276°5	134°6	+ 8°6	13	61	347p	
		6267a	0°922	249°5	133°8	-16°0	0	26	84nf	
		6271a	0°341	186°7	72°3	-13°3	3	13		
M.		6271	0°332	180°4	70°1	-12°9	0	9		
		6272	0°201	45°8	61°5	+14°4	0	7		
		6273	0°565	108°9	37°7	- 5°1	0	3		
		6273a	0°591	109°8	36°1	- 6°2	8	111	83c	
		6273	0°605	107°4	34°7	- 5°2	0	3		
			0°873	80°6	8°8	+11°3			146	
Oct. 6			(+26°3)	(70°0)	(+6°4)		(24)	(233)	(1543)	
279°122	AS, CL		0°962	(258°8)	131°5	- 8°9		158		
			0°905	(242°1)	118°3	-21°9		179		
			0°711	(272°0)	104°4	+ 6°0		140		
		6269	0°965	(277°3)	134°4	+ 8°8	4	39	28on	
D.		6267a	0°974	(251°9)	133°1	-15°9	5	19	89sf	
		6271a	0°397	(214°0)	72°1	-13°0	7	17		
		6272	0°157	(338°8)	62°4	+14°8	2	11		

Group 6272, October 2-7. A small spot,  $\alpha$ , with a distant companion on October 3.  $\alpha$  has disappeared by October 6, but a very small spot is seen  $f$  its place on October 6 and 7.

Group 6273, October 2-9. Return of Group 6247. A large regular spot,  $\alpha$ , surrounded, after October 5, by a number of small companions. October 7-8. The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on these days.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 279°122	AS, CL	6273	0°398	(118°7)	38°6	— 5°0	1	5		
		6273	0°400	(116°1)	38°0	— 4°2	0	6		
		6273a	0°438	(118°5)	36°3	— 6°2	13	86		
		6273	0°420	(111°9)	36°1	— 3°1	8	18		
		6273	0°455	(114°2)	34°5	— 5°0	1	4		
		6273	0°483	(117°0)	33°4	— 6°6	0	6		
		0°934	(109°8)	353°2	(59°0)	(+15°9)			152	
			(+26°4)	(59°0)	(+6°4)		(41)	(211)	(998)	
Oct. 7										
280°120	FS, CL		0°930	(284°5)	114°9	+15°8			170	
			0°902	(263°1)	109°3	— 3°5			101	
			0°897	(240°7)	103°6	— 22°7			166	
			0°843	(274°1)	103°5	+ 6°9			254	
			0°703	(281°0)	90°5	+12°2			169	
			0°739	(238°2)	87°0	— 18°2			194	
		6271a	0°539	(233°9)	72°2	— 12°8	0	13		
		6275	0°284	(177°4)	45°1	— 10°2	0	9		
		6275	0°269	(168°4)	42°7	— 8°9	6	21		
		6275	0°232	(149°3)	39°0	— 5°2	1	6		
		6273	0°230	(137°0)	36°8	— 3°4	6	15		
		6273a	0°267	(143°6)	36°7	— 6°2	18	69		
		6273	0°243	(135°5)	36°0	— 3°7	0	5		
		6273	0°277	(139°9)	35°5	— 6°0	3	11		
		6276	0°863	(122°3)	353°1	— 23°7	0	3	63p	
			0°925	(115°8)	342°9	— 20°9			428	
			0°945	(100°2)	336°3	— 7°5			157	
			(+26°4)	(45°8)	(+6°3)		(34)	(152)	(1702)	
Oct. 8										
281°218	CL, AS		0°914	76°5	324°7	+14°9			174	
			0°939	272°8	101°3	+ 4°8			338	
			0°854	283°3	90°3	+14°6			247	
			0°815	247°7	82°1	— 14°1			175	
			0°702	255°8	74°2	— 5°4			128	
		6271a	0°713	245°2	72°7	— 12°7	0	10	85f	
		6275a	0°385	226°1	47°6	— 9°5	10	29		
		6275	0°367	223°8	46°1	— 9°3	3	13		
		6275	0°345	217°6	43°6	— 9°8	0	8		
		6275	0°325	220°4	43°5	— 8°2	2	11		
		6275b	0°330	217°3	42°9	— 9°1	8	29		
		6273	0°222	214°6	38°5	— 4°4	0	3		
		6273	0°202	213°2	37°6	— 3°5	0	8		
		6273a	0°235	206°5	37°3	— 5°9	7	21		
		6273	0°234	200°0	35°9	— 6°5	0	2		
		6273	0°210	200°7	35°6	— 5°1	0	5		
		6276	0°699	132°7	357°5	— 23°2	6	16		
		6276	0°706	131°7	356°5	— 22°9	0	6		
		6276	0°705	129°7	355°7	— 21°7	0	10		
		6276	0°719	131°7	355°6	— 23°5	12	53		
1907. 281°218	CL, AS	6276	0°728	128°3	353°4	— 21°9	0	8		
		6276	0°739	128°3	352°6	— 22°4	7	29		96c
		6277	0°800	123°9	345°6	— 22°2	0	7		
		6277	0°825	123°6	343°1	— 23°1	0	9		126c
		6279	0°985	98°3	312°4	— 7°0	9	98		
		6279	0°987	97°1	311°5	— 5°9	0	43		288c
		6280a	0°989	83°9	309°4	+ 6°9	67	274		
			0°725	115°1	349°0	— 13°3			207	
			0°746	102°3	344°5	— 4°9			99	
			0°891	116°6	333°3	— 20°3			344	
			0°911	104°4	327°7	— 10°4			214	
			(+26°4)	(31°3)	(+6°2)		(131)	(692)	(2521)	
Oct. 9										
282°500	FS, M		0°924	279°3	82°4	+11°0			272	
			0°923	254°0	79°3	— 12°1			420	
			0°793	248°7	63°5	— 12°7			323	
		6271*	0°749	259°0	61°7	— 4°0	0	7	78c	
		6275a	0°607	245°5	48°3	— 9°4	6	20		
		6275b	0°545	241°6	43°4	— 9°6	3	17		
		6278a	0°544	153°7	359°3	— 23°1	10	72		
		6276	0°547	150°8	357°7	— 22°5	0	7		
		6276	0°571	147°4	355°0	— 22°8	5	31		
		6276a	0°603	141°3	350°4	— 22°4	33	219		
		6277	0°618	138°1	348°1	— 21°8	3	18		
		6277	0°644	136°8	346°0	— 22°5	3	25		
		6277	0°668	136°4	344°4	— 23°5	8	32		145c
		6277	0°672	132°9	342°5	— 21°9	0	6		
		6279a	0°886	100°4	313°4	— 6°3	41	460		
		6279	0°925	100°0	308°0	— 6°8	6	79		1186c
		6280a	0°894	84°9	310°8	+ 7°4	18	196		408nf
			0°793	124°2	329°5	— 22°1			418	
			0°847	110°6	319°9	— 13°8			118	
			0°945	124°4	310°8	— 20°6			282	
			(+26°4)	(14°4)	(+6°2)		(136)	(1189)	(3650)	
Oct. 10										
283°666	FS, CL		0°904	258°9	62°2	— 7°3			393	
			0°877	282°4	60°6	+13°8			175	
			0°883	244°9	56°4	— 18°8			259	
			0°847	233°8	48°4	— 26°1			174	
		6275a	0°790	253°3	48°9	— 9°2	2	9		285f
		6278a	0°478	182°3	0°2	— 22°4	16	161		
		6276	0°481	176°4	357°1	— 22°5	2	8		
		6276	0°478	171°7	354°7	— 22°0	5	18		
		6276	0°433	168°1	353°6	— 18°9	3	5		
		6276	0°477	168°1	353°0	— 21°6	1	29		
		6276a	0°482	164°9	351°3	— 21°6	21	186		
		6276	0°501	162°6	349°7	— 22°4	7	29		
		6277	0°514	158°9	347°5	— 22°6	1	24		

Group 6275, October 8-12. A number of spots in a short stream forming *sp* Group 6273. The first and last spots, *a* and *b*, are the largest and most stable. Only *a* remains by October 11. Group 6276, October 8-18. A few spots in an irregular stream, rapidly developing to form a large composite spot, *a*, with several small spots round it. Group 6277, October 9-18. An irregular stream forming *f* Group 6276, and finally joining with it. The rear spot, *a*, a large regular spot, is the largest and most stable member. The preceding portion of the group undergoes considerable change. Group 6279, October 9-20. A large regular spot, *a*, usually with a number of small companions. Group 6280, October 9-21. Return of Group 6256. A large regular spot, *a*, with several small companions, on October 16 and 17. Group 6271\*, October 10. A very small spot, *n*, Group 6271. Group 6278, October 10-17. A large regular spot, *a*, forming in advance of Group 6276. A few companions are seen on October 14. The three Groups, 6276, 6277, and 6278, make up a very long straight and continuous stream that undergoes continual change.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 283.666	FS, CL	6277	0.535	155.8	345.3	-23.2	3	43		1907. 285.523	FS, M	6277a	0.494	192.4	341.1	-22.8	18	98	
		6277a	0.548	150.8	342.2	-22.7	15	160				6279*	0.502	144.6	316.7	-18.3	0	3	
		6279a	0.723	104.0	314.3	-5.7	46	349				6279*	0.550	144.0	314.3	-20.8	0	7	
		6279	0.749	105.4	312.5	-7.3	0	12				6279*	0.591	140.1	310.6	-21.4	0	3	
		6279	0.746	101.9	312.1	-4.7	8	40				6279	0.345	117.6	316.7	-3.5	0	2	
		6279	0.764	102.8	310.7	-5.7	0	10				6279a	0.396	119.9	314.4	-5.7	51	445	
		6281	0.777	100.4	309.2	-4.2	2	11	257c			6279	0.495	114.5	307.7	-6.5	3	23	
		6281	0.800	103.2	307.5	-6.7	6	16				6281	0.450	123.1	312.2	-8.6	0	3	
		6280a	0.746	85.0	310.6	+7.8	37	218	181n			6281	0.452	113.0	309.9	-4.7	0	4	
			0.897	111.1	298.7	-15.9			118			6280a	0.406	84.7	310.5	+7.7	32	212	
				(+26.4)	(359.0)	(+6.1)	(175)	(1328)	(1842)			6281*	0.892	99.9	272.6	-6.0	0	11	150f
Oct. 11												6282a	0.988	85.2	253.1	+5.7	80	409	526c
													0.876	123.2	280.6	-25.2			149
													0.905	110.6	273.1	-15.7			196
														(+26.4)	(334.5)	(+6.0)	(255)	(1743)	(1682)
284.477	FS, AS		0.952	284.0	61.1	+15.1		206		Oct. 13									
			0.955	264.3	60.3	-3.6		232											
			0.947	250.0	56.4	-16.8		385											
			0.734	255.8	33.8	-6.2		376											
		6275a	0.890	255.9	49.2	-9.6	0	9	277f										
		6278a	0.518	203.2	1.0	-22.5	22	173											
		6275	0.504	197.5	357.7	-22.7	0	16											
		6276	0.489	190.9	354.0	-22.7	2	17											
		6276a	0.474	186.5	351.6	-22.0	32	300											
		6276	0.485	181.8	349.2	-22.8	0	10											
		6276	0.475	179.0	347.8	-22.2	0	3											
		6277	0.492	176.9	346.6	-23.3	3	21											
		6277	0.471	175.0	345.8	-21.9	0	3											
		6277	0.504	171.4															

Group 6281, October 11-18. A few small unstable spots, f Group 6279.

Group 6279\*, October 12-14. Some small spots,  $n$  of Group 6279.

Group 6279\*, October 12-14. Some small spots,  $\pi$  of Group 6279.  
Group 6281\*, October 13-14. A small spot,  $f$  Group 6281, at a considerable distance.

Group 6281\*, October 13-14. A small spot, *f* Group 6281, at a considerable distance.  
Group 6282, October 13-25. A large very irregular composite spot, or cluster of spots, *a*, gradually lengthening out into an irregular stream. *a* breaks up into three chief portions, *b*, *c*, and *d*, of which the largest and most stable, *b*, is a large regular spot.

portions, *b*, *c*, and *d*, of which the largest and most stable, *b*, is a large regular spot.

Group 6283, October 14-27. Return of Group 6265. A very large irregular composite spot, *a*, with a number of small spots on both sides of it. The group tends to draw out into an irregular stream, of which *b*, an unstable composite spot, is the last on October 19.

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## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 286°237 M. Oct. 14	FS, AS		0°831 0°899 0°907 0°960	112°8 119°3 73°0 106°1	272°7 266°8 259°6 253°7	-15°2 -23°1 +17°9 -13°6			137 92 84 125	(1745)
			(+26°4)	(325°1)	(+5°9)		(329)	(2229)		
287°625 G.	FS, CL	6278a 6276a 6276 6276 6277 6277a 6279 6279a 6279 6280a 6281 6281 6282 6282 6282a 6283 6283a 6284a	0°875 0°779 0°769 0°760 0°737 0°703 0°269 0°247 0°256 0°072 0°189 0°235 0°775 0°809 0°807 0°904 0°939 0°977 0°890 0°930	240°4 236°3 233°8 232°3 229°9 229°2 222°2 214°6 206°1 292°7 194°1 184°2 89°6 90°3 86°5 83°7 82°6 82°7 111°2 92°5	2°0 350°8 348°9 347°5 344°7 341°9 317°2 314°9 313°3 310°6 309°4 307°8 256°0 252°9 252°9 241°8 236°5 228°6 247°4 238°8	-22°4 -21°4 -22°7 -23°3 -23°7 -22°6 -5°8 -5°9 -7°5 +7°4 -4°8 -7°7 +4°0 +3°2 +6°3 +8°2 +8°9 +8°4 -15°9 -0°1	10 40 11 0 5 52 7 35 2 30 0 1 6 4 47 7 90 27 33 484 45 758 136	53 352 43 20 17 293 24 268 11 208 10 11 27 33 484 45 758 136	95f 189c 483c 872c 380 101 (2120)	
			(+26°4)	(306°8)	(+5°8)		(374)	(2793)		
288°106 K.	FS, AS		0°909 0°883 0°871 0°648 0°918 6278a 6276a 6276 6276 6277 6277 6277 6277 6277a 6279 6279 6279	282°4 294°3 249°9 224°2 242°7 240°0 238°2 239°3 236°5 234°8 235°5 237°8 234°3 232°1 232°5 234°5 237°1 235°8	6°2 2°1 357°8 329°6 2°0 351°6 349°4 349°1 347°8 345°5 343°5 343°4 342°7 342°2 340°6 317°9 317°7 315°2	+13°7 +24°2 -14°3 -22°6 -22°2 -21°2 -22°0 -20°9 -22°8 -23°3 -21°7 -19°7 -22°4 -24°1 -22°8 -6°8 -5°5 -4°4	14 47 15 0 0 18 3 0 32 0 37 2 10 2	41 387 61 44 5 45 38 5 136 5 197 11 31 8	169 140 155 140 161f 287c 207c	
			0°909 0°883 0°871 0°648 0°918 6278a 6276a 6276 6276 6277 6277 6277 6277 6277a 6279 6279 6279	282°4 294°3 249°9 224°2 242°7 240°0 238°2 239°3 236°5 234°8 235°5 237°8 234°3 232°1 232°5 234°5 237°1 235°8	6°2 2°1 357°8 329°6 2°0 351°6 349°4 349°1 347°8 345°5 343°5 343°4 342°7 342°2 340°6 317°9 317°7 315°2	+13°7 +24°2 -14°3 -22°6 -22°2 -21°2 -22°0 -20°9 -22°8 -23°3 -21°7 -19°7 -22°4 -24°1 -22°8 -6°8 -5°5 -4°4	14 47 15 0 0 18 3 0 32 0 37 2 10 2	41 387 61 44 5 45 38 5 136 5 197 11 31 8	169 140 155 140 161f 287c 207c	
289°113 K.	FS, AS		0°802 0°731 0°977 0°950 0°935 6278a 6276 6276 6276a 6276 6277 6277 6277 6277 6277a 6279 6279 6279	246°8 231°8 245°6 244°7 242°5 245°6 244°7 242°5 244°5 243°9 241°2 241°9 239°5 240°8 237°8 238°7	336°7 325°5 1°2 354°8 351°5 350°9 347°8 346°3 344°4 342°1 341°7 341°2 339°8	-14°7 -22°4 -22°3 -21°9 -23°2 -21°1 -20°8 -22°9 -21°7 -23°2 -21°7 -24°4 -23°0	0 0 0 0 75 0 0 40 0 0 24 0 39	14 70 35 430 29 153 24 16 95 7 209	254 156 248c 274c 276c	
			0°802 0°731 0°977 0°950 0°935 6278a 6276 6276 6276a 6276 6277 6277 6277 6277 6277a 6279 6279 6279	246°8 231°8 245°6 244°7 242°5 245°6 244°7 242°5 244°5 243°9 241°2 241°9 239°5 240°8 237°8 238°7	336°7 325°5 1°2 354°8 351°5 350°9 347°8 346°3 344°4 342°1 341°7 341°2 339°8	-14°7 -22°4 -22°3 -21°9 -23°2 -21°1 -20°8 -22°9 -21°7 -23°2 -21°7 -24°4 -23°0	0 0 0 0 75 0 0 40 0 0 24 0 39	14 70 35 430 29 153 24 16 95 7 209	254 156 248c 274c 276c	

Group 6284, October 15-26. A large irregular composite spot, or cluster of spots, *a*, closely following Group 6283, and with it, the return of Group 6265. *a* has divided into two portions, *b* and *c*, by October 22.

Group 6285, October 16-27. An irregular group, *f* Group 6284. The four Groups, 6282, 6283, 6284, and 6285, make up a very long, straight, and almost continuous stream, or procession, of disturbances. Its most stable member is a large regular spot, *a*; south of which two unstable composite spots, *b* and *c*, form together with some small companions. *c* has disappeared by October 23, and *b* by October 25.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 289°113	FS, AS	6279	0°557	248°5	318°5	- 6°9	14	69		1907. 290°224	FS, CL		0°843	260°4	328°8	- 5°0			146
		6279	0°538	249°2	317°4	- 6°0	15	63					0°830	248°6	325°2	-14°3			131
		6279	0°523	249°8	316°6	- 5°4	0	7					0°856	238°0	324°7	-23°5			93
		6279	0°534	245°9	316°5	- 7°6	0	9				6276a	0°993	247°7	352°7	-21°3	41	347	
		6279	0°510	251°6	316°1	- 4°3	0	6				6276	0°982	246°0	348°0	-22°2	76	301	
		6279a	0°506	247°7	315°2	- 6°0	39	186				6277	0°970	245°4	344°6	-22°2	25	123	
		6279	0°494	249°4	314°7	- 5°0	0	6				6277	0°967	243°9	343°5	-23°5	16	31	
		6279	0°506	241°8	313°9	- 8°7	0	11				6277a	0°949	243°7	339°6	-22°8	51	267	
		6279	0°476	248°9	313°5	- 4°8	0	5				6279	0°754	256°9	319°9	- 6°1	5	25	
		6281	0°445	242°5	310°5	- 6°6	0	29				6279	0°736	256°2	318°3	- 6°2	13	30	
		6281	0°440	236°4	308°9	- 8°8	0	19				6279	0°727	256°5	317°6	- 5°8	0	7	
		6280a	0°398	276°2	310°6	+ 7°7	32	189				6279a	0°708	255°5	315°9	- 6°2	27	203	
		6280	0°393	272°5	310°4	+ 6°2	0	7				6281	0°662	252°2	311°8	- 7°4	0	5	
		6280	0°384	279°2	309°7	+ 8°8	0	9				6281	0°641	247°8	309°3	- 9°5	0	5	
		6280	0°377	285°8	308°8	+11°2	2	6				6280a	0°627	275°6	311°4	+ 7°9	31	183	
		6280	0°367	281°4	308°5	+ 9°5	0	4				6282	0°237	97°9	259°0	+ 3°6	0	6	
		6280	0°343	273°8	307°3	+ 6°7	0	11				6282	0°275	95°2	256°6	+ 4°0	1	7	
		6282	0°492	93°8	257°9	+ 3°2	0	6				6282b	0°315	87°5	254°1	+ 6°2	43	282	
		6282	0°523	91°8	255°7	+ 4°0	0	17				6282	0°338	96°8	253°0	+ 3°0	0	12	
		6282b	0°545	87°6	254°1	+ 6°1	60	259				6282	0°336	93°0	252°9	+ 4°3	3	8	
		6282	0°558	84°3	253°2	+ 8°0	0	10				6282d	0°348	90°9	252°1	+ 5°0	24	92	
		6282	0°562	90°7	253°0	+ 4°3	1	10				6282	0°360	82°3	251°5	+ 8°0	5	33	
		6282	0°575	85°6	252°1	+ 7°2	0	2				6282	0°371	75°1	251°2	+10°7	0	8	
		6282c	0°576	88°7	252°0	+ 5°4	40	133				6282	0°371	78°7	251°0	+ 9°4	0	3	
		6282	0°579	92°0	251°9	+ 3°5	4	40				6282	0°370	88°8	250°8	+ 5°7	0	19	
		6282d	0°586	85°7	251°3	+ 7°2	15	123				6282	0°376	85°6	250°4	+ 6°9	0	26	
		6282	0°603	88°6	250°1	+ 5°4	0	8				6283	0°497	82°4	242°7	+ 8°6	0	5	
		6283	0°706	84°6	242°2	+ 7°9	1	10				6283	0°526	81°8	240°8	+ 9°1	0	11	
		6283a	0°756	84°1	237°9	+ 8°2	99	502				6283	0°528	83°7	240°6	+ 8°1	0	7	
		6283	0°768	81°2	236°9	+10°4	14	93				6283	0°535	86°4	240°1	+ 6°7	0	12	
		6283	0°785	86°3	235°4	+ 6°5	0	20				6283a	0°570	82°6	237°8	+ 8°8	122	606	
		6283	0°785	82°6	235°3	+ 9°3	11	46				6283	0°577	87°3	237°2	+ 6°2	1	38	
		6283	0°786	83°9	235°2	+ 8°4	2	10				6283	0°608	82°4	235°0	+ 9°1	9	36	
		6283	0°800	84°3	233°9	+ 8°0	3	27				6283	0°630	82°6	233°4	+ 9°0	3	16	
		6283b	0°815	84°1	232°4	+ 8°1	37	200				6283	0°636	80°2	233°1	+10°6	1	8	
		6283	0°827	81°7	231°2	+10°0	0	9				6283	0°642	85°1	232°5	+ 7°4	0	5	
		6284	0°846	85°5	229°2	+ 6°9	0	10				6283b	0°649	83°6	232°0	+ 8°4	21	96	
		6284a	0°856	84°1	228°1	+ 8°0	33	186				6283	0°656	79°6	231°6	+11°0	0	7	
		6284	0°871	80°7	226°3	+10°9	0	8				6283	0°659	81°1	231°3	+10°1	1	14	
		6284	0°883	84°0	225°0	+ 8°0	0	32				6284a	0°696	84°2	228°3	+ 8°1	30	192	
		6285b	0°912	83°8	221°1	+ 8°0	17	74				6284	0°715	83°6	226°8	+ 8°5	0	13	
		6285a	0°914	80°9	220°8	+10°7	19	104				6285	0°759	84°6	223°0	+ 7°8	0	9	
		6285	0°919	82°5	220°1	+ 9°2	12	41				6285b	0°773	83°7	221°7	+ 8°4	13	122	
			0°751	121°3	244°7	-18°7		115				6285a	0°784	80°7	220°7	+10°8	18	104	
			0°705	105°7	244°2	- 6°8		86				6285c	0°804	82°3	218°8	+ 9°5	17	80	
			0°800	111°5	237°5	-13°4		92					0°843	127°0	223°7	-26°8			216
			0°854	95°8	229°2	- 2°0		126					0°824	115°4	221°5	-17°2			125
			0°918	120°8	226°7	-25°3		318					0°873	104°9	213°8	-10°1			118
			0°900	72°5	222°7	+18°3		92					0°872	93°8	212°3	- 0°5			93
			0°922	107°0	222°5	-13°3		182					0°913	79°0	206°2	+12°3			191
Oct. 17			(+26°3)	(287°2)	(+5°7)	(648)	(3698)	(3059)		Oct. 18			(+26°3)	(272°5)	(+5°6)	(597)	(3404)	(1902)	

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.			
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).				
1907. 291 <sup>5</sup> 03	FS, AS		0.956	257.2	326.9	-10.5			146		1907. 293 <sup>4</sup> 99	FS, AS		0.982	259.0	307.0	-9.7			269			
			0.892	242.9	313.7	-21.1			152					0.946	286.4	300.9	+17.2			123			
			0.766	285.7	305.4	+15.6			67				6280	0.988	276.2	310.7	+7.0	0	109	153 <sup>nf</sup>			
			0.873	224.1	303.5	-35.2			106				6286	0.464	287.3	256.2	+12.7	3	16				
		6279	0.899	259.2	318.2	-7.2	0	30	562 <sup>f</sup>				6286	0.392	289.2	251.5	+12.3	3	15				
		6279a	0.880	259.3	315.9	-6.7	36	223					6282b	0.426	272.0	254.5	+5.7	38	207				
		6280	0.828	272.8	311.5	+5.4	0	2	202 <sup>c</sup>				6282d	0.402	268.1	253.0	+4.2	9	52				
		6280a	0.818	275.0	310.6	+7.3	16	132					6282	0.349	274.5	249.7	+6.6	0	10				
		6282b	0.019	91.4	254.5	+5.5	37	248					6283	0.207	295.1	240.2	+10.2	5	27				
		6282d	0.057	106.0	252.5	+4.6	12	75					6283a	0.155	291.1	237.7	+8.4	72	649				
		6282	0.079	112.9	251.4	+3.7	0	8					6283	0.127	311.4	234.8	+10.1	0	21				
		6282	0.094	52.0	251.3	+8.8	0	11					6284a	0.052	31.8	227.7	+7.8	15	139				
		6282	0.082	71.0	251.1	+7.0	0	5			G.		6284	0.082	42.0	226.1	+8.8	0	8				
		6282	0.085	92.0	250.7	+5.4	0	9					6284	0.112	43.8	224.8	+9.9	0	5				
		6283a	0.300	79.8	238.3	+8.3	76	575					6285b	0.149	63.9	221.5	+9.0	5	62				
		6283	0.317	89.5	237.1	+5.4	0	6					6285a	0.175	56.8	220.8	+10.7	14	77				
		6283	0.357	78.5	234.9	+9.3	0	31					6285c	0.210	64.7	218.2	+10.3	3	34				
		6283b	0.400	81.1	232.2	+8.6	0	30					6285	0.206	71.7	217.9	+8.9	0	4				
		6284	0.427	79.8	230.5	+9.3	0	6					6287a	0.672	112.8	190.3	-10.9	2	17				
		6284	0.444	86.9	229.2	+6.3	0	17					6287b	0.709	111.4	187.2	-11.1	0	11				
		6284a	0.460	82.8	228.3	+8.2	29	177						0.828	83.9	173.3	+8.0			349			
		6285	0.543	80.9	222.8	+9.6	0	5						0.838	69.9	172.8	+19.7			74			
		6285b	0.560	82.8	221.6	+8.6	17	126						0.879	96.0	168.5	-2.7			121			
		6285a	0.571	79.1	221.0	+10.7	23	96						0.933	80.4	160.0	+10.9			493			
		6285c	0.598	81.3	218.9	+9.6	7	93			Oct. 21				(+26.0)	(229.3)	(+5.3)	(169)	(1463)	(1582)			
			0.887	85.1	192.9	+6.9			137														
			0.910	102.8	191.8	-9.2			152														
Oct. 19				(+26.2)	(255.6)	(+5.5)	(253)	(1905)	(1524)														
292 <sup>6</sup> 01	FS, CL		0.885	285.3	303.6	+16.0			99		294 <sup>6</sup> 53	FS, CL		0.868	258.4	272.9	-7.4			116			
			0.903	242.4	300.7	-22.0			161					0.872	282.9	274.9	+13.8			71			
		6279a	0.971	261.5	316.3	-6.9	14	204	550 <sup>f</sup>				6286	0.692	281.6	257.7	+11.8	0	16	87 <sup>c</sup>			
		6280a	0.936	275.7	310.8	+7.3	13	110	227 <sup>c</sup>				6282b	0.647	272.6	254.4	+5.6	32	214				
		6286	0.272	300.5	255.1	+13.2	3	12					6282d	0.629	269.9	253.0	+4.0	10	64				
		6286	0.239	299.6	253.4	+12.0	2	12					6282	0.604	272.4	251.3	+5.6	0	3				
		6282b	0.238	270.2	255.0	+5.3	25	202					6282	0.596	268.6	250.6	+3.4	0	2				
		6282d	0.208	265.7	253.2	+4.4	7	59					6283	0.475	279.1	242.3	+8.9	7	46				
		6283	0.091	11.5	240.1	+10.5	2	16					6283	0.451	281.4	240.6	+9.8	4	20				
		6283a	0.070	47.8	238.2	+8.1	60	569					6283	0.432	274.6	239.7	+6.7	0	4				
		6283	0.121	57.3	235.3	+9.1	0	15					6283a	0.402	279.5	237.6	+8.6	82	544				
		6284	0.189	80.2	230.4	+7.1	0	7					6283	0.361	286.8	234.6	+10.9	0	6				
		6284a	0.227	78.0	228.3	+8.0	20	181					6284b	0.255	279.6	228.7	+7.5	7	46				
		6285b	0.334	78.5	221.9	+8.9	7	77					6284c	0.233	283.2	227.3	+8.1	11	121				
		6285a	0.348	73.4	221.4	+10.8	17	93					6285a	0.153	310.2	220.9	+10.9	13	70				
		6285c	0.375	78.2	219.5	+9.4	6	46					6285b	0.129	298.9	220.6	+8.8	3	16				
		6287a	0.805	107.7	190.1	-10.8	4	17					6285c	0.115	315.5	218.8	+9.9	3	13				
		6287b	0.829	106.7	187.5	-10.6	0	10	103 <sup>c</sup>				6288a	0.923	84.3	146.6	+7.3	0	12	419 <sup>c</sup>			
			0.921	84.0	173.9	+7.7			279				6289a	0.967	108.3	141.3	-16.2	27	72	226 <sup>nf</sup>			
Oct. 20				(+26.1)	(241.2)	(+5.4)	(180)	(1630)	(1419)		Oct. 22							(+26.0)	(214.1)	(+5.2)	(199)	(1269)	(1469)

Group 6286, October 20-24. Some small spots in a short stream, *n* of Group 6282.Group 6287, October 20-21. A pair of small spots, *a* and *b*.Group 6288, October 22-24. Return of Group 6269. A small spot, *a*.Group 6289, October 22-November 2. Return of Group 6267. A regular spot, *a*. Some small spots form behind *a* on October 27, and form a train to it.



## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.																			
Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Area for each Group (and for Day).	Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	
1907. 299°17'	FS, AS		0°66'4	249°3	193°3	- 9°8			88	1907. 301°249	FS, CL		0°917	255°8	191°8	- 11°1			144
K.		6283	0°996	277°5	239°8	+ 8°0		64	286f				0°753	277°4	176°0	+ 8°6			129
		6283	0°995	278°9	238°9	+ 9°3	68	193					0°753	236°7	169°3	- 21°0			84
		6284*	0°981	283°5	233°9	+ 14°2	20	59	190np			6289	0°472	220°2	145°6	- 16°7	4	13	
		6285	0°925	279°4	222°3	+ 10°5	3	9	100nf			6289	0°458	218°1	144°2	- 16°7	19	112	
		6289	0°405	158°4	145°5	- 17°3	0	0				6289	0°474	211°1	142°1	- 19°4	0	5	
		6289	0°391	157°0	145°3	- 16°3	4	25				6289	0°442	210°3	140°6	- 17°9	0	3	
		6289	0°427	156°5	144°1	- 18°3	0	7				6289	0°427	211°6	140°6	- 16°8	0	3	
		6289	0°409	154°7	143°9	- 16°9	29	129				6291	0°774	82°5	76°4	+ 8°7	13	36	
		6289	0°392	151°0	143°1	- 15°3	1	9				6291	0°786	83°4	75°3	+ 8°0	0	6	
		6289	0°418	152°0	142°6	- 16°9	2	14				6291	0°801	83°9	73°9	+ 7°6	12	47	
		6289	0°448	151°7	141°5	- 18°4	0	5					0°754	115°5	82°3	- 15°6			198
		6289	0°421	147°8	140°9	- 16°2	4	41					0°913	110°9	64°3	- 16°9			220
		6289	0°409	143°9	140°0	- 14°6	0	6					0°893	86°3	63°8	+ 5°4			161
		6289	0°448	146°4	139°4	- 17°2	0	10					0°948	102°1	57°1	- 9°9			156
		6291	0°985	83°5	74°0	+ 7°3	0	40	204p		Oct. 29			(+25°2)	(127°1)	(+4°6)	(48)	(225)	(1244)
				0°804	34°4	114°4	+ 45°2		144										
				0°719	96°3	109°0	- 1°2		109										
			0°728	81°7	107°7	+ 9°3		118											
			0°801	48°2	107°4	+ 35°5		134											
			0°771	61°5	106°2	+ 24°9		79											
			0°869	93°0	94°4	- 0°2		182											
			0°869	73°8	94°1	+ 16°5		192											
			0°876	83°5	93°1	+ 8°1		135											
			0°933	109°4	88°2	- 16°2		291											
Oct. 27			(+25°5)	(154°4)	(+4°8)		(131)	(618)	(3850)										
300°233	FS, CL		0°961	275°8	214°7	+ 6°9			270				0°956	275°0	187°2	+ 6°1			186
K.			0°952	283°9	213°1	+ 14°7			147				0°946	260°0	184°0	- 7°9			215
			0°940	239°9	205°3	- 26°2			190				0°866	277°1	174°2	+ 8°4			260
			0°873	252°6	198°9	- 12°7			174				0°842	244°3	167°2	- 18°7			213
		6289	0°362	195°7	146°3	- 15°7	0	9				0°758	272°6	163°4	+ 4°9			184	
		6289	0°379	194°2	146°0	- 16°8	12	32				0°590	235°2	144°2	- 15°7	19	105		
		6289	0°369	190°9	144°7	- 16°5	18	123				6291	0°600	80°5	77°4	+ 9°3	28	150	70c
		6289	0°378	187°9	143°6	- 17°2	0	3				6291	0°631	79°3	75°2	+ 10°2	8	32	
		6289	0°357	185°8	142°6	- 16°0	0	1				6291	0°634	80°7	74°9	+ 9°4	0	16	
		6289	0°326	185°5	142°3	- 14°1	0	4				6291	0°644	82°8	74°1	+ 8°1	13	47	
		6289	0°376	181°9	141°2	- 17°3	0	2				6291	0°656	81°5	73°2	+ 8°9	0	7	
		6289	0°348	181°0	140°9	- 15°6	2	7					0°830	120°2	63°7	- 21°8			143
		6289	0°359	179°3	140°2	- 16°2	0	18					0°928	101°7	47°4	- 9°1			180
		6290	0°691	84°5	96°8	+ 7°2	0	6	116f		Oct. 30			(+25°1)	(114°1)	(+4°5)	(68)	(357)	(1451)
		6291	0°915	84°6	74°1	+ 6°9	6	35	172np										
			0°851	111°9	85°5	- 15°9			277										
			0°919	121°4	79°6	- 26°3			191										
			0°895	77°1	76°9	+ 13°7			67										
		0°928	95°1	73°0	- 2°9			168											
		0°938	67°7	70°8	+ 22°5			166											
		0°959	107°0	69°2	- 14°8			220											
Oct. 28			(+25°4)	(140°5)	(+4°7)		(38)	(240)	(2158)					(+24°9)	(98°6)	(+4°4)	(46)	(310)	(974)

Group 6284\*, October 27. A spot forming close to the West limb, *n* of Group 6284.

Group 6291, October 27–November 8. A cluster of small spots soon lengthening out into a short stream. The leader spot,  $\alpha$ , alone remains on November 5, but has disappeared by November 6, when the following part of the group has broken out afresh.

Group 6290, October 28. A very small spot.

Group 6292, October 31–November 5. Several small spots in a circular cluster which soon lengthen out into a short stream, of which,  $\alpha$ , the leader, is the largest member.



Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

[illegible]

November 1. The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on this day.  
 Group 6293, November 2-11. Return of Group 6276. A regular spot,  $a$ , with occasionally one or two very small companions.  
 Group 6294, November 2-7. Some small unstable spots in a short stream,  $np$  Group 6293.  
 Group 6295, November 4-7. A few small spots,  $nf$  Group 6293. It revives, as Group 6304, on November 12, after an interval of four days.  
 Group 6296, November 4-15. A double spot,  $a, f$  Group 6295, and followed by a short train of small spots.  $a$  is measured in two parts on November 7 and 8.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*[illegible]

Group 6297, November 5-12. Return of Group 6279. A few small unstable spots.

Group 6298, November 7-15. A few small spots in a sparse stream, which develops by November 12 into a large ring-shaped group, and later still into a large leader spot, *a*, followed by a distant train.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 312'543	FS, AS		0°89'3	261°7'	40°6'	- 5°8'			191	1907. 313'426	FS, CL	6300	0°869	(83°6'	266°3'	+ 7°3'	0	10	386c	
		6293	0°46'3	208°3'	351°7'	-20°6'	7	22				6300	0°871	(78°8'	266°2'	+11°4'	1	10		
		6298	0°120	340°2'	340°6'	+10°0'	10	59				6300	0°871	(80°1'	266°2'	+10°2'	0	9		
		6298	0°112	4°0'	337°7'	+9°9'	0	2				6300	0°877	(81°8'	265°4'	+8°8'	21	250		
		6298	0°116	22°5'	335°6'	+9°6'	15	68				6300	0°893	(79°6'	263°4'	+10°8'	10	40		
		6296a	0°306	185°2'	339°8'	-14°2'	22	162				6300	0°908	(81°4'	261°4'	+9°2'	121	885		
		6296	0°304	179°2'	337°9'	-14°1'	2	29				6301a	0°931	(87°1'	258°1'	+3°9'	19	108		
		6296	0°323	169°2'	334°6'	-14°9'	4	30				6303a	0°990	(79°4'	244°5'	+11°0'	17	82		
		6296	0°341	165°6'	333°2'	-15°7'	0	4					0°815	(113°1'	275°3'	-16°5'				133
		6297	0°368	115°9'	318°8'	- 5°9'	0	12					0°860	(92°3'	267°6'	- 0°3'				151
		6299	0°793	75°8'	286°2'	+13°4'	0	11	155f				0°916	(120°3'	265°2'	-26°0'			112	
		6300	0°925	80°7'	270°5'	+9°9'	0	15					0°903	(105°0'	263°7'	-12°0'			116	
		6300	0°942	78°4'	267°7'	+12°1'	17	220	473c	Nov. 10				(+22°9')	(326°6')	(+3°3')	(333)	(2162)	(1711)	
		6300	0°958	77°6'	264°7'	+12°9'	0	24			314°414	FS, CL		0°907	258°9'	17°5'	- 8°6'			153
		6300	0°974	78°1'	261°0'	+12°4'	60	621					0°926	233°7'	14°6'	-31°7'			301	
		6301a	0°986	83°3'	257°8'	+7°2'	34	158					0°676	243°9'	352°3'	-14°8'			135	
			0°869	104°7'	279°5'	-11°0'			104				6293	0°706	236°2'	352°2'	-20°6'	4	15	2248
			0°945	89°4'	267°5'	+1°7'			122				6296a	0°528	235°4'	340°1'	-14°6'	19	143	
Nov. 9			(+23°2')	(338°2')	(+3°5')	(171)	(1437)	(1045)					6296	0°522	232°1'	338°7'	-15°7'	6	26	
313'426	FS, CL		0°945	(267°7'	37°2'	- 1°1')		175					6296	0°505	233°1'	338°1'	-14°7'	1	16	
			0°812	(271°3'	20°8'	+3°0')		94					6296	0°525	228°2'	337°6'	-17°5'	0	4	
			0°868	(233°9'	19°5'	-28°7')		160					6296	0°492	228°8'	336°0'	-15°9'	2	7	
		6293	0°609	(228°4'	355°7'	-20°9'	0	8					6296	0°472	223°5'	333°3'	-16°9'	2	9	
		6293	0°565	(227°5'	352°7'	-19°4'	7	26					6298	0°495	286°1'	342°3'	+10°7'	3	13	
		6293	0°547	(230°1'	352°6'	-17°5'	0	2					6298	0°469	286°4'	340°6'	+10°4'	0	8	
		6298	0°288	(299°3'	341°4'	+11°3'	1	16					6298	0°442	285°2'	339°0'	+9°5'	7	15	
		6298	0°271	(298°4'	340°6'	+10°6'	4	15					6298	0°429	287°2'	338°0'	+10°2'	0	4	
		6298	0°257	(302°7'	339°3'	+11°2'	0	6					6298	0°393	289°0'	335°6'	+10°3'	27	156	
		6298	0°231	(300°8'	338°2'	+10°0'	0	6					6298	0°369	292°8'	333°7'	+11°2'	0	6	
		6298	0°211	(306°6'	336°5'	+10°4'	0	4					6297	0°188	212°7'	319°3'	- 5°9'	6	26	
		6298	0°191	(309°4'	335°2'	+10°2'	11	53					6297	0°209	203°6'	318°3'	- 7°8'	3	11	
		6296a	0°377	(219°7'	340°9'	-13°6'	29	170					6302	0°253	197°1'	317°8'	-10°7'	0	6	
		6296	0°386	(213°6'	339°4'	-15°5'	0	3					6302	0°239	182°8'	314°2'	-10°6'	0	6	
		6296	0°372	(215°0'	339°3'	-14°5'	10	55					6302	0°221	177°7'	313°0'	- 9°5'	0	4	
		6296	0°355	(217°4'	339°3'	-13°0'	0	4					6300	0°676	78°7'	271°4'	+10°0'	0	3	
		6296	0°350	(211°7'	337°5'	-14°0'	0	3					6300	0°693	79°3'	270°0'	+9°7'	3	19	
		6296	0°367	(205°2'	335°9'	-16°0'	0	4					6300a	0°723	77°6'	267°7'	+11°2'	102	516	
		6296	0°340	(207°3'	335°8'	-14°3'	0	11					6300	0°737	74°0'	266°8'	+13°9'	0	7	
		6296	0°355	(202°8'	334°8'	-15°7'	8	16					6300	0°755	75°5'	265°1'	+13°0'	3	23	
		6297	0°225	(149°4'	320°0'	-7°8'	0	5					6300	0°760	80°0'	264°3'	+9°6'	3	15	
		6297	0°206	(144°9'	319°8'	-6°5'	7	27					6300	0°793	80°7'	261°2'	+9°3'	2	31	
		6297	0°253	(149°3'	319°1'	-9°2'	1	9					6300	0°797	77°6'	261°0'	+11°8'	128	1030	
		6297	0°233	(143°4'	318°6'	-7°5'	0	5					6301a	0°827	83°9'	257°8'	+6°9'	18	93	
		6299	0°656	(77°4'	286°1'	+10°7'	2	11	120f				6303a	0°940	77°0'	243°5'	+13°3'	19	92	
		6300	0°822	(83°5'	271°4'	+7°3'	3	10					6305	0°959	82°2'	239°9'	+8°4'	0	9	
		6300	0°843	(80°8'	269°3'	+9°5'	26	199						0°793	119°6'	266°1'	-20°9'			230m
		6300	0°843	(82°6'	269°2'	+8°0'	0	15						0°930	112°7'	248°0'	-19°7'			219c
		6300	0°858	(81°4'	267°6'	+9°1'	35	85						0°933	85°2'	244°6'	+5°6'			100c
										Nov. 11				(+22°7')	(313°5')	(+3°2')	(358)	(2313)	(2086)	255
																			62	

November 10. The orientation of the wires, and therefore the heliographic longitudes and latitudes, appear to be in error on this day.

Group 6299, November 9-10. Some very small spots.

Group 6299, November 9-10. Some very small spots.

Group 6300, November 9-21. A magnificent group composed of a very large composite spot, *a*, followed by an immense cluster, with its longer axis a right angle to the line of sight. The group lies *sf* Group 6282, with which it is finally involved.

Group 6303, November 10-20. A regular spot, *a*, with occasionally one or two small companions.

Group 6305, November 11-14. Return of Group 6283. Third apparition. A small spot, *sf* Group 6303.

Group 6302, November 11. Some very small spots.

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 315°316	FS, CL		0°840	238°2	353°0	-24°3			273	
			0°780	252°8	350°9	-11°3			284	
			0°688	288°3	343°9	+14°7			110	
			0°675	265°1	343°7	-1°0			135	
		6304	0°757	242°8	346°5	-18°0	0	16		
		6304	0°725	240°5	343°2	-18°6	3	41		
		6296a	0°675	244°7	340°5	-14°3	22	166		
		6296	0°663	242°3	339°0	-15°4	0	49	189c	
		6296	0°625	239°3	335°5	-16°0	0	13		
		6298	0°674	283°3	343°4	+11°2	0	5		
		6298	0°632	282°2	340°3	+10°1	5	19		
		6298	0°617	279°9	339°4	+8°5	20	64		
		6298	0°616	282°2	339°1	+9°9	3	47		
		6298	0°611	278°4	339°0	+7°6	0	6		
		6298	0°599	283°9	337°7	+10°7	0	16		
		6298	0°580	278°7	336°8	+7°5	6	34		
		6298	0°580	281°6	336°6	+9°2	4	23		
		6298	0°572	284°6	335°7	+10°8	18	161		
		6298	0°566	282°6	335°5	+9°7	0	5		
		6298	0°560	280°1	335°3	+8°2	7	19		
		6298	0°547	286°2	333°9	+11°4	0	5		
		6297	0°351	245°4	320°2	-5°4	0	28		
		6297	0°358	237°7	319°3	-8°0	0	9		
		6300	0°521	75°8	270°9	+10°0	0	4		
		6300a	0°551	73°5	269°1	+11°6	76	609		
		6300	0°574	70°1	268°0	+13°8	0	17		
		6300	0°602	74°0	265°5	+12°0	0	4		
		6300	0°601	76°4	265°5	+10°6	12	118	241c	
		6300	0°616	72°7	264°6	+13°0	0	4		
		6300	0°638	76°4	262°6	+11°0	32	331		
		6300	0°671	72°9	260°5	+13°7	75	456		
		6300	0°677	78°3	259°4	+10°2	26	221		
		6301a	0°692	83°3	258°0	+6°9	17	104		
		6303a	0°850	76°3	243°7	+13°3	14	73	376f	
		6305	0°878	82°8	240°3	+7°8	0	6	237c	
			0°881	116°2	243°8	-21°2			157	
			0°928	62°9	234°8	+26°2			224	
			0°935	101°0	233°5	-9°2			166	
			(+22°5)	(301°6)	(+3°1)		(340)	(2673)	(2392)	
Nov. 12										
316°532	FS, CL		0°928	252°6	351°8	-14°9			485	
			0°935	241°5	350°6	-25°2			314	
			0°844	238°0	337°4	-24°7			376	
		6296a	0°843	250°6	340°6	-14°6	25	150		
		6296	0°828	249°0	338°7	-15°4	0	6	251c	
		6296	0°795	246°5	334°9	-16°5	0	8		
		6298	0°842	280°0	342°7	+10°0	0	26		
		6298a	0°822	278°2	340°7	+8°5	19	203	398c	
		6298	0°791	277°2	337°7	+7°5	0	7		
1907. 316°532	FS, CL		0°769	281°4	335°5	+10°7	12	84		
		6298	0°766	277°9	335°4	+8°0	10	106		
		6300a	0°323	60°5	269°0	+12°0	84	835		
		6300	0°444	58°4	262°5	+16°2	0	7		
		6300	0°431	67°6	261°7	+12°1	129	957		
		6301a	0°469	79°9	258°0	+7°4	15	127		
		6303a	0°688	73°1	243°1	+13°7	15	114	368f	
		6305	0°716	80°8	240°1	+8°7	0	9	69c	
			0°818	59°1	234°1	+26°6			102	
			0°903	116°0	224°9	-21°8			298	
			0°877	81°5	224°4	+8°9			533	
			(+22°2)	(285°6)	(+3°0)		(309)	(2639)	(3194)	
Nov. 13										
317°142	FS, CL		0°974	243°3	351°5	-25°2			184	
			0°899	240°4	336°9	-24°9			220	
			0°805	267°9	330°9	+0°1			88	
			0°793	258°2	328°9	-7°5			94	
			0°798	246°7	327°3	-16°5			169	
			0°814	234°3	324°9	-26°3			95	
		6296a	0°905	252°2	340°4	-14°7	22	128	4228f	
		6298a	0°892	277°8	340°6	+8°3	32	152		
		6298	0°849	280°7	335°5	+10°6	13	45		
		6298	0°840	277°5	334°6	+7°9	20	86	348c	
		6298	0°836	279°7	334°1	+9°7	0	5		
		6300a	0°206	39°7	269°9	+12°0	92	744		
		6300	0°253	32°9	269°5	+15°1	0	4		
		6300	0°241	37°0	269°0	+13°9	0	5		
		6300	0°195	57°9	268°0	+8°8	0	2		
		6300	0°210	59°1	267°1	+9°0	0	14		
		6300	0°264	43°1	266°9	+14°0	0	10		
		6300	0°232	55°1	266°5	+10°4	6	26		
		6300	0°216	67°4	266°0	+7°6	0	8		
		6300	0°246	54°4	265°9	+11°0	2	7		
		6300	0°237	62°2	265°4	+9°2	0	2		
		6300	0°262	54°3	265°1	+11°6	1	18		
		6300	0°272	51°0	265°1	+12°7	3	13		
		6300	0°321	47°9	263°4	+15°2	0	8		
		6300	0°291	56°2	263°3	+12°1	34	140		
		6300	0°315	51°8	262°9	+14°0	0	7		
		6300	0°344	47°2	262°4	+16°3	1	10		
		6300	0°306	62°9	261°6	+10°8	29	125		
		6300	0°305	69°2	260°9	+9°0	10	58		
		6300	0°332	59°1	260°7	+12°6	14	40		
		6300	0°349	53°9	260°7	+14°6	56	388		
		6300	0°319	67°3	260°3	+9°8	2	19		
		6300	0°338	61°9	259°9	+11°9	0	4		
		6300	0°356	61°3	259°0	+12°6	0	9		
		6300	0°346	65°2	259°0	+11°1	20	85		
		6301a	0°337	75°3	258°5	+7°7	16	95		

Group 6304, November 12. A few small spots in a short stream, *sf* Group 6296. A revival of Group 6295, after an interval of four days.



## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 319°124	FS, CL		0°610	83°7	214°0	+ 6°0				94
			0°631	101°1	213°1	- 4°8				61
			0°723	114°3	208°5	-15°3				72
			0°799	102°9	199°6	- 8°6				158
			0°808	91°7	197°7	+ 0°3				101
			0°952	79°1	179°2	+11°3				306
Nov. 16			(+21°5)	(251°4)	(+7°7)		(272)	(1439)		(2899)
320°147	FS, JL		0°952	275°9	310°1	+ 6°5				169
			0°951	259°6	309°1	- 9°1				287
			0°930	289°0	305°8	+18°6				201
			0°915	244°3	300°7	-22°2				154
			0°866	267°6	297°7	- 0°8				94
			0°878	234°6	292°7	-29°0				118
			0°766	285°1	287°2	+13°2				184
			0°650	288°3	277°3	+13°8				124
			0°559	285°3	271°1	+10°7	122	604		
			0°533	282°0	269°7	+ 8°5	0	4		
			0°517	284°7	268°4	+ 9°8	0	4		
			0°462	289°3	264°3	+11°1	18	106		
			0°458	293°0	263°5	+12°6	0	6		
			0°443	288°2	263°2	+10°3	0	9		
			0°441	293°1	262°4	+12°3	8	22		
			0°411	288°1	261°3	+ 9°7	43	166		
			0°435	300°4	260°8	+15°1	18	109		
			0°410	295°2	260°2	+12°4	43	254		
			0°436	304°9	259°8	+16°8	0	4		
			6300a	0°372	283°1	259°3	+ 7°3	15	67	
			6306	0°348	293°1	256°9	+10°3	0	17	
			6306	0°305	287°6	255°0	+ 7°8	22	54	
			6306	0°315	294°1	254°9	+ 9°9	7	30	
			6303	0°207	309°0	247°4	+10°0	3	6	
			6303	0°260	331°6	245°3	+15°7	0	8	
			6303a	0°219	333°4	243°8	+13°8	14	77	
			6307	0°190	33°8	231°8	+11°7	0	14	
			6307	0°183	41°2	231°0	+10°5	1	6	
			6307	0°207	41°4	230°0	+11°4	12	37	
			0°865	77°2	178°5	+12°4				315
			0°901	88°6	173°9	+ 2°4				137
			0°913	102°7	173°3	-10°4				200
			0°924	57°2	173°1	+31°1				130
			0°966	77°8	162°9	+12°5				208
Nov. 17			(+21°2)	(238°0)	(+2°6)		(326)	(1604)		(2321)
321°324	FS, CL		0°932	242°0	287°3	-24°9				257
			0°886	287°3	284°1	+16°5				170
			6300a	0°763	283°0	271°5	+11°4	112	616	
			6300	0°732	282°0	268°9	+10°4	0	17	352c
1907. 321°324	FS, CL		0°719	283°4	267°7	+11°3				0
			6300	0°705	274°9	267°1	+ 5°2			7
			6300	0°685	283°8	264°9	+11°2			6
			6300	0°681	287°2	264°2	+13°4			56
			6300	0°671	284°8	263°7	+11°7			10
			6300	0°661	283°2	263°1	+10°4			63
			6300	0°649	281°9	262°3	+ 9°5			5
			6300	0°651	286°6	262°0	+12°6			3
			6300	0°654	288°2	262°0	+13°6			17
			6300	0°638	284°5	261°2	+11°0			1
			6300	0°646	291°6	260°8	+15°6			35
			6300	0°629	288°6	260°1	+13°5			10
			6300	0°623	287°0	259°8	+12°4			44
			6300	0°632	291°8	259°7	+15°4			62
			6300	0°606	282°9	259°1	+ 9°7			12
			6300	0°594	286°6	257°8	+11°7			2
			6300	0°574	286°1	256°4	+11°1			50
			6301a	0°611	279°4	259°7	+ 7°6			250
			6301	0°578	280°7	257°3	+ 8°1			2
			6301	0°573	279°6	257°0	+ 7°4			13
			6306	0°577	282°6	257°0	+ 9°2			5
			6306	0°550	282°1	255°2	+ 8°6			16
			6306	0°553	284°9	255°1	+10°2			49
			6306	0°543	280°7	254°9	+ 7°8			12
			6306a	0°527	283°6	253°5	+ 9°2			4
			6303a	0°406	300°2	243°5	+14°0			37
			6307	0°240	308°5	233°4	+11°0			12
			6307	0°230	316°2	231°7	+11°9			1
			6307	0°214	316°8	231°0	+11°3			8
			6307	0°185	324°4	228°7	+11°0			30
			0°820	81°9	167°6	+ 8°0				121
			0°864	93°9	163°0	- 2°2				0
			0°916	106°5	157°8	-14°0				251
			0°937	71°8	153°4	+17°9				176
			0°961	83°0	148°5	+ 7°4				270
Nov. 18			(+20°9)	(222°4)	(+2°4)		(358)	(1798)		169
										194
										(2044)
322°239	FS, CL		0°948	285°7	281°5	+15°6				193
			0°887	265°2	272°5	- 3°2				134
			0°904	247°8	272°4	-18°9				150
			6300a	0°880	281°7	271°7	+11°4			125
			6300	0°853	280°8	268°6	+10°4			678
			6300	0°852	282°6	268°4	+11°9			0
			6300	0°830	282°1	266°0	+11°3			7
			6300	0°809	281°7	264°0	+10°8			6
			6300	0°809	282°9	263°9	+11°8			57
			6300	0°795	284°9	262°3	+13°2			0
			6300	0°785	283°5	261°5	+12°0			10
			6300	0°775	280°4	260°8	+ 9°5			8
										40
										433

Group 6306, November 17-22. A ring-shaped group of spots, / Group 6300. It speedily condenses into a large composite spot,  $\alpha$ , with a number of close companions.  
 Group 6307, November 17-23. Some small spots in a short stream. The group is not seen on November 22.



## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 324.240 M. Nov. 21	FS, CL		0.900 0.922 0.960	74.3 92.9 77.6	120.4 117.2 110.5	+15.0 -1.9 +12.5	(262)	(1962)	90 89 52	(2654)
325.320 M.	FS, CL		0.937 0.875 0.872 0.786 0.864 0.805 0.994 0.994 0.607 0.584 0.578 0.539 0.527 0.523 0.523 0.517 0.562 0.535 0.686 0.743 0.864 0.818 0.866 0.872 0.879 0.705 0.835	243.5 281.8 258.1 286.1 225.2 234.6 279.3 278.2 253.7 253.0 250.2 246.9 250.0 248.2 247.1 245.4 254.5 253.3 99.1 100.6 114.4 97.1 96.5 97.5 98.3 120.4 70.4	236.1 230.4 229.4 220.6 219.0 216.7 253.7 253.5 205.7 204.0 203.1 199.9 199.7 199.2 199.0 198.3 202.7 200.8 127.1 122.7 113.2 115.5 110.3 109.7 109.0 129.8 114.5	-23.9 +11.3 -9.3 +13.8 -36.1 -26.4 +9.5 +8.4 -8.2 -8.2 -9.6 -10.5 -8.6 -9.4 -10.0 -10.6 -6.9 -7.1 -4.8 -6.5 -19.8 -4.7 -4.6 -5.5 -6.3 -19.3 +17.4	0 35 20 0 7 0 2 9 0 0 12 0 3 14 3 11 12 5 30 28 6	87 156 84 6 29 5 16 28 9 9 12 3 41 36 47 31 30 28 6	136f 120c 2258f 111c 112 144	(125) (656) (1983)
326.501 G.	FS, AS		0.970 0.990 0.975 0.807 0.789 0.782 0.731 0.439 0.509 0.532 0.616 0.664 0.676 0.705	259.5 281.5 283.1 257.8 258.4 256.5 254.0 102.2 102.4 104.2 99.5 98.6 96.9 98.7	229.4 236.1 231.2 206.9 205.3 204.4 199.6 128.8 124.4 123.1 116.8 113.2 112.1 110.0	-9.7 +11.7 +13.2 -8.7 -8.0 -9.3 -10.4 -3.7 -4.7 -5.9 -4.4 -4.3 -3.3 -4.8	0 0 0 16 0 0 5 0 0 3 3 10 0 5	29 38 90 3 3 13 11 3 17 15 39 9 35	237 777f 113c	
1907. 326.501 G. Nov. 23	FS, AS	6311	0.715 0.921 0.924	120.0 108.1 77.4	113.3 88.9 87.1	-19.5 -15.9 +12.3	3	20	149f 218 228	(1722)
327.503 G.	FS, CL		0.942 0.936 0.813 0.920 0.877 0.468 0.469 0.200 0.113 0.234 0.333 0.304 0.417 0.460 0.487 0.525 0.497 0.522 0.840 0.825 0.866 0.864	284.8 245.8 243.4 259.8 259.4 284.3 287.3 112.7 113.3 113.3 115.1 114.1 104.6 102.3 101.5 102.2 68.3 65.8 108.6 85.8 81.6 94.2	210.9 207.7 191.6 207.1 201.4 168.1 167.9 130.4 128.6 123.4 121.5 117.2 114.3 112.5 110.1 112.9 111.8 85.8 85.6 81.6 81.6	+14.5 -21.9 -20.3 -8.7 -8.5 +8.1 +9.5 -2.8 -3.6 -6.5 -6.9 -4.5 -4.2 -4.1 -4.9 +12.1 +13.8 -14.6 +4.4 +12.0 -2.8	12 0 0 0 0 5 5 0 5 4 4 4 4 4 4 4 4 4 4 4 4 4	92 8 11 7 3 1 6 3 20 37 7 20 21 9	306c 137 118 281 127	(41) (245) (1596)
328.135 K.	AS, CL		0.954 0.949 0.914 0.771 0.736 0.965 0.949 0.926 0.921 0.593 0.582 0.576 0.261 0.289 0.308 0.328 0.368 0.384 0.355 0.369	287.2 272.8 236.2 270.5 286.0 259.2 260.9 259.2 254.9 284.0 280.3 283.7 111.9 106.0 106.6 107.0 104.5 105.7 59.4 58.7	204.7 204.1 193.6 183.0 179.0 206.7 203.6 199.6 198.4 168.2 167.8 167.1 118.7 116.6 115.6 114.5 111.9 111.0 114.6 113.9	+16.9 +3.2 -29.8 +1.5 +12.8 -10.0 -8.1 -9.3 -13.2 +9.6 +7.3 +9.2 -4.0 -3.0 -3.5 -4.0 -3.8 -4.4 +11.9 +12.6	20 0 0 0 0 20 0 0 0 0 4 2 2 10 0 0 0 4 11 2	123 12 10 6 10 9 2 8 26 1 7 14 26 10	432c 58c	

Group 6310, November 22–December 1. One or two small unstable spots. The group is not seen on November 25–27, or November 29.

Group 6314, November 24–26. A small spot,  $\alpha$ , with one or two small companions.

Group 6315, November 24–28. A few small unstable spots.





## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 334°156	AS, CL		0°84'1	243°9	107°2	-21°2			183	1907. 337°149	AS, CL		0°67'4	253°6	54°9	-10°6			87
		6310	0°99'3	267°8	136°2	-2°1	0	32	250s			6316a	0°56'9	113°1	341°6	-12°4	36	194	95c
		6310	0°98'5	269°1	133°1	-0°8	0	42				6316	0°58'5	112°0	340°3	-12°2	13	43	
		6316a	0°95'6	103°2	341°1	-12°4	40	286	248c			6316	0°60'1	113°1	339°4	-13°2	8	35	89
		6316	0°97°0	104°2	338°1	-13°6	16	84				6316	0°69°0	137°9	341°6	-30°3			
		6316	0°98°6	104°7	333°6	-14°4	0	171	16			6316	0°70'1	125°6	335°5	-23°7			160
		6316	0°99'3	101°7	330°7	-11°5	0	16				6316	0°77°9	113°0	325°4	-17°4			450
			0°65'5	114°8	15°4	-15°3			144			6316	0°81'5	100°7	320°1	-8°4			140
			0°86°9	113°5	355°6	-19°8			327			6316	0°83'1	74°3	318°8	+13°3			240
			0°90°6	101°3	349°1	-9°9			128			6316	0°84°9	64°2	318°6	+22°0			122
			0°93°4	77°4	344°8	+12°0			288			6316	0°88°3	125°5	317°5	-30°5			173
			0°96°5	112°0	340°2	-20°9			214			6316	0°84°7	88°9	316°2	+1°2			205
				(+16°5)	(53°3)	(+0°8)	(56)	(631)	(2590)			6316	0°92°3	100°0	307°1	-9°1			96
												6316	0°93°9	112°5	305°9	-20°9			249
														(+15°3)	(13°9)	(+0°5)	(57)	(272)	(2816)
335°476	FS, M		0°97'3	266°4	112°2	-3°3			126	Dec. 4									
			0°92°2	247°7	100°9	-20°1			189										
			0°76°3	247°6	83°0	-16°4			206										
		6316a	0°83°2	106°1	341°0	-12°9	29	294	578c			6316a	0°85°4	257°3	53°6	-10°6			60
		6316	0°85°2	104°7	338°7	-12°1	0	15				6316	0°33°4	133°7	341°6	-13°0	41	214	
			0°77°7	102°8	345°9	-9°5			140			6316	0°36°4	130°5	339°5	-13°3	0	7	
			0°83°9	119°4	343°1	-23°8			603			6316	0°39°8	126°0	336°7	-13°2	0	6	
			0°85°9	75°4	337°6	+12°8			807			6317a	0°53°7	104°6	324°4	-7°5	2	13	
			0°92°8	98°6	328°3	-7°7			136			6317	0°58°4	105°0	321°3	-8°5	0	5	
			0°94°3	109°8	326°9	-18°4			718			6318a	0°98°2	77°2	277°2	+12°6	26	200	323c
				(+16°0)	(35°9)	(+0°7)	(29)	(309)	(3503)				0°87°4	73°6	296°2	+14°4			128
														(+14°8)	(355°9)	(+0°3)	(69)	(445)	(511)
336°238	CL, AS		0°90°9	251°1	89°7	-16°9			140	339°479	FS, AS		0°90°6	261°1	47°6	-8°0			154
			0°87°9	279°3	87°0	+8°5			215				0°65°7	247°6	21°9	-14°3			121
		6316a	0°72°7	109°3	341°2	-13°5	39	259	192c			6316a	0°23°1	173°3	341°6	-13°0	25	199	
		6316	0°75°1	109°9	339°3	-14°4	7	50				6316	0°20°7	161°7	339°4	-11°1	0	3	
		6316	0°77°4	111°4	337°5	-16°0	0	11	10			6316	0°24°5	153°2	336°7	-12°4	0	14	
		6316	0°77°1	109°1	337°4	-14°2	0	10				6317a	0°32°9	111°5	325°3	-6°7	3	11	
			0°76°7	120°0	340°3	-22°0			138			6317	0°36°5	106°4	322°7	-5°8	0	4	
			0°79°8	68°6	335°0	+17°2			138			6317*	0°44°3	133°3	323°5	-17°5	0	8	
			0°82°0	80°5	331°3	+8°1			205			6318a	0°92°3	76°3	276°6	+12°7	18	143	1135c
			0°86°8	121°6	330°2	-26°7			108			6318	0°93°2	78°0	275°1	+11°2	0	11	
			0°88°9	112°3	325°4	-19°4			394			6319a	0°98°1	81°8	264°7	+8°1	43	319	
			0°91°5	101°1	320°4	-9°9			169			6319b	0°98°2	78°6	264°5	+11°3	24	323	
			0°92°6	76°5	318°8	+12°7			148				0°93°3	88°1	274°5	+1°9			203
				(+15°7)	(25°9)	(+0°6)	(46)	(330)	(1847)					(+14°4)	(343°2)	(+0°2)	(113)	(1035)	(1613)
337°149	AS, CL		0°94°0	247°7	82°0	-20°7			122	340°453	FS, M		0°77°9	251°4	19°8	-14°4			109
			0°91°5	283°9	79°3	+12°9			134			6316a	0°30°0	218°8	341°4	-13°5	24	183	
			0°89°8	259°6	77°1	-9°1			112			6316	0°25°0	205°3	336°6	-13°0	0	7	
			0°89°4	268°5	77°0	-1°1			154			6316	0°24°2	219°2	339°2	-10°8	0	8	
			0°81°4	250°5	66°4	-15°4			102			6320	0°29°6	180°1	330°4	-17°2	2	7	
			0°72°6	288°3	58°9	+13°5			86			6320	0°33°3	174°9	328°5	-19°3	0	6	

Group 6317, December 5-8. A small regular spot,  $\alpha$ , sometimes with a very small companion.Group 6318, December 5-17. A large regular spot,  $\alpha$ , with occasionally a very small companion.Group 6317\*, December 6. A very small spot,  $\beta$  Group 6317.Group 6319, December 6-18. Return of Group 6300. A fine triangular group closely following Group 6318. Two very large composite spots,  $\alpha$  and  $\beta$ , of which  $\alpha$  is due south of  $\beta$  form the base of the triangle. The apex leads the group.Group 6320, December 7-12. A few small spots in a sparse stream,  $\beta$  Group 6316, and  $\gamma$  Group 6317, and making up with them both a sparse irregular procession.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Measures of Positions and Areas of Sun Spots and Faculae.																			
Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMERA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMERA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 340°453	FS, M	6320	0°322	170°1	327°0	-18°4	0	10		1907. 342°526	FS, AS	6321	0°807	80°9	249°8	+7°2	0	35	89
G.		6317a	0°133	146°1	326°0	-6°3	1	5		G.			0°841	72°0	247°3	+14°9		250	
		6318a	0°817	74°3	276°7	+12°8	16	144	463c				0°875	117°7	245°1	-24°1		701	
		6319	0°913	78°8	265°1	+10°2	0	102					0°942	75°8	233°5	+13°3		233	
		6319a	0°912	81°2	265°0	+8°0	44	307	1033c				0°946	101°6	232°5	-11°0		233	
		6319b	0°920	77°1	264°1	+11°9	10	146						(+13°1)	(303°0)	(-0°2)	(154)	(1228)	(2424)
Dec. 7			0°785	82°5	279°0	+5°9			114	343°517	FS, M		0°886	249°4	350°6	-18°3		395	
			0°848	93°4	272°6	-2°9			107				0°868	236°1	345°4	-29°1		148	
				(+14°0)	(330°3)	(0°0)	(97)	(925)	(1826)				0°816	285°1	343°4	+12°0		372	
341°508	CL, M		0°909	253°5	20°6	-15°0			102			6316a	0°799	252°8	341°6	-13°9	13	139	103f
G.		6316a	0°476	240°4	341°5	-13°7	14	132				6320	0°730	247°4	334°5	-16°6	0	6	
		6320	0°388	219°0	331°2	-17°6	2	14				6320	0°691	243°4	330°4	-18°3	9	69	132c
		6320	0°348	213°4	327°9	-16°9	0	7				6320	0°666	243°0	328°4	-17°8	0	11	
		6320	0°362	207°0	326°4	-18°9	0	9				6320	0°648	239°5	326°2	-19°5	8	76	
		6317a	0°213	239°2	327°0	-6°4	0	2				6322	0°144	169°4	288°5	-8°5	2	10	
		6318a	0°658	70°4	277°1	+12°7	26	195				6322	0°175	151°5	285°2	-9°2	0	8	
		6319	0°727	76°3	270°8	+9°9	0	7				6322	0°191	146°9	284°0	-9°6	0	4	
		6319	0°754	75°9	268°6	+10°5	0	10				6318*	0°339	7°9	287°2	+19°1	0	5	
		6319a	0°788	80°0	265°0	+7°8	35	296	542c			6318a	0°306	43°2	277°7	+12°4	29	155	
		6319b	0°797	75°4	264°7	+11°5	20	199				6318	0°389	43°7	273°8	+15°9	0	6	
		6319	0°805	77°5	263°7	+10°0	0	42				6319	0°373	61°3	270°7	+9°9	0	3	
		6321	0°892	82°3	253°7	+6°8	0	23	169f			6319	0°374	67°7	269°7	+7°8	0	2	
		6321	0°905	82°9	252°0	+6°4	0	12				6319	0°402	63°1	268°7	+10°1	4	25	
			6321	0°702	69°8	273°8	+14°0			207			6319	0°421	67°2	267°0	+9°0	0	4
Dec. 8				(+13°5)	(316°4)	(-0°1)	(97)	(948)	(1020)			6319	0°438	63°1	266°6	+11°0	3	25	
342°526	FS, AS		0°905	252°6	6°6	-15°7			205			6319a	0°438	71°2	265°4	+7°8	51	284	
			0°770	257°8	352°5	-9°5			150			6319b	0°469	64°6	264°5	+11°2	32	391	
			0°766	287°2	351°5	+13°0			97			6319	0°457	75°4	263°7	+6°3	0	4	
			0°766	242°6	349°5	-20°7			211			6319	0°488	73°2	262°0	+7°7	0	5	
			0°764	231°1	345°5	-28°7			114			6321	0°551	72°7	257°9	+9°1	0	5	
		6316a	0°649	249°0	341°4	-13°6	18	134	53c			6321	0°579	76°6	255°5	+7°4	0	32	
		6316	0°571	245°6	335°2	-13°8	0	4				6321	0°618	76°8	252°8	+7°8	6	57	
		6320	0°560	239°5	333°1	-16°6	4	12				6321	0°659	78°4	249°6	+7°3	10	84	
		6320	0°529	233°6	329°5	-18°4	7	44				6321	0°858	102°5	231°7	-10°9			165
		6320	0°497	231°6	327°1	-18°1	0	3					0°874	75°8	230°1	+12°2			1160
		6320	0°495	229°1	326°2	-19°0	0	66					0°969	98°2	214°6	-8°1			248
		6322	0°313	117°8	286°8	-8°5	0	3						(+12°7)	(290°0)	(-0°4)	(167)	(1410)	(2723)
		6322	0°339	115°8	285°1	-8°6	0	7											
		6318a	0°480	62°8	277°2	+12°5	27	172											193
		6319	0°547	71°6	271°3	+9°8	0	8											241
		6319	0°574	71°2	269°6	+10°4	0	8											126
		6319	0°590	72°4	268°3	+10°1	0	12	173c										92
		6319a	0°627	77°5	265°0	+7°6	45	310											289np
		6319b	0°641	72°2	264°7	+11°1	31	323											161n
		6321	0°751	80°7	254°9	+6°9	15	72	148c										204c
		6321	0°784	81°7	251°9	+6°4	0	15											

Group 6321, December 8-17. Return of Group 6301. Third apparition. A number of unstable spots in an irregular stream, f Groups 6318 and 6319, and making up with them a very fine procession.  
 Group 6322, December 9-16. A few small unstable spots in a sparse stream.  
 Group 6318\*, December 10. A very small spot, np Group 6318.

## MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 344°540	FS, CL	6322	0°210	224°8	285°1	— 9°1	7	35		1907. 345°240	CL, AS	6321	0°252	51°8	255°8	+ 8°4	0	8		
G.		6318a	0°225	356°2	277°4	+12°4	25	146				6321	0°276	54°0	254°3	+ 8°8	10	77		
		6310*	0°317	32°3	266°4	+15°0	0	5				6321	0°305	59°1	252°0	+ 8°4	4	43		
		6319	0°194	18°9	272°9	+10°0	1	5		M.		6321	0°336	60°1	250°2	+ 9°1	6	35		
		6319	0°197	26°7	271°4	+ 9°6	3	9				6321	0°345	65°0	249°0	+ 7°8	19	131		
		6319	0°232	33°6	269°0	+10°6	0	5					0°684	63°2	227°7	+17°4			142	
		6319	0°217	37°8	268°8	+ 9°3	6	95					0°865	69°6	209°4	+17°2			176	
		6319	0°221	45°5	267°4	+ 8°4	2	5					0°890	101°5	205°0	—10°5			449	
		6319	0°250	41°8	266°8	+10°3	0	7		Dec. 12				(+11°9)	(267°3)	(—0°6)	(230)	(1687)	(1670)	
		6319	0°290	39°2	265°7	+12°5	0	5												
		6319	0°220	63°0	265°2	+ 5°2	0	2												
		6319a	0°244	55°2	264°9	+ 7°5	43	304					0°965	250°1	324°5	—19°3			903	
		6319b	0°281	46°1	264°7	+10°7	56	496			346°498	FS, M		0°954	262°0	323°0	— 7°9			168
		6319	0°256	61°6	263°5	+ 6°5	0	11						0°908	284°1	314°9	+12°5			256
		6319	0°263	65°0	262°7	+ 5°9	0	5						0°880	253°0	311°2	—15°3			119
		6319	0°295	55°4	262°3	+ 9°2	0	5					6322	0°642	257°1	289°8	— 8°8	4	40	
		6319	0°337	49°0	261°5	+12°3	0	5					6322	0°593	257°7	286°3	— 7°8	0	8	
		6321	0°382	68°2	255°6	+ 7°7	1	7					6318a	0°496	297°9	277°3	+12°7	31	167	
		6321	0°412	68°9	253°7	+ 8°1	9	71					6310*	0°393	312°6	268°0	+14°7	0	7	
		6321	0°423	72°0	252°7	+ 7°0	0	6					6319	0°360	296°7	269°6	+ 8°6	9	153	
		6321	0°405	70°6	250°3	+ 8°4	0	3					6319	0°338	305°5	266°9	+10°6	0	85	
	6321	0°475	73°5	249°3	+ 7°3	5	116					6319	0°271	292°3	265°2	+ 5°2	0	7		
Dec. 11			0°738	68°5	231°3	+15°3		109				6319a	0°285	300°6	265°0	+ 7°6	51	340		
			0°775	105°7	226°9	—12°4		107		G.		6319b	0°309	312°3	264°1	+11°3	56	382		
			0°808	78°4	223°4	+ 9°1		211				6319	0°267	312°4	262°2	+ 9°6	0	13		
			0°861	67°7	219°4	+18°8		233				6319	0°300	323°7	261°2	+13°3	0	5		
			0°873	117°1	218°6	—23°7		92				6319	0°235	313°6	260°6	+ 8°6	0	9		
			0°929	99°4	208°7	— 8°9		401				6321	0°183	332°7	255°5	+ 8°6	4	21		
				(+12°2)	(276°5)	(—0°5)	(176)	(1550)	(2459)			6321	0°147	356°7	251°2	+ 7°7	0	20		
												6321	0°149	10°5	249°1	+ 7°7	4	19		
													0°783	103°2	200°0	—10°7			291	
													0°889	85°5	188°3	+ 3°7			148	
345°240	CL, AS	6316a	0°964	256°6	341°4	—13°1	16	95					0°923	75°6	184°4	+13°0			364	
M.		6320	0°913	253°1	332°1	—15°6	0	19						(+11°4)	(250°7)	(—0°7)	(159)	(1276)	(2249)	
		6320	0°915	250°5	332°1	—18°0	0	15	571c	Dec. 13										
		6320	0°871	248°3	325°9	—19°0	0	14	332c											
		6322	0°404	249°8	289°7	— 8°6	8	45												
		6322	0°393	247°4	288°8	— 9°2	0	5												
		6322	0°369	249°8	287°7	— 7°9	0	5												
		6322	0°340	246°6	285°6	— 8°3	3	22												
		6318a	0°299	324°6	277°5	+13°5	22	163					0°972	249°2	317°3	—20°4			321	
		6319	0°217	335°6	272°5	+10°8	0	15					0°955	260°8	314°1	— 9°0			156	
		6319	0°189	345°1	270°1	+ 9°9	10	58					0°957	282°5	314°0	+11°7			168	
		6319	0°174	345°1	269°9	+ 9°1	0	4					0°875	274°6	302°4	+ 3°6			173	
		6319	0°171	353°6	268°4	+ 9°2	11	85					0°898	297°8	302°1	+24°3			139	
		6319	0°198	0°1	267°2	+10°8	3	79					0°880	249°5	301°7	—18°3			150	
		6319a	0°161	13°1	265°2	+ 8°4	54	315					0°869	236°9	297°6	—28°7			74	
		6319	0°200	13°2	264°6	+10°6	13	87					0°729	288°1	286°7	+12°5			72	
		6319b	0°235	12°9	264°2	+12°6	51	347					0°643	281°9	280°9	+ 7°0			100	
		6319	0°150	28°2	263°2	+ 7°0	0	11					6322	0°773	259°5	291°7	— 8°6	5	22	
		6319	0°196	29°7	261°7	+ 9°2	0	9					6322	0°749	259°6	289°6	— 8°3	3	8	
													6322	0°710	258°9	286°3	— 8°4	0	10	
													6318a	0°614	291°9	277°3	+12°6	26	140	
												6319*	0°495	302°4	267°2	+14°6	0	7		

Group 6319\*, December 11-14. A small spot, n of Group 6319, not seen on December 12.

## Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1907. 347°182	CL, AS	6319	0°553	296°8	272°1	+13°7	0	6	
		6319	0°529	289°7	271°9	+9°6	15	42	
		6319	0°508	290°6	270°4	+9°6	7	29	
		6319	0°515	293°7	270°3	+11°2	0	3	
		6319	0°489	287°2	269°7	+7°6	3	14	
		6319	0°491	289°5	269°5	+8°7	6	36	
		6319	0°463	291°2	267°5	+8°9	0	7	
		6319	0°468	294°7	267°2	+10°6	8	100	
		6319	0°452	288°3	267°2	+7°4	0	6	
		6319	0°469	297°3	266°8	+11°7	0	8	
		6319	0°446	293°5	266°1	+9°5	8	37	
		6319	0°448	296°1	265°8	+10°6	2	6	
		6319a	0°425	289°9	265°4	+7°5	61	312	
		6319b	0°435	299°8	264°3	+11°7	55	276	
		6319b	0°417	296°4	263°9	+9°9	21	104	
		6319	0°362	298°2	260°5	+9°1	0	8	
		6319	0°369	300°9	260°4	+10°2	0	5	
		6321	0°304	295°9	257°6	+6°9	0	6	
		6321	0°295	302°2	256°2	+8°3	5	14	
		6321	0°295	305°9	255°6	+9°2	9	32	
		6321	0°281	303°5	255°3	+8°1	0	5	
		6321	0°270	307°6	254°1	+8°7	0	7	
		6321	0°234	305°9	252°7	+7°1	0	4	
		6321	0°224	311°7	251°4	+7°7	0	9	
		6321	0°225	318°0	250°4	+8°8	2	13	
		6321	0°197	317°1	249°4	+7°5	3	12	
		6321	0°172	320°4	248°0	+6°8	0	7	
		6323a	0°478	122°3	217°0	-15°4	15	34	
		6323	0°495	117°7	215°0	-14°0	2	7	
		6323	0°503	119°3	214°8	-14°9	0	4	
		6323b	0°524	118°6	213°3	-15°2	5	13	
			0°667	104°3	200°9	-10°0		180	
			0°773	94°8	191°3	-4°2		132	
			0°775	84°6	191°3	+3°7		121	
			0°851	75°7	184°6	+11°7		141	
			0°854	103°0	183°8	-11°5		132	
			0°892	65°2	181°4	+21°5		103	
Dec. 14			(+11°0)	(241°7)	(-0°8)		(261)	(1353)	(2282)
348°183	CL, AS		0°914	297°3	291°3	+24°3		151	
			0°873	290°2	287°3	+17°1		130	
			0°806	279°3	281°6	+7°0		149	
			0°763	298°6	274°1	+20°8		152	
		6322	0°907	261°6	293°2	-8°0	0	21	
		6322	0°877	261°5	289°4	-7°9	6	20	144c
		6318a	0°768	287°5	277°0	+12°7	31	145	
		6319	0°723	285°2	273°5	+10°3	26	109	
		6319	0°704	286°0	271°8	+10°5	0	6	
		6319	0°697	285°1	271°4	+9°8	0	23	151c
1907. 348°183	CL, AS	6319	0°679	283°9	270°1	+8°7		3	15
		6319	0°682	286°8	270°0	+10°6		0	25
		6319	0°644	287°5	267°0	+10°4		10	96
		6319a	0°614	283°7	265°4	+7°7		61	323
		6319b	0°608	289°4	264°1	+10°9		60	384
		6319	0°588	289°2	262°7	+10°4		0	7
		6321	0°490	289°0	256°3	+8°4		5	12
		6321	0°484	290°9	255°6	+9°1		7	18
		6321	0°467	291°4	254°5	+9°0		0	3
		6323a	0°290	148°3	219°5	-15°1	30	152	
		6323	0°324	144°2	217°2	-16°1	0	9	
		6323	0°309	139°9	216°7	-14°5	0	10	
		6323	0°336	138°4	215°2	-15°4	0	4	
		6323	0°329	134°9	214°6	-14°3	0	10	
		6323	0°356	137°5	214°1	-16°0	0	12	
		6323	0°356	134°4	213°3	-15°3	0	18	
		6323b	0°369	132°5	212°2	-15°3	14	81	
		6324a	0°997	94°3	143°1	-4°4	54	331	
			0°757	70°2	181°4	+14°3			105
			0°842	57°2	176°4	+26°5			91
Dec. 15			(+10°6)	(228°5)	(-0°9)		(307)	(1834)	(1073)
349°502	FS, AS		0°897	273°4	274°5	+2°5			198
			0°898	293°1	272°5	+20°1			384
			0°795	291°7	261°2	+16°3			449
		6322	0°984	262°1	290°6	-8°0	0	152	317c
		6318a	0°923	284°3	277°4	+12°8	26	134	
		6319	0°897	281°9	274°0	+10°2	0	18	
		6319	0°871	282°4	270°7	+10°3	7	46	776c
		6319	0°850	282°5	268°3	+10°0	0	11	
		6319a	0°823	280°0	265°7	+7°6	38	310	
		6319b	0°817	284°0	264°7	+10°7	28	256	
		6321	0°721	283°0	256°2	+8°6	4	20	97c
		6321*	0°784	304°8	256°5	+25°7	0	6	
		6321*	0°761	306°2	254°0	+25°8	0	8	76c
		6323a	0°291	210°3	219°8	-15°6	40	352	
		6323	0°262	200°9	216°6	-15°3	0	15	
		6323	0°281	196°3	215°8	-16°6	0	7	
		6323b	0°260	187°6	213°1	-16°0	65	319	
		6324a	0°929	94°9	143°0	-5°0	58	494	578f
			0°803	70°3	159°8	+15°0			147
			0°874	114°3	152°4	-21°6			133
			0°922	74°2	145°2	+14°1			159
Dec. 16			(+10°0)	(211°1)	(-1°1)		(266)	(2148)	(3314)
350°204	CL, AS		0°963	262°4	276°1	-7°7			72
			0°951	291°3	272°1	+19°8			425
			0°930	271°0	270°0	+0°5			160

Group 6323, December 14-22. A few small spots in a short stream on December 14. The group develops rapidly on the succeeding days, and becomes a fine stream, of which the first and last, *a* and *b*, two very large composite spots, are by far the most conspicuous members. *a* has passed out of sight at the West limb by December 22.

Group 6324, December 15-27. A very large regular spot, *a*, followed by a short train.

Group 6310, December 11-14. A few small spots in a short stream on December 11.

Group 6321, December 16-18. A few small spots in a short stream on December 16.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Group 6325, December 18-22. Some small spots in a short stream.  
Group 6326, December 20-30. Some small unstable spots.



## Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).								Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 357.133	FS, AS	6324a	0.547	263.4	143.5	- 5.4	99	496			1907. 360.253	AS, CL		0.939	242.0	137.9	-27.1			141	
K.		6324	0.503	260.5	140.4	- 6.6	0	18						0.834	269.0	125.8	- 2.2			146	
		6324	0.488	265.4	139.7	- 4.1	0	17						0.821	252.2	123.7	-16.0			128	
		6324	0.445	266.1	136.9	- 3.6	2	15					6328a	0.979	252.9	147.7	-17.2	0	9	145f	
		6326	0.173	118.8	101.9	- 6.9	3	20					6324a	0.960	266.3	143.1	- 4.3	69	413	412f	
		6327b	0.387	140.0	95.4	-19.2	0	13					6324†	0.883	266.7	131.4	- 4.2	0	8		
			0.827	99.5	55.1	- 9.1			149				6326	0.525	262.1	100.9	- 6.3	0	3		
			0.873	74.0	51.5	+12.8			160		M.		6330	0.480	256.7	97.6	- 8.5	0	8		
			0.877	111.5	50.7	-19.8			143				6330	0.457	257.7	96.2	- 7.8	0	7		
Dec. 24			0.891	89.0	47.8	- 0.1		130				6329a	0.849	66.2	14.7	+18.6	20	80			
			(+6.4)	(110.6)	(-2.1)	(125)	(664)	(1499)				6331	0.901	67.4	12.8	+ 6.5	0	4	556c		
358.138	FS, AS		0.924	288.1	162.9	+15.7		296						0.801	105.7	17.1	-14.0			235	
			0.884	233.2	154.8	-33.1		153			Dec. 27			0.950	108.0	358.1	-17.9			263	
			0.835	265.2	153.8	- 5.2		270					0.958	77.0	357.3	+11.7			134		
			0.801	291.6	147.8	+15.7		123					(+4.9)	(69.5)	(-2.5)	(89)	(532)	(2160)			
	K.		6328a	0.795	247.4	148.1	-19.1	7	27			361.139	CL, AS		0.937	267.1	127.2	- 3.6			266
			6328b	0.731	243.3	141.4	-20.7	0	9	246c				0.920	257.9	124.5	-12.1			118	
			6324a	0.728	264.7	143.8	- 5.4	87	520					0.899	279.8	120.9	+ 7.7			112	
			6324	0.695	265.5	141.2	- 4.7	0	9	327c				0.876	247.0	117.5	-21.3			122	
			6324	0.687	261.3	140.4	- 7.6	0	6					6326	0.706	261.4	102.4	- 7.9	1	8	161f
			6326	0.135	222.5	102.6	- 7.9	0	4					6326	0.677	260.6	100.1	- 8.2	1	5	
			6326	0.104	201.1	99.5	- 7.8	1	9					6329a	0.742	59.4	15.1	+20.2	18	86	158c
			6329a	0.998	68.9	12.0	+20.9	0	219	402c				6331a	0.729	74.8	12.5	+ 9.2	0	6	60f
		0.807	94.7	43.7	- 5.1			117		K.		6331*	0.839	63.5	4.7	+20.4	0	4	185c		
		0.850	83.3	39.6	+ 4.6			178					0.767	109.8	9.1	-16.8			103		
Dec. 25			0.955	104.2	24.7	-14.3		404					0.925	80.4	351.0	+ 7.9			84		
			(+6.0)	(97.3)	(-2.2)	(95)	(803)	(2516)					0.939	72.9	349.7	+15.0			178		
359.132	FS, AS		0.911	289.7	147.6	+16.8		166						0.932	105.0	349.3	-15.0			390	
			0.866	246.7	142.5	-21.2		127			Dec. 28			0.955	116.9	346.1	-26.4			411	
			0.852	278.2	141.9	+ 5.8		140					0.959	95.9	344.3	- 6.4			172		
			0.764	252.0	132.8	-15.1		106					(+4.5)	(57.8)	(-2.6)	(20)	(109)	(2520)			
			0.786	239.6	132.4	-24.9		111													
	K.		6328a	0.909	250.8	148.8	-18.4	9	22	90n		362.222	FS, CL		0.965	271.7	118.1	+ 0.9			186
			6324a	0.865	265.7	143.9	- 4.9	94	507					0.879	248.4	103.9	-20.2			149	
			6324	0.831	268.3	140.2	- 2.7	0	4	597c				6326	0.872	263.5	104.2	- 7.0	6	18	
			6324	0.812	267.5	138.3	- 3.3	0	18					6326	0.847	264.0	101.3	- 6.5	0	2	
			6324†	0.723	265.4	130.3	- 5.0	0	7					6326	0.836	261.5	100.1	- 8.6	0	12	
			6324†	0.692	267.1	127.8	- 3.7	5	18	97c				6329a	0.593	51.5	14.3	+19.2	7	70	
			6326	0.333	253.4	102.9	- 7.7	4	29					6331	0.528	69.5	13.7	+ 8.3	0	5	
		6326	0.306	252.2	101.2	- 7.5	0	7			K.		6331a	0.553	69.6	12.1	+ 8.8	1	14		
	6330	0.235	246.1	96.7	- 7.7	0	12						0.808	109.0	350.8	-16.9			184		
	6329a	0.950	67.7	14.9	+20.3	39	125	452f					0.869	98.3	343.4	- 8.5			366		
		0.793	92.0	31.9	- 3.1			97					0.891	120.8	343.2	-28.5			41.2		
		0.873	112.7	24.9	-20.9			140					0.905	77.4	340.0	+10.2			176		
		0.875	82.8	23.8	+ 5.1			91					0.939	109.4	334.2	-19.1			90.5		
Dec. 26			0.916	102.9	18.2	-12.7		366					0.973	98.5	326.9	- 8.9			20.6		
			(+5.5)	(84.2)	(-2.3)	(151)	(749)	(2580)			Dec. 29			(+4.0)	(43.6)	(-2.7)	(14)	(121)	(291.6)		

Group 6329, 1907 December 25-1908 January 1. A large regular spot, *a*.  
 Group 6324†, December 26-27. Some very small spots, *f* Group 6324.  
 Group 6330, December 26-27. Some small spots, *f* Group 6326.  
 Group 6331, 1907 December 27-1908 January 1. A small spot, *a*, usually with some small companions.  
 Group 6331\*, December 28. A very small spot, *nf* Group 6331.



Measures of Positions and Area of Sun Spots and Faculae on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1907. 363'373	AS, CL		0°936	248°8	97°2	-20°8			117	
			0°936	285°0	96°3	+13°0			131	
			0°903	297°1	89°0	+22°9			271	
			0°764	287°6	76°2	+11°4			159	
		6326	0°972	262°5	104°9	-8°0	0	25	349f	
		6329a	0°443	31°2	14°4	+19°5	10	57		
		6332	0°286	44°7	16°7	+8°9	0	3		
		6332	0°308	49°6	14°7	+8°8	2	16		
		6331a	0°349	52°8	12°1	+9°5	5	24		
		6331	0°358	59°8	10°3	+7°7	0	5		
		6331	0°393	53°7	9°7	+10°7	0	7		
		6333	0°995	96°3	304°0	-6°6	38	235	187p	
			0°755	125°6	344°5	-28°1			97	
			0°728	91°1	341°8	-2°8			114	
			0°751	106°7	340°7	-14°3			375	
			0°775	71°2	339°8	+12°6			155	
			0°879	124°4	330°6	-31°2			224	
			0°907	81°4	324°9	-0°4			173	
			0°897	95°1	324°7	-5°8			160	
			0°912	113°9	323°9	-22°8			403	
			0°936	70°3	321°2	+17°4			165	
			0°931	105°0	320°1	-15°0			126	
Dec. 30			(+3°4)	(28°4)	(-2°8)		(55)	(372)	(3206)	
1907. 364'355	CL, AS		0°952	265°7	87°5	-5°0				331
			0°932	287°7	82°2	+15°3				87
			0°912	253°9	80°8	-15°9				130
			0°886	281°6	76°6	+8°8				147
		6334	0°692	260°6	58°9	-8°6	0	2		
		6334	0°658	261°8	56°3	-7°5	3	12		53c
		6329a	0°378	2°6	14°4	+19°2	12	42		
		6331a	0°216	16°2	11°9	+9°1	3	15		
		6329*	0°461	24°1	37°	+22°0	0	10		
		6331†	0°396	55°4	356°1	+10°3	2	5		
		6333	0°952	96°1	303°3	-6°7	19	221		602c
		6333	0°974	95°9	298°4	-6°5	8	136		
			0°685	131°7	339°6	-29°4				154
			0°731	113°2	330°4	-18°8				193
			0°768	97°0	325°4	-7°3				137
			0°842	60°1	323°1	+23°0				131
			0°870	132°0	321°3	-37°2				217
			0°890	51°6	320°3	+31°9				96
			0°859	120°3	319°0	-27°3				390
			0°882	106°8	314°1	-16°2				166
Dec. 31			(+2°9)	(15°4)	(-2°9)		(47)	(443)	(2834)	

Group 6332, December 30. Small spots, p Group 6331.

Group 6333, 1907 December 30-1908 January 8. A number of spots, mostly small, in an irregular and very changeable stream.

Group 6329\*, 1907 December 31-1908 January 1. A small spot, f Group 6329.

Group 6331†, 1907 December 31-1908 January 1. A very small spot, f Group 6331.

Group 6334 1907 December 31-1908 January 1. Some very small spots.

ROYAL OBSERVATORY, GREENWICH.

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# LEDGERS

OF

AREAS AND POSITIONS OF GROUPS OF SUN SPOTS

DEDUCED FROM THE MEASUREMENT

OF THE

# SOLAR PHOTOGRAPHS

FOR EACH DAY IN THE YEAR

1907.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS DEDUCED FOR EACH DAY from the MEASUREMENTS of the PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, at the OBSERVATORY, KODAI-KÁNAL, and at DEHRA DŪN IN INDIA, and at the ROYAL ALFRED OBSERVATORY, MAURITIUS, in the YEAR 1907.

NOTE.—The Greenwich Civil Time at which the photograph was taken is expressed by the month, day of the month (civil reckoning), and decimal of a day, reckoned from Greenwich Mean Midnight.

The place where the photograph was taken is indicated in the second Column. A photograph taken at Greenwich is indicated by the letter G, one taken at Kodai-káanal by the letter K, one taken at Dehra Dūn by the letter D, and one taken in Mauritius by the letter M.

The Projected Area of the Umbra and Whole Spots is the area as it is measured on the photograph, uncorrected for the effect of foreshortening, and expressed in millionths of the Sun's apparent disk.

The Column "Longitude from the Central Meridian" gives the Mean heliographic longitude of the group, reckoned from the meridian passing through the centre of the Sun's disk at the moment of observation; longitudes west of the centre being reckoned as positive.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6056.								
A number of spots, most of them very small, in a short irregular stream. The group is not seen on 1906 December 31.								
1906. <sup>a</sup>								
Dec. 27 <sup>311</sup>	M	4	20	4	20	146.9	+12.9	-59.4
28.	...	No photograph.		(2	20	147.1	+13.2	-47.2)
29 <sup>132</sup>	K	0	31	0	20	147.3	+13.5	-35.0
30 <sup>270</sup>	M	4	21	2	12	146.9	+13.6	-20.4
31 <sup>503</sup>	G	0	0	0	0	...	...	...
1907.								
Jan. 1 <sup>135</sup>	K	0	16	0	8	141.7	+13.6	-1.0
Means	...	...	...	1	13	145.98	+13.36	...
Group 6059.								
A magnificent stream, chiefly composed of two very large composite spots, <i>a</i> and <i>b</i> . Of these <i>a</i> has become regular in form by January 3, and <i>b</i> has broken up, and the group has taken the form of a great circular leader spot, followed by a long straight train of small spots.								
1906.								
Dec. 29 <sup>132</sup>	K	56	453	126	1119	104.5	+8.2	-77.8
30 <sup>270</sup>	M	159	1001	180	1140	104.1	+7.0	-63.2
31 <sup>503</sup>	G	190	1314	141	984	104.1	+7.2	-47.1
1907.								
Jan. 1 <sup>135</sup>	K	251	1723	163	1117	104.5	+7.4	-38.2
2 <sup>418</sup>	M	274	1795	149	984	104.9	+6.3	-21.1
3 <sup>502</sup>	G	207	1543	105	791	105.9	+7.2	-5.7
4 <sup>511</sup>	G	190	1463	98	752	106.3	+7.2	+8.0
5 <sup>167</sup>	M	200	1245	108	670	107.9	+7.7	+18.2
6 <sup>267</sup>	M	158	935	98	577	109.0	+7.7	+33.8
7 <sup>125</sup>	K	131	637	97	472	109.9	+7.0	+46.1
Group 6059—continued.								
1907. <sup>d</sup>								
Jan. 8 <sup>303</sup>	M	83	402	92	446	110.6	+8.1	+62.2
9 <sup>122</sup>	K	38	226	66	397	110.4	+7.0	+72.8
Means	...	...	...	119	787	106.84	+7.33	...
Group 6058.								
A number of small spots in a straggling stream.								
1906.								
Dec. 30 <sup>270</sup>	M	8	21	5	13	129.3	-5.5	-38.0
31 <sup>503</sup>	G	9	41	5	22	130.0	-5.4	-21.2
1907.								
Jan. 1 <sup>135</sup>	K	3	26	2	13	131.0	-6.1	-11.7
2 <sup>418</sup>	M	17	140	9	71	130.4	-7.0	+4.4
3 <sup>502</sup>	G	15	86	7	46	131.4	-7.0	+19.8
4 <sup>511</sup>	G	14	91	8	54	132.0	-6.8	+33.7
5 <sup>167</sup>	M	8	70	6	47	131.5	-6.5	+41.8
6 <sup>267</sup>	M	8	24	8	23	135.1	-6.4	+59.9
7 <sup>125</sup>	K	0	4	0	5	134.9	-7.5	+71.1
Means	...	...	...	6	33	131.73	-6.47	...
Group 6061.								
A few small unstable spots in a short stream, of Group 6060.								
1906.								
Dec. 31 <sup>503</sup>	G	12	66	7	35	174.3	+8.1	+23.1
1907.								
Jan. 1 <sup>135</sup>	K	3	44	2	28	175.0	+8.4	+32.3
2 <sup>418</sup>	M	23	71	18	57	176.3	+9.0	+50.3
3 <sup>502</sup>	G	0	33	0	40	176.5	+8.5	+64.9
Means	...	...	...	7	40	175.53	+8.50	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6062. A few small unstable spots, <i>sp</i> Group 6058.									Group 6066—continued.								
1906. Dec. 31:503	G	2	28	1	15	135.7	-12.1	-15.5	1907. Jan. 7:125	K	31	149	16	78	61.5	+9.0	-2.3
									8:303	M	16	167	8	90	62.8	+9.5	+14.4
									9:122	K	4	33	2	19	63.6	+9.0	+26.0
									10:241	M	0	12	0	8	63.5	+8.3	+40.7
1907. Jan. 1:135	K	0	13	0	7	135.4	-12.1	-7.3	Means	...	...	...	12	81	62.15	+8.84	...
2:418	M	30	166	15	86	133.7	-13.0	+7.7									
3:502	G	6	69	3	38	133.8	-12.8	+22.2									
4:511	G	0	62	0	40	133.9	-12.5	+35.6									
5:167	M	12	52	9	37	134.8	-11.5	+45.1									
6:267	M	4	45	4	46	135.8	-11.3	+60.6									
7:125	K	0	8	0	11	133.4	-13.1	+69.6									
Means	...	...	...	4	35	134.56	-12.30	...									
Group 6063. A few small unstable spots, <i>sf</i> Group 6058 and <i>f</i> Group 6062, and forming with the latter group an irregular straggling stream.									Group 6067. Two small clusters at first, rapidly developing into a very irregular stream, inclined to the equator. The principal spot, $\alpha$ , is in the rear of the group, and develops into a large regular spot with double nucleus.								
1906. Dec. 31:503	G	0	12	0	7	128.7	-13.1	-22.5	Jan. 2:418	M	24	116	13	67	154.0	+6.5	+28.0
									3:502	G	50	346	35	242	154.5	+6.0	+42.9
									4:511	G	72	495	65	458	154.6	+6.2	+56.3
									5:167	M	78	412	103	547	156.9	+7.3	+67.2
									6:267	M	14	224	34	754	156.2	+7.5	+81.0
Means	...	...	...	3	23	128.03	-13.83	...	Means	...	...	...	50	414	155.24	+6.70	...
Group 6065. A disturbed area with one or two small unstable spots.									Group 6068. One or two small unstable spots. Not seen on January 4.								
1907. Jan. 1:135	K	0	6	0	10	72.8	+17.8	-69.9	Jan. 3:502	G	2	43	1	25	138.3	-17.0	+26.7
2:418	M	0	47	0	42	72.7	+16.1	-53.3	4:511	G	0	0	0	0	...	...	...
3:502	G	0	5	0	3	69.7	+16.5	-41.9	5:167	M	6	42	5	34	141.0	-16.9	+51.3
Means	...	...	...	0	18	71.73	+16.80	...	6:267	M	0	8	0	10	141.9	-17.3	+66.7
Means	...	...	...	...	...	...	...	...	Means	...	...	...	2	17	140.40	-17.07	...
Group 6069. A pair of very small faint spots.									Group 6070. A small regular spot, $\alpha$ , with occasionally a very small companion.								
1907. Jan. 1:135	K	0	6	0	10	72.8	+17.8	-69.9	Jan. 3:502	G	0	14	0	8	147.8	+12.5	+36.2
2:418	M	0	47	0	42	72.7	+16.1	-53.3	Means	...	...	...	0	8	147.8	+12.5	...
3:502	G	0	5	0	3	69.7	+16.5	-41.9									
Means	...	...	...	0	18	71.73	+16.80	...									
Group 6066. Return of Group 6044. A regular spot, $\alpha$ , on January 1. A number of small spots form around $\alpha$ on January 3, and the succeeding days, and $\alpha$ has broken up by January 8; the group now appearing as an irregular stream of small unstable spots.									Group 6070. A small regular spot, $\alpha$ , with occasionally a very small companion.								
Jan. 1:135	K	4	26	13	84	62.0	+8.6	-80.7	Jan. 3:502	G	0	28	0	18	73.5	-14.1	-38.1
2:418	M	12	119	14	144	61.2	+8.1	-64.8	4:511	G	5	20	3	11	73.6	-14.0	-24.7
3:502	G	20	128	16	104	61.3	+9.0	-50.3	5:167	M	6	33	3	17	74.6	-14.1	-15.1
4:511	G	20	120	13	76	62.5	+9.0	-35.8	6:267	M	4	41	2	22	74.5	-13.5	-0.7
5:167	M	20	158	11	92	61.8	+9.2	-27.9	7:125	K	0	9	0	5	75.3	-13.6	+11.5
6:267	M	45	225	23	118	61.3	+8.7	-13.9	Means	...	...	...	2	15	74.30	-13.86	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6071. One or two very small unstable spots, <i>f</i> Group 6070.								
1907. <sup>a</sup> Jan. 2:418	M	0	4	0	3	70°9	-14°6	-55°1
3:502	G	0	2	0	2	69°3	-12°7	-42°3
4:511	G	0	17	0	10	69°1	-12°9	-29°2
5:167	M	4	20	2	10	70°4	-14°0	-19°3
Means ...	...	...	...	1	6	69°93	-13°55	...
Group 6072. A few small unstable spots in a short stream.								
Jan. 4:511	G	6	90	4	58	134°3	+9°8	+36°0
5:167	M	8	56	6	42	135°5	+10°5	+45°8
6:267	M	0	9	0	10	137°4	+9°5	+62°2
Means ...	...	...	...	3	37	135°73	+9°93	...
Group 6073. Two very small spots, <i>nf</i> Group 6059.								
Jan. 4:511	G	0	14	0	7	96°0	+13°7	-2°3
Means ...	...	...	...	0	7	96°0	+13°7	...
Group 6073*. Two very small spots, <i>p</i> the place of Group 6073.								
Jan. 5:167	M	0	33	0	18	101°9	+13°5	+12°2
Means ...	...	...	...	0	18	101°9	+13°5	...
Group 6074. Return of Group 6045. Third apparition. Final stage. A small regular spot, <i>a</i> , with occasionally one or two very small companions.								
Jan. 8:303	M	0	26	0	75	329°5	+13°6	-78°9
9:122	K	4	32	6	48	328°9	+15°4	-68°7
10:241	M	20	76	19	71	327°8	+14°5	-55°0
11:528	G	12	44	8	30	328°3	+14°3	-37°6
12:389	M	20	61	12	37	327°2	+14°9	-27°3
13:149	K	16	67	9	37	327°0	+15°2	-17°5
14:115	K	0	13	0	7	328°5	+14°3	-3°3
Means ...	...	...	...	8	44	328°17	+14°60	...
Group 6075. A regular spot, <i>a</i> , with a few very small companions.								
1907. <sup>a</sup> Jan. 8:303	M	5	28	28	115	326°1	-14°1	-82°3
9:122	K	15	77	23	118	326°4	-13°2	-71°2
10:241	M	26	115	23	105	326°5	-14°3	-56°3
11:528	G	33	136	21	88	327°6	-13°1	-38°3
12:389	M	20	190	11	107	328°5	-13°4	-26°0
13:149	K	28	148	15	78	329°2	-13°1	-15°3
14:115	K	15	99	8	51	329°6	-13°1	-2°2
15:326	M	21	141	11	74	330°6	-12°8	+14°7
16:231	M	20	110	11	63	331°7	-12°7	+27°7
17:546	G	8	30	6	21	332°3	-13°4	+45°6
18:351	M	5	14	4	12	332°1	-13°0	+56°1
19:197	M	2	12	2	15	332°0	-12°5	+67°1
Means ...	...	...	...	14	71	329°38	-13°23	...
Group 6076. Return of Group 6046. A very fine irregular cluster, <i>f</i> Group 6075. It is confused together with Group 6075, through the effect of foreshortening on January 8. Groups 6075, 6076, and 6077 together represent the return of Group 6046.								
Jan. 8:303	M	14	81	71	460	322°0	-15°3	-86°4
9:122	K	34	259	65	508	321°8	-14°6	-75°8
10:241	M	61	428	63	447	321°5	-15°9	-61°3
11:528	G	69	604	49	422	322°1	-14°9	-43°8
12:389	M	105	952	63	574	322°0	-14°6	-32°5
13:149	K	206	1240	112	681	322°3	-13°6	-22°2
14:115	K	107	1192	56	621	322°6	-14°0	-9°2
15:326	M	144	1400	74	717	322°9	-13°7	+7°0
16:231	M	173	1437	92	771	323°4	-13°6	+19°4
17:546	G	76	943	47	598	324°2	-13°4	+37°5
18:351	M	87	742	63	557	324°2	-12°8	+48°2
19:197	M	48	412	45	402	324°5	-12°1	+59°6
20:222	M	33	260	55	431	324°5	-11°8	+73°1
Means ...	...	...	...	66	553	322°92	-13°87	...
Group 6077. A large regular spot, <i>a</i> , with two or three very small companions, <i>sf</i> Group 6076.								
Jan. 9:122	K	12	99	26	215	320°3	-20°6	-77°3
10:241	M	33	185	36	206	320°0	-21°5	-62°8
11:528	G	42	252	31	188	319°9	-20°9	-46°0
12:389	M	41	286	26	182	319°4	-21°3	-35°1
13:149	K	47	289	27	168	319°2	-20°9	-25°3
14:115	K	51	261	28	140	318°7	-20°8	-13°1
15:326	M	47	296	25	154	318°9	-20°7	+3°0
16:231	M	39	252	21	135	318°7	-20°5	+14°7

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6077—continued.								
1907. <sup>a</sup>								
Jan. 17 <sup>h</sup> 54 <sup>m</sup> 6	G	31	191	19	116	318 <sup>o</sup> 4	-20 <sup>o</sup> 5	+31 <sup>o</sup> 7
18 <sup>h</sup> 35 <sup>m</sup> 1	M	24	114	16	79	318 <sup>o</sup> 0	-20 <sup>o</sup> 2	+42 <sup>o</sup> 0
19 <sup>h</sup> 19 <sup>m</sup> 7	M	16	81	13	68	318 <sup>o</sup> 2	-19 <sup>o</sup> 6	+53 <sup>o</sup> 3
20 <sup>h</sup> 22 <sup>m</sup> 2	M	0	37	0	47	318 <sup>o</sup> 2	-19 <sup>o</sup> 4	+66 <sup>o</sup> 8
Means ...	...	...	...	22	142	318 <sup>o</sup> 99	-20 <sup>o</sup> 58	...
Group 6079.								
A few small spots in a sparse but straight stream.								
Jan. 9 <sup>h</sup> 12 <sup>m</sup> 2	K	0	20	0	10	30 <sup>o</sup> 7	+8 <sup>o</sup> 4	-6 <sup>o</sup> 9
10 <sup>h</sup> 24 <sup>m</sup> 1	M	10	74	5	38	31 <sup>o</sup> 8	+10 <sup>o</sup> 4	+9 <sup>o</sup> 0
11 <sup>h</sup> 52 <sup>m</sup> 8	G	5	60	3	34	31 <sup>o</sup> 5	+9 <sup>o</sup> 7	+25 <sup>o</sup> 6
12 <sup>h</sup> 38 <sup>m</sup> 9	M	20	119	13	79	32 <sup>o</sup> 6	+10 <sup>o</sup> 4	+38 <sup>o</sup> 1
13 <sup>h</sup> 14 <sup>m</sup> 9	K	14	65	10	51	32 <sup>o</sup> 8	+9 <sup>o</sup> 8	+48 <sup>o</sup> 3
14 <sup>h</sup> 11 <sup>m</sup> 5	K	0	7	0	8	35 <sup>o</sup> 1	+9 <sup>o</sup> 2	+63 <sup>o</sup> 3
Means ...	...	...	...	5	37	32 <sup>o</sup> 42	+9 <sup>o</sup> 65	...
Group 6078.								
A considerable stream appearing suddenly near the West limb.								
Jan. 10 <sup>h</sup> 24 <sup>m</sup> 1	M	15	124	22	183	93 <sup>o</sup> 3	-11 <sup>o</sup> 0	+70 <sup>o</sup> 5
Means ...	...	...	...	22	183	93 <sup>o</sup> 3	-11 <sup>o</sup> 0	...
Group 6080.								
A few very small spots in a sparse stream.								
Jan. 11 <sup>h</sup> 52 <sup>m</sup> 8	G	0	45	0	30	47 <sup>o</sup> 2	+2 <sup>o</sup> 2	+41 <sup>o</sup> 3
12 <sup>h</sup> 38 <sup>m</sup> 9	M	0	20	0	17	48 <sup>o</sup> 3	+2 <sup>o</sup> 3	+53 <sup>o</sup> 8
13 <sup>h</sup> 14 <sup>m</sup> 9	K	0	11	0	12	47 <sup>o</sup> 1	+1 <sup>o</sup> 6	+62 <sup>o</sup> 6
Means ...	...	...	...	0	20	47 <sup>o</sup> 53	+2 <sup>o</sup> 03	...
Group 6081.								
A few small spots at first, forming <i>f</i> Group 6076. The group rapidly increases and becomes an irregular unstable stream, of which, <i>a</i> , a pair of spots merging into a double spot, is the most prominent member. <i>a</i> is measured as two spots on January 12 and 20. The four groups 6075, 6076, 6077, and 6081, make up together a single disturbance of magnificent proportions.								
Jan. 11 <sup>h</sup> 52 <sup>m</sup> 8	G	0	7	0	6	309 <sup>o</sup> 9	-15 <sup>o</sup> 9	-56 <sup>o</sup> 0
12 <sup>h</sup> 38 <sup>m</sup> 9	M	49	196	35	137	311 <sup>o</sup> 9	-17 <sup>o</sup> 6	-42 <sup>o</sup> 6
13 <sup>h</sup> 14 <sup>m</sup> 9	K	76	335	46	204	312 <sup>o</sup> 5	-17 <sup>o</sup> 5	-32 <sup>o</sup> 0
Group 6081—continued.								
1907. <sup>a</sup>								
Jan. 14 <sup>h</sup> 11 <sup>m</sup> 5	K	36	321	19	175	312 <sup>o</sup> 6	-17 <sup>o</sup> 2	-19 <sup>o</sup> 2
15 <sup>h</sup> 32 <sup>m</sup> 6	M	110	531	57	275	313 <sup>o</sup> 2	-17 <sup>o</sup> 0	-2 <sup>o</sup> 7
16 <sup>h</sup> 23 <sup>m</sup> 1	M	131	731	68	379	312 <sup>o</sup> 4	-16 <sup>o</sup> 6	+8 <sup>o</sup> 4
17 <sup>h</sup> 54 <sup>m</sup> 6	G	76	551	45	315	313 <sup>o</sup> 8	-16 <sup>o</sup> 5	+27 <sup>o</sup> 1
18 <sup>h</sup> 35 <sup>m</sup> 1	M	59	291	38	188	314 <sup>o</sup> 0	-16 <sup>o</sup> 0	+38 <sup>o</sup> 0
19 <sup>h</sup> 19 <sup>m</sup> 7	M	15	147	13	117	315 <sup>o</sup> 8	-15 <sup>o</sup> 4	+50 <sup>o</sup> 9
20 <sup>h</sup> 22 <sup>m</sup> 2	M	4	128	4	151	316 <sup>o</sup> 7	-14 <sup>o</sup> 2	+65 <sup>o</sup> 3
21 <sup>h</sup> 45 <sup>m</sup> 1	M	2	22	6	71	317 <sup>o</sup> 4	-14 <sup>o</sup> 2	+82 <sup>o</sup> 2
Means ...	...	...	...	30	183	313 <sup>o</sup> 65	-16 <sup>o</sup> 19	...
Group 6082.								
A few very faint formless spots, irregularly arranged. The group is not seen on January 14								
Jan. 12 <sup>h</sup> 38 <sup>m</sup> 9	M	0	45	0	24	349 <sup>o</sup> 7	+11 <sup>o</sup> 8	-4 <sup>o</sup> 8
13 <sup>h</sup> 14 <sup>m</sup> 9	K	0	69	0	36	349 <sup>o</sup> 8	+10 <sup>o</sup> 8	+5 <sup>o</sup> 3
14 <sup>h</sup> 11 <sup>m</sup> 5	K	0	0	0	0	...	...	...
15 <sup>h</sup> 32 <sup>m</sup> 6	M	0	11	0	7	350 <sup>o</sup> 8	+12 <sup>o</sup> 8	+34 <sup>o</sup> 9
16 <sup>h</sup> 23 <sup>m</sup> 1	M	0	14	0	10	349 <sup>o</sup> 1	+10 <sup>o</sup> 4	+45 <sup>o</sup> 1
Means ...	...	...	...	0	15	349 <sup>o</sup> 85	+11 <sup>o</sup> 45	...
Group 6082*.								
A few very faint spots similar in character to Group 6082, and in the same general area of disturbance.								
Jan. 13 <sup>h</sup> 14 <sup>m</sup> 9	K	4	34	2	18	355 <sup>o</sup> 4	+10 <sup>o</sup> 2	+10 <sup>o</sup> 9
Means ...	...	...	...	2	18	355 <sup>o</sup> 4	+10 <sup>o</sup> 2	...
Group 6082.†								
Another group like Group 6082 in the same region.								
Jan. 13 <sup>h</sup> 14 <sup>m</sup> 9	K	4	37	2	20	346 <sup>o</sup> 6	+15 <sup>o</sup> 3	+2 <sup>o</sup> 1
Means ...	...	...	...	2	20	346 <sup>o</sup> 6	+15 <sup>o</sup> 3	...
Group 6083.								
A few small spots in a sparse stream. The group is not seen on January 14.								
Jan. 13 <sup>h</sup> 14 <sup>m</sup> 9	K	3	17	2	10	311 <sup>o</sup> 0	+13 <sup>o</sup> 0	-33 <sup>o</sup> 5
14 <sup>h</sup> 11 <sup>m</sup> 5	K	0	0	0	0	...	...	...
15 <sup>h</sup> 32 <sup>m</sup> 6	M	2	77	1	40	310 <sup>o</sup> 9	+12 <sup>o</sup> 3	-5 <sup>o</sup> 0
16 <sup>h</sup> 23 <sup>m</sup> 1	M	5	41	3	22	310 <sup>o</sup> 2	+13 <sup>o</sup> 3	+6 <sup>o</sup> 2
17 <sup>h</sup> 54 <sup>m</sup> 6	G	8	63	5	37	315 <sup>o</sup> 1	+11 <sup>o</sup> 3	+28 <sup>o</sup> 4
Means ...	...	...	...	2	22	311 <sup>o</sup> 80	+12 <sup>o</sup> 48	...

## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6082.† A third group like Group 6082 in the same region.								
1907. a Jan. 15.326	M	o	30	o	19	348.9	+17.9	+33.0
Means ...	...	...	...	o	19	348.9	+17.9	...
Group 6074*. Some small spots, n of the place of Group 6074.								
Jan. 16.231	M	o	24	o	14	328.2	+17.5	+24.2
Means ...	...	...	...	o	14	328.2	+17.5	...
Group 6085. A small spot, n Group 6076.								
Jan. 16.231	M	o	9	o	5	325.4	- 9.9	+21.4
Means ...	...	...	...	o	5	325.4	- 9.9	...
Group 6086. A small regular spot, a, usually with one or two very small companions.								
Jan. 16.231	M	o	16	o	23	237.6	+23.2	-66.4
17.546	G	21	107	19	96	237.5	+24.4	-49.2
18.351	M	9	76	6	57	236.4	+23.7	-39.6
19.197	M	10	40	6	27	235.6	+23.6	-29.3
20.222	M	1	19	1	11	235.6	+23.8	-15.8
Means ...	...	...	...	6	43	236.54	+23.74	...
Group 6087. Return of Group 6053. A regular spot, a, with occasionally one or two very small companions.								
Jan. 16.231	M	6	30	11	56	232.0	+19.4	-72.0
17.546	G	17	61	17	61	231.7	+20.4	-55.0
18.351	M	15	104	12	83	230.8	+19.7	-45.2
19.197	M	19	118	13	80	230.3	+19.7	-34.6
20.222	M	22	149	13	89	230.5	+20.0	-20.9
21.451	M	28	130	15	73	230.9	+20.3	- 4.3
22.245	M	26	137	14	77	230.9	+20.4	+ 6.1
23.247	M	20	97	12	57	231.2	+20.7	+19.6
24.122	K	18	46	12	30	231.3	+20.0	+31.2
25.125	K	12	50	9	39	231.1	+20.1	+44.2
26.231	M	3	12	3	13	230.7	+21.2	+58.4
27.232	M	o	6	o	11	230.4	+21.1	+71.3
Means ...	...	...	...	11	56	230.98	+20.25	...

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6088. A few small spots developing into a fine straight stream. The leader, a, on January 22, and the succeeding days is a large composite spot.								
1907. a Jan. 16.231	M	12	33	24	67	227.8	-16.0	-76.2
17.546	G	15	63	14	59	228.7	-14.9	-58.0
18.351	M	13	81	9	59	229.4	-15.5	-46.6
19.197	M	35	230	22	146	228.1	-16.2	-36.8
20.222	M	113	370	63	228	228.8	-16.0	-22.6
21.451	M	83	534	42	275	230.7	-16.1	- 4.5
22.245	M	73	531	38	274	231.0	-16.1	+ 6.2
23.247	M	73	438	40	240	232.6	-15.6	+21.0
24.122	K	62	410	38	246	232.6	-16.2	+32.5
25.125	K	50	317	37	234	233.8	-16.0	+46.9
26.231	M	33	263	34	273	234.0	-14.6	+61.7
27.232	M	19	121	34	223	234.4	-15.0	+75.3
Means ...	...	...	...	33	194	230.99	-15.68	...
Group 6089. A small faint spot, f Group 6088.								
Jan. 16.231	M	o	8	o	26	221.9	-14.7	-82.1
17.546	G	o	16	o	19	221.1	-14.1	-65.6
18.351	M	2	9	2	8	220.2	-14.7	-55.8
19.197	M	o	12	o	8	220.7	-14.6	-44.2
Means ...	...	...	...	1	15	220.98	-14.53	...
Group 6090. Possibly a return or revival of Group 6061. A large regular spot, a, with occasionally some very small companions.								
Jan. 20.222	M	14	83	35	208	173.3	+ 4.4	-78.1
21.451	M	24	138	26	150	173.2	+ 4.6	-62.0
22.245	M	30	185	24	152	173.2	+ 4.4	-51.6
23.247	M	47	266	31	173	173.3	+ 4.6	-38.3
24.122	K	60	289	34	164	173.9	+ 4.8	-26.2
25.125	K	60	350	31	183	173.9	+ 4.7	-13.0
26.231	M	53	308	27	159	174.2	+ 4.8	+ 1.9
27.232	M	47	252	25	133	174.3	+ 4.9	+15.2
28.118	K	44	253	25	145	174.6	+ 4.5	+27.1
29.487	G	35	194	26	143	175.3	+ 4.6	+45.8
30.549	G	20	128	21	132	(175.6)	+ 5.6	+60.2
31.476	G	11	73	19	124	175.4	+ 4.6	+72.2
Feb. 1.240	M	8	37	29	135	173.6	+ 5.4	+81.4
Means ...	...	...	...	27	154	174.14	+ 4.76	...
Group 6091. A small spot seen only near the West limb.								
Jan. 21.451	M	o	5	o	10	311.3	- 3.3	+76.1
Means ...	...	...	...	o	10	311.3	- 3.3	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued*.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6092.								
A small spot, seen only near the West limb.								
1907. <sup>d</sup> Jan. 21.451	M	0	8	0	22	314.7	+ 2.4	+79.5
Means ...	...	...	...	0	22	314.7	+ 2.4	...
Group 6093.								
Return of Group 6067. A large double spot, <i>a</i> , which has divided into two spots, <i>b</i> and <i>c</i> , by January 23. <i>b</i> has broken up by January 28, and <i>c</i> by January 31. Some small companions are occasionally seen.								
Jan. 21.451	M	9	97	22	243	157.6	+ 8.4	-77.6
22.245	M	33	140	45	189	157.7	+ 8.2	-67.1
23.247	M	25	187	22	167	157.4	+ 8.5	-54.2
24.122	K	38	228	26	161	157.7	+ 9.2	-42.4
25.125	K	35	208	21	125	157.8	+ 9.0	-29.1
26.231	M	49	183	27	98	157.0	+ 9.1	-15.3
27.232	M	33	181	17	93	157.2	+ 9.0	-1.9
28.118	K	26	134	13	70	158.0	+ 9.1	+10.5
29.487	G	15	99	9	59	158.4	+ 7.9	+28.9
30.549*	G	6	32	4	23	(158.6)	+ 9.1	+43.2
31.476	G	5	17	4	16	158.6	+ 7.8	+55.4
Feb. 1.240	M	0	20	0	27	159.9	+ 8.6	+66.7
2.181	K	1	11	2	21	154.1	+10.2	+73.3
Means ...	...	...	...	16	99	157.69	+ 8.78	...
Group 6094.								
A few small spots rapidly developing into a considerable stream consisting chiefly of three large spots, <i>a</i> , <i>b</i> , and <i>c</i> , on January 24 and 25.								
Jan. 22.245	M	3	22	2	15	259.4	+18.2	+34.6
23.247	M	0	17	0	15	261.1	+18.1	+49.5
24.122	K	74	297	86	347	261.5	+17.3	+61.4
25.125	K	19	155	42	355	261.8	+17.4	+74.9
Means ...	...	...	...	33	183	260.95	+17.75	...
Group 6095.								
Some small spots. <i>n</i> Group 6087.								
Jan. 23.247	M	0	21	0	12	230.0	+25.4	+18.4
Means ...	...	...	...	0	12	230.0	+25.4	...
Group 6096.								
Some small unstable spots forming between Groups 6090 and 6093. The group is not seen on January 28, 29 and 30.								
1907. <sup>d</sup> Jan. 22.245	M	0	9	0	9	166.6	+ 6.6	-58.2
23.247	M	0	11	0	8	166.2	+ 8.0	-45.4
24.122	K	2	30	1	19	167.6	+ 9.2	-32.5
25.125	K	0	15	0	8	167.7	+ 9.9	-19.2
26.231	M	0	12	0	6	163.2	+ 9.2	-9.1
27.232	M	0	6	0	3	169.2	+ 9.4	+10.1
28.118	K	0	0	0	0	...	...	...
29.487	G	0	0	0	0	...	...	...
30.549*	G	0	0	0	0	...	...	...
31.476	G	0	12	0	13	162.1	+ 8.2	+58.9
Means ...	...	...	...	0	7	166.09	+ 8.64	...
Group 6097.								
Probably a return of Group 6072. A small spot, <i>a</i> , with a companion on January 25. The group is not seen on January 27.								
Jan. 24.122	K	0	5	0	6	138.2	+10.1	-61.9
25.125	K	11	40	9	31	139.3	+ 9.8	-47.6
26.231	M	0	7	0	4	137.9	+10.0	-34.4
27.232	M	0	0	0	0	...	...	...
28.118	K	0	4	0	2	138.9	+10.6	-8.6
Means ...	...	...	...	2	9	138.58	+10.13	...
Group 6098.								
Return of Group 6059. A large regular spot, <i>a</i> , with occasionally some very small companions.								
Jan. 25.125	K	34	149	67	296	112.6	+ 8.9	-74.3
26.231	M	33	219	35	226	112.5	+ 8.0	-59.8
27.232	M	49	335	37	251	112.7	+ 7.8	-46.4
28.118	K	66	351	41	221	113.1	+ 8.9	-34.4
29.487	G	61	386	33	207	113.9	+ 8.1	-15.6
30.549*	G	68	356	35	184	(113.9)	+ 8.0	-1.5
31.476	G	58	345	30	181	114.0	+ 7.8	+10.8
Feb. 1.240	M	49	276	27	151	112.9	+ 8.1	+19.7
2.181	K	48	251	29	155	113.3	+ 7.8	+32.5
3.156	K	32	145	23	106	113.0	+ 7.2	+45.1
4.128	K	26	135	25	133	112.9	+ 7.3	+57.7
5.118	K	8	68	13	108	112.7	+ 7.3	+70.6
Means ...	...	...	...	33	185	113.13	+ 7.93	...
Group 6090*.								
A very small spot, <i>np</i> Group 6090.								
Jan. 27.232	M	0	6	0	4	188.2	+15.1	+29.1
Means ...	...	...	...	0	4	188.2	+15.1	...

\* There is an uncertainty in the time of the photograph on January 30, and therefore in the longitudes of the spots and faculae.



## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6093*.								
A pair of very small spots, <i>n</i> f Group 6093. Only one spot remains on January 28.								
1907. <sup>a</sup> Jan. 27 <sup>232</sup> 28 <sup>118</sup>	M K	o o	13 11	o o	8 6	143 <sup>2</sup> 145 <sup>6</sup>	+21 <sup>9</sup> +21 <sup>1</sup>	-15 <sup>9</sup> -1 <sup>9</sup>
Means ...	...	...	...	o	7	144 <sup>40</sup>	+21 <sup>50</sup>	...
Group 6099.								
A magnificent stream, composed of a very large spot, <i>a</i> , with single umbra, followed by a considerable train of spots, and with smaller attendants near, principally to the south.								
Jan. 28 <sup>118</sup> 29 <sup>487</sup> 30 <sup>549</sup> * 31 <sup>476</sup>	K G G G	47 104 182 238	186 673 1366 1794	76 91 125 146	324 596 935 1102	78 <sup>1</sup> 80 <sup>5</sup> (81 <sup>1</sup> ) 81 <sup>5</sup>	+21 <sup>8</sup> +21 <sup>6</sup> +21 <sup>2</sup> +21 <sup>8</sup>	-69 <sup>4</sup> -49 <sup>0</sup> -34 <sup>3</sup> -21 <sup>7</sup>
Feb. 1 <sup>240</sup> 2 <sup>181</sup> 3 <sup>156</sup> 4 <sup>128</sup> 5 <sup>118</sup> 6 <sup>125</sup> 7 <sup>431</sup>	M K K K K K M	283 266 252 218 164 137 50	1841 1656 1669 1362 1007 718 374	166 151 149 141 124 137 96	1078 944 983 878 757 712 693	80 <sup>7</sup> 82 <sup>4</sup> 82 <sup>9</sup> 83 <sup>1</sup> 82 <sup>5</sup> 82 <sup>9</sup> 81 <sup>9</sup>	+22 <sup>0</sup> +22 <sup>1</sup> +21 <sup>6</sup> +21 <sup>2</sup> +21 <sup>1</sup> +21 <sup>1</sup> +21 <sup>8</sup>	-12 <sup>5</sup> +1 <sup>6</sup> +15 <sup>0</sup> +27 <sup>9</sup> +40 <sup>4</sup> +54 <sup>0</sup> +70 <sup>2</sup>
Means ...	...	...	...	127	818	81 <sup>60</sup>	+21 <sup>57</sup>	...
Group 6100.								
A fine irregular stream, of which the central portion disappears by February 2, leaving two clusters, widely separated. The leader is a large regular spot, <i>a</i> , and a large composite spot, <i>b</i> , forms near the rear of the group.								
Jan. 28 <sup>118</sup> 29 <sup>487</sup> 30 <sup>549</sup> * 31 <sup>476</sup>	K G G G	o 61 85 101	16 360 739 905	o 61 61 62	66 354 529 550	65 <sup>8</sup> 72 <sup>3</sup> (72 <sup>7</sup> ) 73 <sup>5</sup>	+12 <sup>6</sup> +11 <sup>3</sup> +10 <sup>5</sup> +11 <sup>2</sup>	-81 <sup>7</sup> -57 <sup>2</sup> -42 <sup>7</sup> -29 <sup>7</sup>
Feb. 1 <sup>240</sup> 2 <sup>181</sup> 3 <sup>156</sup> 4 <sup>128</sup> 5 <sup>118</sup> 6 <sup>125</sup> 7 <sup>431</sup> 8 <sup>424</sup>	M K K K K K M M	150 143 122 116 90 50 25 8	992 810 783 675 512 368 187 36	83 77 64 65 55 39 30 20	560 431 412 372 317 276 220 90	71 <sup>7</sup> 72 <sup>7</sup> 73 <sup>1</sup> 72 <sup>9</sup> 73 <sup>0</sup> 74 <sup>3</sup> 74 <sup>4</sup> 75 <sup>7</sup>	+10 <sup>8</sup> +11 <sup>2</sup> +11 <sup>0</sup> +10 <sup>8</sup> +10 <sup>8</sup> +10 <sup>3</sup> +10 <sup>7</sup> +10 <sup>7</sup>	-21 <sup>5</sup> -8 <sup>1</sup> +5 <sup>2</sup> +17 <sup>7</sup> +30 <sup>9</sup> +45 <sup>4</sup> +62 <sup>7</sup> +77 <sup>1</sup>
Means ...	...	...	...	51	348	72 <sup>68</sup>	+10 <sup>99</sup>	...
Group 6101.								
A large composite spot, <i>a</i> , followed by a small train of spots. The group breaks up into a cluster of small spots by February 4.								
1907. <sup>a</sup> Jan. 29 <sup>487</sup> 30 <sup>549</sup> * 31 <sup>476</sup>	G G G	18 31 25	141 192 246	42 35 20	324 216 203	53 <sup>7</sup> (53 <sup>8</sup> ) 53 <sup>8</sup>	+12 <sup>6</sup> +11 <sup>4</sup> +12 <sup>1</sup>	-75 <sup>8</sup> -61 <sup>6</sup> -49 <sup>4</sup>
Feb. 1 <sup>240</sup> 2 <sup>181</sup> 3 <sup>156</sup> 4 <sup>128</sup> 5 <sup>118</sup> 6 <sup>125</sup> 7 <sup>431</sup> 8 <sup>424</sup>	M K K K K K M M	43 42 32 23 22 4 4 o	248 181 160 105 248 49 38 24	30 25 17 12 11 2 3 o	172 107 87 55 133 29 27 21	53 <sup>2</sup> 53 <sup>7</sup> 54 <sup>1</sup> 53 <sup>6</sup> 53 <sup>3</sup> 54 <sup>1</sup> 55 <sup>4</sup> 51 <sup>0</sup>	+11 <sup>0</sup> +11 <sup>4</sup> +11 <sup>4</sup> +10 <sup>3</sup> +10 <sup>8</sup> +10 <sup>3</sup> +10 <sup>5</sup> +12 <sup>7</sup>	-40 <sup>0</sup> -27 <sup>1</sup> -13 <sup>8</sup> -1 <sup>6</sup> +11 <sup>2</sup> +25 <sup>2</sup> +43 <sup>7</sup> +52 <sup>4</sup>
Means ...	...	...	...	18	125	53 <sup>61</sup>	+11 <sup>32</sup>	...
Group 6102.								
Two very small spots on January 30. A small regular spot, <i>a</i> , has appeared preceding the rest of the group by January 31, and moves forward rapidly in longitude.								
Jan. 30 <sup>549</sup> * 31 <sup>476</sup>	G G	o 9	21 48	o 6	12 32	(142 <sup>4</sup> ) 144 <sup>7</sup>	+1 <sup>7</sup> +1 <sup>9</sup>	+27 <sup>0</sup> +41 <sup>5</sup>
Feb. 1 <sup>240</sup> 2 <sup>181</sup> 3 <sup>156</sup>	M K K	14 3 o	63 16 27	12 4 o	52 22 71	145 <sup>3</sup> 148 <sup>1</sup> 146 <sup>8</sup>	+2 <sup>6</sup> +2 <sup>4</sup> +1 <sup>4</sup>	+52 <sup>1</sup> +67 <sup>3</sup> +78 <sup>9</sup>
Means ...	...	...	...	4	38	145 <sup>46</sup>	+2 <sup>00</sup>	...
Group 6093†.								
Three very small spots appearing, <i>s</i> Group 6093.								
Jan. 31 <sup>476</sup>	G	o	34	o	32	159 <sup>7</sup>	+5 <sup>2</sup>	+56 <sup>5</sup>
Means ...	...	...	...	o	32	159 <sup>7</sup>	+5 <sup>2</sup>	...
Group 6098*.								
A pair of very small spots, <i>n</i> f Group 6098.								
Feb. 1 <sup>240</sup>	M	o	23	o	12	98 <sup>3</sup>	+10 <sup>9</sup>	+5 <sup>1</sup>
Means ...	...	...	...	o	12	98 <sup>3</sup>	+10 <sup>9</sup>	...
* There is an uncertainty in the time of the photograph on January 30, and therefore in the longitudes of the spots and faculae.								

\* There is an uncertainty in the time of the photograph on January 30, and therefore in the longitudes of the spots and faculae.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6100*.								
A very small spot, on the same meridian as Group 6100, but in the southern hemisphere.								
1907. a Feb. 1 <sup>24</sup> 0	M	0	11	0	6	73°5	-11°6	-19°7
Means ...	...	...	...	0	6	73°5	-11°6	...
Group 6102*.								
A few very small unstable spots in a straight stream.								
Feb. 2 <sup>18</sup> 1	K	3	22	1	12	98°8	-9°3	+18°0
3 <sup>15</sup> 6	K	0	11	0	6	99°9	-8°6	+32°0
4 <sup>12</sup> 8	K	2	12	1	9	101°3	-9°2	+46°1
Means ...	...	...	...	1	9	100°00	-9°03	...
Group 6098†.								
A very small spot, <i>nf</i> Group 6098.								
Feb. 3 <sup>15</sup> 6	K	0	8	0	5	104°4	+9°5	+36°5
Means ...	...	...	...	0	5	104°4	+9°5	...
Group 6104*.								
Two very small spots, <i>np</i> Group 6104. Only one spot remains by February 5.								
Feb. 4 <sup>12</sup> 8	K	1	15	1	9	21°6	-11°6	-33°6
5 <sup>11</sup> 8	K	4	18	2	10	21°7	-11°5	-20°4
Means ...	...	...	...	2	10	21°65	-11°55	...
Group 6104.								
A few small spots, rapidly increasing to form a fine irregular stream. A large double spot, <i>a</i> , is the leader, and another, <i>b</i> , the rearmost of the group. Both <i>a</i> and <i>b</i> are sometimes measured as each being two separate spots.								
Feb. 4 <sup>12</sup> 8	K	0	34	0	24	11°7	-13°6	-43°5
5 <sup>11</sup> 8	K	72	404	42	238	11°6	-13°7	-30°5
6 <sup>12</sup> 5	K	159	788	84	415	12°3	-13°8	-16°6
7 <sup>43</sup> 1	M	257	1261	131	639	12°9	-14°1	+1°2
8 <sup>42</sup> 4	M	190	1246	100	656	13°3	-14°3	+14°7
9 <sup>12</sup> 2	K	139	1044	77	576	12°8	-14°5	+23°4
10 <sup>48</sup> 1	G	122	1076	80	726	13°4	-14°4	+41°9
11 <sup>57</sup> 0	G	133	873	117	766	12°9	-14°5	+55°7
12 <sup>24</sup> 2	M	103	595	117	685	13°3	-13°9	+65°0
13 <sup>24</sup> 9	M	18	217	33	398	10°6	-14°2	+75°5
Means ...	...	...	...	78	512	12°48	-14°10	...

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6103.								
Return of Group 6075. A fine large composite spot, <i>a</i> , followed by a train of small unstable spots. The leader, <i>a</i> , is sometimes measured in two parts.								
1907. a Feb. 4 <sup>12</sup> 8	K	20	269	56	759	334°1	-13°7	-81°1
5 <sup>11</sup> 8	K	74	543	95	698	334°2	-13°5	-67°9
6 <sup>12</sup> 5	K	105	805	87	673	335°2	-12°9	-53°7
7 <sup>43</sup> 1	M	158	1112	98	687	335°7	-13°5	-36°0
8 <sup>42</sup> 4	M	259	1263	141	691	336°1	-13°4	-22°5
9 <sup>12</sup> 2	K	205	1105	106	572	337°2	-13°0	-12°2
10 <sup>48</sup> 1	G	187	1239	94	626	337°1	-13°5	+5°6
11 <sup>57</sup> 0	G	198	1416	106	758	337°3	-13°3	+20°1
12 <sup>24</sup> 2	M	225	996	131	578	337°8	-13°4	+29°5
13 <sup>24</sup> 9	M	158	861	109	586	337°8	-13°2	+42°7
14 <sup>49</sup> 1	G	95	625	91	591	337°5	-13°9	+58°8
15 <sup>22</sup> 3	M	63	402	83	532	337°9	-13°1	+68°8
16 <sup>46</sup> 8	G	10	132	55	705	338°9	-13°9	+86°2
Means ...	...	...	...	96	650	336°68	-13°41	...
Group 6105.								
With Group 6106, a return of Group 6076. A number of small unstable spots, <i>sf</i> Group 6103.								
Feb. 5 <sup>11</sup> 8	K	8	51	14	87	327°9	-17°3	-74°2
6 <sup>12</sup> 5	K	16	101	16	102	327°9	-16°9	-61°0
7 <sup>43</sup> 1	M	38	154	27	109	327°6	-17°6	-44°1
8 <sup>42</sup> 4	M	24	147	14	88	326°7	-18°0	-31°9
9 <sup>12</sup> 2	K	11	67	6	37	327°0	-16°9	-22°4
10 <sup>48</sup> 1	G	0	47	0	24	325°0	-16°9	-6°5
Means ...	...	...	...	13	75	327°02	-17°27	...
Group 6106.								
A few small spots, <i>n</i> Group 6105.								
Feb. 5 <sup>11</sup> 8	K	2	24	4	42	327°4	-12°6	-74°7
6 <sup>12</sup> 5	K	0	12	0	13	326°4	-12°7	-62°5
7 <sup>43</sup> 1	M	0	6	0	4	327°7	-13°2	-44°0
Means ...	...	...	...	1	20	327°17	-12°83	...
Group 6107.								
Return of Group 6091. A large regular spot, <i>a</i> , with occasionally some small companions.								
Feb. 5 <sup>11</sup> 8	K	9	56	28	175	320°9	-3°9	-81°2
6 <sup>12</sup> 5	K	24	133	31	175	321°1	-3°5	-67°8
7 <sup>43</sup> 1	M	24	202	18	157	321°2	-4°6	-50°5
8 <sup>42</sup> 4	M	48	275	30	174	321°2	-4°7	-37°4
9 <sup>12</sup> 2	K	46	291	26	165	321°9	-4°2	-27°5
10 <sup>48</sup> 1	G	65	347	33	176	321°9	-4°4	-9°6

## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6107—continued.								
1907. <sup>a</sup>								
Feb. 11:570	G	66	342	33	171	322.1	-4.6	+4.9
12:242	M	71	339	37	176	322.3	-4.5	+14.0
13:249	M	79	366	45	208	322.6	-3.8	+27.5
14:491	G	43	267	30	184	322.4	-4.3	+43.7
15:223	M	19	163	16	136	322.3	-3.4	+53.2
16:468	G	16	75	23	107	322.5	-4.0	+69.8
17:273	M	12	56	34	157	322.3	-3.7	+80.2
Means	...	...	...	30	166	321.90	-4.12	...
Group 6108.								
Return of Group 6081. A magnificent stream. The leader, <i>a</i> , is a very large composite spot, and <i>b</i> , <i>c</i> , and <i>d</i> are very large spots in the following portion of the group. The individual spots undergo many changes, coalescing and dividing again, so that even the principal spots cannot be clearly identified for any long time.								
Feb. 6:125	K	8	68	21	180	308.4	-15.6	-80.5
7:431	M	75	456	94	568	304.6	-17.6	-67.1
8:424	M	168	941	141	793	305.0	-17.7	-53.6
9:122	K	235	1405	164	986	305.4	-17.2	-44.0
10:481	G	403	2889	230	1637	305.2	-17.3	-26.3
11:570	G	578	3573	300	1861	305.5	-17.1	-11.7
12:242	M	742	4305	382	2217	305.6	-17.0	-2.7
13:249	M	746	4194	388	2185	306.2	-17.0	+11.1
14:491	G	615	4409	356	2538	306.8	-16.4	+28.1
15:223	M	589	3709	380	2398	307.6	-15.8	+38.5
16:468	G	333	2961	292	2555	307.4	-15.9	+54.7
17:273	M	352	2090	436	2517	308.4	-14.9	+66.3
18:434	M	83	834	236	2070	306.6	-15.2	+79.8
19:218	M	0	56	0	157	298.1	-18.0	+81.6
Means	...	...	...	244	1619	305.77	-16.62	...
Group 6109.								
A somewhat sparse stream of small spots forming <i>np</i> Group 6103.								
Feb. 8:424	M	9	54	5	28	348.3	-6.6	-10.3
9:122	K	19	131	9	66	348.4	-6.4	-1.0
10:481	G	27	365	14	193	349.2	-5.6	+17.7
11:570	G	25	205	15	121	349.1	-6.0	+31.9
12:242	M	15	134	9	89	350.2	-5.5	+41.9
13:249	M	0	31	0	26	349.9	-5.4	+54.8
Means	...	...	...	9	87	349.18	-5.92	...
Group 6110.								
A small spot, <i>a</i> , with one or two very small followers.								
Feb. 8:424	M	0	54	0	40	315.6	+14.3	-43.0
9:122	K	2	43	1	27	316.1	+14.5	-33.3
Means	...	...	...	1	34	315.85	+14.40	...
Group 6111.								
A stream of small spots. The leader, <i>a</i> , and rear spot, <i>b</i> , become large composite spots.								
1907. <sup>a</sup>								
Feb. 10:481	G	5	38	2	20	335.8	+14.1	+4.3
11:570	G	15	91	8	51	336.7	+13.6	+19.5
12:242	M	32	129	20	79	336.7	+13.9	+28.4
13:249	M	61	357	45	261	337.4	+14.0	+42.3
14:491	G	43	348	49	374	338.0	+13.4	+59.3
15:223	M	41	338	64	523	337.5	+14.5	+68.4
16:468	G	0	58	0	256	334.1	+15.0	+81.4
Means	...	...	...	27	223	336.60	+14.07	...
Group 6112.								
Return of Group 6088. A regular spot, <i>a</i> , with a very small companion on February 14.								
Feb. 11:570	G	0	52	0	153	235.4	-17.4	-81.8
12:242	M	4	51	7	88	234.1	-18.0	-74.2
13:249	M	18	67	18	69	233.5	-17.7	-61.6
14:491	G	14	62	10	44	233.5	-17.4	-45.2
15:223	M	6	29	4	18	233.3	-17.7	-35.8
Means	...	...	...	8	74	233.96	-17.64	...
Group 6113.								
Return, or rather revival of Group 6087. A composite spot, <i>a</i> , followed by a short train of small spots. The train undergoes a great development on February 17, and the group has taken the form of two compact clusters by February 20. The following cluster soon disappears.								
Feb. 13:249	M	8	61	18	148	219.0	+13.9	-76.1
14:491	G	33	230	34	243	220.4	+14.2	-58.3
15:223	M	37	230	31	189	220.6	+14.1	-48.5
16:468	G	35	284	22	180	221.2	+14.1	-31.5
17:273	M	98	500	57	291	219.8	+14.1	-22.3
18:434	M	119	628	66	343	219.2	+14.8	-7.6
19:218	M	74	608	39	330	218.9	+15.0	+2.4
20:232	M	81	452	46	258	220.3	+15.3	+17.1
21:344	M	44	227	29	147	221.3	+15.1	+32.8
22:115	K	28	118	21	91	222.7	+14.2	+44.4
23:121	K	13	66	13	70	223.8	+13.9	+58.7
Means	...	...	...	34	208	220.65	+14.43	...
Group 6114.								
A very small spot.								
Feb. 15:223	M	0	8	0	8	323.1	+22.4	+54.0
Means	...	...	...	0	8	323.1	+22.4	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6113*.								
A very small spot on the same meridian as Group 6113, but in the southern hemisphere.								
1907. <sup>a</sup> Feb. 15 <sup>h</sup> 22 <sup>m</sup> 3	M	0	9	0	8	211°6'	-18°0'	-57°5'
Means ...	...	...	...	0	8	211°6'	-18°0'	...
Group 6115.								
Return of Group 6090. Third and final apparition. A regular spot, $\alpha$ , with a very small companion on February 19, and the succeeding days.								
Feb. 16 <sup>h</sup> 46 <sup>m</sup> 8	G	0	30	0	66	176°6'	+5°6'	-76°1'
17 <sup>h</sup> 27 <sup>m</sup> 3	M	14	50	17	62	176°7'	+5°1'	-65°4'
18 <sup>h</sup> 43 <sup>m</sup> 4	M	15	52	12	41	176°9'	+5°4'	-49°9'
19 <sup>h</sup> 21 <sup>m</sup> 8	M	18	66	12	44	176°5'	+5°7'	-40°0'
20 <sup>h</sup> 23 <sup>m</sup> 2	M	20	72	12	42	176°0'	+6°0'	-27°2'
21 <sup>h</sup> 34 <sup>m</sup> 4	M	8	30	4	15	176°2'	+6°1'	-12°3'
22 <sup>h</sup> 11 <sup>m</sup> 5	K	2	22	1	11	176°7'	+6°3'	-1°6'
Means ...	...	...	...	8	40	176°51'	+5°74'	...
Group 6117.								
Return of Group 6093†. A large regular spot, $\alpha$ , usually followed by a short train of small spots.								
Feb. 17 <sup>h</sup> 27 <sup>m</sup> 3	M	18	90	48	238	163°4'	+3°5'	-78°7'
18 <sup>h</sup> 43 <sup>m</sup> 4	M	29	179	33	204	163°5'	+3°6'	-63°3'
19 <sup>h</sup> 21 <sup>m</sup> 8	M	71	350	64	315	163°0'	+3°0'	-53°5'
20 <sup>h</sup> 23 <sup>m</sup> 2	M	76	454	50	302	163°4'	+3°2'	-39°8'
21 <sup>h</sup> 34 <sup>m</sup> 4	M	98	522	55	294	163°5'	+3°4'	-25°0'
22 <sup>h</sup> 11 <sup>m</sup> 5	K	78	492	41	258	164°2'	+3°5'	-14°1'
23 <sup>h</sup> 12 <sup>m</sup> 1	K	101	538	52	276	164°1'	+3°7'	-1°0'
24 <sup>h</sup> 11 <sup>m</sup> 5	K	95	480	50	251	164°3'	+3°9'	+12°3'
25 <sup>h</sup> 11 <sup>m</sup> 5	K	73	442	42	251	164°2'	+3°9'	+25°4'
26 <sup>h</sup> 20 <sup>m</sup> 0	M	62	429	42	289	164°6'	+4°6'	+40°1'
27 <sup>h</sup> 11 <sup>m</sup> 7	K	53	322	44	267	164°2'	+3°9'	+51°8'
28 <sup>h</sup> 62 <sup>m</sup> 5	G	26	141	43	232	164°1'	+3°5'	+71°6'
Mar. 1 <sup>h</sup> 12 <sup>m</sup> 2	K	20	96	55	264	164°9'	+3°5'	+78°9'
Means ...	...	...	...	48	265	163°95'	+3°63'	...
Group 6116.								
A few small spots.								
Feb. 18 <sup>h</sup> 43 <sup>m</sup> 4	M	0	25	0	25	165°3'	-7°3'	-61°5'
19 <sup>h</sup> 21 <sup>m</sup> 8	M	0	64	0	50	165°9'	-7°6'	-50°6'
20 <sup>h</sup> 23 <sup>m</sup> 2	M	6	47	4	29	166°3'	-7°9'	-36°9'
21 <sup>h</sup> 34 <sup>m</sup> 4	M	1	28	1	15	165°8'	-8°0'	-22°7'
Means ...	...	...	...	1	30	165°83'	-7°70'	...
Group 6116*.								
A small spot, $\beta$ Group 6116.								
1907. <sup>a</sup> Feb. 19 <sup>h</sup> 21 <sup>m</sup> 8	M	5	17	4	12	169°4'	-12°6'	-47°1'
Means ...	...	...	...	4	12	169°4'	-12°6'	...
Group 6118.								
A number of spots in a straight stream that rapidly increases in size, and develops into a fine stream of normal type. The first and last spots, $\alpha$ and $\beta$ , are the two largest, and eventually become very large regular spots.								
Feb. 20 <sup>h</sup> 23 <sup>m</sup> 2	M	51	227	31	136	170°3'	-13°0'	-32°9'
21 <sup>h</sup> 34 <sup>m</sup> 4	M	79	457	42	239	170°7'	-12°6'	-17°8'
22 <sup>h</sup> 11 <sup>m</sup> 5	K	99	872	51	446	170°0'	-12°7'	-8°3'
23 <sup>h</sup> 12 <sup>m</sup> 1	K	320	1669	163	849	170°9'	-12°9'	+5°8'
24 <sup>h</sup> 11 <sup>m</sup> 5	K	330	1807	177	970	172°4'	-12°6'	+20°4'
25 <sup>h</sup> 11 <sup>m</sup> 5	K	217	1408	132	854	173°0'	-12°7'	+34°2'
26 <sup>h</sup> 20 <sup>m</sup> 0	M	154	954	118	723	173°5'	-12°7'	+49°0'
27 <sup>h</sup> 11 <sup>m</sup> 7	K	107	576	109	594	173°9'	-13°4'	+61°5'
28 <sup>h</sup> 62 <sup>m</sup> 5	G	14	183	43	538	173°9'	-12°8'	+81°4'
Mar. 1 <sup>h</sup> 12 <sup>m</sup> 2	K	7	104	16	259	166°0'	-14°7'	+80°0'
Means ...	...	...	...	88	561	171°46'	-13°01'	...
Group 6119.								
A number of small unstable spots in a straight stream, $\alpha$ Group 6115. The group increases in size and finally becomes a stream of normal type.								
Feb. 20 <sup>h</sup> 23 <sup>m</sup> 2	M	7	44	4	27	173°8'	+10°1'	-29°4'
21 <sup>h</sup> 34 <sup>m</sup> 4	M	65	165	34	88	176°2'	+9°7'	-12°3'
22 <sup>h</sup> 11 <sup>m</sup> 5	K	39	229	20	120	177°1'	+9°6'	-1°2'
23 <sup>h</sup> 12 <sup>m</sup> 1	K	78	398	42	212	176°9'	+9°5'	+11°8'
24 <sup>h</sup> 11 <sup>m</sup> 5	K	28	162	17	96	178°2'	+9°9'	+26°2'
25 <sup>h</sup> 11 <sup>m</sup> 5	K	26	236	18	162	178°6'	+10°0'	+39°8'
26 <sup>h</sup> 20 <sup>m</sup> 0	M	49	345	45	313	178°3'	+10°5'	+53°8'
27 <sup>h</sup> 11 <sup>m</sup> 7	K	44	209	61	291	179°3'	+9°9'	+66°9'
Means ...	...	...	...	30	164	177°30'	+9°90'	...
Group 6120.								
A few small unstable spots.								
Feb. 21 <sup>h</sup> 34 <sup>m</sup> 4	M	6	48	8	74	120°3'	+15°2'	-68°2'
22 <sup>h</sup> 11 <sup>m</sup> 5	K	8	70	9	72	121°4'	+15°6'	-56°9'
23 <sup>h</sup> 12 <sup>m</sup> 1	K	17	64	14	51	118°3'	+14°8'	-46°8'
24 <sup>h</sup> 11 <sup>m</sup> 5	K	23	71	15	45	119°8'	+15°0'	-32°2'
25 <sup>h</sup> 11 <sup>m</sup> 5	K	9	35	5	21	119°8'	+15°3'	-19°0'
26 <sup>h</sup> 20 <sup>m</sup> 0	M	0	63	0	34	118°9'	+15°2'	-5°6'
Means ...	...	...	...	9	50	119°75'	+15°18'	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6121.								
A revival rather than a return of Group 6102*. A regular spot, $\alpha$ , followed by a short train of small spots.								
1907. $\alpha$								
Feb. 21 <sup>h</sup> 34 <sup>m</sup>	M	10	121	27	323	108.6	-7.3	-79.9
22 <sup>h</sup> 11 <sup>m</sup>	K	15	176	22	253	108.1	-6.8	-70.2
23 <sup>h</sup> 12 <sup>m</sup>	K	30	166	27	149	108.6	-7.5	-56.5
24 <sup>h</sup> 11 <sup>m</sup>	K	45	207	31	139	110.1	-8.1	-41.9
25 <sup>h</sup> 11 <sup>m</sup>	K	26	173	15	98	111.2	-8.3	-27.6
26 <sup>h</sup> 20 <sup>m</sup>	M	32	178	16	92	111.3	-8.1	-13.2
27 <sup>h</sup> 11 <sup>m</sup>	K	28	139	14	70	111.9	-8.6	-0.5
28 <sup>h</sup> 62 <sup>m</sup>	G	22	60	12	32	112.2	-8.4	+19.7
Mar. 1 <sup>h</sup> 12 <sup>m</sup>	K	14	50	8	28	112.5	-8.4	+26.5
2 <sup>h</sup> 23 <sup>m</sup>	M	4	30	3	20	110.6	-8.3	+39.3
Means	...	...	...	18	120	110.51	-7.98	...
Group 6113†.								
Some small spots, $\alpha$ Group 6113, quickly developing into a stream of normal type. The first and last spots, $\alpha$ and $\delta$ , are the two largest. Only $\delta$ remains in sight on February 25.								
Feb. 23 <sup>h</sup> 12 <sup>m</sup>	K	9	52	9	51	218.8	+19.9	+52.0
24 <sup>h</sup> 11 <sup>m</sup>	K	32	181	52	284	219.1	+20.0	+67.1
25 <sup>h</sup> 11 <sup>m</sup>	K	10	125	29	364	215.4	+21.4	+76.6
Means	...	...	...	30	233	217.77	+20.63	...
Group 6122.								
A few very small spots.								
Feb. 23 <sup>h</sup> 12 <sup>m</sup>	K	3	27	2	15	144.1	-8.6	-21.0
24 <sup>h</sup> 11 <sup>m</sup>	K	4	27	3	14	144.3	-8.6	-7.7
Means	...	...	...	3	15	144.20	-8.60	...
Group 6123.								
Return of Group 6099. A large regular spot, $\alpha$ , generally with one or two companions.								
Feb. 24 <sup>h</sup> 11 <sup>m</sup>	K	22	140	51	328	78.6	+23.0	-73.4
25 <sup>h</sup> 11 <sup>m</sup>	K	37	249	47	314	78.1	+23.0	-60.7
26 <sup>h</sup> 20 <sup>m</sup>	M	60	332	52	288	77.7	+23.3	-46.8
27 <sup>h</sup> 11 <sup>m</sup>	K	80	411	57	291	78.0	+23.1	-34.4
28 <sup>h</sup> 62 <sup>m</sup>	G	55	371	33	225	77.9	+23.2	-14.6
Mar. 1 <sup>h</sup> 12 <sup>m</sup>	K	56	402	33	236	77.8	+23.0	-8.2
2 <sup>h</sup> 23 <sup>m</sup>	M	44	340	26	201	77.0	+23.7	+5.7
3 <sup>h</sup> 12 <sup>m</sup>	K	60	335	37	205	77.0	+23.4	+17.4
4 <sup>h</sup> 52 <sup>m</sup>	G	35	208	26	150	76.3	+23.3	+35.2
5 <sup>h</sup> 49 <sup>m</sup>	G	14	73	12	66	76.3	+23.7	+47.9
6 <sup>h</sup> 68 <sup>m</sup>	G	0	12	0	16	75.3	+23.6	+62.4
Means	...	...	...	34	211	77.27	+23.30	...
Group 6124.								
A few small spots in a short stream.								
1907. $\alpha$								
Feb. 25 <sup>h</sup> 11 <sup>m</sup>	K	17	38	10	21	115.5	+5.7	-23.3
26 <sup>h</sup> 20 <sup>m</sup>	M	12	64	7	33	114.6	+6.0	-9.9
27 <sup>h</sup> 11 <sup>m</sup>	K	6	16	3	9	114.2	+5.9	+1.8
Means	...	...	...	7	21	114.77	+5.87	...
Group 6125.								
Return or more probably a revival of Group 6101. A few small scattered spots. The leader, $\alpha$ , is the largest member of the group, but has disappeared before March 3.								
Feb. 26 <sup>h</sup> 20 <sup>m</sup>	M	2	28	4	100	44.8	+13.8	-79.7
27 <sup>h</sup> 11 <sup>m</sup>	K	2	36	2	46	48.2	+14.1	-64.2
28 <sup>h</sup> 62 <sup>m</sup>	G	8	63	6	47	49.5	+14.7	-43.0
Mar. 1 <sup>h</sup> 12 <sup>m</sup>	K	8	45	5	30	49.1	+14.6	-36.9
2 <sup>h</sup> 23 <sup>m</sup>	M	2	33	1	20	46.9	+14.9	-24.4
3 <sup>h</sup> 12 <sup>m</sup>	K	0	20	0	12	44.9	+14.2	-14.7
Means	...	...	...	3	43	47.23	+14.38	...
Group 6126.								
A very small spot, probably a revival of Group 6116.								
Feb. 26 <sup>h</sup> 20 <sup>m</sup>	M	0	9	0	6	168.2	-6.2	+43.7
Means	...	...	...	0	6	168.2	-6.2	...
Group 6127.								
A regular spot, $\alpha$ , followed by a scattered train.								
Feb. 28 <sup>h</sup> 62 <sup>m</sup>	G	25	107	26	117	31.2	+5.8	-61.3
Mar. 1 <sup>h</sup> 12 <sup>m</sup>	K	34	140	30	127	31.1	+5.9	-54.9
2 <sup>h</sup> 23 <sup>m</sup>	M	25	119	17	80	31.5	+5.4	-39.8
3 <sup>h</sup> 12 <sup>m</sup>	K	31	101	18	58	32.3	+5.5	-27.3
4 <sup>h</sup> 52 <sup>m</sup>	G	26	81	14	42	32.9	+5.3	-8.2
Means	...	...	...	21	85	31.80	+5.58	...
Group 6128.								
A compact cluster of small spots.								
Feb. 28 <sup>h</sup> 62 <sup>m</sup>	G	5	22	2	12	89.5	+9.2	-3.0
Mar. 1 <sup>h</sup> 12 <sup>m</sup>	K	7	84	4	44	91.1	+8.8	+5.1
2 <sup>h</sup> 23 <sup>m</sup>	M	20	112	11	63	91.9	+9.8	+20.6

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6128—continued.								
1907. <sup>a</sup> Mar. 3 <sup>h</sup> 12 <sup>m</sup> 5	K	9	64	6	41	94.6	+ 8.9	+35.0
4 <sup>h</sup> 52 <sup>m</sup> 7	G	3	30	3	28	96.2	+ 9.0	+55.1
5 <sup>h</sup> 49 <sup>m</sup> 4	G	0	11	0	17	97.2	+ 9.2	+68.8
Means ...	...	...	...	4	34	93.42	+ 9.15	...
Group 6129. A number of small spots in a long straight stream.								
Feb. 28 <sup>h</sup> 62 <sup>m</sup> 5	G	25	93	15	57	56.9	-15.5	-35.6
Mar. 1 <sup>h</sup> 12 <sup>m</sup> 2	K	27	150	16	87	56.9	-15.7	-29.1
2 <sup>h</sup> 23 <sup>m</sup> 7	M	49	274	26	143	58.2	-16.2	-13.1
3 <sup>h</sup> 12 <sup>m</sup> 5	K	48	211	24	108	59.8	-15.7	+ 0.2
4 <sup>h</sup> 52 <sup>m</sup> 7	G	32	202	18	108	60.4	-15.7	+19.3
5 <sup>h</sup> 49 <sup>m</sup> 4	G	33	163	20	98	61.2	-16.0	+32.8
6 <sup>h</sup> 68 <sup>m</sup> 0	G	2	38	2	29	62.3	-16.0	+49.4
7 <sup>h</sup> 34 <sup>m</sup> 8	M	0	11	0	10	61.8	-15.9	+57.8
Means ...	...	...	...	15	80	59.69	-15.84	...
Group 6130. Return of Group 6104. Some small faint unstable spots.								
Feb. 28 <sup>h</sup> 62 <sup>m</sup> 5	G	0	18	0	25	22.7	-12.8	-69.8
Mar. 1 <sup>h</sup> 12 <sup>m</sup> 2	K	0	11	0	12	22.7	-12.9	-63.3
2 <sup>h</sup> 23 <sup>m</sup> 7	M	0	16	0	11	24.8	-11.0	-46.5
Means ...	...	...	...	0	16	23.40	-12.23	...
Group 6131. A large regular spot, $\alpha$ , frequently with some small companions.								
Feb. 28 <sup>h</sup> 62 <sup>m</sup> 5	G	22	131	32	193	23.9	+ 8.5	-68.6
Mar. 1 <sup>h</sup> 12 <sup>m</sup> 2	K	26	147	29	163	24.5	+ 8.4	-61.5
2 <sup>h</sup> 23 <sup>m</sup> 7	M	20	154	16	119	23.9	+ 8.5	-47.4
3 <sup>h</sup> 12 <sup>m</sup> 5	K	30	179	19	115	24.5	+ 9.0	-35.1
4 <sup>h</sup> 52 <sup>m</sup> 7	G	40	245	22	134	24.7	+ 9.1	-16.4
5 <sup>h</sup> 49 <sup>m</sup> 4	G	47	250	25	131	25.3	+ 9.2	- 3.1
6 <sup>h</sup> 68 <sup>m</sup> 0	G	21	216	11	117	25.0	+ 9.2	+12.1
7 <sup>h</sup> 34 <sup>m</sup> 8	M	36	219	20	123	25.5	+ 9.2	+21.5
8 <sup>h</sup> 32 <sup>m</sup> 7	M	32	145	22	93	25.7	+ 9.0	+34.6
9 <sup>h</sup> 20 <sup>m</sup> 9	M	8	58	6	43	25.7	+ 8.8	+46.2
Means ...	...	...	...	20	123	24.87	+ 8.89	...
Group 6133. A small spot.								
1907. <sup>a</sup> Mar. 1 <sup>h</sup> 12 <sup>m</sup> 2	K	2	16	3	27	15.9	+14.9	-70.1
2 <sup>h</sup> 23 <sup>m</sup> 7	M	0	10	0	10	15.9	+15.0	-55.4
3 <sup>h</sup> 12 <sup>m</sup> 5	K	3	9	2	7	17.0	+15.4	-42.6
Means ...	...	...	...	2	15	16.27	+15.10	...
Group 6132. A very small spot.								
Mar. 2 <sup>h</sup> 23 <sup>m</sup> 7	M	0	4	0	2	49.9	-19.7	-21.4
Means ...	...	...	...	0	2	49.9	-19.7	...
Group 6134. Perhaps a return of the leading spot of Group 6111, but more probably a new formation. A large regular spot, $\alpha$ , frequently with some small companions.								
Mar. 2 <sup>h</sup> 23 <sup>m</sup> 7	M	14	62	35	157	354.8	+12.9	-76.5
3 <sup>h</sup> 12 <sup>m</sup> 5	K	14	136	17	167	356.5	+13.6	-63.1
4 <sup>h</sup> 52 <sup>m</sup> 7	G	34	243	26	181	357.4	+13.4	-43.7
5 <sup>h</sup> 49 <sup>m</sup> 4	G	37	268	23	167	357.8	+13.2	-30.6
6 <sup>h</sup> 68 <sup>m</sup> 0	G	56	338	31	188	356.9	+12.8	-16.0
7 <sup>h</sup> 34 <sup>m</sup> 8	M	43	340	23	183	356.8	+12.7	- 7.2
8 <sup>h</sup> 32 <sup>m</sup> 7	M	72	382	39	205	356.5	+12.8	+ 5.4
9 <sup>h</sup> 20 <sup>m</sup> 9	M	46	279	26	157	356.7	+12.8	+17.2
10 <sup>h</sup> 49 <sup>m</sup> 1	G	44	289	28	186	356.7	+12.1	+34.1
11 <sup>h</sup> 51 <sup>m</sup> 1	G	30	219	24	175	356.8	+12.2	+47.7
12 <sup>h</sup> 48 <sup>m</sup> 5	G	30	166	34	186	357.1	+11.9	+60.8
13 <sup>h</sup> 46 <sup>m</sup> 7	G	6	81	13	163	356.9	+12.1	+73.6
Means ...	...	...	...	27	176	356.74	+12.71	...
Group 6135. Some small spots in a straight stream.								
Mar. 3 <sup>h</sup> 12 <sup>m</sup> 5	K	9	47	16	86	344.2	-15.5	-75.4
4 <sup>h</sup> 52 <sup>m</sup> 7	G	17	125	15	112	344.3	-16.2	-56.8
5 <sup>h</sup> 49 <sup>m</sup> 4	G	17	157	12	108	344.8	-16.1	-43.6
6 <sup>h</sup> 68 <sup>m</sup> 0	G	18	147	11	85	344.5	-15.9	-28.4
7 <sup>h</sup> 34 <sup>m</sup> 8	M	26	161	14	86	344.9	-16.1	-19.1
8 <sup>h</sup> 32 <sup>m</sup> 7	M	22	76	11	39	344.7	-15.7	- 6.4
9 <sup>h</sup> 20 <sup>m</sup> 9	M	20	106	10	54	344.9	-16.1	+ 5.4
10 <sup>h</sup> 49 <sup>m</sup> 1	G	15	63	8	34	344.4	-15.1	+21.8
11 <sup>h</sup> 51 <sup>m</sup> 1	G	5	37	3	23	344.8	-15.7	+35.7
12 <sup>h</sup> 48 <sup>m</sup> 5	G	2	13	2	10	345.2	-16.5	+48.9
13 <sup>h</sup> 46 <sup>m</sup> 7	G	0	7	0	7	344.2	-16.5	+60.9
Means ...	...	...	...	9	59	344.63	-15.95	...

## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6136.								
Return of Group 6103. Third apparition. A large regular spot, <i>a</i> , with several companions closely following Group 6135. The group undergoes considerable change after March 8, a large ill-defined mass forming just behind <i>a</i> .								
1907. <i>a</i>								
Mar. 3 <sup>h</sup> 12 <sup>m</sup>	K	20	119	51	304	339.4	-13.8	-80.2
4 <sup>h</sup> 52 <sup>m</sup>	G	52	342	53	351	339.5	-13.3	-61.6
5 <sup>h</sup> 49 <sup>m</sup>	G	78	454	59	341	339.8	-13.6	-48.6
6 <sup>h</sup> 68 <sup>m</sup>	G	121	567	74	344	339.0	-13.8	-33.9
7 <sup>h</sup> 34 <sup>m</sup>	M	107	670	59	374	339.2	-14.2	-24.8
8 <sup>h</sup> 32 <sup>m</sup>	M	135	685	69	355	338.9	-14.1	-12.2
9 <sup>h</sup> 20 <sup>m</sup>	M	176	906	89	456	338.6	-14.0	-0.9
10 <sup>h</sup> 49 <sup>m</sup>	G	114	774	59	403	338.5	-13.7	+15.9
11 <sup>h</sup> 51 <sup>m</sup>	G	47	649	27	372	338.1	-13.8	+29.0
12 <sup>h</sup> 48 <sup>m</sup>	G	68	453	46	305	338.6	-13.6	+42.3
13 <sup>h</sup> 46 <sup>m</sup>	G	29	313	25	267	338.2	-13.4	+54.9
14 <sup>h</sup> 49 <sup>m</sup>	G	10	142	13	183	338.0	-13.3	+68.3
15 <sup>h</sup> 12 <sup>m</sup>	K	11	57	22	115	338.8	-13.8	+77.2
Means	...	...	...	50	321	338.82	-13.72	...
Group 6138.								
One or two small spots when first seen. The group suddenly increases in size by March 8, and becomes a fine cluster, that eventually straightens out into an ordinary stream.								
Mar. 3 <sup>h</sup> 12 <sup>m</sup>	K	0	4	0	3	10.1	-6.4	-49.5
4 <sup>h</sup> 52 <sup>m</sup>	G	5	32	3	18	12.2	-6.5	-28.9
5 <sup>h</sup> 49 <sup>m</sup>	G	5	38	2	19	14.7	-6.6	-13.7
6 <sup>h</sup> 68 <sup>m</sup>	G	9	55	4	28	14.2	-6.4	+1.3
7 <sup>h</sup> 34 <sup>m</sup>	M	12	80	6	42	14.5	-5.8	+10.5
8 <sup>h</sup> 32 <sup>m</sup>	M	127	377	68	207	14.0	-6.1	+22.9
9 <sup>h</sup> 20 <sup>m</sup>	M	123	713	75	435	14.4	-5.8	+34.9
10 <sup>h</sup> 49 <sup>m</sup>	G	46	324	39	270	15.8	-5.7	+53.2
11 <sup>h</sup> 51 <sup>m</sup>	G	18	90	26	129	19.2	-5.1	+70.1
Means	...	...	...	25	128	14.34	-6.04	...
Group 6137.								
A number of small spots in a straight stream suddenly appearing, <i>nf</i> Group 6129, and quickly diminishing in size.								
Mar. 4 <sup>h</sup> 52 <sup>m</sup>	G	44	333	22	167	46.1	-9.9	+5.0
5 <sup>h</sup> 49 <sup>m</sup>	G	50	285	26	149	45.9	-9.9	+17.5
6 <sup>h</sup> 68 <sup>m</sup>	G	25	139	16	84	46.7	-9.7	+33.8
7 <sup>h</sup> 34 <sup>m</sup>	M	14	52	9	36	47.5	-9.1	+43.5
Means	...	...	...	18	109	46.55	-9.65	...
Group 6139*.								
Return or perhaps only a revival of Group 6107. A small spot, <i>np</i> Group 6139.								
Mar. 5 <sup>h</sup> 49 <sup>m</sup>	G	0	13	0	14	324.0	-5.9	-64.4
Means	...	...	...	0	14	324.0	-5.9	...
Group 6139.								
A regular spot, <i>a</i> , crossed by a bright bridge. It is usually attended by several small companions, and it diminishes steadily from day to day.								
1907. <i>a</i>								
Mar. 5 <sup>h</sup> 49 <sup>m</sup>	G	18	119	28	179	316.6	-17.5	-71.8
6 <sup>h</sup> 68 <sup>m</sup>	G	18	135	16	120	316.9	-17.8	-56.0
7 <sup>h</sup> 34 <sup>m</sup>	M	28	151	21	111	316.6	-18.2	-47.4
8 <sup>h</sup> 32 <sup>m</sup>	M	38	140	24	85	316.7	-18.0	-34.4
9 <sup>h</sup> 20 <sup>m</sup>	M	18	145	10	79	316.9	-18.0	-22.6
10 <sup>h</sup> 49 <sup>m</sup>	G	17	122	9	63	316.5	-17.8	-6.1
11 <sup>h</sup> 51 <sup>m</sup>	G	7	63	4	33	315.8	-17.4	+6.7
12 <sup>h</sup> 48 <sup>m</sup>	G	2	10	1	6	317.7	-18.8	+21.4
Means	...	...	...	14	85	316.71	-17.94	...
Group 6140.								
Return of Group 6108. Third apparition. A very fine composite spot, <i>a</i> , with a number of small attendants, <i>f</i> Group 6139.								
Mar. 5 <sup>h</sup> 49 <sup>m</sup>	G	57	346	113	683	311.6	-16.7	-76.8
6 <sup>h</sup> 68 <sup>m</sup>	G	110	682	116	718	310.5	-16.9	-62.4
7 <sup>h</sup> 34 <sup>m</sup>	M	163	858	137	718	310.3	-17.3	-53.7
8 <sup>h</sup> 32 <sup>m</sup>	M	208	1090	139	729	309.7	-17.1	-41.4
9 <sup>h</sup> 20 <sup>m</sup>	M	217	1224	126	713	309.9	-17.1	-29.6
10 <sup>h</sup> 49 <sup>m</sup>	G	224	1304	116	675	309.9	-16.4	-12.7
11 <sup>h</sup> 51 <sup>m</sup>	G	147	1069	75	544	309.3	-16.5	+0.2
12 <sup>h</sup> 48 <sup>m</sup>	G	161	1047	83	542	309.2	-16.4	+12.9
13 <sup>h</sup> 46 <sup>m</sup>	G	130	892	72	499	308.9	-16.4	+25.6
14 <sup>h</sup> 49 <sup>m</sup>	G	120	792	77	506	308.3	-16.4	+38.6
15 <sup>h</sup> 12 <sup>m</sup>	K	87	550	65	408	309.0	-16.8	+47.4
16 <sup>h</sup> 12 <sup>m</sup>	K	55	420	54	413	308.4	-16.3	+60.0
17 <sup>h</sup> 50 <sup>m</sup>	G	22	139	46	289	307.8	-16.0	+77.6
Means	...	...	...	94	572	309.45	-16.64	...
Group 6141.								
A pair of very small spots.								
Mar. 7 <sup>h</sup> 34 <sup>m</sup>	M	0	18	0	14	50.6	+9.1	+46.6
Means	...	...	...	0	14	50.6	+9.1	...
Group 6142.								
A few small spots in a short stream, <i>np</i> Group 6140.								
Mar. 7 <sup>h</sup> 34 <sup>m</sup>	M	7	90	7	75	310.4	-13.5	-53.6
8 <sup>h</sup> 32 <sup>m</sup>	M	13	78	8	49	313.6	-12.4	-37.5
9 <sup>h</sup> 20 <sup>m</sup>	M	25	229	14	128	312.2	-12.6	-27.3
10 <sup>h</sup> 49 <sup>m</sup>	G	5	67	2	34	315.6	-10.7	-7.0
11 <sup>h</sup> 51 <sup>m</sup>	G	0	18	0	10	318.2	-10.1	+9.1
12 <sup>h</sup> 48 <sup>m</sup>	G	0	52	0	26	315.5	-12.9	+19.2
13 <sup>h</sup> 46 <sup>m</sup>	G	0	12	0	7	316.5	-11.7	+33.2
Means	...	...	...	4	47	314.57	-11.99	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6144. Some very small spots.								
1907. <sup>a</sup> Mar. 8 <sup>h</sup> 32 <sup>m</sup> 7 <sup>s</sup> 9 <sup>h</sup> 20 <sup>m</sup> 9 <sup>s</sup> 10 <sup>h</sup> 49 <sup>m</sup> 1 <sup>s</sup>	M M G	2 4 0	21 42 41	1 2 0	12 22 24	340°9 340°9 341°8	+15°0 +15°0 +14°9	-10°2 +1°4 +19°2
Means	...	...	...	1	19	341°20	+14°97	...
Group 6140*. A very small spot on the same meridian as Group 6140, but in the northern hemisphere.								
Mar. 8 <sup>h</sup> 32 <sup>m</sup> 7 <sup>s</sup>	M	0	4	0	3	313°5	+12°2	-37°6
Means	...	...	...	0	3	313°5	+12°2	...
Group 6143. A very small spot, p Group 6144.								
Mar. 9 <sup>h</sup> 20 <sup>m</sup> 9 <sup>s</sup>	M	0	34	0	19	349°3	+15°0	+9°8
Means	...	...	...	0	19	349°3	+15°0	...
Group 6138*. Some small spots, s <sup>f</sup> Group 6138. Only one spot is seen on March 14.								
Mar. 10 <sup>h</sup> 49 <sup>m</sup> 1 <sup>s</sup> 11 <sup>h</sup> 51 <sup>m</sup> 1 <sup>s</sup> 12 <sup>h</sup> 48 <sup>m</sup> 5 <sup>s</sup>	G G G	18 5 0	75 20 6	13 4 0	51 17 7	6°2 4°3 4°1	-13°9 -14°6 -14°9	+43°6 +55°2 +67°8
Means	...	...	...	6	25	4°87	-14°47	...
Group 6145. A small regular spot, a, occasionally with a small companion.								
Mar. 12 <sup>h</sup> 48 <sup>m</sup> 5 <sup>s</sup> 13 <sup>h</sup> 46 <sup>m</sup> 7 <sup>s</sup> 14 <sup>h</sup> 49 <sup>m</sup> 9 <sup>s</sup> 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup> 16 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup> 17 <sup>h</sup> 50 <sup>m</sup> 2 <sup>s</sup> 18 <sup>h</sup> 62 <sup>m</sup> 8 <sup>s</sup> 19 <sup>h</sup> 48 <sup>m</sup> 1 <sup>s</sup>	G G G K K G G G	15 20 8 10 12 5 0 0	44 85 42 28 58 23 8 7	11 12 4 5 6 3 0 0	30 49 22 14 30 13 5 5	252°3 252°7 253°8 254°5 253°7 254°5 254°6 252°3	-14°2 -13°9 -13°6 -13°4 -13°4 -13°3 -13°6 -12°8	-44°0 -30°6 -15°9 -7°1 +5°3 +24°3 +39°3 +48°2
Means	...	...	...	5	21	253°55	-13°53	...
Group 6146. A short stream of small spots.								
Mar. 14 <sup>h</sup> 49 <sup>m</sup> 9 <sup>s</sup> 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup> 16 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup>	G K K	18 18 1	105 83 30	11 13 1	65 57 26	303°3 303°2 302°4	-24°7 -24°9 -24°9	+33°6 +41°6 +54°0
Means	...	...	...	8	49	302°97	-24°83	...

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6147. A few small spots, p Group 6146.								
1907. <sup>a</sup> Mar. 14 <sup>h</sup> 49 <sup>m</sup> 9 <sup>s</sup> 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup> 16 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup>	G K K	15 6 2	83 39 24	10 5 2	54 29 26	307°4 308°6 310°1	-25°9 -26°1 -25°9	+37°7 +47°0 +61°7
Means	...	...	...	6	36	308°70	-25°97	...
Group 6145*. A very small spot, np Group 6145.								
Mar. 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup>	K	0	16	0	8	259°6	-11°7	-2°0
Means	...	...	...	0	8	259°6	-11°7	...
Group 6150. A few small spots in a scattered stream. The group gradually increases in size as it crosses the disc.								
Mar. 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup> 16 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup> 17 <sup>h</sup> 50 <sup>m</sup> 2 <sup>s</sup> 18 <sup>h</sup> 62 <sup>m</sup> 8 <sup>s</sup> 19 <sup>h</sup> 48 <sup>m</sup> 1 <sup>s</sup> 20 <sup>h</sup> 51 <sup>m</sup> 3 <sup>s</sup> 21 <sup>h</sup> 66 <sup>m</sup> 9 <sup>s</sup> 22 <sup>h</sup> 11 <sup>m</sup> 3 <sup>s</sup> 23 <sup>h</sup> 51 <sup>m</sup> 7 <sup>s</sup> 24 <sup>h</sup> 47 <sup>m</sup> 6 <sup>s</sup> 25 <sup>h</sup> 11 <sup>m</sup> 3 <sup>s</sup>	K K G G G G G K G G K	4 6 2 3 13 42 48 47 54 10 13	16 20 38 84 55 347 334 306 317 162 130	4 5 1 2 6 23 28 30 47 12 27	18 16 23 45 28 185 196 192 272 215 274	200°7 201°4 200°7 201°0 202°6 203°2 202°6 203°1 203°0 204°2 204°5	+8°4 +8°4 +8°3 +7°8 +8°2 +8°2 +8°6 +8°5 +9°3 +9°4 +9°5	-60°9 -47°0 -29°5 -14°3 -1°5 +12°7 +27°3 +33°7 +52°1 +66°0 +74°7
Means	...	...	...	17	133	202°45	+8°60	...
Group 6151. Return of Group 6119. A very small spot.								
Mar. 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup> 16 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup>	K K	4 2	12 14	11 3	33 18	183°6 183°2	+9°4 +9°8	-78°0 -65°2
Means	...	...	...	7	26	183°40	+9°60	...
Group 6152. A regular spot, a, with occasionally one or two very small companions.								
Mar. 15 <sup>h</sup> 12 <sup>m</sup> 5 <sup>s</sup> 16 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup> 17 <sup>h</sup> 50 <sup>m</sup> 2 <sup>s</sup> 18 <sup>h</sup> 62 <sup>m</sup> 8 <sup>s</sup> 19 <sup>h</sup> 48 <sup>m</sup> 1 <sup>s</sup> 20 <sup>h</sup> 51 <sup>m</sup> 3 <sup>s</sup> 21 <sup>h</sup> 66 <sup>m</sup> 9 <sup>s</sup> 22 <sup>h</sup> 11 <sup>m</sup> 3 <sup>s</sup>	K K G G G G G K	4 11 15 30 14 14 0 0	35 73 90 97 85 64 35 12	11 15 12 19 8 7 0 0	94 96 70 60 46 32 18 6	181°0 180°1 179°9 179°4 179°5 179°7 179°7 179°2	-9°8 -9°3 -9°3 -9°2 -9°0 -9°1 -8°9 -9°1	-80°6 -68°3 -50°3 -35°9 -24°6 -10°8 +4°4 +9°8
Means	...	...	...	9	53	179°81	-9°21	...



## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS DEDUCED FROM PHOTOGRAPHS

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6148.								
A small spot on March 16. Several spots are seen on March 17 and 18.								
1907. <sub>a</sub> Mar. 16 <sup>12</sup> 22	K	2	16	2	12	296.9	-20.4	+48.5
17 <sup>50</sup> 2	G	21	170	25	203	296.3	-20.1	+66.1
18 <sup>62</sup> 8	G	7	39	19	107	296.7	-20.1	+81.4
Means	...	...	...	15	107	296.63	-20.20	...
Group 6149.								
Some small spots.								
Mar. 16 <sup>12</sup> 22	K	6	24	3	14	232.3	+9.4	-16.1
Means	...	...	...	3	14	232.3	+9.4	...
Group 6153.								
Return of Group 6118. A very small spot.								
Mar. 17 <sup>50</sup> 2	G	2	7	2	6	173.2	-14.7	-57.0
18 <sup>62</sup> 8	G	7	62	5	45	169.4	-16.1	-45.9
Means	...	...	...	4	26	171.30	-15.40	...
Group 6154.								
Return of Group 6117. Third apparition. A very small spot.								
Mar. 17 <sup>50</sup> 2	G	2	13	3	15	166.6	+0.5	-63.6
18 <sup>62</sup> 8	G	0	20	0	15	166.7	+0.3	-48.6
19 <sup>48</sup> 1	G	7	13	4	8	167.2	+0.3	-36.9
20 <sup>51</sup> 3	G	5	20	3	11	167.2	+0.2	-23.3
21 <sup>66</sup> 9	G	3	12	2	6	167.3	+0.3	-8.0
22 <sup>11</sup> 3	K	2	7	1	4	167.8	+0.4	-1.6
Means	...	...	...	2	10	167.13	+0.33	...
Group 6155.								
A few small spots, developing quickly into a stream of normal type. The first and last spots on March 24, <i>a</i> and <i>b</i> , are the most important. Only <i>a</i> remains on March 27.								
Mar. 23 <sup>51</sup> 7	G	15	106	10	67	114.1	-19.4	-36.8
24 <sup>47</sup> 6	G	27	271	15	150	115.9	-19.6	-22.3
25 <sup>11</sup> 3	K	70	385	37	203	116.5	-19.8	-13.3
26 <sup>66</sup> 4	G	35	205	19	106	117.6	-19.3	+8.2
27 <sup>66</sup> 8	G	28	119	15	65	118.1	-19.2	+22.0
28 <sup>51</sup> 9	G	10	50	6	31	118.1	-19.2	+33.2
29 <sup>48</sup> 1	G	5	27	3	19	118.1	-19.4	+45.9
Means	...	...	...	15	92	116.91	-19.41	...
Group 6155*.								
A pair of very small spots.								
Mar. 26 <sup>66</sup> 4	G	2	16	1	10	80.3	+14.3	-29.1
Means	...	...	...	1	10	80.3	+14.3	...

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6155†.								
A very small spot.								
1907. <sub>a</sub> Mar. 26 <sup>66</sup> 4	G	0	9	0	6	74.0	+5.4	-35.4
Means	...	...	...	0	6	74.0	+5.4	...
Group 6162.								
Some small spots.								
Mar. 29 <sup>48</sup> 1	G	0	35	0	19	63.4	+9.3	-8.8
Means	...	...	...	0	19	63.4	+9.3	...
Group 6156.								
Return of Group 6134. A regular spot, <i>a</i> , with a small companion on April 1.								
Mar. 29 <sup>48</sup> 1	G	5	61	11	139	356.6	+12.2	-75.6
30 <sup>24</sup> 4	M	17	73	23	99	355.7	+11.9	-66.4
31 <sup>38</sup> 3	G	21	126	18	107	356.0	+11.9	-51.1
Apr. 1 <sup>47</sup> 6	G	28	150	19	99	355.8	+12.0	-36.9
2 <sup>53</sup> 8	G	22	153	13	88	355.8	+11.8	-22.9
3 <sup>16</sup> 8	K	25	172	13	94	355.4	+11.7	-15.0
4 <sup>12</sup> 8	K	29	178	15	94	355.6	+11.9	-2.1
5 <sup>64</sup> 0	G	28	136	16	76	356.0	+12.1	+18.2
6 <sup>50</sup> 0	G	18	105	11	64	355.4	+12.3	+29.0
7 <sup>60</sup> 7	G	13	81	9	59	355.2	+12.3	+43.4
8 <sup>23</sup> 9	M	13	45	11	39	355.0	+12.9	+51.6

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6159—continued.								
1907. <sup>a</sup> Apr. 6:500	G	227	1399	120	741	324.4	+11.6	-2.0
7:607	G	165	1299	89	702	324.5	+11.4	+12.7
8:239	M	204	1353	114	761	324.5	+11.9	+21.1
9:128	K	125	1040	80	656	324.6	+12.4	+32.9
10:252	M	133	832	106	665	324.8	+12.3	+47.9
11:653	G	52	479	69	650	324.8	+12.0	+66.4
12:110	K	35	287	71	543	325.3	+11.7	+72.9
Means	...	...	...	108	777	324.47	+11.59	...
Group 6158.								
At first a few small spots, <i>f</i> Group 6156. The group develops later into a fine irregular stream, and finally into a large regular spot, <i>a</i> , followed by an irregular train.								
Apr. 1:476	G	2	32	2	26	344.3	+15.0	-48.4
2:538	G	4	72	2	45	347.5	+15.0	-31.2
3:168	K	0	103	0	66	345.4	+14.9	-25.0
4:128	K	88	354	49	194	345.8	+15.6	-11.9
5:640	G	61	468	34	260	347.9	+15.5	+10.1
6:500	G	60	422	35	248	348.4	+15.7	+22.0
7:607	G	32	289	23	197	349.5	+15.5	+37.7
8:239	M	42	300	33	239	350.0	+15.8	+46.6
9:128	K	17	154	19	168	351.0	+16.3	+59.3
10:252	M	10	71	21	150	350.8	+15.5	+73.9
Means	...	...	...	22	159	348.06	+15.48	...
Group 6160.								
A pair of small spots, <i>a</i> and <i>b</i> , sometimes with one or two companions.								
Apr. 1:476	G	9	69	12	91	324.3	-11.2	-68.4
2:538	G	2	42	2	36	323.3	-9.9	-55.4
3:168	K	6	54	4	41	321.6	-11.0	-48.8
4:128	K	5	99	3	60	323.7	-11.2	-34.0
Means	...	...	...	5	57	323.23	-10.83	...
Group 6161.								
Return of Group 6140. Fourth and last apparition. A regular spot, <i>a</i> , with a very small companion on April 10.								
Apr. 2:538	G	5	76	8	125	305.3	-16.5	-73.4
3:168	K	16	115	19	135	304.8	-17.8	-65.6
4:128	K	21	146	17	121	304.6	-17.4	-53.1
5:640	G	34	187	21	114	304.7	-16.9	-33.1
6:500	G	30	214	17	118	304.0	-17.1	-22.4
7:607	G	35	187	18	97	303.4	-17.2	-8.4
8:239	M	27	169	14	86	303.3	-17.5	-0.1
9:128	K	11	86	6	45	303.4	-17.4	+11.7
10:252	M	13	61	8	35	302.6	-17.8	+25.7
11:653	G	0	28	0	20	302.1	-18.3	+43.7
12:110	K	4	14	3	11	302.2	-19.0	+49.8
13:495	G	0	13	0	16	301.3	-19.0	+67.2
Means	...	...	...	11	77	303.48	-17.66	...

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6163.								
Some small spots, <i>f</i> Group 6157.								
1907. <sup>a</sup> Apr. 3:168	K	0	21	0	14	48.0	-19.3	+37.6
Means	...	...	...	0	14	48.0	-19.3	...
Group 6164*.								
Two very small spots, <i>p</i> Group 6164.								
Apr. 5:640	G	2	11	3	12	272.2	-14.4	-65.6
Means	...	...	...	3	12	272.2	-14.4	...
Group 6164.								
Apparently a revival, not a return, of Group 6145. A number of unstable spots, in an irregular cluster. The group undergoes many changes.								
Apr. 5:640	G	36	250	59	410	264.5	-16.0	-73.3
6:500	G	22	205	23	219	263.8	-15.7	-62.6
7:607	G	27	212	20	157	264.4	-15.6	-47.4
8:239	M	52	220	34	143	264.3	-15.9	-39.1
9:128	K	18	125	10	72	264.2	-16.0	-27.5
10:252	M	31	186	16	96	264.3	-15.4	-12.6
11:653	G	12	86	6	43	262.8	-14.7	+4.4
12:110	K	8	107	4	56	264.2	-15.1	+11.8
13:495	G	26	161	14	94	263.8	-16.0	+29.7
14:114	K	26	97	17	62	264.3	-16.7	+38.4
15:518	G	0	5	0	4	262.5	-16.4	+55.1
Means	...	...	...	18	123	263.92	-15.77	...
Group 6165.								
A pair of small spots, <i>a</i> and <i>b</i> , <i>n</i> of Group 6164. Other small spots are sometimes seen near.								
Apr. 7:607	G	0	30	0	22	264.5	-6.1	-47.3
8:239	M	10	71	6	45	264.7	-6.1	-38.7
9:128	K	0	23	0	12	264.9	-6.0	-26.8
10:252	M	21	154	11	80	264.7	-5.6	-12.2
11:653	G	0	48	0	24	265.6	-4.6	+7.2
12:110	K	0	12	0	6	267.5	-6.2	+15.1
13:495	G	12	82	7	47	265.6	-5.6	+31.5
14:114	K	18	91	12	60	266.4	-6.0	+40.5
15:518	G	9	49	8	45	264.4	-6.0	+57.0
Means	...	...	...	5	38	265.37	-5.80	...
Group 6164†.								
Two very small spots, <i>s</i> Group 6164.								
Apr. 8:239	M	0	13	0	9	260.2	-20.8	-43.2
Means	...	...	...	0	9	260.2	-20.8	...

AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6167. A very small spot, f Group 6164.								
1907. a Apr. 11'653	G	0	9	0	5	248.7	-14.0	-9.7
Means ...	...	...	...	0	5	248.7	-14.0	...
Group 6168. A number of spots in a large irregular cluster rapidly developing in size and becoming an irregular stream.								
Apr. 13'495	G	8	52	4	27	240.4	-9.9	+6.3
14'114	K	54	265	27	138	241.1	-10.2	+15.2
15'518	G	80	465	49	285	242.0	-10.1	+34.6
16'614	G	46	321	35	250	243.3	-9.9	+50.4
17'511	G	60	353	62	365	242.4	-9.9	+61.4
18'116	K	33	375	44	511	242.0	-10.4	+69.0
19'334	M	19	134	55	400	238.2	-10.8	+81.2
Means ...	...	...	...	39	282	241.34	-10.17	...
Group 6169. A few small spots in a straight stream.								
Apr. 13'495	G	5	51	3	28	211.2	+10.0	-22.9
14'114	K	21	56	11	29	212.1	+9.6	-13.8
15'518	G	0	11	0	5	214.4	+8.9	+7.0
Means ...	...	...	...	5	21	212.57	+9.50	...
Group 6170. A number of small unstable spots in an irregular straggling stream.								
Apr. 18'116	K	4	54	10	127	97.0	+12.8	-76.0
19'334	M	6	54	7	58	97.0	+12.2	-60.0
20'515	G	12	50	9	36	97.8	+12.4	-43.6
21'253	M	14	62	9	39	97.4	+12.4	-34.2
22'635	G	4	37	2	21	98.5	+12.0	-14.9
23'250	M	9	35	5	18	98.1	+12.4	-7.1
24'531	G	1	25	1	13	98.1	+14.2	+9.8
25'107	K	0	8	0	5	98.2	+12.4	+17.5
Means ...	...	...	...	5	40	97.76	+12.60	...
Group 6171. Two or three very small spots.								
Apr. 19'334	M	0	24	0	12	169.3	-11.4	+12.3
20'515	G	0	34	0	19	169.7	-11.7	+28.3
Means ...	...	...	...	0	16	169.50	-11.55	...

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6176. Some small unstable spots, f Group 6170. The group is not seen on April 22 and 24.								
1907. a Apr. 19'334	M	2	34	3	44	91.8	+14.0	-65.2
20'515	G	2	54	2	43	93.2	+13.8	-48.2
21'253	M	3	65	2	44	92.4	+14.1	-39.2
22'635	G	0	0	0	0	...	...	...
23'250	M	0	39	0	21	92.3	+13.6	-12.9
24'531	G	0	0	0	0	...	...	...
25'107	K	0	41	0	22	93.6	+13.4	+12.9
Means ...	...	...	...	1	25	92.66	+13.78	...
Group 6172. A large regular spot, a, followed by a train of small spots.								
Apr. 19'334	M	0	18	0	70	75.3	+7.6	-81.7
20'515	G	45	256	59	346	74.1	+7.7	-67.3
21'253	M	56	308	58	306	73.3	+7.4	-58.3
22'635	G	70	432	46	281	75.8	+7.1	-37.6
23'250	M	64	447	38	262	76.3	+6.8	-28.9
24'531	G	60	387	31	200	77.3	+6.6	-11.0
25'107	K	78	404	40	206	76.5	+6.9	-4.2
26'114	K	56	352	29	181	77.2	+6.8	+9.8
27'523	G	52	301	31	177	78.1	+6.7	+29.3
28'544	G	28	262	20	183	78.1	+6.9	+42.8
29'634	G	33	192	32	185	78.8	+7.0	+57.9
30'379	K	31	154	42	206	78.1	+8.0	+67.1
Means ...	...	...	...	36	217	76.58	+7.13	...
Group 6174. A pair of small spots, a and b.								
Apr. 21'253	M	0	24	0	37	64.2	+21.0	-67.4
22'635	G	7	34	6	31	62.9	+22.1	-50.5
23'250	M	8	30	6	23	63.1	+21.3	-42.1
Means ...	...	...	...	4	30	63.40	+21.47	...
Group 6173. Some very small spots.								
Apr. 22'635	G	0	13	0	12	169.9	-15.4	+56.5
Means ...	...	...	...	0	12	169.9	-15.4	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6175. A number of small spots in an irregular stream.								
1907. <sup>a</sup> Apr. 24 <sup>h</sup> 53 <sup>m</sup> 1	G	9	41	6	25	55.8	- 6.1	- 32.5
25 <sup>h</sup> 10 <sup>m</sup> 7	K	20	76	10	42	55.8	- 6.4	- 24.9
26 <sup>h</sup> 11 <sup>m</sup> 4	K	48	235	24	120	55.4	- 6.1	- 12.0
27 <sup>h</sup> 52 <sup>m</sup> 3	G	58	390	29	197	56.0	- 6.4	+ 7.2
28 <sup>h</sup> 54 <sup>m</sup> 4	G	39	280	21	149	55.3	- 6.7	+ 20.0
29 <sup>h</sup> 63 <sup>m</sup> 4	G	26	172	16	106	55.4	- 6.5	+ 34.5
30 <sup>h</sup> 37 <sup>m</sup> 9	K	23	103	16	71	54.9	- 6.5	+ 43.9
May 1 <sup>h</sup> 66 <sup>m</sup> 6	G	2	13	3	14	56.6	- 6.0	+ 62.6
Means ...	...	...	...	16	91	55.65	- 6.34	...
Group 6178. A very small spot, <i>f</i> Group 6175.								
Apr. 24 <sup>h</sup> 53 <sup>m</sup> 1	G	0	7	0	5	44.0	- 6.2	- 44.3
25 <sup>h</sup> 10 <sup>m</sup> 7	K	2	8	1	5	44.3	- 6.1	- 36.4
Means ...	...	...	...	1	5	44.15	- 6.15	...
Group 6177. A pair of very small spots, <i>a</i> and <i>b</i> .								
Apr. 25 <sup>h</sup> 10 <sup>m</sup> 7	K	2	20	1	10	78.4	- 16.9	- 2.3
26 <sup>h</sup> 11 <sup>m</sup> 4	K	2	22	1	11	78.9	- 17.1	+ 11.5
Means ...	...	...	...	1	11	78.65	- 17.00	...
Group 6179. Some very small spots, <i>n</i> Group 6175.								
Apr. 27 <sup>h</sup> 52 <sup>m</sup> 3	G	23	110	11	55	54.6	- 2.2	+ 5.8
28 <sup>h</sup> 54 <sup>m</sup> 4	G	0	4	0	2	53.3	- 1.1	+ 18.0
Means ...	...	...	...	6	29	53.95	- 1.65	...
Group 6175*. A small spot, on the same meridian as Group 6175, but in the northern hemisphere.								
Apr. 28 <sup>h</sup> 54 <sup>m</sup> 4	G	12	68	6	36	56.1	+ 9.6	+ 20.8
Means ...	...	...	...	6	36	56.1	+ 9.6	...
Group 6180. Some very small unstable spots.								
1907. <sup>a</sup> Apr. 30 <sup>h</sup> 37 <sup>m</sup> 9	K	5	38	3	21	359.6	- 21.7	- 11.4
May 1 <sup>h</sup> 66 <sup>m</sup> 6	G	0	4	0	2	4.9	- 21.5	+ 10.9
2 <sup>h</sup> 60 <sup>m</sup> 7	G	0	21	0	12	5.0	- 22.5	+ 23.4
3 <sup>h</sup> 51 <sup>m</sup> 9	G	0	16	0	10	4.6	- 22.1	+ 35.1
Means ...	...	...	...	1	11	3.53	- 21.95	...
Group 6181. A fine stream taking its rise near the centre of the disc and developing rapidly. The chief spot, <i>a</i> , is in the rear of the group.								
May 3 <sup>h</sup> 51 <sup>m</sup> 9	G	8	59	4	30	322.9	- 8.8	- 6.6
4 <sup>h</sup> 47 <sup>m</sup> 0	G	101	545	51	274	322.0	- 8.8	+ 5.0
5 <sup>h</sup> 26 <sup>m</sup> 9	M	194	937	100	490	322.5	- 8.8	+ 16.1
6 <sup>h</sup> 47 <sup>m</sup> 1	G	205	1352	121	796	322.0	- 9.0	+ 31.5
7 <sup>h</sup> 68 <sup>m</sup> 5	G	101	666	75	493	321.9	- 8.2	+ 47.4
8 <sup>h</sup> 51 <sup>m</sup> 1	G	48	371	46	358	322.3	- 8.0	+ 58.8
9 <sup>h</sup> 50 <sup>m</sup> 4	G	11	105	16	145	319.5	- 7.7	+ 69.1
10 <sup>h</sup> 47 <sup>m</sup> 5	G	0	43	0	155	320.0	- 7.8	+ 82.4
Means ..	...	...	...	52	343	321.64	- 8.39	...
Group 6183. A very small spot.								
May 3 <sup>h</sup> 51 <sup>m</sup> 9	G	0	7	0	4	345.0	+ 15.0	+ 15.5
Means ...	...	...	...	0	4	345.0	+ 15.0	...
Group 6184. Return of Group 6168. A very large regular spot, <i>a</i> , with companions forming closely around it.								
May 3 <sup>h</sup> 51 <sup>m</sup> 9	G	14	197	51	711	246.9	- 11.2	- 82.6
4 <sup>h</sup> 47 <sup>m</sup> 0	G	90	659	136	994	246.0	- 11.7	- 71.0
5 <sup>h</sup> 26 <sup>m</sup> 9	M	123	919	127	943	245.5	- 12.8	- 60.9
6 <sup>h</sup> 47 <sup>m</sup> 1	G	154	1158	110	827	245.3	- 12.6	- 45.2
7 <sup>h</sup> 68 <sup>m</sup> 5	G	202	1341	116	771	246.0	- 13.2	- 28.5
8 <sup>h</sup> 51 <sup>m</sup> 1	G	290	1538	154	819	246.1	- 13.0	- 17.4
9 <sup>h</sup> 50 <sup>m</sup> 4	G	206	1235	106	629	246.2	- 13.0	- 4.2
10 <sup>h</sup> 47 <sup>m</sup> 5	G	217	1127	112	580	246.2	- 13.2	+ 8.6
11 <sup>h</sup> 49 <sup>m</sup> 2	G	194	1041	106	569	245.9	- 13.1	+ 21.8
12 <sup>h</sup> 48 <sup>m</sup> 3	G	167	1092	103	677	246.2	- 12.6	+ 35.2
13 <sup>h</sup> 47 <sup>m</sup> 2	G	152	960	116	729	246.5	- 12.2	+ 48.6
14 <sup>h</sup> 25 <sup>m</sup> 1	M	107	772	103	748	246.5	- 11.6	+ 58.9
15 <sup>h</sup> 39 <sup>m</sup> 1	G	41	323	73	582	246.7	- 12.1	+ 74.1
Means ...	...	...	...	109	737	246.15	- 12.48	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.						
Group 6182. A few small spots, which suddenly become a cluster. Only one spot is seen on May 9.									Group 6188. A few small spots. The group is not seen on May 18.									
1907. <sup>a</sup> May 6 <sup>47</sup> 1	G	0	24	0	14	308.8	+13.4	+18.3	1907. <sup>a</sup> May 14 <sup>25</sup> 1	M	4	12	8	24	113.5	+6.7	-74.1	
7 <sup>68</sup> 5	G	12	74	7	46	306.6	+15.0	+32.1	15 <sup>39</sup> 1	G	0	112	0	122	110.8	+8.4	-61.8	
8 <sup>51</sup> 1	G	11	73	8	52	305.6	+16.0	+42.1	16 <sup>64</sup> 7	G	11	46	8	33	110.3	+8.8	-45.6	
9 <sup>50</sup> 4	G	4	18	3	16	304.5	+16.8	+54.1	17 <sup>62</sup> 0	G	2	16	1	10	109.6	+9.0	-33.5	
Means ...	...	...	...	5	32	306.38	+15.30	...	18 <sup>50</sup> 7	G	0	0	0	0	...	...	...	
									19 <sup>52</sup> 5	G	0	7	0	4	112.6	+8.4	-5.3	
Means ...	...	...	...	...	...	...	...	...	Means ...	...	...	...	...	3	32	111.36	+8.26	...
Group 6185. A very small spot at first, rapidly developing to become a fine irregular stream. The largest spot, <i>a</i> , is regular; the next largest, <i>b</i> , is a fainter composite spot.									Group 6189. Return of Group 6172. A regular spot, <i>a</i> .									
May 6 <sup>47</sup> 1	G	0	7	0	6	240.8	+5.3	-49.7	May 16 <sup>64</sup> 7	G	7	62	14	120	81.4	+8.2	-74.5	
7 <sup>68</sup> 5	G	8	64	5	38	242.8	+5.3	-31.7	17 <sup>62</sup> 0	G	23	122	24	130	81.8	+8.2	-61.3	
8 <sup>51</sup> 1	G	37	193	20	105	243.8	+4.8	-19.7	18 <sup>50</sup> 7	G	17	141	13	111	81.7	+8.4	-49.6	
9 <sup>50</sup> 4	G	113	640	57	324	244.8	+4.3	-5.6	19 <sup>52</sup> 5	G	19	124	12	77	82.7	+7.9	-35.2	
10 <sup>47</sup> 5	G	131	827	67	424	245.7	+4.4	+8.1	20 <sup>11</sup> 8	K	27	141	16	81	82.2	+7.9	-27.8	
11 <sup>49</sup> 2	G	184	999	101	546	246.5	+4.5	+22.4	21 <sup>49</sup> 2	G	16	96	8	50	82.4	+7.7	-9.5	
12 <sup>48</sup> 3	G	159	924	100	575	246.3	+4.8	+35.3	22 <sup>61</sup> 9	G	14	38	7	20	82.6	+7.6	+5.6	
13 <sup>47</sup> 2	G	88	764	69	587	246.5	+5.0	+48.6	23 <sup>49</sup> 9	G	10	21	5	11	82.7	+7.8	+17.4	
14 <sup>25</sup> 1	M	60	397	64	411	248.2	+5.4	+60.6	24 <sup>60</sup> 7	G	0	7	0	4	82.9	+7.7	+32.2	
15 <sup>39</sup> 1	G	22	172	52	393	249.6	+5.4	+77.0	25 <sup>26</sup> 9*	D	0	3	0	2	(83.0)	+5.3	+41.1	
Means ...	...	...	...	54	341	245.50	+4.92	...	Means ...	...	...	...	...	10	61	82.34	+7.67	...
Group 6186. A very small spot.									Group 6188*. A pair of very small spots.									
May 7 <sup>68</sup> 5	G	0	4	0	2	286.9	+9.0	+12.4	May 17 <sup>62</sup> 0	G	0	17	0	9	142.4	+13.8	-0.7	
Means ...	...	...	...	0	2	286.9	+9.0	...	Means ...	...	...	...	...	0	9	142.4	+13.8	...
Group 6184*. One or two very small spots, <i>p</i> Group 6184.									Group 6190. A few small unstable spots, in a short stream. The group is not seen on May 26 and 27.									
May 7 <sup>68</sup> 5	G	0	6	0	3	250.7	-9.3	-23.8	May 19 <sup>52</sup> 5	G	0	13	0	21	46.2	-5.9	-71.7	
8 <sup>51</sup> 1	G	1	16	1	8	251.7	-9.4	-11.8	20 <sup>11</sup> 8	K	0	8	0	10	45.9	-5.5	-64.1	
Means ...	...	...	...	1	6	251.20	-9.35	...	21 <sup>49</sup> 2	G	7	18	5	13	47.1	-5.5	-44.8	
Group 6187. A few small unstable spots, in a slowly growing stream.									22 <sup>61</sup> 9	G	8	46	5	27	45.5	-6.1	-31.5	
May 11 <sup>49</sup> 2	G	5	25	4	18	175.9	-12.0	-48.2	23 <sup>49</sup> 9	G	10	40	6	22	46.2	-6.4	-19.1	
12 <sup>48</sup> 3	G	4	19	2	12	177.0	-11.0	-34.0	24 <sup>60</sup> 7	G	0	16	0	8	45.7	-6.3	-5.0	
13 <sup>47</sup> 2	G	0	27	0	15	175.8	-13.4	-22.1	25 <sup>26</sup> 9*	D	0	42	0	21	(45.1)	-6.5	+3.2	
14 <sup>25</sup> 1	M	10	71	5	37	176.4	-12.6	-11.2	26 <sup>13</sup> 0	K	0	0	0	0	...	...	...	
15 <sup>39</sup> 1	G	31	373	16	190	176.8	-12.6	+4.2	27 <sup>62</sup> 2	G	0	0	0	0	...	...	...	
16 <sup>64</sup> 7	G	31	222	17	121	176.8	-12.2	+20.9	28 <sup>22</sup> 9	M	9	54	6	38	46.9	-6.8	+44.2	
17 <sup>62</sup> 0	G	35	216	21	133	176.7	-11.4	+33.6	29 <sup>24</sup> 5	M	3	45	3	43	47.6	-5.6	+58.3	
18 <sup>50</sup> 7	G	13	159	9	116	177.1	-11.5	+45.8	Means ...	...	...	...	...	2	18	46.24	-6.07	...
19 <sup>52</sup> 5	G	1	8	1	8	176.0	-11.3	+58.1										
Means ...	...	...	...	8	72	176.50	-12.00	...										
* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on May 25.																		

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on May 25.

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbr.	Whole Spot.	Umbr.	Whole Spot.			
Group 6191. A few small unstable spots.								
1907. <sup>d</sup> May 20 <sup>h</sup> 118	K	9	57	9	52	53.5	+ 4.9	-56.5
21 <sup>h</sup> 492	G	16	72	10	45	56.3	+ 3.5	-35.6
22 <sup>h</sup> 619	G	14	103	8	56	56.0	+ 4.0	-21.0
23 <sup>h</sup> 499	G	8	38	4	20	56.8	+ 3.6	- 8.5
24 <sup>h</sup> 607	G	10	42	5	21	57.8	+ 3.3	+ 7.1
25 <sup>h</sup> 269*	D	7	40	3	21	(58.0)	+ 3.6	+16.1
26 <sup>h</sup> 130	K	2	38	1	22	59.6	+ 4.1	+29.1
Means ...	...	...	...	6	34	56.86	+ 3.86	...
Group 6192. A very small spot.								
May 21 <sup>h</sup> 492	G	0	12	0	7	106.7	+18.1	+14.8
22 <sup>h</sup> 619	G	0	10	0	6	105.6	+18.6	+28.6
Means ...	...	...	...	0	7	106.15	+18.35	...
Group 6193. A short stream of spots, forming near the West limb.								
May 22 <sup>h</sup> 619	G	2	29	2	26	132.3	-13.0	+55.3
23 <sup>h</sup> 499	G	8	58	11	77	133.2	-12.5	+67.9
24 <sup>h</sup> 607	G	10	65	26	177	130.3	-12.7	+79.6
Means ...	...	...	...	13	93	131.93	-12.73	...
Group 6194. A small spot, forming near the West limb.								
May 23 <sup>h</sup> 499	G	0	8	0	7	118.5	-19.8	+53.2
24 <sup>h</sup> 607	G	0	20	0	26	117.1	-19.3	+66.4
25 <sup>h</sup> 269*	D	0	28	0	56	(117.1)	-18.6	+75.2
Means ...	...	...	...	0	30	117.57	-19.23	...
Group 6195. A regular spot, $\alpha$ .								
May 25 <sup>h</sup> 269*	D	0	16	0	50	(321.6)	+11.9	-80.3
26 <sup>h</sup> 130	K	5	42	8	60	321.7	+10.8	-68.8
27 <sup>h</sup> 622	G	19	58	15	45	321.9	+12.0	-48.9
28 <sup>h</sup> 229	M	9	40	6	27	321.9	+12.0	-40.8
29 <sup>h</sup> 245	M	6	48	4	28	322.5	+12.7	-26.8
30 <sup>h</sup> 147	K	8	25	4	13	322.9	+12.6	-14.4
Means ...	...	...	...	6	37	322.08	+12.00	...
Group 6196. A very small spot.								
1907. <sup>d</sup> May 27 <sup>h</sup> 622	G	0	6	0	5	60.3	-13.5	+49.5
Means ...	...	...	...	0	5	60.3	-13.5	...
Group 6195*. One or two very small spots, $\gamma$ Group 6195.								
May 29 <sup>h</sup> 245	M	0	7	0	5	311.6	+13.4	-37.7
30 <sup>h</sup> 147	K	0	18	0	10	312.5	+11.9	-24.8
Means ...	...	...	...	0	8	312.05	+12.65	...
Group 6197. A large regular spot, $\alpha$ , with occasionally some small companions.								
May 29 <sup>h</sup> 245	M	13	71	33	189	270.2	-15.8	-79.1
30 <sup>h</sup> 147	K	15	86	19	110	271.0	-15.6	-66.3
31 <sup>h</sup> 111	K	19	143	16	123	271.4	-15.6	-53.2
June 1 <sup>h</sup> 470	G	25	192	16	122	271.1	-15.3	-35.5
2 <sup>h</sup> 115	K	40	223	23	131	270.9	-15.7	-27.1
3 <sup>h</sup> 277	M	42	225	22	119	271.1	-15.9	-11.6
4 <sup>h</sup> 254	M	48	274	25	141	271.0	-15.8	+ 1.3
5 <sup>h</sup> 652	G	27	184	15	102	270.7	-15.9	+19.4
6 <sup>h</sup> 652	G	14	72	9	45	270.8	-15.9	+32.8
7 <sup>h</sup> 124	K	17	68	11	45	270.8	-16.3	+39.0
8 <sup>h</sup> 514	G	11	51	11	52	272.6	-15.8	+59.2
9 <sup>h</sup> 094	K	5	19	7	23	270.6	-16.8	+64.9
Means ...	...	...	...	17	100	271.02	-15.87	...
Group 6198. A small spot, $\alpha$ , with occasionally a small companion.								
June 2 <sup>h</sup> 115	K	6	17	11	29	225.4	+13.8	-72.6
3 <sup>h</sup> 277	M	18	72	17	71	224.4	+13.6	-58.3
4 <sup>h</sup> 254	M	8	37	6	28	224.0	+13.7	-45.7
5 <sup>h</sup> 652	G	0	17	0	10	224.7	+13.6	-26.6
Means ...	...	...	...	9	35	224.63	+13.68	...
Group 6199. Some small faint spots. The group is not seen on June 6.								
June 2 <sup>h</sup> 115	K	0	13	0	9	259.2	-11.1	-38.8
3 <sup>h</sup> 277	M	4	56	2	30	262.0	- 9.6	-20.7
4 <sup>h</sup> 254	M	0	8	0	4	263.6	- 9.5	- 6.1

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## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS DEDUCED FROM PHOTOGRAPHS

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6199—continued.									Group 6202—continued.								
1907. <sub>a</sub> June 5 <sup>h</sup> 52	G	0	10	0	5	259.9	-11.0	+ 8.6	1907. <sub>a</sub> June 13 <sup>h</sup> 497	G	32	193	19	118	114.0	+11.0	-33.4
6 <sup>h</sup> 52	G	0	0	0	0	...	...	...	14 <sup>h</sup> 678	G	18	135	10	72	113.5	+11.2	-18.3
7 <sup>h</sup> 124	K	0	11	0	6	263.6	-10.5	+31.8	15 <sup>h</sup> 060*	D	57	388	29	202	(113.4	+11.2	-13.3)
8 <sup>h</sup> 514	G	0	13	0	11	263.8	-9.3	+50.4	16 <sup>h</sup> 316	M	34	147	17	74	113.3	+11.6	+ 3.2
9 <sup>h</sup> 094	K	1	7	1	7	261.1	-10.6	+55.4	17 <sup>h</sup> 511	G	2	61	1	33	114.3	+11.3	+20.0
Means ...	...	...	...	0	9	261.89	-10.23	...	18 <sup>h</sup> 692	G	11	112	7	73	117.0	+11.8	+38.3
									19 <sup>h</sup> 467	G	4	55	3	44	118.3	+12.1	+49.9
									20 <sup>h</sup> 694	G	0	19	0	24	119.6	+12.0	+67.5
									Means ...	...	...	...	10	91	114.85	+11.24	...
Group 6200. One or two small spots.									Group 6204. Some very small unstable spots in a small cluster. The group is not seen on June 11.								
June 5 <sup>h</sup> 52	G	0	19	0	10	254.2	-11.2	+ 2.9	June 10 <sup>h</sup> 656	G	0	16	0	22	118.1	-21.5	-66.9
6 <sup>h</sup> 52	G	3	37	2	20	253.9	-10.4	+15.9	11 <sup>h</sup> 675	G	0	0	0	0	...	...	...
7 <sup>h</sup> 124	K	0	11	0	6	256.1	-11.3	+24.3	12 <sup>h</sup> 632	G	0	4	0	3	117.4	-20.3	-41.5
Means ...	...	...	...	1	12	254.73	-10.97	...	13 <sup>h</sup> 497	G	4	46	2	29	117.5	-21.2	-29.9
Group 6200*. Return, or more probably a revival, of Group 6187. One or two small spots.									14 <sup>h</sup> 678	G	13	122	7	68	116.5	-20.8	-15.3
June 5 <sup>h</sup> 52	G	0	8	0	10	185.6	-12.6	-65.7	15 <sup>h</sup> 060*	D	25	125	14	69	(116.7	-20.8	-10.0)
6 <sup>h</sup> 52	G	0	25	0	23	182.9	-11.4	-55.1	16 <sup>h</sup> 316	M	22	114	12	61	117.2	-21.3	+ 7.1
7 <sup>h</sup> 124	K	0	8	0	7	178.9	-11.1	-52.9	17 <sup>h</sup> 511	G	8	61	5	37	116.5	-21.9	+22.2
Means ...	...	...	...	0	13	182.47	-11.70	...	18 <sup>h</sup> 692	G	4	20	3	14	115.8	-21.5	+37.1
Group 6201. A large regular spot, $\alpha$ , with occasionally some small companions.									19 <sup>h</sup> 467	G	2	14	2	12	115.7	-21.6	+47.3
June 8 <sup>h</sup> 514	G	0	43	0	177	131.1	-18.5	-82.3	Means ...	...	...	...	5	32	116.82	-21.21	...
9 <sup>h</sup> 094	K	8	59	20	142	128.2	-17.5	-77.5	Group 6203. A disturbed region showing one or two small unstable spots.								
10 <sup>h</sup> 656	G	23	118	23	117	127.5	-18.9	-57.5	June 13 <sup>h</sup> 497	G	1	20	1	11	130.3	+ 6.9	-17.1
11 <sup>h</sup> 675	G	12	108	9	80	127.6	-19.2	-43.9	14 <sup>h</sup> 678	G	0	17	0	8	130.1	+ 6.7	- 1.7
12 <sup>h</sup> 632	G	22	119	14	74	127.5	-19.3	-31.4	15 <sup>h</sup> 060*	D	13	96	6	49	(132.2	+ 7.3	+ 5.5)
13 <sup>h</sup> 497	G	27	135	15	76	127.1	-19.7	-20.3	16 <sup>h</sup> 316	M	0	53	0	28	125.7	+ 8.4	+15.6
14 <sup>h</sup> 678	G	14	113	8	61	127.0	-20.0	-4.8	17 <sup>h</sup> 511	G	4	51	2	30	126.7	+ 8.4	+32.4
15 <sup>h</sup> 060*	D	36	153	20	82	(127.0	-19.6	+ 0.3)	18 <sup>h</sup> 692	G	0	47	0	35	125.4	+ 7.6	+46.7
16 <sup>h</sup> 316	M	17	43	9	25	127.5	-19.1	+17.4	Means ...	...	...	...	2	27	128.40	+ 7.55	...
17 <sup>h</sup> 511	G	8	37	5	24	127.1	-19.5	+32.8	Group 6205. A straight and almost continuous stream, consisting chiefly of three very large spots, $\alpha$ , $\beta$ , and $\gamma$ , nearly equal in size, and near each other, beside a multitude of small attendants. The leader, $\alpha$ , is a nearly circular spot, and was the best defined member of the group, the rear spot, $\gamma$ , is intersected by a number of bright bridges. $\alpha$ is sometimes measured with $\beta$ , and $\beta$ , with $\gamma$ .								
18 <sup>h</sup> 692	G	0	12	0	10	127.3	-19.4	+48.6	June 13 <sup>h</sup> 497	G	37	322	97	1138	66.1	-14.8	-81.3
Means ...	...	...	...	11	79	127.72	-19.15	...	14 <sup>h</sup> 678	G	172	1470	218	1949	65.2	-14.7	-66.6
Group 6202. A number of small unstable spots in an irregular stream.									15 <sup>h</sup> 060*	D	661	2234	735	2472	(65.0	-14.3	-61.7)
June 10 <sup>h</sup> 656	G	0	61	0	99	113.4	+10.7	-71.6	16 <sup>h</sup> 316	M	477	3111	349	2308	64.7	-14.2	-45.4
11 <sup>h</sup> 675	G	14	137	14	133	113.1	+10.2	-58.4	17 <sup>h</sup> 511	G	453	3487	272	2093	64.7	-13.7	-29.6
12 <sup>h</sup> 632	G	20	182	14	130	113.4	+10.5	-45.5	18 <sup>h</sup> 692	G	430	4148	230	2213	65.6	-14.0	-13.1

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on June 15.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbr.	Whole Spot.	Umbr.	Whole Spot.			
Group 6205—continued.								
1907. <sup>a</sup> June 19 <sup>h</sup> 46 <sup>m</sup> 7 <sup>s</sup>	G	560	4177	293	2182	65.3	-14.0	-3.1
20 <sup>h</sup> 69 <sup>m</sup> 4 <sup>s</sup>	G	611	4106	325	2184	65.7	-14.2	+13.6
21 <sup>h</sup> 51 <sup>m</sup> 4 <sup>s</sup>	G	484	3446	282	1988	66.0	-14.4	+24.7
22 <sup>h</sup> 48 <sup>m</sup> 6 <sup>s</sup>	G	359	2698	242	1797	66.6	-14.5	+38.1
23 <sup>h</sup> 63 <sup>m</sup> 1 <sup>s</sup>	G	176	1760	158	1550	66.5	-14.6	+53.2
24 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup>	K	169	1408	174	1555	66.0	-15.1	+59.2
25 <sup>h</sup> 41 <sup>m</sup> 7 <sup>s</sup>	M	98	559	245	1293	66.1	-14.6	+76.5
Means ...	...	...	...	278	1902	65.65	-14.39	...
Group 6206. A very small spot, <i>p</i> Group 6201.								
June 17 <sup>h</sup> 51 <sup>m</sup> 1 <sup>s</sup>	G	0	12	0	8	131.3	-18.6	+37.0
Means ...	...	...	...	0	8	131.3	-18.6	...
Group 6208. Some small unstable spots.								
June 25 <sup>h</sup> 41 <sup>m</sup> 7 <sup>s</sup>	M	19	81	15	62	36.7	-9.7	+47.1
26 <sup>h</sup> 71 <sup>m</sup> 2 <sup>s</sup>	G	1	25	1	28	34.8	-9.3	+62.3
27 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	0	5	0	8	35.5	-7.4	+69.8
Means ...	...	...	...	5	33	35.67	-8.80	...
Group 6209. A few small unstable spots in a short stream.								
June 25 <sup>h</sup> 41 <sup>m</sup> 7 <sup>s</sup>	M	0	15	0	39	270.3	+3.0	-79.3
26 <sup>h</sup> 71 <sup>m</sup> 2 <sup>s</sup>	G	8	48	9	49	271.0	+3.8	-61.5
27 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	5	27	5	24	270.7	+3.8	-55.0
28 <sup>h</sup> 10 <sup>m</sup> 6 <sup>s</sup>	K	8	49	6	33	271.3	+5.0	-42.7
29 <sup>h</sup> 33 <sup>m</sup> 4 <sup>s</sup>	M	22	98	13	54	272.7	+4.2	-25.1
30 <sup>h</sup> 58 <sup>m</sup> 1 <sup>s</sup>	G	6	86	3	43	273.4	+4.8	-7.9
July 1 <sup>h</sup> 19 <sup>m</sup> 1 <sup>s</sup>	K	3	53	2	27	273.5	+4.9	+0.3
Means ...	...	...	...	5	38	271.84	+4.21	...
Group 6210. Three very small spots on July 2. Only <i>a</i> the leader remains on July 3.								
July 2 <sup>h</sup> 44 <sup>m</sup> 3 <sup>s</sup>	M	4	47	3	28	286.5	+12.2	+29.9
3 <sup>h</sup> 13 <sup>m</sup> 2 <sup>s</sup>	K	4	15	3	10	288.6	+11.8	+41.1
Means ...	...	...	...	3	19	287.55	+12.00	...
Group 6211. A fine but somewhat irregular and unstable stream of spots.								
1907. <sup>a</sup> July 2 <sup>h</sup> 44 <sup>m</sup> 3 <sup>s</sup>	M	36	349	47	484	187.7	+3.5	-68.9
3 <sup>h</sup> 13 <sup>m</sup> 2 <sup>s</sup>	K	66	458	64	441	188.7	+5.1	-58.8
4 <sup>h</sup> 62 <sup>m</sup> 6 <sup>s</sup>	G	95	570	59	354	191.5	+3.5	-36.2
5 <sup>h</sup> 63 <sup>m</sup> 7 <sup>s</sup>	G	118	713	63	382	193.2	+3.3	-21.2
6 <sup>h</sup> 48 <sup>m</sup> 5 <sup>s</sup>	G	63	533	32	270	195.0	+3.3	-8.1
7 <sup>h</sup> 30 <sup>m</sup> 9 <sup>s</sup>	M	129	674	65	341	194.8	+3.3	+2.6
8 <sup>h</sup> 11 <sup>m</sup> 5 <sup>s</sup>	K	119	689	60	354	194.3	+3.6	+12.7
9 <sup>h</sup> 28 <sup>m</sup> 5 <sup>s</sup>	M	123	647	70	371	194.9	+3.7	+28.8
10 <sup>h</sup> 48 <sup>m</sup> 3 <sup>s</sup>	G	44	385	32	282	197.2	+2.9	+47.0
11 <sup>h</sup> 42 <sup>m</sup> 5 <sup>s</sup>	G	48	373	49	385	198.8	+3.2	+61.1
12 <sup>h</sup> 44 <sup>m</sup> 0 <sup>s</sup>	G	29	246	53	508	200.6	+3.3	+76.3
Means ...	...	...	...	54	379	194.25	+3.52	...
Group 6212. A very small spot.								
July 3 <sup>h</sup> 13 <sup>m</sup> 2 <sup>s</sup>	K	0	8	0	11	180.7	-6.8	-66.8
4 <sup>h</sup> 62 <sup>m</sup> 6 <sup>s</sup>	G	4	12	3	9	182.2	-7.3	-45.5
5 <sup>h</sup> 63 <sup>m</sup> 7 <sup>s</sup>	G	0	11	0	7	182.8	-7.1	-31.6
6 <sup>h</sup> 48 <sup>m</sup> 5 <sup>s</sup>	G	0	8	0	5	185.0	-8.2	-18.1
Means ...	...	...	...	1	8	182.68	-7.35	...
Group 6211*. A small spot at a considerable distance, <i>np</i> , from Group 6211.								
July 5 <sup>h</sup> 63 <sup>m</sup> 7 <sup>s</sup>	G	4	22	2	11	222.2	+14.8	+7.8
Means ...	...	...	...	2	11	222.2	+14.8	...
Group 6214. Some small unstable spots. The group is not seen on July 10 and 14.								
July 9 <sup>h</sup> 28 <sup>m</sup> 5 <sup>s</sup>	M	0	5	0	4	119.9	+11.4	-46.2
10 <sup>h</sup> 48 <sup>m</sup> 3 <sup>s</sup>	G	0	0	0	0	...	...	...
11 <sup>h</sup> 42 <sup>m</sup> 5 <sup>s</sup>	G	0	17	0	9	123.0	+13.1	-14.7
12 <sup>h</sup> 44 <sup>m</sup> 0 <sup>s</sup>	G	0	19	0	10	119.2	+12.3	-5.1
13 <sup>h</sup> 42 <sup>m</sup> 7 <sup>s</sup>	G	0	8	0	4	118.1	+12.9	+6.8
14 <sup>h</sup> 24 <sup>m</sup> 8 <sup>s</sup>	M	0	0	0	0	...	...	...
15 <sup>h</sup> 10 <sup>m</sup> 6 <sup>s</sup>	K	3	42	2	25	120.5	+12.5	+31.5
16 <sup>h</sup> 66 <sup>m</sup> 1 <sup>s</sup>	G	5	19	4	16	121.5	+12.1	+53.0
17 <sup>h</sup> 21 <sup>m</sup> 8 <sup>s</sup>	M	0	15	0	15	122.1	+12.8	+61.0
Means ...	...	...	...	1	9	120.61	+12.44	...
Group 6213. A few small spots gradually developing into a pair of clusters.								
July 11 <sup>h</sup> 42 <sup>m</sup> 5 <sup>s</sup>	G	1	36	1	18	140.8	+7.4	+3.1
12 <sup>h</sup> 44 <sup>m</sup> 0 <sup>s</sup>	G	30	185	16	98	142.0	+7.7	+17.7
13 <sup>h</sup> 42 <sup>m</sup> 7 <sup>s</sup>	G	34	244	20	143	142.1	+7.9	+30.8
14 <sup>h</sup> 24 <sup>m</sup> 8 <sup>s</sup>	M	32	196	22	135	143.8	+8.5	+43.4
15 <sup>h</sup> 10 <sup>m</sup> 6 <sup>s</sup>	K	19	72	17	62	144.1	+7.8	+55.1
Means ...	...	...	...	15	91	142.56	+7.86	...



AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6215. Return of Group 6205. A very large well-defined regular spot, <i>a</i> , with occasionally some very small spots.									Group 6219. A small spot.								
1907. <sup>a</sup> July 11:425	G	24	255	46	485	65.1	-18.3	-72.6	1907. <sup>a</sup> July 20:468	G	0	6	0	6	75.7	-16.5	+57.6
12:440	G	73	436	80	477	64.7	-18.7	-59.6	21:328	M	6	27	11	48	77.7	-15.9	+71.0
13:427	G	106	615	85	490	64.6	-18.4	-46.7	Means	...	...	...	6	27	76.70	-16.20	...
14:248	M	122	725	83	492	64.1	-18.9	-36.3	Group 6220. A large regular spot, <i>a</i> , with a large irregular spot, <i>b</i> , close to it on the south. The two gradually merge to form a large composite spot, <i>c</i> . A number of small companions accompany the principal spots.								
15:106	K	141	743	86	451	63.9	-18.6	-25.1	July 20:468	G	0	39	0	76	303.7	-7.7	-74.4
16:661	G	140	799	76	437	63.6	-18.9	-4.9	21:328	M	23	108	27	129	302.5	-8.0	-64.2
17:218	M	127	757	69	412	64.0	-18.8	+2.9	22:490	G	41	370	32	288	303.1	-7.6	-48.2
18:690	G	116	663	68	391	62.9	-19.0	+21.3	23:226	M	72	508	48	336	303.1	-8.2	-38.5
19:245	K	108	584	67	366	63.3	-18.5	+29.0	24:247	K	78	544	45	315	301.8	-8.0	-26.3
20:468	G	84	559	66	436	62.8	-18.7	+44.7	25:543	G	46	607	24	315	302.7	-8.0	-8.3
21:328	M	55	369	55	373	63.1	-18.6	+56.4	26:625	G	80	646	41	332	301.8	-7.8	+5.2
22:490	G	43	196	77	350	62.3	-18.6	+71.0	27:542	G	80	543	43	296	303.2	-7.8	+18.7
23:226	M	27	74	105	282	62.0	-17.8	+80.4	28:670	G	72	413	46	258	303.6	-7.9	+34.0
Means	...	...	...	74	419	63.57	-18.60	...	29:527	G	52	288	38	213	304.1	-7.5	+45.8
Group 6216. A very large composite spot, <i>a</i> , followed by a very fine irregular train of spots undergoing continual change.									30:682	G	39	183	43	202	304.7	-7.9	+61.7
July 11:425	G	0	65	0	398	52.7	-4.7	-85.0	31:478	G	14	106	26	187	304.9	-7.4	+72.5
12:440	G	61	508	111	984	49.8	-5.3	-74.5	Aug. 1:130	K	0	71	0	225	303.7	-7.0	+79.9
13:427	G	127	1133	131	1223	49.5	-5.3	-61.8	Means	...	...	...	32	244	303.30	-7.75	...
14:248	M	165	1224	129	981	50.1	-5.5	-50.3	Group 6222. A small spot, <i>a</i> , followed by a close pair, <i>n</i> of Group 6221. Only <i>a</i> remains on July 24.								
15:106	K	232	1677	164	1179	50.1	-5.3	-38.9	July 22:490	G	0	5	0	4	296.7	-2.9	-54.6
16:661	G	292	1569	154	1223	51.1	-5.7	-17.4	23:226	M	8	42	5	29	298.3	-2.9	-43.3
17:218	M	343	2526	178	1305	51.5	-5.6	-9.6	24:247	K	0	18	0	10	300.4	-2.3	-27.7
18:690	G	194	1682	100	870	52.0	-5.7	+10.4	Means	...	...	...	2	14	298.47	-2.70	...
19:245	K	281	1676	152	897	52.6	-5.3	+18.3	Group 6221. Some small unstable spots. The group is not seen on July 25.								
20:468	G	207	1130	133	718	54.6	-5.4	+36.5	July 23:226	M	14	82	8	44	1.9	+12.0	+20.3
21:328	M	166	855	130	674	56.0	-5.4	+49.3	24:247	K	2	19	1	12	1.5	+12.0	+33.4
22:490	G	34	405	43	517	57.4	-5.9	+66.1	25:543	G	0	0	0	0	...	...	...
23:226	M	23	207	51	452	57.8	-5.4	+76.2	26:625	G	0	3	0	3	357.9	+13.3	+61.3
Means	...	...	...	114	879	52.71	-5.42	...	Means	...	...	...	2	15	0.43	+12.43	...
Group 6217. Some very small spots. The group is not seen on July 13 and 14.									Group 6218. A number of small unstable spots in an irregular stream.								
July 12:440	G	0	28	0	25	70.2	-14.1	-54.1	July 20:468	G	12	106	7	60	30.9	-19.1	+12.8
13:427	G	0	0	0	0	...	...	...	21:328	M	20	116	12	71	32.0	-19.1	+25.3
14:248	M	0	0	0	0	...	...	...	22:490	G	14	84	11	63	32.8	-19.7	+41.5
15:106	K	0	24	0	14	68.0	-12.7	-21.0	23:226	M	13	70	12	64	33.7	-18.6	+52.1
Means	...	...	...	0	10	69.10	-13.40	...	Means	...	...	...	11	65	32.35	-19.13	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6223.								
A number of unstable spots mostly small in an irregular stream. The stream undergoes considerable change, diminishing rapidly after July 28, and reviving again later.								
1907. <sup>a</sup>								
July 24 <sup>h</sup> 247	K	0	51	0	135	248 <sup>h</sup> 3	+ 6 <sup>h</sup> 9	-79 <sup>h</sup> 8
25 <sup>h</sup> 543	G	0	160	0	166	249 <sup>h</sup> 7	+ 6 <sup>h</sup> 9	-61 <sup>h</sup> 3
26 <sup>h</sup> 625	G	41	307	30	229	248 <sup>h</sup> 7	+ 7 <sup>h</sup> 0	-47 <sup>h</sup> 9
27 <sup>h</sup> 542	G	41	296	25	178	250 <sup>h</sup> 7	+ 7 <sup>h</sup> 2	-33 <sup>h</sup> 8
28 <sup>h</sup> 670	G	60	500	32	262	251 <sup>h</sup> 8	+ 7 <sup>h</sup> 4	-17 <sup>h</sup> 8
29 <sup>h</sup> 527	G	10	190	5	96	252 <sup>h</sup> 2	+ 7 <sup>h</sup> 2	- 6 <sup>h</sup> 1
30 <sup>h</sup> 682	G	22	104	11	53	254 <sup>h</sup> 7	+ 7 <sup>h</sup> 5	+11 <sup>h</sup> 7
31 <sup>h</sup> 478	G	10	93	5	49	253 <sup>h</sup> 2	+ 7 <sup>h</sup> 9	+20 <sup>h</sup> 8
Aug. 1 <sup>h</sup> 130	K	7	87	4	51	254 <sup>h</sup> 5	+ 7 <sup>h</sup> 9	+30 <sup>h</sup> 7
2 <sup>h</sup> 524	G	20	167	15	124	253 <sup>h</sup> 6	+ 7 <sup>h</sup> 3	+48 <sup>h</sup> 2
3 <sup>h</sup> 638	G	36	218	37	233	253 <sup>h</sup> 2	+ 7 <sup>h</sup> 9	+62 <sup>h</sup> 5
4 <sup>h</sup> 519	G	7	31	11	48	250 <sup>h</sup> 7	+ 8 <sup>h</sup> 9	+71 <sup>h</sup> 7
Means	...	...	...	15	135	251 <sup>h</sup> 78	+ 7 <sup>h</sup> 50	...
Group 6224.								
A small spot.								
July 25 <sup>h</sup> 543	G	0	11	0	6	294 <sup>h</sup> 8	- 9 <sup>h</sup> 5	-16 <sup>h</sup> 2
Means	...	...	...	0	6	294 <sup>h</sup> 8	- 9 <sup>h</sup> 5	...
Group 6223*.								
A small spot forming on the same meridian as Group 6223, but in the southern hemisphere.								
July 25 <sup>h</sup> 543	G	0	12	0	13	257 <sup>h</sup> 1	-28 <sup>h</sup> 5	-53 <sup>h</sup> 9
26 <sup>h</sup> 625	G	0	18	0	15	256 <sup>h</sup> 3	-28 <sup>h</sup> 9	-40 <sup>h</sup> 3
Means	...	...	...	0	14	256 <sup>h</sup> 70	-28 <sup>h</sup> 70	...
Group 6223†.								
A very small spot forming on the same meridian as Group 6223, but in the southern hemisphere.								
July 26 <sup>h</sup> 625	G	0	5	0	4	246 <sup>h</sup> 9	-15 <sup>h</sup> 4	-49 <sup>h</sup> 7
Means	...	...	...	0	4	246 <sup>h</sup> 9	-15 <sup>h</sup> 4	...
Group 6225.								
A double spot, α, with a very small companion on July 30 and 31.								
July 27 <sup>h</sup> 542	G	8	33	32	124	201 <sup>h</sup> 1	+ 9 <sup>h</sup> 7	-83 <sup>h</sup> 4
28 <sup>h</sup> 670	G	7	54	10	72	201 <sup>h</sup> 3	+ 9 <sup>h</sup> 5	-68 <sup>h</sup> 3
29 <sup>h</sup> 527	G	12	89	11	81	201 <sup>h</sup> 2	+ 9 <sup>h</sup> 5	-57 <sup>h</sup> 1
30 <sup>h</sup> 682	G	27	139	18	93	201 <sup>h</sup> 6	+ 9 <sup>h</sup> 6	-41 <sup>h</sup> 4
31 <sup>h</sup> 478	G	23	147	13	86	201 <sup>h</sup> 3	+ 9 <sup>h</sup> 7	-31 <sup>h</sup> 1
Group 6225—continued.								
1907. <sup>a</sup>								
Aug. 1 <sup>h</sup> 130	K	19	99	10	54	201 <sup>h</sup> 4	+ 9 <sup>h</sup> 6	-22 <sup>h</sup> 4
2 <sup>h</sup> 524	G	4	75	2	38	201 <sup>h</sup> 2	+ 9 <sup>h</sup> 7	- 4 <sup>h</sup> 2
3 <sup>h</sup> 638	G	19	59	10	30	201 <sup>h</sup> 1	+ 9 <sup>h</sup> 7	+10 <sup>h</sup> 4
4 <sup>h</sup> 519	G	10	31	5	17	200 <sup>h</sup> 9	+ 9 <sup>h</sup> 2	+21 <sup>h</sup> 9
5 <sup>h</sup> 452	G	0	16	0	9	201 <sup>h</sup> 1	+ 9 <sup>h</sup> 1	+34 <sup>h</sup> 4
Means	...	...	...	11	60	201 <sup>h</sup> 22	+ 9 <sup>h</sup> 53	...
Group 6226.								
A regular spot, α, frequently with one or two companions.								
July 28 <sup>h</sup> 670	G	5	34	11	79	192 <sup>h</sup> 9	- 8 <sup>h</sup> 0	-76 <sup>h</sup> 7
29 <sup>h</sup> 527	G	12	94	14	113	194 <sup>h</sup> 2	- 7 <sup>h</sup> 9	-64 <sup>h</sup> 1
30 <sup>h</sup> 682	G	18	134	14	103	195 <sup>h</sup> 5	- 8 <sup>h</sup> 4	-47 <sup>h</sup> 5
31 <sup>h</sup> 478	G	18	194	12	125	195 <sup>h</sup> 7	- 8 <sup>h</sup> 2	-36 <sup>h</sup> 7
Aug. 1 <sup>h</sup> 130	K	27	186	16	108	196 <sup>h</sup> 6	- 8 <sup>h</sup> 3	-27 <sup>h</sup> 2
2 <sup>h</sup> 524	G	22	134	11	69	198 <sup>h</sup> 9	- 8 <sup>h</sup> 3	- 6 <sup>h</sup> 5
3 <sup>h</sup> 638	G	24	141	13	74	199 <sup>h</sup> 9	- 8 <sup>h</sup> 6	+ 9 <sup>h</sup> 2
4 <sup>h</sup> 519	G	31	202	18	114	200 <sup>h</sup> 4	- 9 <sup>h</sup> 1	+21 <sup>h</sup> 4
5 <sup>h</sup> 452	G	22	123	14	78	201 <sup>h</sup> 5	- 9 <sup>h</sup> 4	+34 <sup>h</sup> 8
6 <sup>h</sup> 438	G	10	84	8	67	202 <sup>h</sup> 3	- 9 <sup>h</sup> 7	+48 <sup>h</sup> 7
7 <sup>h</sup> 542	G	10	45	12	54	203 <sup>h</sup> 0	- 9 <sup>h</sup> 6	+64 <sup>h</sup> 0
8 <sup>h</sup> 229	M	4	25	8	50	203 <sup>h</sup> 8	- 9 <sup>h</sup> 2	+73 <sup>h</sup> 9
Means	...	...	...	13	86	198 <sup>h</sup> 73	- 8 <sup>h</sup> 73	...
Group 6223‡.								
Some small spots forming on the same meridian as Group 6223, but in the southern hemisphere.								
July 29 <sup>h</sup> 527	G	0	30	0	16	257 <sup>h</sup> 1	-13 <sup>h</sup> 2	- 1 <sup>h</sup> 2
30 <sup>h</sup> 682	G	2	18	1	10	257 <sup>h</sup> 1	-13 <sup>h</sup> 2	+14 <sup>h</sup> 1
Means	...	...	...	1	13	257 <sup>h</sup> 10	-13 <sup>h</sup> 20	...
Group 6227.								
A regular spot, α, with occasionally a small companion.								
July 29 <sup>h</sup> 527	G	6	42	11	80	184 <sup>h</sup> 8	- 9 <sup>h</sup> 6	-73 <sup>h</sup> 5
30 <sup>h</sup> 682	G	11	57	11	56	185 <sup>h</sup> 0	- 9 <sup>h</sup> 3	-58 <sup>h</sup> 0
31 <sup>h</sup> 478	G	6	43	5	33	184 <sup>h</sup> 8	- 9 <sup>h</sup> 5	-47 <sup>h</sup> 6
Aug. 1 <sup>h</sup> 130	K	11	33	7	22	184 <sup>h</sup> 5	- 9 <sup>h</sup> 7	-39 <sup>h</sup> 3
2 <sup>h</sup> 524	G	8	43	5	24	183 <sup>h</sup> 8	- 9 <sup>h</sup> 7	-21 <sup>h</sup> 6
3 <sup>h</sup> 638	G	6	33	3	17	183 <sup>h</sup> 5	- 9 <sup>h</sup> 8	- 7 <sup>h</sup> 2
4 <sup>h</sup> 519	G	8	22	4	11	182 <sup>h</sup> 8	-10 <sup>h</sup> 0	+ 3 <sup>h</sup> 8
5 <sup>h</sup> 452	G	1	13	1	7	182 <sup>h</sup> 5	-10 <sup>h</sup> 0	+15 <sup>h</sup> 8
6 <sup>h</sup> 438	G	0	36	0	22	183 <sup>h</sup> 7	-10 <sup>h</sup> 6	+30 <sup>h</sup> 1
7 <sup>h</sup> 542	G	0	22	0	16	183 <sup>h</sup> 8	-11 <sup>h</sup> 4	+44 <sup>h</sup> 8
Means	...	...	...	5	29	183 <sup>h</sup> 92	- 9 <sup>h</sup> 96	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6228. A pair of small spots.								
1907. <sub>a</sub> Aug. 1 <sup>h</sup> 13 <sup>m</sup> 2 <sup>h</sup> 52 <sup>m</sup>	K G	0 0	21 11	0 0	12 7	240°2 240°6	-18°0 -17°0	+16°4 +35°2
Means ...	...	...	...	0	10	240°40	-17°50	...
Group 6229. A small spot, $\alpha$ , usually with a very small companion.								
Aug. 3 <sup>h</sup> 63 <sup>m</sup> 4 <sup>h</sup> 51 <sup>m</sup> 5 <sup>h</sup> 45 <sup>m</sup>	G G G	2 8 4	16 37 9	1 4 2	9 20 5	165°7 167°0 166°9	-9°5 -9°9 -9°6	-25°0 -12°0 +0°2
Means ...	...	...	...	2	11	166°53	-9°67	...
Group 6230. Some small spots, rapidly developing into a large regular spot, $\alpha$ , followed by an irregular train.								
Aug. 5 <sup>h</sup> 45 <sup>m</sup> 6 <sup>h</sup> 43 <sup>m</sup> 7 <sup>h</sup> 54 <sup>m</sup> 8 <sup>h</sup> 22 <sup>m</sup>	G G G M	4 37 14 21	29 328 166 86	2 29 18 43	18 254 198 172	203°0 203°6 204°2 205°6	+3°3 +3°4 +3°2 +3°3	+36°3 +50°0 +65°2 +75°7
Means ...	...	...	...	23	161	204°10	+3°30	...
Group 6231. A number of small spots irregularly scattered. Most of them have combined by August 9 to form two composite spots, $\alpha$ and $\beta$ .								
Aug. 5 <sup>h</sup> 45 <sup>m</sup> 6 <sup>h</sup> 43 <sup>m</sup> 7 <sup>h</sup> 54 <sup>m</sup> 8 <sup>h</sup> 22 <sup>m</sup> 9 <sup>h</sup> 24 <sup>m</sup> 10 <sup>h</sup> 47 <sup>m</sup> 11 <sup>h</sup> 39 <sup>m</sup> 12 <sup>h</sup> 23 <sup>m</sup> 13 <sup>h</sup> 14 <sup>m</sup>	G G G M M G K G M	8 11 18 59 164 76 37 11 0	96 101 142 290 804 677 353 147 90	5 5 9 30 93 53 33 12 0	52 51 72 149 457 475 324 192 240	144°9 145°4 145°4 145°2 145°2 145°0 145°5 144°9 142°7	+7°4 +7°1 +7°4 +8°3 +8°3 +8°3 +8°1 +7°7 +9°0	-21°8 -8°2 +6°4 +15°3 +28°6 +44°7 +57°4 +67°9 +80°0
Means ...	...	...	...	27	224	144°91	+7°96	...
Group 6232. A large regular spot, $\alpha$ , with occasionally one or two small companions. The group is not seen on August 13.								
1907. <sub>a</sub> Aug. 5 <sup>h</sup> 45 <sup>m</sup> 6 <sup>h</sup> 43 <sup>m</sup> 7 <sup>h</sup> 54 <sup>m</sup> 8 <sup>h</sup> 22 <sup>m</sup> 9 <sup>h</sup> 24 <sup>m</sup> 10 <sup>h</sup> 47 <sup>m</sup> 11 <sup>h</sup> 39 <sup>m</sup> 12 <sup>h</sup> 23 <sup>m</sup> 13 <sup>h</sup> 14 <sup>m</sup> 14 <sup>h</sup> 47 <sup>m</sup>	G G G M M G G K M G	0 23 33 17 25 18 22 0 0 0	67 127 159 187 237 84 82 21 0 7	0 29 27 12 15 10 12 0 0 0	174 163 133 134 143 46 44 11 0 5	89°8 89°1 89°3 89°1 89°2 89°5 88°9 89°7 ... 88°1	-13°9 -13°6 -13°7 -14°1 -14°1 -13°8 -14°1 -13°8 ... -13°4	-76°9 -64°5 -49°7 -40°8 -27°4 -10°8 +0°8 +12°7 ... +40°6
Means ...	...	...	...	11	85	89°19	-13°83	...
Group 6233. Return of Group 6215. A large regular spot, $\alpha$ , with occasionally one or two small companions.								
Aug. 7 <sup>h</sup> 54 <sup>m</sup> 8 <sup>h</sup> 22 <sup>m</sup> 9 <sup>h</sup> 24 <sup>m</sup> 10 <sup>h</sup> 47 <sup>m</sup> 11 <sup>h</sup> 39 <sup>m</sup> 12 <sup>h</sup> 23 <sup>m</sup> 13 <sup>h</sup> 14 <sup>m</sup> 14 <sup>h</sup> 47 <sup>m</sup> 15 <sup>h</sup> 51 <sup>m</sup> 16 <sup>h</sup> 17 <sup>m</sup> 17 <sup>h</sup> 62 <sup>m</sup> 18 <sup>h</sup> 58 <sup>m</sup> 19 <sup>h</sup> 63 <sup>m</sup>	G M M G G K M G G K G G G G	0 11 25 24 43 53 61 42 28 21 13 10 0	53 105 170 241 270 263 305 284 199 168 109 65 43	0 20 28 18 28 31 34 23 17 14 11 12 0	232 204 190 185 176 156 169 161 120 109 95 79 109	58°1 58°2 57°8 57°7 57°4 57°0 57°3 56°3 55°9 55°9 54°7 54°5 54°7	-19°2 -19°6 -19°8 -19°3 -18°9 -19°3 -19°1 -19°0 -19°0 -19°2 -19°0 -19°0 -18°7	-80°9 -71°7 -58°8 -42°6 -30°7 -20°0 -5°4 +8°8 +22°3 +31°0 +48°9 +61°5 +75°5
Means ...	...	...	...	18	153	56°58	-19°16	...
Group 6234. A large regular spot, $\alpha$ , usually with some small companions.								
Aug. 10 <sup>h</sup> 47 <sup>m</sup> 11 <sup>h</sup> 39 <sup>m</sup> 12 <sup>h</sup> 23 <sup>m</sup> 13 <sup>h</sup> 14 <sup>m</sup> 14 <sup>h</sup> 47 <sup>m</sup> 15 <sup>h</sup> 51 <sup>m</sup> 16 <sup>h</sup> 17 <sup>m</sup> 17 <sup>h</sup> 62 <sup>m</sup> 18 <sup>h</sup> 58 <sup>m</sup> 19 <sup>h</sup> 63 <sup>m</sup> 20 <sup>h</sup> 68 <sup>m</sup> 21 <sup>h</sup> 22 <sup>m</sup> 22 <sup>h</sup> 49 <sup>m</sup>	G K K M G G K G G G G M G	18 32 42 50 34 36 61 23 17 10 6 13 0	118 161 189 324 286 256 334 206 145 97 38 92 73	30 33 33 31 18 18 31 12 10 7 6 16 0	194 165 148 201 153 132 168 112 88 72 39 116 284	26°9 26°8 26°5 26°7 27°5 27°3 27°1 26°8 26°3 26°4 26°3 25°6 25°8	+15°1 +15°3 +14°9 +15°2 +15°3 +15°4 +15°8 +15°4 +15°8 +16°0 +15°7 +16°4 +15°7	-73°4 -61°3 -50°5 -36°0 -20°0 -6°3 +2°2 +21°0 +33°3 +47°2 +60°9 +67°5 +84°4
Means ...	...	...	...	19	144	26°62	+15°54	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbr.	Whole Spot.	Umbr.	Whole Spot.			
Group 6235.								
A pair of small spots, $\alpha$ and $b$ . A small companion lies between them on August 13.								
1907. $\alpha$								
Aug. 13 <sup>h</sup> 31 <sup>m</sup> 4	M	19	75	10	43	91 <sup>o</sup> 9	+19 <sup>o</sup> 3	+29 <sup>o</sup> 2
14 <sup>h</sup> 47 <sup>m</sup> 1	G	13	54	9	39	91 <sup>o</sup> 9	+18 <sup>o</sup> 5	+44 <sup>o</sup> 4
15 <sup>h</sup> 51 <sup>m</sup> 7	G	9	37	8	35	91 <sup>o</sup> 9	+18 <sup>o</sup> 4	+58 <sup>o</sup> 3
16 <sup>h</sup> 17 <sup>m</sup> 8	K	0	25	0	32	93 <sup>o</sup> 1	+18 <sup>o</sup> 6	+68 <sup>o</sup> 2
Means	...	...	...	7	37	92 <sup>o</sup> 20	+18 <sup>o</sup> 70	...
Group 6233*.								
Some small spots, $\eta$ Group 6233.								
Aug. 14 <sup>h</sup> 47 <sup>m</sup> 1	G	0	36	0	20	68 <sup>o</sup> 5	-8 <sup>o</sup> 4	+21 <sup>o</sup> 0
Means	...	...	...	0	20	68 <sup>o</sup> 5	-8 <sup>o</sup> 4	...
Group 6236.								
A very fine long straight stream. The leader, $\alpha$ , is a large composite spot. A number of small spots are rather loosely scattered $\alpha$ and $f$ of $\alpha$ , whilst the rear of the group is made up of a compact cluster of spots, of which $b$ is the largest. $b$ has broken up by August 22.								
Aug. 14 <sup>h</sup> 47 <sup>m</sup> 1	G	38	295	110	766	332 <sup>o</sup> 8	-24 <sup>o</sup> 0	-74 <sup>o</sup> 7
15 <sup>h</sup> 51 <sup>m</sup> 7	G	66	578	84	727	333 <sup>o</sup> 1	-24 <sup>o</sup> 2	-60 <sup>o</sup> 5
16 <sup>h</sup> 17 <sup>m</sup> 8	K	130	880	132	892	331 <sup>o</sup> 9	-24 <sup>o</sup> 5	-53 <sup>o</sup> 0
17 <sup>h</sup> 62 <sup>m</sup> 2	G	154	1079	108	763	332 <sup>o</sup> 6	-23 <sup>o</sup> 9	-33 <sup>o</sup> 2
18 <sup>h</sup> 58 <sup>m</sup> 6	G	158	1049	100	659	332 <sup>o</sup> 6	-23 <sup>o</sup> 8	-20 <sup>o</sup> 4
19 <sup>h</sup> 63 <sup>m</sup> 7	G	170	1176	100	694	332 <sup>o</sup> 8	-23 <sup>o</sup> 5	-6 <sup>o</sup> 4
20 <sup>h</sup> 68 <sup>m</sup> 0	G	173	964	102	569	333 <sup>o</sup> 3	-23 <sup>o</sup> 2	+7 <sup>o</sup> 9
21 <sup>h</sup> 22 <sup>m</sup> 7	M	177	947	106	578	333 <sup>o</sup> 7	-23 <sup>o</sup> 6	+15 <sup>o</sup> 6
22 <sup>h</sup> 49 <sup>m</sup> 0	G	100	613	70	429	334 <sup>o</sup> 4	-23 <sup>o</sup> 0	+33 <sup>o</sup> 0
23 <sup>h</sup> 34 <sup>m</sup> 4	M	85	580	70	479	334 <sup>o</sup> 3	-23 <sup>o</sup> 1	+44 <sup>o</sup> 1
24 <sup>h</sup> 51 <sup>m</sup> 1	G	41	356	48	434	334 <sup>o</sup> 5	-23 <sup>o</sup> 0	+59 <sup>o</sup> 8
25 <sup>h</sup> 51 <sup>m</sup> 3	G	13	96	32	235	335 <sup>o</sup> 5	-23 <sup>o</sup> 8	+74 <sup>o</sup> 0
Means	...	...	...	89	602	333 <sup>o</sup> 46	-23 <sup>o</sup> 63	...
Group 6237.								
Some small unstable spots, $\eta$ Group 6233.								
Aug. 15 <sup>h</sup> 51 <sup>m</sup> 7	G	5	26	3	15	59 <sup>o</sup> 1	-12 <sup>o</sup> 6	+25 <sup>o</sup> 5
16 <sup>h</sup> 17 <sup>m</sup> 8	K	0	21	0	14	59 <sup>o</sup> 0	-12 <sup>o</sup> 7	+34 <sup>o</sup> 1
17 <sup>h</sup> 62 <sup>m</sup> 2	G	0	12	0	12	63 <sup>o</sup> 1	-13 <sup>o</sup> 0	+57 <sup>o</sup> 3
18 <sup>h</sup> 58 <sup>m</sup> 6	G	0	18	0	25	59 <sup>o</sup> 3	-14 <sup>o</sup> 1	+66 <sup>o</sup> 3
Means	...	...	...	1	17	60 <sup>o</sup> 13	-13 <sup>o</sup> 10	...
Group 6238.								
Return of Group 6220. A large regular spot, $\alpha$ , usually with one or two very small companions.								
1907. $\alpha$								
Aug. 15 <sup>h</sup> 51 <sup>m</sup> 7	G	0	24	0	146	309 <sup>o</sup> 5	-7 <sup>o</sup> 8	-84 <sup>o</sup> 1
16 <sup>h</sup> 17 <sup>m</sup> 8	K	7	48	16	103	309 <sup>o</sup> 7	-8 <sup>o</sup> 3	-75 <sup>o</sup> 2
17 <sup>h</sup> 62 <sup>m</sup> 2	G	11	130	10	121	309 <sup>o</sup> 9	-8 <sup>o</sup> 0	-55 <sup>o</sup> 9
18 <sup>h</sup> 58 <sup>m</sup> 6	G	19	188	14	135	309 <sup>o</sup> 7	-8 <sup>o</sup> 1	-43 <sup>o</sup> 3
19 <sup>h</sup> 63 <sup>m</sup> 7	G	20	173	12	103	309 <sup>o</sup> 9	-7 <sup>o</sup> 8	-29 <sup>o</sup> 3
20 <sup>h</sup> 68 <sup>m</sup> 0	G	39	220	21	119	310 <sup>o</sup> 3	-7 <sup>o</sup> 6	-15 <sup>o</sup> 1
21 <sup>h</sup> 22 <sup>m</sup> 7	M	31	226	16	118	310 <sup>o</sup> 1	-7 <sup>o</sup> 8	-8 <sup>o</sup> 0
22 <sup>h</sup> 49 <sup>m</sup> 0	G	33	240	18	126	310 <sup>o</sup> 5	-7 <sup>o</sup> 6	+9 <sup>o</sup> 1
23 <sup>h</sup> 34 <sup>m</sup> 4	M	48	251	27	139	311 <sup>o</sup> 0	-7 <sup>o</sup> 7	+20 <sup>o</sup> 8
24 <sup>h</sup> 51 <sup>m</sup> 1	G	22	155	14	100	310 <sup>o</sup> 9	-7 <sup>o</sup> 9	+36 <sup>o</sup> 2
25 <sup>h</sup> 51 <sup>m</sup> 3	G	24	117	19	95	311 <sup>o</sup> 3	-8 <sup>o</sup> 0	+49 <sup>o</sup> 8
26 <sup>h</sup> 26 <sup>m</sup> 8	M	16	85	17	90	311 <sup>o</sup> 4	-8 <sup>o</sup> 0	+59 <sup>o</sup> 9
Means	...	...	...	15	116	310 <sup>o</sup> 35	-7 <sup>o</sup> 88	...
Group 6233†.								
Some small unstable spots $\eta$ of Group 6233.								
Aug. 16 <sup>h</sup> 17 <sup>m</sup> 8	K	5	29	3	18	55 <sup>o</sup> 5	-12 <sup>o</sup> 6	+30 <sup>o</sup> 6
17 <sup>h</sup> 62 <sup>m</sup> 2	G	4	61	3	34	55 <sup>o</sup> 1	-12 <sup>o</sup> 0	+49 <sup>o</sup> 3
18 <sup>h</sup> 58 <sup>m</sup> 6	G	0	7	0	9	56 <sup>o</sup> 8	-11 <sup>o</sup> 4	+63 <sup>o</sup> 8
Means	...	...	...	2	20	55 <sup>o</sup> 80	-12 <sup>o</sup> 00	...
Group 6239.								
A large regular spot, $\alpha$ , with occasionally one or two small companions.								
Aug. 19 <sup>h</sup> 63 <sup>m</sup> 7	G	14	94	29	186	266 <sup>o</sup> 1	-13 <sup>o</sup> 8	-73 <sup>o</sup> 1
20 <sup>h</sup> 68 <sup>m</sup> 0	G	29	208	31	226	265 <sup>o</sup> 7	-13 <sup>o</sup> 6	-59 <sup>o</sup> 7
21 <sup>h</sup> 22 <sup>m</sup> 7	M	44	235	40	216	264 <sup>o</sup> 9	-13 <sup>o</sup> 9	-53 <sup>o</sup> 2
22 <sup>h</sup> 49 <sup>m</sup> 0	G	54	319	36	215	264 <sup>o</sup> 7	-13 <sup>o</sup> 4	-36 <sup>o</sup> 7
23 <sup>h</sup> 34 <sup>m</sup> 4	M	65	424	39	254	264 <sup>o</sup> 5	-13 <sup>o</sup> 7	-25 <sup>o</sup> 7
24 <sup>h</sup> 51 <sup>m</sup> 1	G	53	428	29	233	264 <sup>o</sup> 3	-13 <sup>o</sup> 2	-10 <sup>o</sup> 4
25 <sup>h</sup> 51 <sup>m</sup> 3	G	49	406	26	219	264 <sup>o</sup> 8	-13 <sup>o</sup> 3	+3 <sup>o</sup> 3
26 <sup>h</sup> 26 <sup>m</sup> 8	M	50	391	28	218	265 <sup>o</sup> 0	-13 <sup>o</sup> 9	+13 <sup>o</sup> 5
27 <sup>h</sup> 62 <sup>m</sup> 5	G	29	229	18	145	264 <sup>o</sup> 6	-14 <sup>o</sup> 6	+31 <sup>o</sup> 0
28 <sup>h</sup> 65 <sup>m</sup> 4	G	22	170	17	131	265 <sup>o</sup> 0	-15 <sup>o</sup> 0	+45 <sup>o</sup> 0
29 <sup>h</sup> 61 <sup>m</sup> 3	G	26	103	28	108	265 <sup>o</sup> 2	-15 <sup>o</sup> 4	+57 <sup>o</sup> 9
30 <sup>h</sup> 50 <sup>m</sup> 0	G	0	25	0	42	265 <sup>o</sup> 4	-15 <sup>o</sup> 7	+69 <sup>o</sup> 8
Means	...	...	...	27	183	265 <sup>o</sup> 02	-14 <sup>o</sup> 13	...
Group 6240*.								
A very small faint spot on the same meridian as Group 6240, but north of the equator.								
Aug. 21 <sup>h</sup> 22 <sup>m</sup> 7	M	0	4	0	4	264 <sup>o</sup> 0	+6 <sup>o</sup> 3	-54 <sup>o</sup> 1
22 <sup>h</sup> 49 <sup>m</sup> 0	G	0	10	0	6	265 <sup>o</sup> 4	+6 <sup>o</sup> 6	-36 <sup>o</sup> 0
Means	...	...	...	0	5	264 <sup>o</sup> 70	+6 <sup>o</sup> 45	...

## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6240.								
One or two small unstable spots, <i>n</i> of Group 6239. The group is not seen on August 24, 25 or 26.								
1907. <sup>a</sup> Aug. 22 <sup>h</sup> 49 <sup>m</sup>	G	0	45	0	30	263 <sup>h</sup> 8	— 8 <sup>m</sup> 2	— 37 <sup>s</sup> 6
23 <sup>h</sup> 34 <sup>m</sup>	M	0	10	0	6	265 <sup>h</sup> 8	— 8 <sup>m</sup> 1	— 24 <sup>s</sup> 4
24 <sup>h</sup> 51 <sup>m</sup>	G	0	0	0	0	...	...	...
25 <sup>h</sup> 51 <sup>m</sup>	G	0	0	0	0	...	...	...
26 <sup>h</sup> 26 <sup>m</sup>	M	0	0	0	0	...	...	...
27 <sup>h</sup> 62 <sup>m</sup> 5	G	0	17	0	10	265 <sup>h</sup> 3	— 7 <sup>m</sup> 8	+ 31 <sup>s</sup> 7
28 <sup>h</sup> 65 <sup>m</sup> 4	G	8	32	6	24	266 <sup>h</sup> 4	— 8 <sup>m</sup> 2	+ 46 <sup>s</sup> 4
29 <sup>h</sup> 61 <sup>m</sup> 3	G	0	12	0	13	268 <sup>h</sup> 5	— 8 <sup>m</sup> 5	+ 61 <sup>s</sup> 2
Means ...	...	...	...	1	10	265 <sup>h</sup> 96	— 8 <sup>m</sup> 16	...
Group 6239*.								
A cluster of small faint unstable spots, <i>f</i> Group 6239, at a considerable distance.								
Aug. 24 <sup>h</sup> 51 <sup>m</sup>	G	0	45	0	32	233 <sup>h</sup> 9	— 13 <sup>m</sup> 0	— 40 <sup>s</sup> 8
25 <sup>h</sup> 51 <sup>m</sup> 3	G	0	20	0	12	235 <sup>h</sup> 9	— 12 <sup>m</sup> 0	— 25 <sup>s</sup> 6
26 <sup>h</sup> 26 <sup>m</sup> 8	M	0	22	0	12	235 <sup>h</sup> 5	— 10 <sup>m</sup> 4	— 16 <sup>s</sup> 0
Means ...	...	...	...	0	19	235 <sup>h</sup> 10	— 11 <sup>m</sup> 80	...
Group 6241.								
Return of Group 6231. A very fine continuous stream, consisting chiefly of three large composite spots, <i>a</i> , <i>b</i> , and <i>c</i> . <i>a</i> and <i>b</i> are sometimes measured together.								
Aug. 27 <sup>h</sup> 62 <sup>m</sup> 5	G	33	234	71	624	153 <sup>h</sup> 5	+ 8 <sup>m</sup> 1	— 80 <sup>s</sup> 1
28 <sup>h</sup> 65 <sup>m</sup> 4	G	72	697	87	880	152 <sup>h</sup> 7	+ 8 <sup>m</sup> 0	— 67 <sup>s</sup> 3
29 <sup>h</sup> 61 <sup>m</sup> 3	G	202	1502	171	1290	152 <sup>h</sup> 5	+ 8 <sup>m</sup> 0	— 54 <sup>s</sup> 8
30 <sup>h</sup> 50 <sup>m</sup> 0	G	252	1775	170	1215	152 <sup>h</sup> 7	+ 8 <sup>m</sup> 1	— 42 <sup>s</sup> 9
31 <sup>h</sup> 43 <sup>m</sup> 8	G	212	2141	122	1242	153 <sup>h</sup> 1	+ 7 <sup>m</sup> 9	— 30 <sup>s</sup> 1
Sept. 1 <sup>h</sup> 18 <sup>m</sup> 6	K	339	2209	184	1193	152 <sup>h</sup> 7	+ 8 <sup>m</sup> 0	— 20 <sup>s</sup> 6
2 <sup>h</sup> 40 <sup>m</sup> 9	G	289	1676	144	840	153 <sup>h</sup> 1	+ 7 <sup>m</sup> 8	— 4 <sup>s</sup> 1
3 <sup>h</sup> 64 <sup>m</sup> 3	G	211	1570	108	807	153 <sup>h</sup> 3	+ 7 <sup>m</sup> 7	+ 12 <sup>s</sup> 4
4 <sup>h</sup> 40 <sup>m</sup> 4	G	209	1341	112	731	153 <sup>h</sup> 2	+ 7 <sup>m</sup> 5	+ 22 <sup>s</sup> 4
5 <sup>h</sup> 46 <sup>m</sup> 2	G	139	1336	85	826	152 <sup>h</sup> 9	+ 7 <sup>m</sup> 5	+ 36 <sup>s</sup> 0
6 <sup>h</sup> 59 <sup>m</sup> 3	G	81	704	62	550	152 <sup>h</sup> 2	+ 6 <sup>m</sup> 9	+ 50 <sup>s</sup> 3
7 <sup>h</sup> 22 <sup>m</sup> 8	M	73	486	72	472	152 <sup>h</sup> 9	+ 6 <sup>m</sup> 9	+ 59 <sup>s</sup> 3
8 <sup>h</sup> 55 <sup>m</sup> 1	G	11	225	16	571	155 <sup>h</sup> 2	+ 5 <sup>m</sup> 8	+ 79 <sup>s</sup> 1
Means ...	...	...	...	108	865	153 <sup>h</sup> 08	+ 7 <sup>m</sup> 55	...
Group 6242.								
A small spot.								
Aug. 28 <sup>h</sup> 65 <sup>m</sup> 4	G	7	20	8	23	280 <sup>h</sup> 2	— 17 <sup>m</sup> 7	+ 60 <sup>s</sup> 2
29 <sup>h</sup> 61 <sup>m</sup> 3	G	0	10	0	18	279 <sup>h</sup> 1	— 17 <sup>m</sup> 6	+ 71 <sup>s</sup> 8
Means ...	...	...	...	4	21	279 <sup>h</sup> 65	— 17 <sup>m</sup> 65	...
Group 6242*.								
A small spot.								
1907. <sup>a</sup> Aug. 28 <sup>h</sup> 65 <sup>m</sup> 4	G	0	6	0	11	295 <sup>h</sup> 4	+ 10 <sup>m</sup> 3	+ 75 <sup>s</sup> 4
Means ...	...	...	...	0	11	295 <sup>h</sup> 4	+ 10 <sup>m</sup> 3	...
Group 6241*.								
Two small spots.								
Aug. 30 <sup>h</sup> 50 <sup>m</sup> 0	G	0	25	0	13	214 <sup>h</sup> 2	+ 15 <sup>m</sup> 9	+ 18 <sup>s</sup> 6
Means ...	...	...	...	0	13	214 <sup>h</sup> 2	+ 15 <sup>m</sup> 9	...
Group 6243.								
A very small spot on August 31, not seen on September 1. It has revived again by September 2 as a sparse stream considerably inclined to the equator. The leader, <i>a</i> , soon becomes the chief member of the group.								
Aug. 31 <sup>h</sup> 43 <sup>m</sup> 8	G	0	6	0	6	131 <sup>h</sup> 0	— 17 <sup>m</sup> 2	— 52 <sup>s</sup> 2
Sept. 1 <sup>h</sup> 18 <sup>m</sup> 6	K	0	0	0	0	...	...	...
2 <sup>h</sup> 40 <sup>m</sup> 9	G	31	149	19	92	130 <sup>h</sup> 8	— 17 <sup>m</sup> 7	— 26 <sup>s</sup> 4
3 <sup>h</sup> 64 <sup>m</sup> 3	G	35	251	19	142	130 <sup>h</sup> 3	— 17 <sup>m</sup> 5	— 10 <sup>s</sup> 6
4 <sup>h</sup> 40 <sup>m</sup> 4	G	67	227	36	125	132 <sup>h</sup> 4	— 16 <sup>m</sup> 9	+ 1 <sup>s</sup> 6
5 <sup>h</sup> 46 <sup>m</sup> 2	G	21	138	12	79	133 <sup>h</sup> 9	— 16 <sup>m</sup> 1	+ 17 <sup>s</sup> 0
6 <sup>h</sup> 59 <sup>m</sup> 3	G	37	151	24	98	133 <sup>h</sup> 8	— 16 <sup>m</sup> 6	+ 31 <sup>s</sup> 9
7 <sup>h</sup> 22 <sup>m</sup> 8	M	43	189	32	140	135 <sup>h</sup> 0	— 16 <sup>m</sup> 1	+ 41 <sup>s</sup> 4
8 <sup>h</sup> 55 <sup>m</sup> 1	G	13	124	14	135	135 <sup>h</sup> 0	— 15 <sup>m</sup> 8	+ 58 <sup>s</sup> 9
9 <sup>h</sup> 60 <sup>m</sup> 3	G	9	62	19	121	134 <sup>h</sup> 5	— 15 <sup>m</sup> 9	+ 72 <sup>s</sup> 3
Means ...	...	...	...	18	94	132 <sup>h</sup> 97	— 16 <sup>m</sup> 64	...
Group 6244.								
Small unstable spots forming in a faculous region.								
Sept. 1 <sup>h</sup> 18 <sup>m</sup> 6	K	0	6	0	7	236 <sup>h</sup> 7	— 17 <sup>m</sup> 6	+ 63 <sup>s</sup> 4
2 <sup>h</sup> 40 <sup>m</sup> 9	G	2	13	6	34	232 <sup>h</sup> 9	— 18 <sup>m</sup> 7	+ 75 <sup>s</sup> 7
Means ...	...	...	...	3	21	234 <sup>h</sup> 80	— 18 <sup>m</sup> 15	...
Group 6245.								
A number of spots mostly unstable in a short irregular stream undergoing several changes. The group consists chiefly of the leader, <i>a</i> , a small stable spot, and <i>b</i> , a large composite spot undergoing disintegration.								
Sept. 2 <sup>h</sup> 40 <sup>m</sup> 9	G	27	207	36	278	88 <sup>h</sup> 6	+ 5 <sup>m</sup> 9	— 68 <sup>s</sup> 6
3 <sup>h</sup> 64 <sup>m</sup> 3	G	36	256	29	206	88 <sup>h</sup> 9	+ 6 <sup>m</sup> 2	— 52 <sup>s</sup> 0
4 <sup>h</sup> 40 <sup>m</sup> 4	G	45	330	30	219	89 <sup>h</sup> 3	+ 6 <sup>m</sup> 3	— 41 <sup>s</sup> 5
5 <sup>h</sup> 46 <sup>m</sup> 2	G	48	355	26	198	90 <sup>h</sup> 0	+ 6 <sup>m</sup> 5	— 26 <sup>s</sup> 9
6 <sup>h</sup> 59 <sup>m</sup> 3	G	37	234	19	120	90 <sup>h</sup> 1	+ 6 <sup>m</sup> 9	— 11 <sup>s</sup> 8

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.					
Group 6245—continued.									Group 6247—continued.								
1907. <sup>a</sup> Sept. 7 <sup>h</sup> 22 <sup>m</sup> 8	M	43	338	22	171	90°5	+ 6°7	— 3°1	1907. <sup>a</sup> Sept. 10 <sup>h</sup> 46 <sup>m</sup> 4	G	38	328	20	175	37°8	— 7°4	— 13°0
8 <sup>h</sup> 55 <sup>m</sup> 1	G	21	255	11	133	91°1	+ 6°8	+ 15°0	11 <sup>h</sup> 65 <sup>m</sup> 4	G	50	512	26	265	37°6	— 7°4	+ 2°5
9 <sup>h</sup> 60 <sup>m</sup> 3	G	33	171	20	98	91°3	+ 6°7	+ 29°1	12 <sup>h</sup> 51 <sup>m</sup> 7	G	60	443	32	238	37°3	— 7°3	+ 13°6
10 <sup>h</sup> 46 <sup>m</sup> 4	G	15	121	10	81	92°3	+ 6°9	+ 41°5	13 <sup>h</sup> 51 <sup>m</sup> 9	G	52	410	30	239	37°4	— 7°3	+ 26°9
11 <sup>h</sup> 65 <sup>m</sup> 4	G	17	102	16	95	93°1	+ 6°6	+ 58°0	14 <sup>h</sup> 50 <sup>m</sup> 4	G	20	254	14	171	37°1	— 7°5	+ 39°6
12 <sup>h</sup> 51 <sup>m</sup> 7	G	12	81	17	114	93°6	+ 6°6	+ 69°9	15 <sup>h</sup> 41 <sup>m</sup> 1	G	25	213	21	181	37°3	— 8°0	+ 51°8
13 <sup>h</sup> 51 <sup>m</sup> 9	G	0	14	0	62	94°6	+ 6°0	+ 84°1	16 <sup>h</sup> 32 <sup>m</sup> 8	M	21	136	25	167	37°8	— 7°4	+ 64°4
Means ...	...	...	...	20	148	91°12	+ 6°51	...	Means ...	...	...	...	24	190	37°22	— 7°78	...
Group 6248. A small spot, <i>np</i> Group 6243.									Group 6252. A very variable group, <sup>a</sup> Group 6247. At first it consist of a large composite spot, <i>a</i> , with some small companions. The group diminishes from day to day until September 12, when a great cluster of spots suddenly appears. The cluster gradually lengthens out to form a fine irregular stream, with three principal composite spots, <i>b</i> , <i>c</i> , and <i>d</i> .								
Sept. 5 <sup>h</sup> 46 <sup>m</sup> 2	G	0	12	0	6	121°3	— 11°3	+ 4°4	Sept. 6 <sup>h</sup> 59 <sup>m</sup> 3	G	10	71	16	122	30°3	— 8°8	— 71°6
6 <sup>h</sup> 59 <sup>m</sup> 3	G	10	21	5	12	120°7	— 11°7	+ 18°8	7 <sup>h</sup> 22 <sup>m</sup> 8	M	34	154	41	185	30°1	— 9°2	— 63°5
7 <sup>h</sup> 22 <sup>m</sup> 8	M	5	21	3	12	120°7	— 12°0	+ 27°1	8 <sup>h</sup> 55 <sup>m</sup> 1	G	19	160	14	122	29°7	— 8°9	— 46°4
8 <sup>h</sup> 55 <sup>m</sup> 1	G	0	18	0	13	119°2	— 12°0	+ 43°1	9 <sup>h</sup> 60 <sup>m</sup> 3	G	18	142	11	88	30°1	— 8°6	— 32°1
9 <sup>h</sup> 60 <sup>m</sup> 3	G	5	26	5	26	118°8	— 11°6	+ 56°6	10 <sup>h</sup> 46 <sup>m</sup> 4	G	19	130	11	73	30°4	— 8°7	— 20°4
Means ...	...	...	...	3	14	120°14	— 11°72	...	11 <sup>h</sup> 65 <sup>m</sup> 4	G	9	115	5	60	28°5	— 7°4	— 6°6
Group 6248*. A small spot, <i>np</i> Group 6248.									12 <sup>h</sup> 51 <sup>m</sup> 7	G	85	575	44	297	26°7	— 5°7	+ 3°0
Sept. 5 <sup>h</sup> 46 <sup>m</sup> 2	G	0	14	0	8	124°0	— 8°1	+ 7°1	13 <sup>h</sup> 51 <sup>m</sup> 9	G	92	722	82	709	25°7	— 5°7	+ 15°2
Means ...	...	...	...	0	8	124°0	— 8°1	...	14 <sup>h</sup> 50 <sup>m</sup> 4	G	182	1080	107	632	25°6	— 5°6	+ 28°1
Group 6246. Return of Group 6237. A small spot, <i>a</i> , with occasionally some small unstable spots preceding it.									15 <sup>h</sup> 41 <sup>m</sup> 1	G	140	875	96	593	26°0	— 5°9	+ 40°5
Sept. 5 <sup>h</sup> 46 <sup>m</sup> 2	G	0	10	0	11	56°7	— 12°8	— 60°2	16 <sup>h</sup> 32 <sup>m</sup> 8	M	113	625	98	543	26°8	— 5°3	+ 53°4
6 <sup>h</sup> 59 <sup>m</sup> 3	G	0	25	0	19	56°7	— 13°0	— 45°2	17 <sup>h</sup> 62 <sup>m</sup> 6	G	39	336	58	519	26°3	— 5°7	+ 70°0
7 <sup>h</sup> 22 <sup>m</sup> 8	M	0	14	0	10	58°3	— 13°7	— 35°3	18 <sup>h</sup> 52 <sup>m</sup> 8	G	0	42	0	107	22°0	— 6°3	+ 77°7
8 <sup>h</sup> 55 <sup>m</sup> 1	G	0	21	0	12	56°7	— 13°0	— 19°4	Means ...	...	...	...	45	312	27°55	— 7°06	...
9 <sup>h</sup> 60 <sup>m</sup> 3	G	12	63	6	34	57°5	— 12°9	— 4°7	Group 6249. A compact cluster of small spots.								
10 <sup>h</sup> 46 <sup>m</sup> 4	G	9	62	5	34	57°6	— 13°2	+ 6°8	Sept. 7 <sup>h</sup> 22 <sup>m</sup> 8	M	4	53	5	65	26°8	+ 15°7	— 66°8
11 <sup>h</sup> 65 <sup>m</sup> 4	G	0	24	0	14	56°2	— 12°9	+ 21°1	8 <sup>h</sup> 55 <sup>m</sup> 1	G	13	95	9	69	29°3	+ 15°6	— 46°8
Means ...	...	...	...	2	19	57°10	— 13°07	...	9 <sup>h</sup> 60 <sup>m</sup> 3	G	11	57	6	34	31°0	+ 15°5	— 31°2
Group 6247. A large regular spot, <i>a</i> , frequently with some small companions.									10 <sup>h</sup> 46 <sup>m</sup> 4	G	14	90	8	49	30°8	+ 15°9	— 20°0
Sept. 6 <sup>h</sup> 59 <sup>m</sup> 3	G	19	83	25	111	35°5	— 8°6	— 66°4	11 <sup>h</sup> 65 <sup>m</sup> 4	G	18	55	9	28	31°8	+ 15°7	— 3°3
7 <sup>h</sup> 22 <sup>m</sup> 8	M	29	178	28	176	36°1	— 9°0	— 57°5	12 <sup>h</sup> 51 <sup>m</sup> 7	G	1	19	1	10	29°5	+ 16°3	+ 5°8
8 <sup>h</sup> 55 <sup>m</sup> 1	G	28	237	19	159	37°5	— 8°0	— 38°6	13 <sup>h</sup> 51 <sup>m</sup> 9	G	0	12	0	6	29°7	+ 16°7	+ 19°2
9 <sup>h</sup> 60 <sup>m</sup> 3	G	47	359	27	205	38°0	— 7°7	— 24°2	14 <sup>h</sup> 50 <sup>m</sup> 4	G	0	11	0	6	29°7	+ 16°6	+ 32°2
Means ...	...	...	...	...	...	...	...	...	15 <sup>h</sup> 41 <sup>m</sup> 1	G	0	4	0	2	28°0	+ 17°5	+ 42°5
Means ...	...	...	...	...	...	...	...	...	Means ...	...	...	...	4	30	29°62	+ 16°17	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6254.								
A small variable spot, <i>a</i> , with a very small companion on September 10. <i>a</i> has disappeared by September 12, but a small spot is seen on that day at some distance <i>f</i> its place.								
1907. <sup>a</sup> Sept. 7 <sup>22</sup> 8	M	o	17	o	9	72.7	-9.8	-20.9
8 <sup>55</sup> 1	G	o	14	o	8	74.1	-9.6	-2.0
9 <sup>60</sup> 3	G	o	8	o	4	74.2	-9.7	+12.0
10 <sup>46</sup> 4	G	6	75	3	43	75.1	-9.8	+24.3
11 <sup>65</sup> 4	G	o	12	o	8	77.2	-9.7	+42.1
12 <sup>57</sup> 7	G	o	19	o	15	72.2	-9.1	+48.5
Means	...	...	...	1	15	74.25	-9.62	...
Group 6250.								
Two very small spots, measured together on September 8.								
Sept. 8 <sup>55</sup> 1	G	o	15	o	9	90.2	-13.6	+14.1
9 <sup>60</sup> 3	G	o	30	o	18	91.0	-14.0	+28.8
10 <sup>46</sup> 4	G	o	25	o	18	90.3	-14.1	+39.5
Means	...	...	...	o	15	90.50	-13.90	...
Group 6251.								
A straight stream of normal type suddenly forming a little W of the centre of the disc. The first and last spots, <i>a</i> and <i>b</i> , are soon left alone. The rear spot, <i>b</i> , is a large regular spot, and the chief member of the group.								
Sept. 8 <sup>55</sup> 1	G	o	39	o	21	87.3	+26.3	+11.2
9 <sup>60</sup> 3	G	40	159	23	91	86.8	+25.9	+24.6
10 <sup>46</sup> 4	G	40	360	26	231	86.1	+25.9	+35.3
11 <sup>65</sup> 4	G	34	327	28	266	86.2	+25.8	+51.1
12 <sup>57</sup> 7	G	17	190	17	203	86.1	+25.8	+62.4
13 <sup>51</sup> 9	G	9	97	15	183	86.9	+25.9	+76.4
14 <sup>50</sup> 4	G	o	26	o	99	82.8	+26.1	+85.3
Means	...	...	...	16	156	86.03	+25.96	...
Group 6253.								
Two small spots, <i>a</i> , and <i>b</i> , of which <i>b</i> disappears before September 11.								
Sept. 9 <sup>60</sup> 3	G	9	43	10	43	1.7	+9.4	-60.5
10 <sup>46</sup> 4	G	o	41	o	31	1.6	+9.4	-49.2
11 <sup>65</sup> 4	G	o	26	o	15	4.5	+8.9	-30.6
12 <sup>57</sup> 7	G	5	23	3	12	4.9	+9.1	-18.8
13 <sup>51</sup> 9	G	5	17	2	8	5.2	+9.0	-5.3
14 <sup>50</sup> 4	G	o	12	o	6	5.7	+9.3	+8.2
15 <sup>41</sup> 1	G	4	13	2	7	6.1	+9.8	+20.6
16 <sup>32</sup> 8	M	3	11	2	7	7.1	+10.5	+33.7
17 <sup>62</sup> 6	G	o	9	o	7	7.1	+10.6	+50.8
Means	...	...	...	2	15	4.88	+9.56	...
Group 6253*.								
A very small spot, <i>p</i> Group 6253.								
1907. <sup>a</sup> Sept. 10 <sup>46</sup> 4	G	o	5	o	3	11.2	+9.0	-39.6
11 <sup>65</sup> 4	G	o	21	o	12	11.4	+9.8	-23.7
Means	...	...	...	o	8	11.30	+9.40	...
Group 6255.								
A large composite spot, <i>a</i> , with several companions round it, making up, with it, an irregular cluster.								
Sept. 11 <sup>65</sup> 4	G	11	81	18	135	327.6	-23.9	-67.5
12 <sup>57</sup> 7	G	36	223	39	246	327.8	-24.4	-55.9
13 <sup>51</sup> 9	G	33	307	28	249	327.8	-23.9	-42.7
14 <sup>50</sup> 4	G	47	370	32	253	326.6	-23.9	-30.9
15 <sup>41</sup> 1	G	50	428	31	265	325.7	-23.3	-19.8
16 <sup>32</sup> 8	M	91	370	53	217	325.6	-23.2	-7.8
17 <sup>62</sup> 6	G	52	452	31	264	324.9	-22.5	+8.6
18 <sup>52</sup> 8	G	45	386	28	238	325.3	-22.3	+21.0
19 <sup>63</sup> 7	G	30	283	21	203	324.7	-22.4	+35.0
20 <sup>63</sup> 2	G	31	321	26	277	324.2	-22.1	+47.6
21 <sup>48</sup> 7	G	19	177	21	204	323.5	-22.5	+58.2
22 <sup>28</sup> 0	M	12	117	20	204	323.7	-21.8	+68.9
Means	...	...	...	29	230	325.62	-23.02	...
Group 6256.								
A very large regular spot, <i>a</i> , with occasionally some very small companions.								
Sept. 11 <sup>65</sup> 4	G	o	68	o	360	309.7	+6.7	-85.4
12 <sup>57</sup> 7	G	24	190	45	361	308.2	+7.0	-75.5
13 <sup>51</sup> 9	G	57	497	60	523	308.2	+7.1	-62.3
14 <sup>50</sup> 4	G	71	697	54	531	308.0	+6.5	-49.5
15 <sup>41</sup> 1	G	100	815	62	510	308.2	+6.9	-37.3
16 <sup>32</sup> 8	M	169	858	94	479	308.3	+6.8	-25.1
17 <sup>62</sup> 6	G	151	932	76	470	308.5	+7.1	-7.8
18 <sup>52</sup> 8	G	99	876	49	438	308.4	+7.2	+4.1
19 <sup>63</sup> 7	G	117	791	62	419	308.7	+7.4	+19.0
20 <sup>63</sup> 2	G	113	666	67	395	309.2	+7.5	+32.6
21 <sup>48</sup> 7	G	101	544	70	376	309.5	+7.6	+44.2
22 <sup>28</sup> 0	M	84	457	73	395	309.9	+8.0	+55.1
23 <sup>23</sup> 3	M	48	267	60	334	309.1	+7.7	+66.9
24 <sup>63</sup> 4	G	9	100	69	735	310.6	+7.2	+86.8
Means	...	...	...	60	452	308.89	+7.19	...
Group 6257.								
A cluster of small spots.								
Sept. 12 <sup>57</sup> 7	G	11	49	6	25	16.2	-6.1	-7.5
Means	...	...	...	6	25	16.2	-6.1	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6258. A small spot.									Group 6261*. A very small spot, n of Group 6261.								
1907. <sup>a</sup> Sept. 17 <sup>h</sup> 626 18 <sup>h</sup> 528	G G	0 0	32 5	0 0	16 2	301 <sup>h</sup> 7 301 <sup>h</sup> 9	+11 <sup>h</sup> 3 +11 <sup>h</sup> 4	-14 <sup>h</sup> 6 -2 <sup>h</sup> 4	1907. <sup>a</sup> Sept. 18 <sup>h</sup> 528	G	0	11	0	6	281 <sup>h</sup> 3	+14 <sup>h</sup> 0	-23 <sup>h</sup> 0
Means ...	...	...	...	0	9	301 <sup>h</sup> 80	+11 <sup>h</sup> 35	...	Means ...	...	...	...	0	6	281 <sup>h</sup> 3	+14 <sup>h</sup> 0	...
Group 6259. A number of spots in a straight stream. The last spot of the group, $\alpha$ , is a large regular spot, and the largest and best defined member of it.									Group 6262. A cluster of small spots. The group is not seen on September 22.								
Sept. 17 <sup>h</sup> 626 18 <sup>h</sup> 528 19 <sup>h</sup> 637 20 <sup>h</sup> 632 21 <sup>h</sup> 487 22 <sup>h</sup> 280 23 <sup>h</sup> 233 24 <sup>h</sup> 634 25 <sup>h</sup> 500 26 <sup>h</sup> 626 27 <sup>h</sup> 666 28 <sup>h</sup> 475	G G G G G M M G G G G G G	9 17 35 52 47 111 150 68 113 49 46 13	40 288 350 284 283 592 702 707 611 424 235 92	15 17 26 31 26 57 75 36 65 36 45 24	62 299 257 170 155 306 352 373 353 312 244 183	244 <sup>h</sup> 4 242 <sup>h</sup> 7 242 <sup>h</sup> 5 243 <sup>h</sup> 2 241 <sup>h</sup> 2 241 <sup>h</sup> 3 241 <sup>h</sup> 5 241 <sup>h</sup> 6 242 <sup>h</sup> 1 245 <sup>h</sup> 0 245 <sup>h</sup> 4 249 <sup>h</sup> 0	+7 <sup>h</sup> 5 +7 <sup>h</sup> 5 +7 <sup>h</sup> 5 +7 <sup>h</sup> 6 +7 <sup>h</sup> 7 +7 <sup>h</sup> 2 +7 <sup>h</sup> 2 +7 <sup>h</sup> 5 +7 <sup>h</sup> 2 +6 <sup>h</sup> 9 +6 <sup>h</sup> 8 +5 <sup>h</sup> 6	-71 <sup>h</sup> 9 -61 <sup>h</sup> 6 -47 <sup>h</sup> 2 -33 <sup>h</sup> 4 -24 <sup>h</sup> 1 -13 <sup>h</sup> 5 -0 <sup>h</sup> 7 +17 <sup>h</sup> 8 +29 <sup>h</sup> 8 +47 <sup>h</sup> 5 +61 <sup>h</sup> 7 +76 <sup>h</sup> 0	Sept. 18 <sup>h</sup> 528 19 <sup>h</sup> 637 20 <sup>h</sup> 632 21 <sup>h</sup> 487 22 <sup>h</sup> 280 23 <sup>h</sup> 233	G G G G M M	0 5 19 7 0 0	13 42 122 39 0 8	0 4 13 4 0 0	16 35 81 23 0 4	240 <sup>h</sup> 8 240 <sup>h</sup> 8 240 <sup>h</sup> 3 240 <sup>h</sup> 4 ... 239 <sup>h</sup> 6	-13 <sup>h</sup> 3 -13 <sup>h</sup> 6 -13 <sup>h</sup> 0 -13 <sup>h</sup> 7 ... -16 <sup>h</sup> 9	-63 <sup>h</sup> 5 -48 <sup>h</sup> 9 -36 <sup>h</sup> 3 -24 <sup>h</sup> 9 ... -2 <sup>h</sup> 6
Means ...	...	...	...	38	256	243 <sup>h</sup> 33	+7 <sup>h</sup> 18	...	Means ...	...	...	...	4	27	240 <sup>h</sup> 38	-14 <sup>h</sup> 10	...
Group 6260. A large circular spot, $\alpha$ , with occasionally a small companion, $\alpha$ , is crossed by a bright bridge, and slowly divides to form two separate spots, $b$ and $c$ .									Group 6263. A large regular spot, $\alpha$ , with occasionally some small companions.								
Sept. 17 <sup>h</sup> 626 18 <sup>h</sup> 528 19 <sup>h</sup> 637 20 <sup>h</sup> 632 21 <sup>h</sup> 487 22 <sup>h</sup> 280 23 <sup>h</sup> 233 24 <sup>h</sup> 634 25 <sup>h</sup> 500 26 <sup>h</sup> 626 27 <sup>h</sup> 666 28 <sup>h</sup> 475 29 <sup>h</sup> 103*	G G G G G M M G G G G G G D	31 42 50 64 67 100 70 52 35 24 12 5 6	142 264 372 468 500 539 379 223 358 302 118 49 48	63 51 40 42 40 56 39 31 23 19 13 8 17	292 315 302 308 297 302 211 271 233 245 133 88 143	243 <sup>h</sup> 5 243 <sup>h</sup> 2 243 <sup>h</sup> 5 243 <sup>h</sup> 9 243 <sup>h</sup> 8 244 <sup>h</sup> 1 244 <sup>h</sup> 5 244 <sup>h</sup> 1 244 <sup>h</sup> 0 243 <sup>h</sup> 9 243 <sup>h</sup> 6 243 <sup>h</sup> 6 (242 <sup>h</sup> 5)	-17 <sup>h</sup> 4 -17 <sup>h</sup> 5 -17 <sup>h</sup> 7 -17 <sup>h</sup> 4 -17 <sup>h</sup> 7 -17 <sup>h</sup> 8 -18 <sup>h</sup> 0 -17 <sup>h</sup> 6 -17 <sup>h</sup> 5 -17 <sup>h</sup> 4 -16 <sup>h</sup> 9 -16 <sup>h</sup> 9 -16 <sup>h</sup> 3	-72 <sup>h</sup> 8 -61 <sup>h</sup> 1 -46 <sup>h</sup> 2 -32 <sup>h</sup> 7 -21 <sup>h</sup> 5 -10 <sup>h</sup> 7 +2 <sup>h</sup> 3 +20 <sup>h</sup> 3 +31 <sup>h</sup> 7 +46 <sup>h</sup> 4 +59 <sup>h</sup> 9 +70 <sup>h</sup> 6 +77 <sup>h</sup> 7	Sept. 18 <sup>h</sup> 528 19 <sup>h</sup> 637 20 <sup>h</sup> 632 21 <sup>h</sup> 487 22 <sup>h</sup> 280 23 <sup>h</sup> 233 24 <sup>h</sup> 634 25 <sup>h</sup> 500 26 <sup>h</sup> 626 27 <sup>h</sup> 666 28 <sup>h</sup> 475 29 <sup>h</sup> 103*	G G G G M M G G G G G D	12 15 28 31 49 43 26 16 11 6 0 0	98 130 170 195 260 279 177 129 42 20 21 9	23 16 22 20 29 24 14 9 7 5 0 0	188 139 132 128 155 154 95 74 27 16 21 12	231 <sup>h</sup> 9 230 <sup>h</sup> 8 230 <sup>h</sup> 6 230 <sup>h</sup> 2 229 <sup>h</sup> 9 229 <sup>h</sup> 9 230 <sup>h</sup> 0 229 <sup>h</sup> 6 229 <sup>h</sup> 6 229 <sup>h</sup> 8 229 <sup>h</sup> 5	-14 <sup>h</sup> 3 -14 <sup>h</sup> 0 -13 <sup>h</sup> 8 -13 <sup>h</sup> 8 -14 <sup>h</sup> 3 -14 <sup>h</sup> 0 -14 <sup>h</sup> 1 -14 <sup>h</sup> 5 -14 <sup>h</sup> 9 -15 <sup>h</sup> 1 -15 <sup>h</sup> 3 -15 <sup>h</sup> 2	-72 <sup>h</sup> 4 -58 <sup>h</sup> 9 -46 <sup>h</sup> 0 -35 <sup>h</sup> 1 -24 <sup>h</sup> 9 -12 <sup>h</sup> 3 +6 <sup>h</sup> 2 +17 <sup>h</sup> 3 +32 <sup>h</sup> 1 +45 <sup>h</sup> 9 +56 <sup>h</sup> 8 +64 <sup>h</sup> 7
Means ...	...	...	...	34	242	243 <sup>h</sup> 71	-17 <sup>h</sup> 39	...	Means ...	...	...	...	14	95	230 <sup>h</sup> 12	-14 <sup>h</sup> 44	...
Group 6255*. A small spot a good way, np Group 6255.									Group 6261. A small spot, $\alpha$ , usually with one or two small companions.								
Sept. 18 <sup>h</sup> 528	G	0	14	0	9	338 <sup>h</sup> 5	-3 <sup>h</sup> 5	+34 <sup>h</sup> 2	Sept. 19 <sup>h</sup> 637 20 <sup>h</sup> 632 21 <sup>h</sup> 487 22 <sup>h</sup> 280 23 <sup>h</sup> 233	G G G M M	0 0 8 0 0	28 7 47 52 22	0 0 4 0 0	14 4 24 30 14	280 <sup>h</sup> 9 282 <sup>h</sup> 0 282 <sup>h</sup> 0 283 <sup>h</sup> 4 281 <sup>h</sup> 5	+10 <sup>h</sup> 4 +10 <sup>h</sup> 7 +10 <sup>h</sup> 6 +10 <sup>h</sup> 6 +10 <sup>h</sup> 7	-8 <sup>h</sup> 8 +5 <sup>h</sup> 4 +16 <sup>h</sup> 7 +28 <sup>h</sup> 6 +39 <sup>h</sup> 3
Means ...	...	...	...	0	9	338 <sup>h</sup> 5	-3 <sup>h</sup> 5	...	Means ...	...	...	...	1	17	281 <sup>h</sup> 96	+10 <sup>h</sup> 60	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on September 29.



## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6264. A small spot.								
1907. <sub>a</sub> Sept. 21 <sup>h</sup> 48 <sup>m</sup> 7 <sup>s</sup>	G	0	13	0	35	188°1	-13°8	-77°2
22 <sup>h</sup> 28 <sup>m</sup> 0 <sup>s</sup>	M	0	13	0	22	185°7	-15°0	-69°1
23 <sup>h</sup> 23 <sup>m</sup> 3 <sup>s</sup>	M	0	12	0	12	187°1	-14°8	-55°1
Means ...	...	...	...	0	23	186°97	-14°53	...
Group 6265. A fine stream arising suddenly, <i>f</i> Group 6259, and rapidly developing until it unites with it to form an unusually long straight stream. The first and last spots of the stream are <i>a</i> and <i>b</i> , two large composite spots. Both have broken up by September 29.								
Sept. 24 <sup>h</sup> 63 <sup>m</sup> 4 <sup>s</sup>	G	38	401	20	203	230°3	+7°7	+6°5
25 <sup>h</sup> 50 <sup>m</sup> 0 <sup>s</sup>	G	165	1143	87	602	230°4	+7°8	+18°1
26 <sup>h</sup> 62 <sup>m</sup> 6 <sup>s</sup>	G	202	1481	122	886	230°4	+7°9	+32°9
27 <sup>h</sup> 66 <sup>m</sup> 6 <sup>s</sup>	G	217	1613	160	1164	230°1	+8°0	+46°4
28 <sup>h</sup> 47 <sup>m</sup> 5 <sup>s</sup>	G	246	1471	225	1343	230°2	+8°0	+57°2
29 <sup>h</sup> 103 <sup>m</sup> *	D	221	1207	259	1413	(230°0	+8°8	+65°2)
30 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	72	496	151	1211	228°9	+8°9	+79°0
Means ...	...	...	...	146	975	230°04	+8°16	...
Group 6267. Return of Group 6243. A regular spot, <i>a</i> , with a small companion on October 3.								
Sept. 25 <sup>h</sup> 50 <sup>m</sup> 0 <sup>s</sup>	G	0	38	0	95	136°4	-17°3	-75°9
26 <sup>h</sup> 62 <sup>m</sup> 6 <sup>s</sup>	G	7	68	8	82	135°9	-17°1	-61°6
27 <sup>h</sup> 66 <sup>m</sup> 6 <sup>s</sup>	G	13	99	11	83	135°2	-17°2	-48°5
28 <sup>h</sup> 47 <sup>m</sup> 5 <sup>s</sup>	G	16	125	12	87	135°2	-17°2	-37°8
29 <sup>h</sup> 103 <sup>m</sup> *	D	22	139	14	89	(134°7	-17°8	-30°1)
30 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	25	137	14	78	134°8	-17°8	-15°1
Oct. 1 <sup>h</sup> 45 <sup>m</sup> 4 <sup>s</sup>	G	15	143	8	78	134°5	-16°9	+0°7
2 <sup>h</sup> 60 <sup>m</sup> 2 <sup>s</sup>	G	20	131	11	74	134°2	-17°2	+15°6
3 <sup>h</sup> 33 <sup>m</sup> 9 <sup>s</sup>	M	24	125	15	77	134°9	-16°7	+26°0
4 <sup>h</sup> 47 <sup>m</sup> 2 <sup>s</sup>	G	13	56	9	41	134°6	-16°9	+40°7
5 <sup>h</sup> 50 <sup>m</sup> 0 <sup>s</sup>	G	9	49	9	46	133°9	-16°7	+53°5
6 <sup>h</sup> 28 <sup>m</sup> 8 <sup>s</sup>	M	0	20	0	26	133°8	-16°0	+63°8
7 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup> *	D	2	9	5	19	(133°1	-15°9	+74°1)
Means ...	...	...	...	9	67	134°71	-16°98	...
Group 6269*. A pair of very faint small spots, <i>p</i> Group 6269.								
Sept. 25 <sup>h</sup> 50 <sup>m</sup> 0 <sup>s</sup>	G	0	16	0	22	143°8	+6°2	-68°5
Means ...	...	...	...	0	22	143°8	+6°2	...
Group 6266. Return of Group 6241. Third apparition. A small faint spot. The group is not seen on September 29 and 30.								
1907. <sub>a</sub> Sept. 26 <sup>h</sup> 62 <sup>m</sup> 6 <sup>s</sup>	G	4	16	3	12	151°1	+9°2	-46°4
27 <sup>h</sup> 66 <sup>m</sup> 6 <sup>s</sup>	G	5	15	3	9	150°6	+9°1	-33°1
28 <sup>h</sup> 47 <sup>m</sup> 5 <sup>s</sup>	G	0	8	0	4	151°9	+8°1	-21°1
29 <sup>h</sup> 103 <sup>m</sup> *	D	0	0	0	0	...	...	...
30 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	0	0	0	0	...	...	...
Oct. 1 <sup>h</sup> 45 <sup>m</sup> 4 <sup>s</sup>	G	0	30	0	16	152°8	+9°2	+19°0
2 <sup>h</sup> 60 <sup>m</sup> 2 <sup>s</sup>	G	0	6	0	4	153°0	+8°7	+34°4
Means ...	...	...	...	1	6	151°88	+8°86	...
Group 6268. A small stream appearing suddenly near the centre of the disc. The first and last spots, <i>a</i> and <i>b</i> , are the largest; <i>a</i> being a regular spot, and the largest and most stable member of the group.								
Sept. 26 <sup>h</sup> 62 <sup>m</sup> 6 <sup>s</sup>	G	4	13	2	7	188°4	+7°2	-9°1
27 <sup>h</sup> 66 <sup>m</sup> 6 <sup>s</sup>	G	40	228	20	114	188°2	+6°6	+4°5
28 <sup>h</sup> 47 <sup>m</sup> 5 <sup>s</sup>	G	48	371	25	193	189°3	+6°6	+16°3
29 <sup>h</sup> 103 <sup>m</sup> *	D	52	358	29	199	(189°9	+6°6	+25°1)
30 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	41	246	28	168	193°0	+6°2	+43°1
Oct. 1 <sup>h</sup> 45 <sup>m</sup> 4 <sup>s</sup>	G	8	131	8	131	194°2	+6°0	+60°4
2 <sup>h</sup> 60 <sup>m</sup> 2 <sup>s</sup>	G	0	37	0	74	194°6	+6°0	+76°0
3 <sup>h</sup> 33 <sup>m</sup> 9 <sup>s</sup>	M	0	18	0	63	191°1	+6°5	+82°2
Means ...	...	...	...	14	119	191°09	+6°46	...
Group 6269. A number of small spots in a straight stream of normal type. The first and last spots, <i>a</i> and <i>b</i> , are the most stable. The group increases up to October 3 and diminishes afterwards.								
Sept. 27 <sup>h</sup> 66 <sup>m</sup> 6 <sup>s</sup>	G	6	36	4	26	137°2	+8°0	-46°5
28 <sup>h</sup> 47 <sup>m</sup> 5 <sup>s</sup>	G	6	67	4	41	138°4	+7°5	-34°6
29 <sup>h</sup> 103 <sup>m</sup> *	D	17	83	9	47	(137°4	+7°4	-27°4)
30 <sup>h</sup> 22 <sup>m</sup> 7 <sup>s</sup>	M	53	182	27	92	137°7	+7°8	-12°2
Oct. 1 <sup>h</sup> 45 <sup>m</sup> 4 <sup>s</sup>	G	14	101	7	51	137°9	+7°8	+4°1
2 <sup>h</sup> 60 <sup>m</sup> 2 <sup>s</sup>	G	42	282	23	150	137°2	+8°1	+18°6
3 <sup>h</sup> 33 <sup>m</sup> 9 <sup>s</sup>	M	69	378	41	220	138°1	+8°4	+29°2
4 <sup>h</sup> 47 <sup>m</sup> 2 <sup>s</sup>	G	27	184	18	125	136°8	+8°5	+42°9
5 <sup>h</sup> 50 <sup>m</sup> 0 <sup>s</sup>	G	15	89	14	79	136°1	+8°4	+55°7
6 <sup>h</sup> 28 <sup>m</sup> 8 <sup>s</sup>	M	11	53	13	61	134°6	+8°6	+64°6
7 <sup>h</sup> 12 <sup>m</sup> 2 <sup>s</sup> *	D	2	21	4	39	(134°4	+8°8	+75°4)
Means ...	...	...	...	15	85	136°89	+8°12	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on September 29 and October 7.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longitude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6270.								
A small sparse stream of normal type. The first and last spots, <i>a</i> and <i>b</i> , are the largest. Only <i>a</i> remains on October 2, but it has broken up by October 3, and <i>b</i> has reappeared by October 4.								
1907. <sup>a</sup> Sept. 27.666	G	8	73	6	57	135.4	-9.2	-48.3
28.475	G	13	76	8	50	136.7	-9.5	-36.3
29.103*	D	39	133	23	80	(135.4	-9.8	-29.4)
30.227	M	18	99	10	54	136.9	-9.8	-13.0
Oct. 1.454	G	9	44	5	23	140.4	-8.4	+6.6
2.602	G	4	19	2	10	140.9	-7.8	+22.3
3.339	M	0	39	0	24	141.5	-8.2	+32.6
4.472	G	5	32	3	22	135.4	-9.2	+41.5
Means ...	...	...	...	7	40	137.83	-8.99	...
Group 6268*.								
A very small spot on the same meridian as Group 6268, but in the southern hemisphere. The group is not seen on September 29 and 30.								
Sept. 28.475	G	0	14	0	8	185.5	-11.0	+12.5
29.103*	D	0	0	0	0	...	...	...
30.227	M	0	0	0	0	...	...	...
Oct. 1.454	G	0	21	0	18	186.0	-9.7	+52.2
Means ...	...	...	...	0	7	185.75	-10.35	...
Group 6263*.								
A small spot forming when close to the West limb behind Group 6263. It has developed into a considerable stream by September 30.								
Sept. 29.103*	D	0	12	0	11	(218.6	-15.6	+53.8)
30.227	M	14	76	22	123	219.3	-15.4	+69.4
Means ...	...	...	...	11	67	218.95	-15.50	...
Group 6271.								
A regular spot, <i>a</i> , usually with a small companion.								
Sept. 30.227	M	10	37	27	121	70.6	-13.5	-79.3
Oct. 1.454	G	12	63	14	74	71.8	-12.3	-62.0
2.602	G	11	68	8	53	71.4	-12.4	-47.2
3.339	M	14	102	10	68	71.6	-12.9	-37.3
4.472	G	11	84	6	49	72.4	-12.7	-21.5
5.500	G	13	78	7	42	72.2	-12.6	-8.2
6.288	M	6	42	3	22	71.4	-13.1	+1.4
7.122*	D	12	32	7	17	(72.1	-13.0	+13.1)
8.120*	D	0	22	0	13	(72.2	-12.8	+26.4)
9.218	M	0	14	0	10	72.7	-12.7	+41.4
Means ...	...	...	...	8	47	71.84	-12.80	...
Group 6274.								
Two small spots, <i>a</i> and <i>b</i> . A third, <i>c</i> , is seen with them on October 2, and alone remains on October 4.								
1907. <sup>a</sup> Oct. 1.454	G	0	66	0	45	173.2	-13.2	+39.4
2.602	G	0	62	0	57	173.1	-12.5	+54.5
3.339	M	0	15	0	19	172.7	-12.3	+63.8
4.472	G	0	18	0	48	171.6	-12.7	+77.7
Means ...	...	...	...	0	42	172.65	-12.68	...
Group 6267*.								
Two very small spots, distantly following Group 6267.								
Oct. 1.454	G	0	16	0	10	116.8	-20.9	-17.0
Means ...	...	...	...	0	10	116.8	-20.9	...
Group 6268†.								
A small spot, <i>np</i> the place of Group 6268*.								
Oct. 2.602	G	0	7	0	13	191.7	-7.6	+73.1
Means ...	...	...	...	0	13	191.7	-7.6	...
Group 6272.								
A small spot, <i>a</i> , with a distant companion on October 3. <i>a</i> has disappeared by October 6, but a very small spot is seen <i>f</i> its place on October 6 and 7.								
Oct. 2.602	G	0	18	0	15	63.6	+14.9	-55.0
3.339	M	5	37	4	28	61.6	+14.5	-47.3
4.472	G	6	30	3	17	65.7	+14.9	-28.2
5.500	G	0	9	0	5	65.2	+15.0	-15.2
6.288	M	0	14	0	7	61.5	+14.4	-8.5
7.122*	D	3	22	2	11	(62.4	+14.8	+3.4)
Means ...	...	...	...	2	14	63.33	+14.75	...
Group 6273.								
Return of Group 6247. A large regular spot, <i>a</i> , surrounded after October 5 by a number of small companions.								
Oct. 2.602	G	0	51	0	197	36.6	-4.5	-82.0
3.339	M	14	78	25	136	36.2	-5.2	-72.7
4.472	G	13	84	12	81	36.5	-5.4	-57.4
5.500	G	16	119	12	86	36.1	-5.3	-44.3
6.288	M	12	189	8	117	36.1	-6.1	-33.9
7.122*	D	43	224	23	125	(36.2	-5.6	-22.8)
8.120*	D	54	204	28	106	(36.7	-5.6	-9.1)
9.218	M	13	76	7	39	37.2	-5.2	+5.9
Means ...	...	...	...	14	111	36.45	-5.36	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on September 29, and on October 7 and 8.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6275.								
A number of spots in a short stream forming <i>sp</i> Group 6273. The first and last spots, <i>a</i> and <i>b</i> , are the largest and most stable. Only <i>a</i> remains by October 11.								
1907. <i>a</i>								
Oct. 8:120*	D	12	56	6	30	(43'4	— 9'3	— 2'4)
9:218	M	42	165	23	90	45'0	— 9'2	+13'7
10:500	G	14	59	9	37	46'0	— 9'5	+31'6
11:666	G	2	12	2	9	48'9	— 9'2	+49'9
12:477	G	0	8	0	9	49'2	— 9'6	+60'9
Means	...	...	...	8	35	46'50	— 9'36	...
Group 6276.								
A few spots in an irregular stream rapidly developing to form a large composite spot, <i>a</i> , with several small spots round it.								
Oct. 8:120*	D	0	3	0	3	(353'1	— 23'7	— 52'7)
9:218	M	35	168	25	122	355'0	— 22'9	— 36'3
10:500	G	61	414	38	257	351'2	— 22'5	— 23'2
11:666	G	69	485	39	275	351'7	— 21'7	— 7'3
12:477	G	59	612	34	346	351'9	— 22'1	+ 3'6
13:523	G	62	460	37	272	351'1	— 22'0	+16'6
14:237	M	108	630	69	401	351'3	— 22'2	+26'2
15:625	G	65	522	51	415	350'4	— 21'6	+43'6
16:106	K	68	500	62	497	351'1	— 21'3	+50'7
17:113	K	57	419	75	504	351'3	— 21'3	+64'1
18:224	M	40	202	117	648	350'5	— 21'7	+78'0
Means	...	...	...	50	345	351'69	— 22'09	...
Group 6277.								
An irregular stream forming <i>f</i> Group 6276, and finally joining with it. The rear spot, <i>a</i> , a large regular spot, is the largest and most stable member. The preceding portion of the group undergoes considerable change.								
Oct. 9:218	M	0	18	0	16	344'2	— 22'7	— 47'1
10:500	G	21	123	14	81	345'6	— 22'7	— 28'8
11:666	G	33	382	19	227	343'3	— 22'8	— 15'7
12:477	G	45	292	26	167	342'5	— 22'9	— 5'8
13:523	G	65	368	37	213	343'0	— 22'8	+ 8'5
14:237	M	87	430	53	261	343'5	— 23'0	+18'4
15:625	G	81	440	57	310	342'1	— 22'7	+35'3
16:106	K	116	550	90	426	342'1	— 22'6	+41'7
17:113	K	99	487	103	504	342'4	— 22'7	+55'2
18:224	M	53	248	92	421	341'3	— 22'7	+68'8
Means	...	...	...	49	263	343'00	— 22'76	...
Group 6279.								
A large regular spot, <i>a</i> , usually with a number of small companions.								
Oct. 9:218	M	3	49	9	141	312'1	— 6'7	— 79'2
10:500	G	43	489	47	539	312'6	— 6'4	— 61'8
11:666	G	75	566	54	411	313'9	— 5'6	— 45'1
Group 6279—continued.								
1907. <i>a</i>								
Oct. 12:477	G	83	687	51	425	314'2	— 5'8	— 34'1
13:523	G	93	826	51	450	314'4	— 5'7	— 20'1
14:237	M	142	908	74	469	315'0	— 5'8	— 10'1
15:625	G	84	587	44	303	315'0	— 6'0	+ 8'2
16:106	K	105	544	56	288	315'4	— 6'0	+15'0
17:113	K	114	615	68	362	316'2	— 6'2	+29'0
18:224	M	62	369	45	265	316'6	— 6'2	+44'1
19:503	G	35	240	36	253	316'2	— 6'8	+60'6
20:601	G	7	100	14	204	316'3	— 6'9	+75'1
Means	...	...	...	46	343	314'83	— 6'18	...
Group 6280.								
Return of Group 6256. A large regular spot, <i>a</i> , with several small companions on October 16 and 17.								
Oct. 9:218	M	20	83	67	274	309'4	+ 6'9	— 81'9
10:500	G	16	177	18	196	310'8	+ 7'4	— 63'6
11:666	G	49	291	37	218	310'6	+ 7'8	— 48'4
12:477	G	54	356	34	225	310'6	+ 7'5	— 37'7
13:523	G	58	389	32	212	310'5	+ 7'7	— 24'0
14:237	M	69	402	36	208	310'6	+ 7'5	— 14'5
15:625	G	60	412	30	208	310'6	+ 7'4	+ 3'8
16:106	K	63	451	32	230	310'9	+ 7'5	+10'5
17:113	K	62	413	34	226	310'3	+ 7'8	+23'1
18:224	M	49	286	31	183	311'4	+ 7'9	+38'9
19:503	G	19	155	16	134	310'6	+ 7'3	+55'0
20:601	G	9	79	13	110	310'8	+ 7'3	+69'6
21:499	G	0	35	0	109	310'7	+ 7'0	+81'4
Means	...	...	...	29	195	310'60	+ 7'46	...
Group 6271*.								
A very small spot, <i>nf</i> Group 6271.								
Oct. 10:500	G	0	9	0	7	61'7	— 4'0	+47'3
Means	...	...	...	0	7	61'7	— 4'0	...
Group 6278.								
A large regular spot, <i>a</i> , forming in advance of Group 6276. A few companions are seen on October 14. The three groups 6276, 6277, and 6278, make up a very long straight and continuous stream that undergoes continual change.								
Oct. 10:500	G	17	121	10	72	359'3	— 23'1	— 15'1
11:666	G	28	284	16	161	0'2	— 22'4	+ 1'2
12:477	G	37	297	22	173	1'0	— 22'5	+12'7
13:523	G	23	210	15	136	2'0	— 22'6	+27'5
14:237	M	31	199	23	145	2'7	— 22'4	+37'6
15:625	G	9	51	10	53	2'0	— 22'4	+55'2
16:106	K	11	32	14	41	2'0	— 22'0	+61'6
17:113	K	0	6	0	14	1'2	— 22'3	+74'0
Means	...	...	...	14	99	1'30	— 22'46	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on October 8.

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6281.								
A few small unstable spots, f Group 6279.								
1907. a								
Oct. 11.666	G	9	34	8	27	308.2	- 5.7	-50.8
12.477	G	0	82	0	54	308.9	- 6.1	-39.4
13.523	G	5	48	3	27	308.0	- 6.2	-26.5
14.237	M	9	76	5	40	308.0	- 6.5	-17.1
15.625	G	2	41	1	21	308.6	- 6.3	+ 1.8
16.106	K	2	76	1	40	309.3	- 7.4	+ 8.9
17.113	K	0	85	0	48	309.9	- 7.5	+22.7
18.224	M	0	15	0	10	310.6	- 8.5	+38.1
Means ...	...	...	...	2	33	308.94	- 6.78	...
Group 6279*.								
Some small spots, n of Group 6279.								
Oct. 12.477	G	0	48	0	33	312.7	-20.9	-35.6
13.523	G	0	21	0	13	314.0	-20.4	-20.5
14.237	M	0	14	0	8	314.6	-21.2	-10.5
Means ...	...	...	...	0	18	313.77	-20.83	...
Group 6281*.								
A small spot, f Group 6281, at a considerable distance.								
Oct. 13.523	G	0	10	0	11	272.6	- 6.0	-61.9
14.237	M	2	7	2	6	274.1	- 6.1	-51.0
Means ...	...	...	...	1	9	273.35	- 6.05	...
Group 6282.								
A large very irregular composite spot, or cluster of spots, a, gradually lengthening out into an irregular stream, a breaks up into three chief portions, b, c, and d, of which the largest and most stable, b, is a large regular spot.								
Oct. 13.523	G	26	130	80	409	253.1	+ 5.7	-81.4
14.237	M	41	351	67	582	252.3	+ 5.0	-72.8
15.625	G	68	647	57	544	253.1	+ 6.0	-52.7
16.106	K	145	908	109	674	252.8	+ 6.1	-47.6
17.113	K	197	998	120	608	252.9	+ 5.9	-34.3
18.224	M	144	936	76	496	253.2	+ 6.0	-19.3
19.503	G	97	706	49	356	253.8	+ 5.4	- 1.8
20.601	G	63	510	32	261	254.6	+ 5.1	+13.4
21.499	G	86	490	47	269	254.0	+ 5.4	+24.7
22.653	G	65	435	42	283	254.0	+ 5.2	+39.9
23.329	M	103	450	79	348	255.1	+ 5.3	+49.9
24.468	G	35	226	40	261	254.9	+ 5.7	+64.7
25.212	M	24	135	45	249	255.2	+ 6.6	+74.8
Means ...	...	...	...	65	411	253.77	+ 5.65	...

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6283.								
Return of Group 6265. A very large irregular composite spot, a, with a number of small spots on both sides of it. The group tends to draw out into an irregular stream, of which b, an unstable composite spot is the last on October 19.								
1907. a								
Oct. 14.237	M	0	28	0	109	242.0	+ 7.4	-83.1
15.625	G	68	566	97	803	236.8	+ 8.9	-70.0
16.106	K	145	881	164	995	236.2	+ 8.7	-64.2
17.113	K	213	1159	167	917	236.2	+ 8.4	-51.0
18.224	M	257	1390	158	861	236.8	+ 8.7	-35.7
19.503	G	146	1226	76	642	237.8	+ 8.3	-17.8
20.601	G	123	1190	62	600	238.2	+ 8.2	- 3.0
21.499	G	151	1371	77	697	237.7	+ 8.5	+ 8.4
22.653	G	169	1138	93	620	238.0	+ 8.7	+23.9
23.329	M	161	1042	98	630	239.1	+ 9.4	+33.9
24.468	G	93	732	69	547	238.5	+ 8.8	+48.3
25.212	M	87	552	83	530	239.2	+ 9.4	+58.8
26.224	M	31	275	51	438	239.2	+ 9.2	+72.2
27.177	K	14	53	68	257	239.1	+ 9.0	+84.7
Means ...	...	...	...	90	618	238.20	+ 8.69	...
Group 6284.								
A large irregular composite spot, or cluster of spots, a, closely following Group 6283, and with it the return of Group 6265; a has divided into two portions b and c by October 22.								
Oct. 15.625	G	12	59	27	136	228.6	+ 8.4	-78.2
16.106	K	24	126	40	207	227.5	+ 8.2	-72.9
17.113	K	35	242	33	236	227.7	+ 8.1	-59.5
18.224	M	43	294	30	205	228.2	+ 8.1	-44.3
19.503	G	52	355	29	200	228.4	+ 8.1	-27.2
20.601	G	39	367	20	188	228.4	+ 8.0	-12.8
21.499	G	29	302	15	152	227.5	+ 7.9	- 1.8
22.653	G	37	325	18	167	227.7	+ 7.9	+13.6
23.329	M	38	318	21	174	228.8	+ 8.3	+23.6
24.468	G	5	114	3	71	227.7	+ 7.8	+37.5
25.212	M	8	53	6	40	229.0	+ 8.4	+48.6
26.224	M	4	24	2	24	227.9	+ 7.9	+60.9
Means ...	...	...	...	20	150	228.12	+ 8.09	...
Group 6285.								
An irregular group, f Group 6284. The four groups 6282, 6283, 6284, and 6285 make up a very long, straight, and almost continuous stream, or procession, of disturbances. Its most stable member is a large regular spot, a; south of which two unstable composite spots, b and c, form together with some small companions. c has disappeared by October 23, and b by October 25.								
Oct. 16.106	K	14	50	37	129	220.6	+10.9	-79.8
17.113	K	39	179	48	219	220.8	+ 9.5	-66.4
18.224	M	59	391	48	315	220.7	+ 9.5	-51.8
19.503	G	77	524	47	320	220.7	+ 9.5	-34.9
20.601	G	58	408	30	216	221.2	+ 9.8	-20.0
21.499	G	44	349	22	177	220.5	+10.0	- 8.8
22.653	G	37	195	19	99	220.6	+10.4	+ 6.5

## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS DEDUCED FROM PHOTOGRAPHS

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6285—continued.								
1907. <sup>a</sup> Oct. 23 <sup>h</sup> 32 <sup>m</sup> 9	M	38	216	20	112	221 <sup>h</sup> 7 <sup>m</sup>	+10 <sup>h</sup> 7 <sup>m</sup>	+16 <sup>h</sup> 5 <sup>m</sup>
24 <sup>h</sup> 46 <sup>m</sup> 8	G	12	108	7	63	221 <sup>h</sup> 5 <sup>m</sup>	+10 <sup>h</sup> 5 <sup>m</sup>	+31 <sup>h</sup> 3 <sup>m</sup>
25 <sup>h</sup> 21 <sup>m</sup> 2	M	18	83	12	56	222 <sup>h</sup> 0 <sup>m</sup>	+11 <sup>h</sup> 3 <sup>m</sup>	+41 <sup>h</sup> 6 <sup>m</sup>
26 <sup>h</sup> 22 <sup>m</sup> 4	M	4	14	4	12	222 <sup>h</sup> 4 <sup>m</sup>	+10 <sup>h</sup> 7 <sup>m</sup>	+55 <sup>h</sup> 4 <sup>m</sup>
27 <sup>h</sup> 17 <sup>m</sup> 7	K	2	7	3	9	222 <sup>h</sup> 3 <sup>m</sup>	+10 <sup>h</sup> 5 <sup>m</sup>	+67 <sup>h</sup> 9 <sup>m</sup>
Means ...	...	...	...	25	144	221 <sup>h</sup> 25 <sup>m</sup>	+10 <sup>h</sup> 28 <sup>m</sup>	...
Group 6286. Some small spots in a short stream, $\pi$ of Group 6282.								
Oct. 20 <sup>h</sup> 60 <sup>m</sup> 1	G	10	48	5	24	254 <sup>h</sup> 3 <sup>m</sup>	+12 <sup>h</sup> 6 <sup>m</sup>	+13 <sup>h</sup> 1 <sup>m</sup>
21 <sup>h</sup> 49 <sup>m</sup> 9	G	9	56	6	31	253 <sup>h</sup> 9 <sup>m</sup>	+12 <sup>h</sup> 5 <sup>m</sup>	+24 <sup>h</sup> 6 <sup>m</sup>
22 <sup>h</sup> 65 <sup>m</sup> 3	G	0	23	0	16	257 <sup>h</sup> 7 <sup>m</sup>	+11 <sup>h</sup> 8 <sup>m</sup>	+43 <sup>h</sup> 6 <sup>m</sup>
23 <sup>h</sup> 32 <sup>m</sup> 9	M	0	6	0	5	259 <sup>h</sup> 4 <sup>m</sup>	+12 <sup>h</sup> 0 <sup>m</sup>	+54 <sup>h</sup> 2 <sup>m</sup>
24 <sup>h</sup> 46 <sup>m</sup> 8	G	0	7	0	10	259 <sup>h</sup> 4 <sup>m</sup>	+11 <sup>h</sup> 4 <sup>m</sup>	+69 <sup>h</sup> 2 <sup>m</sup>
Means ...	...	...	...	2	17	256 <sup>h</sup> 9 <sup>m</sup> 4	+12 <sup>h</sup> 06 <sup>m</sup>	...
Group 6287. A pair of small spots, $\alpha$ and $\beta$ .								
Oct. 20 <sup>h</sup> 60 <sup>m</sup> 1	G	5	32	4	27	189 <sup>h</sup> 1 <sup>m</sup>	-10 <sup>h</sup> 7 <sup>m</sup>	-52 <sup>h</sup> 1 <sup>m</sup>
21 <sup>h</sup> 49 <sup>m</sup> 9	G	3	41	2	28	189 <sup>h</sup> 1 <sup>m</sup>	-11 <sup>h</sup> 0 <sup>m</sup>	-40 <sup>h</sup> 2 <sup>m</sup>
Means ...	...	...	...	3	28	189 <sup>h</sup> 10 <sup>m</sup>	-10 <sup>h</sup> 85 <sup>m</sup>	...
Group 6288. Return of Group 6269. A small spot, $\alpha$ .								
Oct. 22 <sup>h</sup> 65 <sup>m</sup> 3	G	0	9	0	12	146 <sup>h</sup> 6 <sup>m</sup>	+7 <sup>h</sup> 3 <sup>m</sup>	-67 <sup>h</sup> 5 <sup>m</sup>
23 <sup>h</sup> 32 <sup>m</sup> 9	M	0	12	0	11	146 <sup>h</sup> 9 <sup>m</sup>	+6 <sup>h</sup> 6 <sup>m</sup>	-58 <sup>h</sup> 3 <sup>m</sup>
24 <sup>h</sup> 46 <sup>m</sup> 8	G	0	9	0	6	147 <sup>h</sup> 3 <sup>m</sup>	+6 <sup>h</sup> 5 <sup>m</sup>	-42 <sup>h</sup> 9 <sup>m</sup>
Means ...	...	...	...	0	10	146 <sup>h</sup> 93 <sup>m</sup>	+6 <sup>h</sup> 80 <sup>m</sup>	...
Group 6289. Return of Group 6267. A regular spot, $\alpha$ . Some small spots form behind $\alpha$ on October 27, and form a train to it.								
Oct. 22 <sup>h</sup> 65 <sup>m</sup> 3	G	14	37	27	72	141 <sup>h</sup> 3 <sup>m</sup>	-16 <sup>h</sup> 2 <sup>m</sup>	-72 <sup>h</sup> 8 <sup>m</sup>
23 <sup>h</sup> 32 <sup>m</sup> 9	M	16	70	20	86	142 <sup>h</sup> 3 <sup>m</sup>	-16 <sup>h</sup> 3 <sup>m</sup>	-62 <sup>h</sup> 9 <sup>m</sup>
Group 6289—continued.								
1907. <sup>a</sup> Oct. 24 <sup>h</sup> 46 <sup>m</sup> 8	G	23	139	19	111	143 <sup>h</sup> 0 <sup>m</sup>	-16 <sup>h</sup> 2 <sup>m</sup>	-47 <sup>h</sup> 2 <sup>m</sup>
25 <sup>h</sup> 21 <sup>m</sup> 2	M	28	149	19	102	143 <sup>h</sup> 0 <sup>m</sup>	-17 <sup>h</sup> 0 <sup>m</sup>	-37 <sup>h</sup> 4 <sup>m</sup>
26 <sup>h</sup> 22 <sup>m</sup> 4	M	30	157	18	93	143 <sup>h</sup> 8 <sup>m</sup>	-17 <sup>h</sup> 1 <sup>m</sup>	-23 <sup>h</sup> 2 <sup>m</sup>
27 <sup>h</sup> 17 <sup>m</sup> 7	K	74	461	40	253	143 <sup>h</sup> 2 <sup>m</sup>	-16 <sup>h</sup> 7 <sup>m</sup>	-11 <sup>h</sup> 2 <sup>m</sup>
28 <sup>h</sup> 23 <sup>m</sup> 3	K	60	369	32	199	144 <sup>h</sup> 3 <sup>m</sup>	-16 <sup>h</sup> 4 <sup>m</sup>	+3 <sup>h</sup> 8 <sup>m</sup>
29 <sup>h</sup> 24 <sup>m</sup> 9	M	41	240	23	136	144 <sup>h</sup> 1 <sup>m</sup>	-16 <sup>h</sup> 8 <sup>m</sup>	+17 <sup>h</sup> 0 <sup>m</sup>
30 <sup>h</sup> 23 <sup>m</sup> 8	M	30	171	19	105	144 <sup>h</sup> 2 <sup>m</sup>	-15 <sup>h</sup> 7 <sup>m</sup>	+30 <sup>h</sup> 1 <sup>m</sup>
31 <sup>h</sup> 41 <sup>m</sup> 3	G	13	98	10	74	143 <sup>h</sup> 4 <sup>m</sup>	-16 <sup>h</sup> 0 <sup>m</sup>	+44 <sup>h</sup> 8 <sup>m</sup>
Nov. 1 <sup>h</sup> 31 <sup>m</sup> 5 <sup>s</sup> *	D	12	48	12	46	(143 <sup>h</sup> 4 <sup>m</sup>	-14 <sup>h</sup> 7 <sup>m</sup>	+56 <sup>h</sup> 6 <sup>m</sup> )
2 <sup>h</sup> 14 <sup>m</sup> 1	K	4	20	6	28	142 <sup>h</sup> 4 <sup>m</sup>	-14 <sup>h</sup> 8 <sup>m</sup>	+66 <sup>h</sup> 6 <sup>m</sup>
Means ...	...	...	...	20	109	143 <sup>h</sup> 20 <sup>m</sup>	-16 <sup>h</sup> 16 <sup>m</sup>	...
Group 6284*. A spot forming close to the West limb, $\pi$ of Group 6384.								
Oct. 27 <sup>h</sup> 17 <sup>m</sup> 7	K	8	23	20	59	233 <sup>h</sup> 9 <sup>m</sup>	+14 <sup>h</sup> 2 <sup>m</sup>	+79 <sup>h</sup> 5 <sup>m</sup>
Means ...	...	...	...	20	59	233 <sup>h</sup> 9 <sup>m</sup>	+14 <sup>h</sup> 2 <sup>m</sup>	...
Group 6291. A cluster of small spots soon lengthening out into a short stream. The leader spot, $\alpha$ , alone remains on November 5, but has disappeared by November 6, when the following part of the group has broken out afresh.								
Oct. 27 <sup>h</sup> 17 <sup>m</sup> 7	K	0	14	0	40	74 <sup>h</sup> 0 <sup>m</sup>	+7 <sup>h</sup> 3 <sup>m</sup>	-80 <sup>h</sup> 4 <sup>m</sup>
28 <sup>h</sup> 23 <sup>m</sup> 3	K	5	28	6	35	74 <sup>h</sup> 1 <sup>m</sup>	+6 <sup>h</sup> 9 <sup>m</sup>	-66 <sup>h</sup> 4 <sup>m</sup>
29 <sup>h</sup> 24 <sup>m</sup> 9	M	30	111	25	89	75 <sup>h</sup> 0 <sup>m</sup>	+8 <sup>h</sup> 1 <sup>m</sup>	-52 <sup>h</sup> 1 <sup>m</sup>
30 <sup>h</sup> 23 <sup>m</sup> 8	M	76	397	49	252	76 <sup>h</sup> 2 <sup>m</sup>	+9 <sup>h</sup> 2 <sup>m</sup>	-37 <sup>h</sup> 9 <sup>m</sup>
31 <sup>h</sup> 41 <sup>m</sup> 3	G	37	284	20	152	77 <sup>h</sup> 0 <sup>m</sup>	+9 <sup>h</sup> 2 <sup>m</sup>	-21 <sup>h</sup> 6 <sup>m</sup>
Nov. 1 <sup>h</sup> 31 <sup>m</sup> 5 <sup>s</sup> *	D	42	220	21	109	(77 <sup>h</sup> 7 <sup>m</sup>	+9 <sup>h</sup> 3 <sup>m</sup>	-9 <sup>h</sup> 1 <sup>m</sup> )
2 <sup>h</sup> 14 <sup>m</sup> 1	K	34	147	18	73	78 <sup>h</sup> 4 <sup>m</sup>	+9 <sup>h</sup> 6 <sup>m</sup>	+2 <sup>h</sup> 6 <sup>m</sup>
3 <sup>h</sup> 26 <sup>m</sup> 5	M	25	102	14	55	78 <sup>h</sup> 0 <sup>m</sup>	+9 <sup>h</sup> 5 <sup>m</sup>	+17 <sup>h</sup> 0 <sup>m</sup>
4 <sup>h</sup> 25 <sup>m</sup> 1	M	12	42	7	25	80 <sup>h</sup> 6 <sup>m</sup>	+9 <sup>h</sup> 7 <sup>m</sup>	+32 <sup>h</sup> 6 <sup>m</sup>
5 <sup>h</sup> 27 <sup>m</sup> 5	M	6	19	4	14	80 <sup>h</sup> 1 <sup>m</sup>	+9 <sup>h</sup> 9 <sup>m</sup>	+45 <sup>h</sup> 6 <sup>m</sup>
6 <sup>h</sup> 30 <sup>m</sup> 9	M	6	41	5	36	75 <sup>h</sup> 1 <sup>m</sup>	+10 <sup>h</sup> 3 <sup>m</sup>	+54 <sup>h</sup> 3 <sup>m</sup>
7 <sup>h</sup> 21 <sup>m</sup> 9	M	15	77	21	103	77 <sup>h</sup> 4 <sup>m</sup>	+10 <sup>h</sup> 3 <sup>m</sup>	+68 <sup>h</sup> 5 <sup>m</sup>
8 <sup>h</sup> 24 <sup>m</sup> 5	M	6	19	23	72	78 <sup>h</sup> 5 <sup>m</sup>	+10 <sup>h</sup> 3 <sup>m</sup>	+83 <sup>h</sup> 2 <sup>m</sup>
Means ...	...	...	...	16	81	77 <sup>h</sup> 08 <sup>m</sup>	+9 <sup>h</sup> 20 <sup>m</sup>	...
Group 6290. A very small spot.								
Oct. 28 <sup>h</sup> 23 <sup>m</sup> 3	K	0	8	0	6	96 <sup>h</sup> 8 <sup>m</sup>	+7 <sup>h</sup> 2 <sup>m</sup>	-43 <sup>h</sup> 7 <sup>m</sup>
Means ...	...	...	...	0	6	96 <sup>h</sup> 8 <sup>m</sup>	+7 <sup>h</sup> 2 <sup>m</sup>	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on November 1.

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on November 1.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6292.								
Several small spots in a circular cluster, which soon lengthen out into a short stream, of which, $\alpha$ , the leader is the largest member.								
1907. $\alpha$ Oct. 31 <sup>h</sup> 413	G	28	151	16	84	111 <sup>o</sup> 0	-17 <sup>o</sup> 9	+12 <sup>o</sup> 4
Nov. 1 <sup>h</sup> 315*	D	54	276	32	162	(111 <sup>o</sup> 7	-17 <sup>o</sup> 9	+24 <sup>o</sup> 9)
2 <sup>h</sup> 141	K	64	390	43	260	111 <sup>o</sup> 3	-17 <sup>o</sup> 9	+35 <sup>o</sup> 5
3 <sup>h</sup> 265	M	28	197	25	171	111 <sup>o</sup> 8	-18 <sup>o</sup> 3	+50 <sup>o</sup> 8
4 <sup>h</sup> 251	M	24	154	30	195	111 <sup>o</sup> 8	-18 <sup>o</sup> 5	+63 <sup>o</sup> 8
5 <sup>h</sup> 275	M	10	57	30	161	112 <sup>o</sup> 4	-18 <sup>o</sup> 9	+77 <sup>o</sup> 9
Means ...	...	...	...	29	172	111 <sup>o</sup> 67	-18 <sup>o</sup> 23	...
Group 6293.								
Return of Group 6276. A regular spot, $\alpha$ , with occasionally one or two very small companions.								
Nov. 2 <sup>h</sup> 141	K	8	48	35	211	354 <sup>o</sup> 3	-20 <sup>o</sup> 6	-81 <sup>o</sup> 5
3 <sup>h</sup> 265	M	15	80	23	124	353 <sup>o</sup> 1	-21 <sup>o</sup> 1	-67 <sup>o</sup> 9
4 <sup>h</sup> 251	M	18	116	18	114	353 <sup>o</sup> 1	-20 <sup>o</sup> 8	-54 <sup>o</sup> 9
5 <sup>h</sup> 275	M	23	112	17	85	351 <sup>o</sup> 7	-20 <sup>o</sup> 7	-42 <sup>o</sup> 8
6 <sup>h</sup> 309	M	26	122	16	76	352 <sup>o</sup> 7	-20 <sup>o</sup> 4	-28 <sup>o</sup> 1
7 <sup>h</sup> 219	M	13	96	7	55	352 <sup>o</sup> 3	-20 <sup>o</sup> 6	-16 <sup>o</sup> 6
8 <sup>h</sup> 245	M	22	64	12	35	352 <sup>o</sup> 2	-20 <sup>o</sup> 5	-3 <sup>o</sup> 1
9 <sup>h</sup> 543	G	12	39	7	22	351 <sup>o</sup> 7	-20 <sup>o</sup> 6	+13 <sup>o</sup> 5
10 <sup>h</sup> 426*	K	12	58	7	36	(353 <sup>o</sup> 4	-19 <sup>o</sup> 6	+26 <sup>o</sup> 8)
11 <sup>h</sup> 414	M	6	21	4	15	352 <sup>o</sup> 2	-20 <sup>o</sup> 6	+38 <sup>o</sup> 7
Means ...	...	...	...	15	77	352 <sup>o</sup> 67	-20 <sup>o</sup> 55	...
Group 6294.								
Some small unstable spots in a short stream, $\eta$ Group 6293.								
Nov. 2 <sup>h</sup> 141	K	0	23	0	81	355 <sup>o</sup> 3	-14 <sup>o</sup> 7	-80 <sup>o</sup> 5
3 <sup>h</sup> 265	M	8	84	12	133	351 <sup>o</sup> 2	-13 <sup>o</sup> 3	-69 <sup>o</sup> 8
4 <sup>h</sup> 251	M	16	89	16	85	351 <sup>o</sup> 8	-13 <sup>o</sup> 3	-56 <sup>o</sup> 2
5 <sup>h</sup> 275	M	6	72	5	52	351 <sup>o</sup> 4	-13 <sup>o</sup> 5	-43 <sup>o</sup> 1
6 <sup>h</sup> 309	M	16	97	9	57	352 <sup>o</sup> 9	-13 <sup>o</sup> 1	-27 <sup>o</sup> 9
7 <sup>h</sup> 219	M	1	31	1	16	353 <sup>o</sup> 2	-12 <sup>o</sup> 6	-15 <sup>o</sup> 7
Means ...	...	...	...	7	71	352 <sup>o</sup> 63	-13 <sup>o</sup> 42	...
Group 6295.								
A few small spots, $\eta$ Group 6293. It revives as Group 6304 on November 12, after an interval of four days.								
Nov. 4 <sup>h</sup> 251	M	4	27	5	34	344 <sup>o</sup> 0	-17 <sup>o</sup> 8	-64 <sup>o</sup> 0
5 <sup>h</sup> 275	M	10	114	9	97	344 <sup>o</sup> 3	-17 <sup>o</sup> 6	-50 <sup>o</sup> 2
6 <sup>h</sup> 309	M	7	30	5	20	343 <sup>o</sup> 2	-17 <sup>o</sup> 5	-37 <sup>o</sup> 6
7 <sup>h</sup> 219	M	2	31	1	18	344 <sup>o</sup> 4	-17 <sup>o</sup> 0	-24 <sup>o</sup> 5
Means ...	...	...	...	5	42	343 <sup>o</sup> 98	-17 <sup>o</sup> 48	...
Group 6296.								
A double spot, $\alpha$ , $f$ Group 6295, and followed by a short train of small spots. $\alpha$ is measured in two parts on November 7 and 8.								
1907. $\alpha$ Nov. 4 <sup>h</sup> 251	M	8	26	15	47	335 <sup>o</sup> 5	-14 <sup>o</sup> 3	-72 <sup>o</sup> 5
5 <sup>h</sup> 275	M	15	88	16	91	335 <sup>o</sup> 8	-14 <sup>o</sup> 7	-58 <sup>o</sup> 7
6 <sup>h</sup> 309	M	42	147	30	105	338 <sup>o</sup> 6	-14 <sup>o</sup> 5	-42 <sup>o</sup> 2
7 <sup>h</sup> 219	M	55	254	33	155	338 <sup>o</sup> 4	-14 <sup>o</sup> 4	-30 <sup>o</sup> 5
8 <sup>h</sup> 245	M	76	320	42	177	338 <sup>o</sup> 9	-14 <sup>o</sup> 5	-16 <sup>o</sup> 4
9 <sup>h</sup> 543	G	54	429	28	225	338 <sup>o</sup> 7	-14 <sup>o</sup> 3	+0 <sup>o</sup> 5
10 <sup>h</sup> 426*	K	86	487	47	266	(339 <sup>o</sup> 8	-14 <sup>o</sup> 0	+13 <sup>o</sup> 2)
11 <sup>h</sup> 414	M	53	346	30	205	339 <sup>o</sup> 3	-14 <sup>o</sup> 9	+25 <sup>o</sup> 8
12 <sup>h</sup> 316	M	32	338	22	228	339 <sup>o</sup> 9	-14 <sup>o</sup> 6	+38 <sup>o</sup> 3
13 <sup>h</sup> 532	G	27	179	25	164	340 <sup>o</sup> 3	-14 <sup>o</sup> 7	+54 <sup>o</sup> 7
14 <sup>h</sup> 142	K	19	110	22	128	340 <sup>o</sup> 4	-14 <sup>o</sup> 7	+62 <sup>o</sup> 8
15 <sup>h</sup> 172	K	12	64	27	144	339 <sup>o</sup> 9	-15 <sup>o</sup> 2	+75 <sup>o</sup> 9
Means ...	...	...	...	28	161	338 <sup>o</sup> 79	-14 <sup>o</sup> 57	...
Group 6297.								
Return of Group 6279. A few small unstable spots.								
Nov. 5 <sup>h</sup> 275	M	0	7	0	15	318 <sup>o</sup> 2	-7 <sup>o</sup> 4	-76 <sup>o</sup> 3
6 <sup>h</sup> 309	M	0	14	0	15	319 <sup>o</sup> 7	-7 <sup>o</sup> 2	-61 <sup>o</sup> 1
7 <sup>h</sup> 219	M	0	25	0	19	319 <sup>o</sup> 9	-6 <sup>o</sup> 9	-49 <sup>o</sup> 0
8 <sup>h</sup> 245	M	4	59	3	38	318 <sup>o</sup> 5	-6 <sup>o</sup> 9	-36 <sup>o</sup> 8
9 <sup>h</sup> 543	G	0	23	0	12	318 <sup>o</sup> 8	-5 <sup>o</sup> 9	-19 <sup>o</sup> 4
10 <sup>h</sup> 426*	K	16	90	8	46	(319 <sup>o</sup> 6	-7 <sup>o</sup> 3	-7 <sup>o</sup> 0)
11 <sup>h</sup> 414	M	17	72	9	37	319 <sup>o</sup> 0	-6 <sup>o</sup> 5	+5 <sup>o</sup> 5
12 <sup>h</sup> 316	M	0	68	0	37	320 <sup>o</sup> 0	-6 <sup>o</sup> 0	+18 <sup>o</sup> 4
Means ...	...	...	...	3	27	319 <sup>o</sup> 21	-6 <sup>o</sup> 76	...
Group 6298.								
A few small spots in a sparse stream, which develops by November 12 into a large ring-shaped group, and later still into a large leader spot, $\alpha$ , followed by a distant train.								
Nov. 7 <sup>h</sup> 219	M	28	113	17	68	336 <sup>o</sup> 3	+7 <sup>o</sup> 9	-32 <sup>o</sup> 6
8 <sup>h</sup> 245	M	17	91	9	48	337 <sup>o</sup> 2	+9 <sup>o</sup> 1	-18 <sup>o</sup> 1
9 <sup>h</sup> 543	G	49	256	25	129	337 <sup>o</sup> 9	+9 <sup>o</sup> 8	-0 <sup>o</sup> 3
10 <sup>h</sup> 426*	K	31	192	16	100	(337 <sup>o</sup> 5	+10 <sup>o</sup> 5	+10 <sup>o</sup> 9)
11 <sup>h</sup> 414	M	67	367	37	202	336 <sup>o</sup> 5	+10 <sup>o</sup> 3	+23 <sup>o</sup> 0
12 <sup>h</sup> 316	M	101	654	63	404	337 <sup>o</sup> 2	+9 <sup>o</sup> 8	+35 <sup>o</sup> 6
13 <sup>h</sup> 532	G	49	511	41	426	338 <sup>o</sup> 4	+8 <sup>o</sup> 9	+52 <sup>o</sup> 8
14 <sup>h</sup> 142	K	65	286	65	288	337 <sup>o</sup> 9	+8 <sup>o</sup> 6	+60 <sup>o</sup> 3
15 <sup>h</sup> 172	K	34	148	61	288	339 <sup>o</sup> 3	+7 <sup>o</sup> 8	+75 <sup>o</sup> 3
Means ...	...	...	...	37	217	337 <sup>o</sup> 58	+9 <sup>o</sup> 19	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on November 1 and 10.

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Ar-a for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6299. Some very small spots.								
1907. a Nov. 9 <sup>h</sup> 54 <sup>m</sup> 10 <sup>h</sup> 42 <sup>m</sup> *	G K K	0 3	14 17	0 2	11 11	286 <sup>h</sup> 2 (286 <sup>h</sup> 1)	+13 <sup>h</sup> 4 +10 <sup>h</sup> 7	-52 <sup>h</sup> 0 -40 <sup>h</sup> 5
Means ...	...	...	...	1	11	286 <sup>h</sup> 15	+12 <sup>h</sup> 05	...
Group 6300. A magnificent group, composed of a very large composite spot, $\alpha$ , followed by an immense cluster, with its longer axis at right angles to the equator.								
Nov. 9 <sup>h</sup> 54 <sup>m</sup> 10 <sup>h</sup> 42 <sup>m</sup> * 11 <sup>h</sup> 414 12 <sup>h</sup> 316 13 <sup>h</sup> 532 14 <sup>h</sup> 142 15 <sup>h</sup> 172 16 <sup>h</sup> 124 17 <sup>h</sup> 147 18 <sup>h</sup> 324 19 <sup>h</sup> 239 20 <sup>h</sup> 331 21 <sup>h</sup> 240	G K M M G K K K K M M M M	39 199 311 344 394 521 519 465 436 348 252 159 56	462 1383 2092 2760 3329 3367 2984 2472 2230 1853 1521 991 315	77 217 241 221 213 270 266 244 252 243 231 238 137	880 1513 1644 1764 1799 1746 1523 1294 1288 1301 1383 1487 1139	262 <sup>h</sup> 9 (263 <sup>h</sup> 7 263 <sup>h</sup> 3 264 <sup>h</sup> 2 265 <sup>h</sup> 1 265 <sup>h</sup> 2 265 <sup>h</sup> 8 265 <sup>h</sup> 6 266 <sup>h</sup> 0 266 <sup>h</sup> 0 266 <sup>h</sup> 0 266 <sup>h</sup> 7 266 <sup>h</sup> 6 266 <sup>h</sup> 5	+12 <sup>h</sup> 3 +9 <sup>h</sup> 2 +11 <sup>h</sup> 5 +11 <sup>h</sup> 8 +12 <sup>h</sup> 1 +12 <sup>h</sup> 3 +12 <sup>h</sup> 1 +11 <sup>h</sup> 6 +11 <sup>h</sup> 4 +11 <sup>h</sup> 3 +11 <sup>h</sup> 0 +10 <sup>h</sup> 7 +10 <sup>h</sup> 9	-75 <sup>h</sup> 3 -62 <sup>h</sup> 9 -50 <sup>h</sup> 2 -37 <sup>h</sup> 4 -20 <sup>h</sup> 5 -12 <sup>h</sup> 4 +1 <sup>h</sup> 8 +14 <sup>h</sup> 2 +28 <sup>h</sup> 0 +43 <sup>h</sup> 6 +56 <sup>h</sup> 3 +70 <sup>h</sup> 6 +82 <sup>h</sup> 5
Means ...	...	...	...	219	1443	265 <sup>h</sup> 20	+11 <sup>h</sup> 40	...
Group 6301. Return of Group 6282. A regular spot, $\alpha$ , with two very small companions on November 18. The group lies $\delta$ Group 6300, with which it is finally involved.								
Nov. 9 <sup>h</sup> 54 <sup>m</sup> 10 <sup>h</sup> 42 <sup>m</sup> * 11 <sup>h</sup> 414 12 <sup>h</sup> 316 13 <sup>h</sup> 532 14 <sup>h</sup> 142 15 <sup>h</sup> 172 16 <sup>h</sup> 124 17 <sup>h</sup> 147 18 <sup>h</sup> 324 19 <sup>h</sup> 239 20 <sup>h</sup> 331	G K M M G K K K K M M M	12 14 20 24 26 30 36 22 28 18 15 0	54 80 105 149 225 180 180 124 123 128 52 22	34 19 18 17 15 16 18 11 15 11 12 0	158 108 93 104 127 95 90 63 67 81 40 24	257 <sup>h</sup> 8 (258 <sup>h</sup> 1 257 <sup>h</sup> 8 258 <sup>h</sup> 0 258 <sup>h</sup> 0 258 <sup>h</sup> 5 258 <sup>h</sup> 8 258 <sup>h</sup> 9 259 <sup>h</sup> 3 259 <sup>h</sup> 4 259 <sup>h</sup> 9 259 <sup>h</sup> 5	+7 <sup>h</sup> 2 +3 <sup>h</sup> 9 +6 <sup>h</sup> 9 +6 <sup>h</sup> 9 +7 <sup>h</sup> 4 +7 <sup>h</sup> 7 +7 <sup>h</sup> 5 +7 <sup>h</sup> 5 +7 <sup>h</sup> 3 +7 <sup>h</sup> 6 +7 <sup>h</sup> 4 +7 <sup>h</sup> 4	-80 <sup>h</sup> 4 -68 <sup>h</sup> 5 -55 <sup>h</sup> 7 -43 <sup>h</sup> 6 -27 <sup>h</sup> 6 -19 <sup>h</sup> 1 -5 <sup>h</sup> 2 +7 <sup>h</sup> 5 +21 <sup>h</sup> 3 +37 <sup>h</sup> 0 +49 <sup>h</sup> 5 +63 <sup>h</sup> 5
Means ...	...	...	...	16	88	258 <sup>h</sup> 67	+7 <sup>h</sup> 06	...
Group 6303. A regular spot, $\alpha$ , with occasionally one or two small companions.								
Nov. 10 <sup>h</sup> 42 <sup>m</sup> * 11 <sup>h</sup> 414 12 <sup>h</sup> 316	K M M	5 13 15	24 64 78	17 19 14	82 92 73	(244 <sup>h</sup> 5 243 <sup>h</sup> 5 243 <sup>h</sup> 7	+11 <sup>h</sup> 0 +13 <sup>h</sup> 3 +13 <sup>h</sup> 3	-82 <sup>h</sup> 1 -70 <sup>h</sup> 0 -57 <sup>h</sup> 9

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6303—continued.								
1907. a Nov. 13 <sup>h</sup> 532 14 <sup>h</sup> 142 15 <sup>h</sup> 172 16 <sup>h</sup> 124 17 <sup>h</sup> 147 18 <sup>h</sup> 324 19 <sup>h</sup> 239 20 <sup>h</sup> 331	G K K K K M M M	21 27 23 33 33 22 8 3	166 169 146 160 177 80 30 19	15 16 12 17 17 12 5 2	114 103 79 82 91 44 18 14	243 <sup>h</sup> 1 243 <sup>h</sup> 8 244 <sup>h</sup> 0 243 <sup>h</sup> 8 244 <sup>h</sup> 2 243 <sup>h</sup> 5 243 <sup>h</sup> 7 243 <sup>h</sup> 6	+13 <sup>h</sup> 7 +14 <sup>h</sup> 0 +14 <sup>h</sup> 0 +14 <sup>h</sup> 2 +13 <sup>h</sup> 7 +14 <sup>h</sup> 0 +14 <sup>h</sup> 2 +14 <sup>h</sup> 3	-42 <sup>h</sup> 5 -33 <sup>h</sup> 8 -20 <sup>h</sup> 0 -7 <sup>h</sup> 6 +6 <sup>h</sup> 2 +21 <sup>h</sup> 1 +33 <sup>h</sup> 3 +47 <sup>h</sup> 6
Means ...	...	...	...	13	72	243 <sup>h</sup> 76	+13 <sup>h</sup> 61	...
Group 6305. Return of Group 6283. Third apparition. A small spot, $\delta$ Group 6303.								
Nov. 11 <sup>h</sup> 414 12 <sup>h</sup> 316 13 <sup>h</sup> 532 14 <sup>h</sup> 142	M M G K	0 0 0 0	5 6 13 7	0 0 0 0	9 6 9 4	239 <sup>h</sup> 9 240 <sup>h</sup> 3 240 <sup>h</sup> 1 240 <sup>h</sup> 8	+8 <sup>h</sup> 4 +7 <sup>h</sup> 8 +8 <sup>h</sup> 7 +8 <sup>h</sup> 6	-73 <sup>h</sup> 6 -61 <sup>h</sup> 3 -45 <sup>h</sup> 5 -36 <sup>h</sup> 8
Means ...	...	...	...	0	7	240 <sup>h</sup> 28	+8 <sup>h</sup> 38	...
Group 6302. Some very small spots.								
Nov. 11 <sup>h</sup> 414	M	0	31	0	16	315 <sup>h</sup> 2	-10 <sup>h</sup> 4	+1 <sup>h</sup> 7
Means ...	...	...	...	0	16	315 <sup>h</sup> 2	-10 <sup>h</sup> 4	...
Group 6304. A few small spots in a short stream, $\delta$ Group 6296; a revival of Group 6295, after an interval of four days.								
Nov. 12 <sup>h</sup> 316	M	4	77	3	57	344 <sup>h</sup> 1	-18 <sup>h</sup> 4	+42 <sup>h</sup> 5
Means ...	...	...	...	3	57	344 <sup>h</sup> 1	-18 <sup>h</sup> 4	...
Group 6306. A ring-shaped group of spots, $\delta$ Group 6300. It speedily condenses into a large composite spot, $\alpha$ , with a number of close companions.								
Nov. 17 <sup>h</sup> 147 18 <sup>h</sup> 324 19 <sup>h</sup> 239 20 <sup>h</sup> 331 21 <sup>h</sup> 240 22 <sup>h</sup> 320	K M M M M M	56 100 92 98 48 8	193 376 683 466 322 55	29 59 64 94 74 35	101 223 484 454 497 243	255 <sup>h</sup> 3 254 <sup>h</sup> 2 255 <sup>h</sup> 2 255 <sup>h</sup> 0 255 <sup>h</sup> 3 253 <sup>h</sup> 6	+8 <sup>h</sup> 8 +9 <sup>h</sup> 3 +9 <sup>h</sup> 3 +9 <sup>h</sup> 1 +9 <sup>h</sup> 3 +8 <sup>h</sup> 8	+17 <sup>h</sup> 3 +31 <sup>h</sup> 8 +44 <sup>h</sup> 8 +59 <sup>h</sup> 0 +71 <sup>h</sup> 3 +83 <sup>h</sup> 8
Means ...	...	...	...	59	334	254 <sup>h</sup> 77	+9 <sup>h</sup> 10	...

\* The position-angles, and therefore the heliographic longitudes and latitudes, are only approximate on November 10.

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.	Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.						Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6307. Some small spots in a short stream. The group is not seen on November 22.									Group 6312. A few spots, mostly small, in a sparse irregular stream.								
1907. <sup>a</sup>									1907. <sup>a</sup>								
Nov. 17 <sup>147</sup>	K	26	109	13	57	230°5	+11°4	-7°5	Nov. 21 <sup>240</sup>	M	3	36	5	66	109°8	-5°3	-74°2
18 <sup>324</sup>	M	63	293	33	149	231°0	+11°3	+8°6	22 <sup>320</sup>	M	26	99	24	95	111°7	-5°0	-58°1
19 <sup>239</sup>	M	30	144	16	79	231°7	+11°6	+21°3	23 <sup>501</sup>	G	27	146	18	98	112°5	-4°4	-41°7
20 <sup>331</sup>	M	12	48	7	30	230°9	+11°9	+34°9	24 <sup>503</sup>	G	29	150	16	84	113°8	-4°4	-27°2
21 <sup>240</sup>	M	4	44	3	33	230°7	+12°3	+46°7	25 <sup>135</sup>	K	31	114	16	60	114°6	-3°8	-18°1
22 <sup>320</sup>	M	0	0	0	0	...	...	...	26 <sup>208</sup>	K	15	75	8	38	113°7	-3°6	-4°8
23 <sup>501</sup>	G	0	26	0	67	233°3	+12°6	+79°1	27 <sup>239</sup>	M	0	50	0	25	114°5	-3°6	+9°6
28 <sup>464</sup>	G	0	0	0	0	...	...	...	28 <sup>464</sup>	G	0	33	0	19	115°6	-3°8	+26°8
Means	...	...	...	10	59	231°35	+11°85	...	Means	...	...	...	11	61	113°28	-4°24	...
Group 6308. A number of small unstable spots in a very irregular stream.									Group 6313. A few small spots.								
Nov. 19 <sup>239</sup>	M	15	68	8	35	199°2	-10°2	-11°2	Nov. 21 <sup>240</sup>	M	5	54	5	54	124°4	-5°1	-59°6
20 <sup>331</sup>	M	49	196	25	101	200°1	-10°6	+4°1	22 <sup>320</sup>	M	4	48	3	36	122°7	-6°5	-47°1
21 <sup>240</sup>	M	55	251	29	134	201°4	-9°7	+17°4	23 <sup>501</sup>	G	4	34	3	20	123°3	-5°7	-30°9
22 <sup>320</sup>	M	62	318	38	194	202°8	-8°9	+33°0	24 <sup>503</sup>	G	0	18	0	9	122°8	-6°6	-18°2
23 <sup>501</sup>	G	26	133	21	109	205°9	-8°9	+51°7	Means	...	...	...	3	30	123°30	-5°98	...
24 <sup>503</sup>	G	10	80	12	100	206°6	-8°7	+65°6	Group 6310. One or two small unstable spots. The group is not seen on November 25-27 or November 29.								
25 <sup>135</sup>	K	11	87	20	151	205°7	-9°9	+73°0	Nov. 22 <sup>320</sup>	M	20	59	14	41	127°1	-4°8	-42°7
Means	...	...	...	22	118	203°10	-9°56	...	23 <sup>501</sup>	G	0	19	0	11	128°8	-3°7	-25°4
Group 6309. A few small spots. Revived as Group 6314 after two days.									24 <sup>503</sup>	G	0	8	0	4	129°9	-3°0	-11°1
Nov. 20 <sup>331</sup>	M	9	61	5	38	160°9	+8°4	-35°1	25 <sup>135</sup>	K	0	0	0	0	...	...	...
21 <sup>240</sup>	M	0	20	0	11	161°4	+8°9	-22°6	26 <sup>208</sup>	K	0	0	0	0	...	...	...
Means	...	...	...	3	25	161°15	+8°65	...	27 <sup>239</sup>	M	0	0	0	0	...	...	...
Group 6311. Return of Group 6292. A cluster of small spots. The group is not seen on November 24, but a fresh outburst occurs on the succeeding day.									28 <sup>464</sup>	G	0	4	0	3	132°0	-2°3	+43°2
Nov. 21 <sup>240</sup>	M	5	16	9	28	112°3	-20°0	-71°7	29 <sup>375</sup>	M	0	0	0	0	...	...	...
22 <sup>320</sup>	M	11	48	11	47	113°2	-19°8	-56°6	30 <sup>341</sup>	M	0	9	0	14	135°4	-1°2	+71°3
23 <sup>501</sup>	G	4	28	3	20	113°3	-19°5	-40°9	Dec. 1 <sup>156</sup>	K	0	23	0	74	134°4	-1°4	+81°1
24 <sup>503</sup>	G	0	0	0	0	...	...	...	Means	...	...	...	1	15	131°27	-2°73	...
25 <sup>135</sup>	K	6	52	4	30	110°7	-20°5	-22°0	Group 6314. A small spot, $\alpha$ , with one or two small companions. Revival after two days of Group 6309.								
26 <sup>208</sup>	K	0	27	0	15	109°9	-21°5	-8°6	Nov. 24 <sup>503</sup>	G	9	32	5	18	168°0	+8°6	+27°0
Means	...	...	...	5	23	111°88	-20°26	...	25 <sup>135</sup>	K	7	34	4	21	167°9	+8°6	+35°2
									26 <sup>208</sup>	K	0	8	0	6	168°4	+10°5	+49°9
									Means	...	...	...	3	15	168°10	+9°23	...



AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—*continued.*

Date, Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6315. A few small unstable spots.								
1907. <sup>a</sup> Nov. 24 <sup>h</sup> 50 <sup>m</sup> 3	G	14	52	8	30	112°6'	+12°6'	-28°4'
25 <sup>h</sup> 13 <sup>m</sup> 5	K	48	135	26	75	113°2'	+13°2'	-19°5'
26 <sup>h</sup> 20 <sup>m</sup> 8	K	31	114	16	58	114°4'	+12°8'	-4°1'
27 <sup>h</sup> 23 <sup>m</sup> 9	M	8	28	4	14	116°8'	+12°0'	+11°9'
28 <sup>h</sup> 46 <sup>m</sup> 4	G	0	13	0	7	113°9'	+13°7'	+25°1'
Means	...	...	...	11	37	114°18'	+12°86'	...
Group 6316. Return of Group 6296. A large regular spot, <i>a</i> , followed by a short train which gradually disappears.								
Nov. 30 <sup>h</sup> 34 <sup>m</sup> 1	M	14	59	45	194	343°3'	-13°0'	-80°8'
Dec. 1 <sup>h</sup> 15 <sup>m</sup> 6	K	32	274	56	557	338°0'	-13°2'	-75°3'
2 <sup>h</sup> 47 <sup>m</sup> 6	G	46	344	41	309	340°9'	-12°9'	-55°0'
3 <sup>h</sup> 23 <sup>m</sup> 8	M	62	449	46	330	340°7'	-13°7'	-45°2'
4 <sup>h</sup> 14 <sup>m</sup> 9	K	93	442	57	272	341°1'	-12°5'	-32°8'
5 <sup>h</sup> 51 <sup>m</sup> 4	G	78	428	41	227	341°4'	-13°0'	-14°5'
6 <sup>h</sup> 47 <sup>m</sup> 9	G	48	421	25	216	341°3'	-12°9'	-1°9'
7 <sup>h</sup> 45 <sup>m</sup> 3	G	47	380	24	198	341°1'	-13°4'	+10°8'
8 <sup>h</sup> 50 <sup>m</sup> 8	G	24	233	14	132	341°5'	-13°7'	+25°1'
9 <sup>h</sup> 52 <sup>m</sup> 6	G	27	209	18	138	341°2'	-13°6'	+38°2'
10 <sup>h</sup> 51 <sup>m</sup> 7	G	16	167	13	139	341°6'	-13°9'	+51°6'
11 <sup>h</sup> 54 <sup>m</sup> 0	G	7	89	8	105	340°8'	-14°0'	+64°3'
12 <sup>h</sup> 24 <sup>m</sup> 0	M	9	52	16	95	341°4'	-13°1'	+74°1'
Means	...	...	...	31	224	341°10'	-13°30'	...
Group 6317. A small regular spot, <i>a</i> , sometimes with a very small companion.								
Dec. 5 <sup>h</sup> 51 <sup>m</sup> 4	G	3	30	2	18	323°5'	-7°8'	-32°4'
6 <sup>h</sup> 47 <sup>m</sup> 9	G	6	30	3	15	324°6'	-6°5'	-18°6'
7 <sup>h</sup> 45 <sup>m</sup> 3	G	1	10	1	5	326°0'	-6°3'	-4°3'
8 <sup>h</sup> 50 <sup>m</sup> 8	G	0	5	0	2	327°0'	-6°4'	+10°6'
Means	...	...	...	2	10	325°28'	-6°75'	...
Group 6318. With Group 6319 the return of Group 6300. A large regular spot, <i>a</i> , with occasionally a very small companion.								
Dec. 5 <sup>h</sup> 51 <sup>m</sup> 4	G	10	78	26	200	277°2'	+12°6'	-78°7'
6 <sup>h</sup> 47 <sup>m</sup> 9	G	14	120	18	154	276°5'	+12°6'	-66°7'
7 <sup>h</sup> 45 <sup>m</sup> 3	G	18	166	16	144	276°7'	+12°8'	-53°6'
8 <sup>h</sup> 50 <sup>m</sup> 8	G	39	294	26	195	277°1'	+12°7'	-39°3'
9 <sup>h</sup> 52 <sup>m</sup> 6	G	48	301	27	172	277°2'	+12°5'	-25°8'
10 <sup>h</sup> 51 <sup>m</sup> 7	G	56	305	29	161	277°6'	+12°5'	-12°4'
11 <sup>h</sup> 54 <sup>m</sup> 0	G	48	284	25	146	277°4'	+12°4'	+0°9'
Group 6318—continued.								
1907. <sup>a</sup> Dec. 12 <sup>h</sup> 24 <sup>m</sup> 0	M	41	311	22	163	277°5'	+13°5'	+10°2'
13 <sup>h</sup> 49 <sup>m</sup> 8	G	54	289	31	167	277°3'	+12°7'	+26°6'
14 <sup>h</sup> 18 <sup>m</sup> 2	K	42	222	26	140	277°3'	+12°6'	+35°6'
15 <sup>h</sup> 18 <sup>m</sup> 3	K	40	187	31	145	277°0'	+12°7'	+48°5'
16 <sup>h</sup> 50 <sup>m</sup> 2	G	20	104	26	134	277°4'	+12°8'	+66°3'
17 <sup>h</sup> 20 <sup>m</sup> 4	K	13	67	25	132	276°6'	+12°7'	+74°7'
Means	...	...	...	25	158	277°14'	+12°70'	...
Group 6317*. A very small spot, <i>s</i> , Group 6317.								
Dec. 6 <sup>h</sup> 47 <sup>m</sup> 9	G	0	14	0	8	323°5'	-17°5'	-19°7'
Means	...	...	...	0	8	323°5'	-17°5'	...
Group 6319. With Group 6318 the return of Group 6300. A fine triangular group closely following Group 6318. Two very large composite spots, <i>a</i> and <i>b</i> , of which <i>a</i> is due south of <i>b</i> form the base of the triangle. The apex leads the group.								
Dec. 6 <sup>h</sup> 47 <sup>m</sup> 9	G	26	252	67	642	264°6'	+9°7'	-78°6'
7 <sup>h</sup> 45 <sup>m</sup> 3	G	44	455	54	555	264°8'	+9°4'	-65°5'
8 <sup>h</sup> 50 <sup>m</sup> 8	G	67	683	55	554	264°9'	+9°4'	-51°5'
9 <sup>h</sup> 52 <sup>m</sup> 6	G	118	1020	76	661	265°0'	+9°4'	-38°0'
10 <sup>h</sup> 51 <sup>m</sup> 7	G	161	1321	90	743	265°1'	+9°8'	-24°9'
11 <sup>h</sup> 54 <sup>m</sup> 0	G	216	1848	111	957	265°3'	+9°4'	-11°2'
12 <sup>h</sup> 24 <sup>m</sup> 0	M	278	1970	142	1010	265°6'	+10°4'	-1°7'
13 <sup>h</sup> 49 <sup>m</sup> 8	G	220	1886	116	994	265°4'	+9°5'	+14°7'
14 <sup>h</sup> 18 <sup>m</sup> 2	K	332	1784	186	999	265°8'	+9°6'	+24°1'
15 <sup>h</sup> 18 <sup>m</sup> 3	K	246	1530	160	988	266°3'	+9°7'	+37°8'
16 <sup>h</sup> 50 <sup>m</sup> 2	G	82	720	73	641	265°9'	+9°1'	+54°8'
17 <sup>h</sup> 20 <sup>m</sup> 4	K	77	533	86	606	265°2'	+9°1'	+63°3'
18 <sup>h</sup> 23 <sup>m</sup> 8	M	26	308	59	739	265°7'	+10°3'	+77°5'
Means	...	...	...	98	776	265°35'	+9°60'	...
Group 6320. A few small spots in a sparse stream, <i>sf</i> Group 6316, and <i>s</i> Group 6317, and making up with them both a sparse irregular procession.								
Dec. 7 <sup>h</sup> 45 <sup>m</sup> 3	G	3	43	2	23	328°4'	-18°3'	-1°9'
8 <sup>h</sup> 50 <sup>m</sup> 8	G	5	56	2	30	329°0'	-17°8'	+12°6'
9 <sup>h</sup> 52 <sup>m</sup> 6	G	31	213	18	125	328°0'	-18°5'	+25°0'
10 <sup>h</sup> 51 <sup>m</sup> 7	G	25	238	17	162	328°4'	-18°8'	+38°4'
11 <sup>h</sup> 54 <sup>m</sup> 0	G	7	82	5	70	328°2'	-18°8'	+51°7'
12 <sup>h</sup> 24 <sup>m</sup> 0	M	0	41	0	48	330°3'	-17°3'	+63°0'
Means	...	...	...	7	76	328°72'	-18°25'	...

## AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—continued.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbr.	Whole Spot.	Umbr.	Whole Spot.			
Group 6321.								
Return of Groups 6301 and 6306. Third apparition. A number of unstable spots in an irregular stream, <i>f</i> Groups 6318 and 6319, and making up with them a very fine procession.								
1907. <sup>a</sup> Dec. 8 <sup>h</sup> 50 <sup>m</sup> 8	G	0	31	0	35	253°1'	+ 6°7'	- 63°3'
9 <sup>h</sup> 52 <sup>m</sup> 6	G	20	154	15	122	253°1'	+ 6°9'	- 49°9'
10 <sup>h</sup> 51 <sup>m</sup> 7	G	24	275	16	178	251°9'	+ 7°5'	- 38°1'
11 <sup>h</sup> 54 <sup>m</sup> 0	G	27	362	15	203	251°2'	+ 7°6'	- 25°3'
12 <sup>h</sup> 24 <sup>m</sup> 0	M	75	559	39	294	251°2'	+ 8°3'	- 16°1'
13 <sup>h</sup> 49 <sup>m</sup> 8	G	16	118	8	60	252°0'	+ 8°0'	+ 1°3'
14 <sup>h</sup> 18 <sup>m</sup> 2	K	36	209	19	109	253°4'	+ 8°3'	+ 11°7'
15 <sup>h</sup> 18 <sup>m</sup> 3	K	20	59	12	33	255°8'	+ 8°8'	+ 27°3'
16 <sup>h</sup> 50 <sup>m</sup> 2	G	6	27	4	20	256°2'	+ 8°6'	+ 45°1'
17 <sup>h</sup> 20 <sup>m</sup> 4	K	1	17	1	14	254°8'	+ 8°6'	+ 52°9'
Means ...	...	...	...	13	107	253°27'	+ 7°93'	...
Group 6322.								
A few small unstable spots in a sparse stream.								
Dec. 9 <sup>h</sup> 52 <sup>m</sup> 6	G	0	19	0	10	285°6'	- 8°6'	- 17°4'
10 <sup>h</sup> 51 <sup>m</sup> 7	G	3	43	2	22	286°5'	- 9°0'	- 3°5'
11 <sup>h</sup> 54 <sup>m</sup> 0	G	23	125	12	64	286°5'	- 9°1'	+ 10°0'
12 <sup>h</sup> 24 <sup>m</sup> 0	M	20	143	11	77	288°3'	- 8°5'	+ 21°0'
13 <sup>h</sup> 49 <sup>m</sup> 8	G	7	75	4	48	289°2'	- 8°6'	+ 38°5'
14 <sup>h</sup> 18 <sup>m</sup> 2	K	11	52	8	40	289°9'	- 8°5'	+ 48°2'
15 <sup>h</sup> 18 <sup>m</sup> 3	K	6	37	6	41	291°3'	- 8°0'	+ 62°8'
16 <sup>h</sup> 50 <sup>m</sup> 2	G	0	56	0	152	290°6'	- 8°0'	+ 79°5'
Means ...	...	...	...	5	57	288°49'	- 8°54'	...
Group 6318*.								
A very small spot, <i>np</i> Group 6318.								
Dec. 10 <sup>h</sup> 51 <sup>m</sup> 7	G	0	10	0	5	287°2'	+ 19°1'	- 2°8'
Means ...	...	...	...	0	5	287°2'	+ 19°1'	...
Group 6319*.								
A small spot, <i>n</i> Group 6319, not seen on December 12.								
Dec. 11 <sup>h</sup> 54 <sup>m</sup> 0	G	0	9	0	5	266°4'	+ 15°0'	- 10°1'
12 <sup>h</sup> 24 <sup>m</sup> 0	M	0	0	0	0	...	...	...
13 <sup>h</sup> 49 <sup>m</sup> 8	G	0	14	0	7	268°0'	+ 14°7'	+ 17°3'
14 <sup>h</sup> 18 <sup>m</sup> 2	K	0	13	0	7	267°2'	+ 14°6'	+ 25°5'
Means ...	...	...	...	0	5	267°20'	+ 14°77'	...
Group 6323.								
A few small spots in a short stream on December 14. The group develops rapidly on the succeeding days, and becomes a fine stream, of which the first and last <i>a</i> and <i>b</i> , two very large composite spots, are by far the most conspicuous members, <i>a</i> has passed out of sight at the west limb by December 22.								
1907. <sup>a</sup> Dec. 14 <sup>h</sup> 18 <sup>m</sup> 2	K	39	101	22	58	215°8'	- 15°2'	- 25°9'
15 <sup>h</sup> 18 <sup>m</sup> 3	K	84	561	44	296	216°5'	- 15°2'	- 12°0'
16 <sup>h</sup> 50 <sup>m</sup> 2	G	202	1328	105	693	216°6'	- 15°8'	+ 5°5'
17 <sup>h</sup> 20 <sup>m</sup> 4	K	304	1597	162	852	216°6'	- 15°6'	+ 14°7'
18 <sup>h</sup> 23 <sup>m</sup> 8	M	263	1515	157	903	217°3'	- 15°4'	+ 29°1'
19 <sup>h</sup> 21 <sup>m</sup> 0	K	266	1259	184	872	217°2'	- 15°6'	+ 41°8'
20 <sup>h</sup> 25 <sup>m</sup> 5	K	162	992	150	921	218°2'	- 15°7'	+ 56°5'
21 <sup>h</sup> 44 <sup>m</sup> 5	G	32	354	52	549	216°9'	- 15°5'	+ 70°9'
22 <sup>h</sup> 53 <sup>m</sup> 1	G	0	59	0	172	212°1'	- 15°3'	+ 80°4'
Means ...	...	...	...	97	591	216°36'	- 15°48'	...
Group 6324.								
A very large regular spot, <i>a</i> , followed by a short train.								
Dec. 15 <sup>h</sup> 18 <sup>m</sup> 3	K	9	54	54	331	143°1'	- 4°4'	- 85°4'
16 <sup>h</sup> 50 <sup>m</sup> 2	G	43	370	58	494	143°0'	- 5°0'	- 68°1'
17 <sup>h</sup> 20 <sup>m</sup> 4	K	93	564	89	547	143°1'	- 4°6'	- 58°8'
18 <sup>h</sup> 23 <sup>m</sup> 8	M	116	760	82	545	142°9'	- 5°5'	- 45°3'
19 <sup>h</sup> 21 <sup>m</sup> 0	K	173	838	103	500	143°0'	- 5°1'	- 32°4'
20 <sup>h</sup> 25 <sup>m</sup> 5	K	207	1074	109	569	143°2'	- 5°0'	- 18°5'
21 <sup>h</sup> 44 <sup>m</sup> 5	G	166	1076	83	540	143°0'	- 5°1'	- 3°0'
22 <sup>h</sup> 53 <sup>m</sup> 1	G	159	950	81	485	143°4'	- 5°2'	+ 11°7'
23 <sup>h</sup> 13 <sup>m</sup> 8	K	177	1014	95	539	143°4'	- 5°2'	+ 19°7'
24 <sup>h</sup> 13 <sup>m</sup> 3	K	169	916	101	546	143°1'	- 5°3'	+ 32°5'
25 <sup>h</sup> 13 <sup>m</sup> 8	K	119	732	87	535	143°7'	- 5°4'	+ 46°4'
26 <sup>h</sup> 13 <sup>m</sup> 2	K	95	537	94	529	143°7'	- 4°8'	+ 59°5'
27 <sup>h</sup> 25 <sup>m</sup> 3	M	39	235	69	413	143°1'	- 4°3'	+ 73°6'
Means ...	...	...	...	85	506	143°21'	- 4°99'	...
Group 6321*.								
Some small spots far <i>n</i> of Group 6321.								
Dec. 16 <sup>h</sup> 50 <sup>m</sup> 2	G	0	18	0	14	255°1'	+ 25°8'	+ 44°0'
Means ...	...	...	...	0	14	255°1'	+ 25°8'	...
Group 6325.								
Some small spots in a short stream.								
Dec. 18 <sup>h</sup> 23 <sup>m</sup> 8	M	0	34	0	18	181°1'	- 18°1'	- 7°1'
19 <sup>h</sup> 21 <sup>m</sup> 0	K	12	53	6	28	182°2'	- 17°9'	+ 6°8'
20 <sup>h</sup> 25 <sup>m</sup> 5	K	24	159	13	89	183°7'	- 18°6'	+ 22°0'
21 <sup>h</sup> 44 <sup>m</sup> 5	G	6	20	4	14	185°7'	- 18°1'	+ 39°7'
22 <sup>h</sup> 53 <sup>m</sup> 1	G	0	14	0	12	185°7'	- 18°8'	+ 54°0'
Means ...	...	...	...	5	32	183°68'	- 18°30'	...

## AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS DEDUCED FROM PHOTOGRAPHS

AREAS AND HELIOGRAPHIC POSITIONS OF GROUPS OF SUN SPOTS—*continued.*

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longitude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6326. Some small unstable spots.								
1907. <sub>a</sub>								
Dec. 20 <sup>255</sup>	K	0	47	0	55	97°0	- 7°5	-64°7
21 <sup>445</sup>	G	1	26	1	20	97°9	- 7°1	-48°1
22 <sup>531</sup>	G	0	50	0	29	100°8	- 7°1	-30°9
23 <sup>138</sup>	K	0	28	0	15	101°6	- 6°6	-22°1
24 <sup>133</sup>	K	6	39	3	20	101°9	- 6°9	- 8°7
25 <sup>138</sup>	K	2	26	1	13	100°5	- 7°8	+ 3°2
26 <sup>132</sup>	K	8	68	4	36	102°6	- 7°7	+18°4
27 <sup>253</sup>	M	0	5	0	3	100°9	- 6°3	+31°4
28 <sup>139</sup>	K	4	19	2	13	101°5	- 8°0	+43°7
29 <sup>222</sup>	K	6	33	6	32	102°5	- 7°6	+58°9
30 <sup>373</sup>	M	0	12	0	25	104°9	- 8°0	+76°5
Means ...	...	...	...	2	24	101°10	- 7°33	...
Group 6324*. Some very small spots, <i>f</i> Group 6324.								
Dec. 21 <sup>445</sup>	G	0	10	0	6	122°6	- 3°0	-23°4
22 <sup>531</sup>	G	0	9	0	5	120°9	- 3°1	-10°8
Means ...	...	...	...	0	6	121°75	- 3°05	...
Group 6327. Two small spots, <i>a</i> and <i>b</i> . Only <i>b</i> remains on December 24.								
Dec. 22 <sup>531</sup>	G	0	37	0	24	97°5	-18°3	-34°2
23 <sup>138</sup>	K	0	30	0	18	96°9	-17°8	-26°8
24 <sup>133</sup>	K	0	24	0	13	95°4	-19°2	-15°2
Means ...	...	...	...	0	18	96°60	-18°43	...
Group 6328. A very small spot, forming <i>s</i> of Group 6324, and rapidly developing into a short stream. Only <i>a</i> and <i>b</i> , the first and last spots, remain on December 24, and only <i>a</i> on December 26.								
Dec. 22 <sup>531</sup>	G	0	9	0	5	145°0	-19°8	+13°3
23 <sup>138</sup>	K	29	161	16	89	143°8	-19°8	+20°1
24 <sup>133</sup>	K	33	134	21	85	145°1	-19°8	+34°5
25 <sup>138</sup>	K	8	45	7	36	146°4	-19°5	+49°1
26 <sup>132</sup>	K	8	19	9	22	148°8	-18°4	+64°6
27 <sup>253</sup>	M	0	4	0	9	147°7	-17°2	+78°2
Means ...	...	...	...	9	41	146°13	-19°08	...
Group 6329. A large regular spot, <i>a</i> .								
1907. <sub>a</sub>								
Dec. 25 <sup>138</sup>	K	0	30	0	219	12°0	+20°9	-85°3
26 <sup>132</sup>	K	25	79	39	125	14°9	+20°3	-69°3
27 <sup>253</sup>	M	22	85	20	80	14°7	+18°6	-54°8
28 <sup>139</sup>	K	24	116	18	86	15°1	+20°2	-42°7
29 <sup>222</sup>	K	12	113	7	70	14°3	+19°2	-29°3
30 <sup>373</sup>	M	18	102	10	57	14°4	+19°5	-14°0
31 <sup>355</sup>	M	22	78	12	42	14°4	+19°2	-1°0
1908.								
Jan. 1 <sup>139</sup>	K	11	39	6	21	14°8	+18°7	+ 9°7
Means ...	...	...	...	14	88	14°33	+19°58	...
Group 6324†. Some very small spots, <i>f</i> Group 6324. A revival of Group 6324*.								
Dec. 26 <sup>132</sup>	K	7	35	5	25	128°5	- 4°1	+44°3
27 <sup>253</sup>	M	0	8	0	8	131°4	- 4°2	+61°9
Means ...	...	...	...	3	17	129°95	- 4°15	...
Group 6330. Some small spots, <i>f</i> Group 6326.								
Dec. 26 <sup>132</sup>	K	0	23	0	12	96°7	- 7°7	+12°5
27 <sup>253</sup>	M	0	25	0	15	96°9	- 8°2	+27°4
Means ...	...	...	...	0	14	96°80	- 7°95	...
Group 6331 A small spot, <i>a</i> , usually with some small companions.								
Dec. 27 <sup>253</sup>	M	0	4	0	4	12°8	+ 6°5	-56°7
28 <sup>139</sup>	K	0	8	0	6	12°5	+ 9°2	-45°3
29 <sup>222</sup>	K	2	32	1	19	12°5	+ 8°7	-31°1
30 <sup>373</sup>	M	9	68	5	36	11°4	+ 9°5	-17°0
31 <sup>355</sup>	M	6	28	3	15	11°9	+ 9°1	- 3°5
1908.								
Jan. 1 <sup>139</sup>	K	0	24	0	12	12°3	+ 9°0	+ 7°2
Means ...	...	...	...	2	15	12°23	+ 8°67	...

AREAS and HELIOGRAPHIC POSITIONS of GROUPS of SUN SPOTS—*continued*.

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6331*. A very small spot, <i>n</i> f Group 6331.								
1907. <sup>a</sup> Dec. 28.139	K	0	4	0	4	4.7	+20.4	-53.1
Means ...	...	...	...	0	4	4.7	+20.4	...
Group 6332. Small spots, <i>p</i> Group 6331.								
Dec. 30.373	M	4	37	2	19	15.0	+ 8.8	-13.4
Means ...	...	...	...	2	19	15.0	+ 8.8	...
Group 6333. A number of spots, mostly small, in an irregular and very changeful stream.								
1907. Dec. 30.373	M	8	49	38	235	304.0	- 6.6	-84.4
31.355	M	16	200	27	357	301.4	- 6.6	-74.0
1908. Jan. 1.139	K	33	232	36	247	303.1	- 6.2	-62.0
2.436	G	30	348	21	250	302.4	- 6.4	-45.7
3.473	G	28	301	17	181	302.0	- 6.7	-32.7
4.472	G	30	406	15	216	301.9	- 6.8	-19.3
5.253	K	82	529	42	270	301.7	- 7.0	- 9.3
6.142	D	6	231	3	116	301.5	- 7.7	+ 2.3
7.172	K	8	68	4	37	303.2	- 7.1	+17.5
8.131	K	0	60	0	36	301.7	- 8.2	+28.6
Means ...	...	...	...	20	195	302.29	- 6.93	...

Date. Greenwich Civil Time.	Where taken.	Projected Area of		Area for Group.		Mean Longi- tude of Group.	Mean Latitude of Group.	Longi- tude from Central Meridian.
		Umbra.	Whole Spot.	Umbra.	Whole Spot.			
Group 6334. Some very small spots.								
1907. <sup>a</sup> Dec. 31.355	M	5	20	3	14	56.7	- 7.7	+41.3
1908. Jan. 1.139	K	0	9	0	7	56.0	- 7.7	+50.9
Means ...	...	...	...	2	11	56.35	- 7.70	...
Group 6329*. A small spot, <i>f</i> Group 6329.								
1907. Dec. 31.355	M	0	19	0	10	3.7	+22.0	-11.7
1908. Jan. 1.139	K	5	61	3	33	4.1	+21.2	- 1.0
Means ...	...	...	...	2	22	3.90	+21.60	...
Group 6331†. A very small spot, <i>f</i> Group 6331.								
1907. Dec. 31.355	M	3	9	2	5	356.1	+10.3	-19.3
1908. Jan. 1.139	K	2	7	1	4	358.2	+10.0	- 6.9
Means ...	...	...	...	2	5	357.15	+10.15	...

ROYAL OBSERVATORY, GREENWICH.

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CATALOGUE

OF

RECURRENT GROUPS OF SUN SPOTS

COMPILED FROM THE

LEDGERS OF GROUPS OF SUN SPOTS

FOR THE YEAR

1907.

CATALOGUE of RECURRENT GROUPS of SUN SPOTS, COMPILED from the LEDGERS of AREAS and POSITIONS of GROUPS of SUN SPOTS deduced from the MEASUREMENT of the SOLAR PHOTOGRAPHS at the ROYAL OBSERVATORY, GREENWICH, for the YEAR 1907.

NOTE.—Groups of Sun Spots observed uninterruptedly in two or more consecutive Rotations of the Sun, are classified as "Recurrent." Cases where the continuity of the group is doubtful are enclosed in brackets.

The reference Numbers in the following Table are in continuation of those given in the "Catalogue of Recurrent Groups of Sun Spots for the Years 1874 to 1906," published as an Appendix to the *Greenwich Observations*, 1907.

The numeration of the Spot Groups is the same as in the two preceding Sections.

The numeration of the Rotations is the same as in the following Section.

The Columns "Longitude from Central Meridian" give, for the date on which each group was first seen and last seen, respectively, its heliographic longitude from the meridian passing through the centre of the Sun's disc at the moment of observation; longitude west of the centre being reckoned as positive.

The Mean Areas for Umbra and for Whole Spot are corrected for the effect of foreshortening and are expressed in millionths of the Sun's visible hemisphere.

Reference Number.	No. of Group.	Rotation.	First Seen.		Last Seen.		No. of Days Photographed.	Mean Area for		Mean Longitude of Group.	Mean Latitude of Group.	REMARKS.
			Date.	Longitude from Central Meridian.	Date.	Longitude from Central Meridian.		Um-bra.	Whole Spot.			
623	6019	711	1906. Nov. 22	+ 7.6	1906. Nov. 27	+76.1	6	6	61	315.50	+14.32	A stream of small spots.
	6045	712	Dec. 12	-78.1	Dec. 25	+86.8	14	20	153	322.62	+13.84	A regular spot, with occasional companions.
	6074	713	1907. Jan. 8	-78.9	1907. Jan. 14	- 3.3	7	8	44	328.17	+14.60	A small regular spot.
	(624*) 6035	711	1906. Dec. 8	+39.5	1906. Dec. 11	+79.7	4	3	40	138.40	+13.53	An irregular cluster of small spots, not seen on Dec. 9.
	6056	712	Dec. 27	-59.4	1907. Jan. 1	- 1.0	5	1	13	145.98	+13.36	A short irregular stream of very small spots, not seen on Dec. 31. Note.—6035 and 6056 are both intermittent, not being seen on Dec. 9 and 31.
625	6044	711	1906. Dec. 11	+ 2.5	1906. Dec. 16	+73.4	6	3	27	63.32	+10.17	A straggling group of unstable spots.
	6066	712	1907. Jan. 1	-80.7	1907. Jan. 10	+40.7	10	12	81	62.15	+ 8.84	A regular spot, breaking up to form an irregular stream.
626	6046	712	1906. Dec. 12	-77.5	1906. Dec. 25	+84.0	14	138	848	321.46	-16.02	A very large composite spot, with variable train.
	6076	713	1907. Jan. 8	-86.4	1907. Jan. 20	+73.1	13	66	553	322.92	-13.87	A fine irregular cluster, at first confused with 6075.
	(6105	714	Feb. 5	-74.2	Feb. 10	- 6.5	6	13	75	327.02	-17.27	A number of small unstable spots.
	(6106	714	Feb. 5	-74.7	Feb. 7	-44.0	3	1	20	327.17	-12.83	A few small spots. Note.—6046 returns as three or perhaps four groups—6075, 6076, 6077 and 6081; 6075 returns as 6103 and again as 6136, and 6076 returns as two groups, 6105 and 6106; 6081 returns as 6108 and again as 6140 and as 6161. The whole region of the sun in which 6046 lies is in a state of great and unstable activity, and the connection between the particular groups in the succeeding rotations is not easy to establish definitely.
	627	6053	712	1906. Dec. 21	(-59.4)	1906. Dec. 31	+75.6	11	58	371	226.83	+17.85
(6113	6087	713	1907. Jan. 16	-72.0	1907. Jan. 27	+71.3	12	11	56	230.98	+20.25	A regular spot.
	714	Feb. 13	-76.1	Feb. 23	+58.7	11	34	208	220.65	+14.43	A composite spot with short train. 6113 is probably a revival of [part of 6087.	
	628	6059	712	1906. Dec. 29	-77.8	1907. Jan. 9	+72.8	12	119	787	106.84	+ 7.33
629	6098	713	1907. Jan. 25	-74.3	1907. Feb. 5	+70.6	12	33	185	113.13	+ 7.93	A large regular spot, with occasional very small companions.
	6067	712	Jan. 2	+28.0	Jan. 6	+81.0	5	50	414	155.24	+ 6.70	Two small clusters becoming an irregular stream.
	(6093	713	Jan. 21	-77.6	Feb. 2	+73.3	13	16	99	157.69	+ 8.78	A large double spot which breaks up.
	(6096	713	Jan. 22	-58.2	Jan. 31	+58.9	10	0	7	166.09	+ 8.64	Small unstable spots, not seen on Jan. 28-30. Note.—6067 seems to give rise to both 6093 and 6096. 6096 is intermittent, not being seen on Jan. 28-30.

Catalogue of Recurrent Groups of Sun Spots—*continued.*

Reference Number.	No. of Group.	Rotation.	First Seen.		Last Seen.		No. of Days Photographed.	Mean Area for		Mean Longitude of Group.	Mean Latitude of Group.	REMARKS.
			Date.	Longitude from Central Meridian.	Date.	Longitude from Central Meridian.		Um-bra.	Whole Spot.			
630	6072	712	1907. Jan. 4	+36°0	1907. Jan. 6	+62°2	3	3	37	135°73	+9°93	A short stream of unstable spots.
	6097	713	Jan. 24	-61°9	Jan. 28	-8°6	5	2	9	138°58	+10°13	A small spot, not seen on Jan. 27. <i>Note.</i> —6097 is intermittent, not being seen on Jan. 27.
631	6075	713	Jan. 8	-82°3	Jan. 19	+67°1	12	14	71	329°38	-13°23	A regular spot, with very small companions.
	6103	714	Feb. 4	-81°1	Feb. 16	+86°2	13	96	650	336°68	-13°41	A large composite spot, with unstable train.
	6136	715	Mar. 3	-80°2	Mar. 15	+77°2	13	50	321	338°82	-13°72	A large regular spot, with train undergoing change. <i>Note.</i> —See remarks on series 626.
632	6081	713	Jan. 11	-56°0	Jan. 21	+82°2	11	30	183	313°65	-16°19	A few small spots increasing to unstable stream.
	6108	714	Feb. 6	-80°5	Feb. 19	+81°6	14	244	1619	305°77	-16°62	A magnificent stream of large spots which undergo change.
	6140	715	Mar. 5	-76°8	Mar. 17	+77°6	13	94	572	309°45	-16°64	A very fine composite spot, with small attendants.
	6161	716	Apr. 2	-73°4	Apr. 13	+67°2	12	11	77	303°48	-17°66	A regular spot. <i>Note.</i> —See remarks on series 626.
633	6088	713	Jan. 16	-76°2	Jan. 27	+75°3	12	33	194	230°99	-15°68	A few small spots developing into a straight stream.
	6112	714	Feb. 11	-81°8	Feb. 15	-35°8	5	8	74	233°96	-17°64	A regular spot.
634	(6061	712	1906. Dec. 31	+23°1	Jan. 3	+64°9	4	7	40	175°53	+8°50	A short stream of unstable spots.
	6090	713	1907. Jan. 20	-78°1	Feb. 1	+81°4	13	27	154	174°14	+4°76	A large regular spot, with occasional very small companions.
	6115	714	Feb. 16	-76°1	Feb. 22	-1°6	7	8	40	176°51	+5°74	A regular spot. <i>Note.</i> —6090 is probably a revival of 6061 which has therefore not been counted in the series.
635	6091	713	Jan. 21	+76°1	Jan. 21	+76°1	1	0	10	311°30	-3°30	A small spot seen only near the W. limb.
	6107	714	Feb. 5	-81°2	Feb. 17	+80°2	13	30	166	321°90	-4°12	A large regular spot, with occasional small companions.
	6139*	715	Mar. 5	-64°4	Mar. 5	-64°4	1	0	14	324°00	-5°90	A small spot. <i>Note.</i> —6139* is possibly only a revival of 6107.
636	6099	713	Jan. 28	-69°4	Feb. 7	+70°2	11	127	818	81°60	+21°57	A very large spot, with a considerable train.
	6123	714	Feb. 24	-73°4	Mar. 6	+62°4	11	34	211	77°27	+23°30	A large regular spot, usually with companions.
(636*)	6101	713	Jan. 29	-75°8	Feb. 8	+52°4	11	18	125	53°61	+11°32	A large composite spot, with small train. The group breaks up and [diminishes.]
	6125	714	Feb. 26	-79°7	Mar. 3	-14°7	6	3	43	47°23	+14°38	A few small scattered spots. <i>Note.</i> —6125 is probably only a revival of 6101.
637	6093†	713	Jan. 31	+56°5	Jan. 31	+56°5	1	0	32	159°70	+5°20	Three very small spots.
	6117	714	Feb. 17	-78°7	Mar. 1	+78°9	13	48	265	163°95	+3°63	A large regular spot, usually with short train.
	6154	715	Mar. 17	-63°6	Mar. 22	-1°6	6	2	10	167°13	+0°33	A very small spot.
(637*)	6102*	713	Feb. 2	+18°0	Feb. 4	+46°1	3	1	9	100°00	-9°03	A straight stream of small unstable spots.
	6121	714	Feb. 21	-79°9	Mar. 2	+39°3	10	18	120	110°51	-7°98	A regular spot with short train. <i>Note.</i> —6102* appears to die out before reaching the W. limb, and 6121 is therefore probably only a revival of it. They are therefore not numbered in the series.
638	6104	713	Feb. 4	-43°5	Feb. 13	+75°5	10	78	512	12°48	-14°10	A few small spots, increasing to an irregular stream.
	6130	714	Feb. 28	-69°8	Mar. 2	-46°5	3	0	16	23°40	-12°23	Faint unstable spots. <i>Note.</i> —It is the leading spot of 6104 that is represented in 6130.
639	6118	714	Feb. 20	-32°9	Mar. 1	+80°0	10	88	561	171°46	-13°01	A fine stream of normal type.
	6153	715	Mar. 17	-57°0	Mar. 18	-45°9	2	4	26	171°30	-15°40	A very small spot.
640	6119	714	Feb. 20	-29°4	Feb. 27	+66°9	8	30	164	177°30	+9°90	Small unstable spots, becoming a normal stream.
	6151	715	Mar. 15	-78°0	Mar. 16	-65°2	2	7	26	183°40	+9°60	A very small spot.

## Catalogue of Recurrent Groups of Sun Spots—continued.

Reference Number.	No. of Group.	Rotation.	First Seen.		Last Seen.		No. of Days Photographed.	Mean Area for		Mean Longitude of Group.	Mean Latitude of Group.	REMARKS.
			Date.	Longitude from Central Meridian.	Date.	Longitude from Central Meridian.		Um-bra.	Whole Spot.			
641	6111	714	1907. Feb. 10	+4°3'	1907. Feb. 16	+81°4'	7	27	223	336°60'	+14°07'	A stream of small spots, whose leading and final spots become large. A large regular spot, usually with companions. A regular spot. <i>Note.</i> —6134 perhaps represents the leading spot of 6111.
	6134	715	Mar. 2	-76°5'	Mar. 13	+73°6'	12	27	176	356°74'	+12°71'	
	6156	716	Mar. 29	-75°6'	Apr. 9	+63°0'	12	13	81	355°60'	+12°24'	
(641*)	6145	715	Mar. 12	-44°0'	Mar. 19	+48°2'	8	5	21	253°55'	-13°53'	A small regular spot, with occasional small companions. An irregular cluster of unstable spots. <i>Note.</i> —6145 probably dies near the W. limb, and 6164 is a revival in the same disturbed area. They are therefore not included in the series.
	6164	716	Apr. 5	-73°3'	Apr. 15	+55°1'	11	18	123	263°92'	-15°77'	
642	6168	716	Apr. 13	+6°3'	Apr. 19	+81°2'	7	39	282	241°34'	-10°17'	A large cluster, becoming an irregular stream. A large regular spot, with close companions.
	6184	717	May 3	-82°6'	May 15	+74°1'	13	109	737	246°15'	-12°48'	
643	6172	716	Apr. 19	-81°7'	Apr. 30	+67°1'	12	36	217	76°58'	+7°13'	A large regular spot, with train. A regular spot.
	6189	717	May 16	-74°5'	May 25	(+41°1')	10	10	61	82°34'	+7°67'	
(643*)	6187	717	May 11	-48°2'	May 19	+58°1'	9	8	72	176°50'	-12°00'	A few small unstable spots. One or two small spots. <i>Note.</i> —6200* is probably only a revival of 6187.
	6200*	718	June 5	-65°7'	June 7	-52°9'	3	0	13	182°47'	-11°70'	
644	6194	717	May 23	+53°2'	May 25	(+75°2')	3	0	30	117°57'	-19°23'	A small spot forming near the W. limb. A small cluster of unstable spots, not seen on Jan. 11. <i>Note.</i> —6204 is intermittent, not being seen on Jan. 11.
	6204	718	June 10	-66°9'	June 19	+47°3'	10	5	32	116°82'	-21°21'	
(644*)	6202	718	June 10	-71°6'	June 20	+67°5'	11	10	91	114°85'	+11°24'	An irregular cluster of small unstable spots. Small unstable spots not seen on July 10 and 14. <i>Note.</i> —6202 diminishes as it approaches the W. limb. 6214 is not seen close to the E. limb and is very intermittent in type, so that it is probably a revival merely of 6202. They are not included therefore in the series. 6214 is intermittent, not being seen on July 10 and 14.
	6214	719	July 9	-46°2'	July 17	+61°0'	9	1	9	120°61'	+12°44'	
645	6196	717	May 27	+49°5'	May 27	+49°5'	1	0	5	60°30'	-13°50'	A very small spot. A straight almost continuous stream of three large spots. A large well-defined regular spot. [in series 645* and 650. A small intermittent parasite group on 6215, probably revived A large regular spot, with occasional small companions.
	6205	718	June 13	-81°3'	June 25	+76°5'	13	278	1902	65°65'	-14°39'	
	6215	719	July 11	-72°6'	July 23	+80°4'	13	74	419	63°57'	-18°60'	
	6217	719	July 12	-54°1'	July 15	-21°0'	4	0	10	69°10'	-13°40'	
	6233	720	Aug. 7	-80°9'	Aug. 19	+75°5'	13	18	153	56°58'	-19°16'	
(645*)	6219	719	July 20	+57°6'	July 21	+71°0'	2	6	27	76°70'	-16°20'	[See series 644.* A small spot, probably a revival of 6217 after four days quiescence. A large regular spot, with occasional companions. Not seen on Aug. 13. <i>Note.</i> —6232 is intermittent, not being seen on Aug. 13. Intermittency is a feature of this disturbed area, since 6219 is a revival of 6217, which is itself intermittent, and 6232 is revived in the following rotation as 6250.
	6232	720	Aug. 5	-76°9'	Aug. 14	+40°6'	10	11	85	89°19'	-13°83'	
646	6220	720	July 20	-74°4'	Aug. 1	+79°9'	13	32	244	303°30'	-7°75'	A large composite spot, with companions. A large regular spot, usually with companions.
	6238	721	Aug. 15	-84°1'	Aug. 26	+59°9'	12	15	116	310°35'	-7°88'	
(646*)	6223	720	July 24	-79°8'	Aug. 4	+71°7'	12	15	135	251°78'	+7°50'	An irregular stream of unstable spots. A very small faint spot. <i>Note.</i> —6240* is probably only a revival of 6223.
	6240*	721	Aug. 21	-54°1'	Aug. 22	-36°0'	2	0	5	264°70'	+6°45'	
647	6231	720	Aug. 5	-21°8'	Aug. 13	+80°0'	9	27	224	144°91'	+7°96'	An irregular group of small spots, which coalesce to form a pair. A fine continuous stream of three large spots. A small faint spot, not seen on Sept. 29 and 30. <i>Note.</i> —6266 is intermittent, not being seen on Sept. 29 and 30, and in the following rotation it is again revived in 6288.
	6241	721	Aug. 27	-80°1'	Sept. 8	+79°1'	13	108	865	153°08'	+7°55'	
	6266	722	Sept. 26	-46°4'	Oct. 2	+34°4'	7	1	6	151°88'	+8°86'	



## Catalogue of Recurrent Groups of Sun Spots—continued.

Reference Number.	No. of Group.	Rotation.	First Seen.		Last Seen.		No. of Days Photographed.	Mean Area for		Mean Longitude of Group.	Mean Latitude of Group.	REMARKS.
			Date.	Longitude from Central Meridian.	Date.	Longitude from Central Meridian.		Um-bra.	Whole Spot.			
648	6234	720	1907. Aug. 10	-73.4	1907. Aug. 22	+84.4	13	19	144	26.62	+15.54	A large regular spot, usually with small companions.
	6249	721	Sept. 7	-66.8	Sept. 15	+42.5	9	4	30	29.62	+16.17	A compact cluster of small spots.
649	6236	721	Aug. 14	-74.7	Aug. 25	+74.0	12	89	602	333.46	-23.63	A very fine long straight stream.
	6255	722	Sept. 11	-67.5	Sept. 22	+68.9	12	29	230	325.62	-23.02	A large composite spot, with companions.
	(6277)	723	Oct. 9	-47.1	Oct. 18	+68.8	10	49	263	343.00	-22.76	An irregular stream. <i>Note.</i> —6277 is not seen close to the E. limb, and its final spot is probably a revival only of 6255.
650	(6237)	720	Aug. 15	+25.5	Aug. 18	+66.3	4	1	17	60.13	-13.10	Small unstable spots.
	(6233†)	720	Aug. 16	+30.6	Aug. 18	+63.8	3	2	20	55.80	-12.00	Small unstable spots.
	6246	721	Sept. 5	-60.2	Sept. 11	+21.1	7	2	19	57.10	-13.07	A small spot, with unstable companions. <i>Note.</i> —6237 and 6233† are neighbouring groups and together give rise to 6246. It may be remarked that 6237 and 6233† are revivals of 6217. See series 645 and 645*.
651	6243	721	Aug. 31	-52.2	Sept. 9	+72.3	10	18	94	132.97	-16.64	A small spot not seen on Sept. 1, afterwards a sparse stream.
	6267	722	Sept. 25	-75.9	Oct. 7	(+74.1)	13	9	67	134.71	-16.98	A regular spot.
	6289	723	Oct. 22	-72.8	Nov. 2	+66.6	12	20	109	143.20	-16.16	A regular spot. <i>Note.</i> —6243 is intermittent, not being seen on Sept. 1.
652	6244	721	Sept. 1	+63.4	Sept. 2	+75.7	2	3	21	234.80	-18.15	Small unstable spots in a faculose region.
	6260	722	Sept. 17	-72.8	Sept. 29	(+77.7)	13	34	242	243.71	-17.39	A large circular spot, with occasional companions.
653	6247	721	Sept. 6	-66.4	Sept. 16	+64.4	11	24	190	37.22	-7.78	A large regular spot, frequently with companions.
	6273	722	Oct. 2	-82.0	Oct. 9	+5.9	8	14	111	36.45	-5.36	A regular spot, frequently with companions.
(653*)	6254	721	Sept. 7	-20.9	Sept. 12	+48.5	6	1	15	74.25	-9.62	A small variable group.
	6271	722	Sept. 30	-79.3	Oct. 9	+41.4	10	8	47	71.84	-12.80	A regular spot, usually with companions. <i>Note.</i> —6254 probably dies out before reaching the W. limb, and 6271 is a revival in the same disturbed area.
654	6256	722	Sept. 11	-85.4	Sept. 24	+86.8	14	60	452	308.89	+7.19	A very large regular spot, with occasional companions.
	6280	723	Oct. 9	-81.9	Oct. 21	+81.4	13	29	195	310.60	+7.46	A large regular spot, with occasional companions.
655	6259	722	Sept. 17	-71.9	Sept. 28	+76.0	12	38	256	243.33	+7.18	A straight stream.
	6283	723	Oct. 14	-83.1	Oct. 27	+84.7	14	90	618	238.20	+8.69	A large composite spot, with companions, drawing out into a stream.
	(6303)	724	Nov. 10	(-82.1)	Nov. 20	+47.6	11	13	72	243.76	+13.61	A regular spot, with occasional companions.
	(6305)	724	Nov. 11	-73.6	Nov. 14	-36.8	4	0	7	240.28	+8.38	A small spot. <i>Note.</i> —6283 returns as two groups, 6303 and 6305.
656	6265	722	Sept. 24	+6.5	Sept. 30	+79.0	7	146	975	230.04	+8.16	A fine stream, which forms one with 6259.
	6284	723	Oct. 15	-78.2	Oct. 26	+60.9	12	20	150	228.12	+8.09	A large irregular composite spot.
(656*)	6268*	722	Sept. 28	+12.5	Oct. 1	+52.2	4	0	7	185.75	-10.35	A small spot, not seen on Sept. 29 and 30.
	6287	723	Oct. 20	-52.1	Oct. 21	-40.2	2	3	28	189.10	-10.85	A pair of small spots. <i>Note.</i> —6268* is intermittent, not being seen on Sept. 29 and 30. Neither 6268* nor 6287 are seen quite close to the sun's limb, and 6287 is probably only a revival of 6268*.
657	6276	723	Oct. 8	(-52.7)	Oct. 18	+78.0	11	50	345	351.69	-22.09	An irregular stream, becoming a large composite spot, with com-
	6293	724	Nov. 2	-81.5	Nov. 11	+38.7	10	15	77	352.67	-20.55	A regular spot, with occasional companions. [panions.
658	6279	723	Oct. 9	-79.2	Oct. 20	+75.1	12	46	343	314.83	-6.18	A large regular spot, usually with companions.
	6297	724	Nov. 5	-76.3	Nov. 12	+18.4	8	3	27	319.21	-6.76	A few small unstable spots.

## Catalogue of Recurrent Groups of Sun Spots—concluded.

Reference Number.	No. of Group.	Rotation.	First Seen.		Last Seen.		No. of Days Photographed.	Mean Area for		Mean Longitude of Group.	Mean Latitude of Group.	REMARKS.
			Date.	Longitude from Central Meridian.	Date.	Longitude from Central Meridian.		Um-bra.	Whole Spot.			
659	6282	723	1907. Oct. 13	-81°4'	1907. Oct. 25	+74°8'	13	65	411	253°77'	+ 5°65'	A very large composite spot or cluster, becoming a stream. A regular spot, with small companions close to 6300. A ring-shaped group which coalesces. A parasite group on 6301. An irregular stream of unstable spots. Close to 6318 and 6319. <i>Note.</i> —6282 probably owes its origin to 6259 as well as 6283; and 6301 and 6306 are intermingled with 6300, and their return, 6321, is again close to 6318 and 6319.
	6301	724	Nov. 9	-80°4'	Nov. 20	+63°5'	12	16	88	258°67'	+ 7°06'	
	6306	724	Nov. 17	+17°3'	Nov. 22	+83°8'	6	59	334	254°77'	+ 9°10'	
	6321	725	Dec. 8	-63°3'	Dec. 17	+52°9'	10	13	107	253°27'	+ 7°93'	
660	6286	723	Oct. 20	+13°1'	Oct. 24	+69°2'	5	2	17	256°94'	+12°06'	A short stream of small spots. A large composite spot, followed by a large cluster. A large regular spot, with occasional companions. [of 6300. Two large composite spots. 6318 and 6319 represent the two parts <i>Note.</i> —Series 656, 661, and 662 form one great disturbance.
	6300	724	Nov. 9	-75°3'	Nov. 21	+82°5'	13	219	1443	265°20'	+11°40'	
	6318	725	Dec. 5	-78°7'	Dec. 17	+74°7'	13	25	158	277°14'	+12°70'	
	6319	725	Dec. 6	-78°6'	Dec. 18	+77°5'	13	98	776	265°35'	+ 9°60'	
661	6292	723	Oct. 31	+12°4'	Nov. 5	+77°9'	6	29	172	111°67'	-18°23'	A circular cluster lengthening out to a stream. A cluster of small spots, not seen on Nov. 24. <i>Note.</i> —6311 is intermittent, not being seen on Nov. 24.
	6311	724	Nov. 21	-71°7'	Nov. 26	- 8°6'	6	5	23	111°88'	-20°26'	
662	6296	724	Nov. 4	-72°5'	Nov. 15	+75°9'	12	28	161	338°79'	-14°57'	A double spot, followed by a short train. A large regular spot, followed by a short diminishing train.
	6316	725	Nov. 30	-80°8'	Dec. 12	+74°1'	13	31	224	341°10'	-13°30'	
663	6310	724	Nov. 22	-42°7'	Dec. 1	+81°1'	10	1	15	131°27'	- 2°73'	A very unstable group, not seen on Nov. 25-27 or Nov. 29. A very large regular spot, followed by a short train.
	6324	725	Dec. 15	-85°4'	Dec. 27	+73°6'	13	85	506	143°21'	- 4°99'	

ROYAL OBSERVATORY, GREENWICH.

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TOTAL AREAS OF SUN SPOTS AND FACULÆ

PROJECTED AND CORRECTED FOR FORESHORTENING

FOR EACH DAY,

AND

MEAN AREAS AND MEAN HELIOGRAPHIC LATITUDE

OF

SUN SPOTS AND FACULÆ

FOR EACH ROTATION OF THE SUN

AND FOR THE YEAR

1907.

## TOTAL AREAS OF SUN SPOTS AND FACULÆ FOR EACH DAY IN THE YEAR 1907.

## TOTAL AREAS of SUN SPOTS and FACULÆ for EACH DAY in the YEAR 1907.

NOTE.—The Greenwich Civil Time at which the photograph was taken is expressed by the month, day of the month (civil reckoning), and decimals of a day, reckoned from Greenwich Mean Midnight.

The place where the photograph was taken is indicated in the second Column. A photograph taken at Greenwich is indicated by the letter G, one taken at Kodai-kánal by the letter K, one taken at Dehra Dûn by the letter D, and one taken in Mauritius by the letter M.

The Projected Area is the Area as it is measured on the photograph, uncorrected for the effect of foreshortening, and expressed in millionths of the Sun's apparent disk.

The Area Corrected for the effect of Foreshortening is expressed in millionths of the Sun's visible hemisphere.

Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.			Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.		
		Umbrae.	Whole Spots.	Faculae.	Umbrae.	Whole Spots.	Faculae.			Umbrae.	Whole Spots.	Faculae.	Umbrae.	Whole Spots.	Faculae.
1907. d								1907. d							
January 1'135	K.	270	1930	1436	185	1308	1951	February 13'249	M.	1088	6153	2453	656	3881	2790
2'418	M.	394	2528	3034	226	1490	3376	14'491	G.	843	5941	2081	570	3974	2003
3'502	G.	301	2311	1246	167	1325	1308	15'223	M.	754	4888	3229	578	3812	3489
4'511	G.	306	2372	718	191	1466	801	16'468	G.	394	3540	1379	392	3869	2003
5'167	M.	341	2121	1615	253	1514	1541	17'273	M.	494	2786	1994	592	3265	2524
6'267	M.	232	1510	1931	169	1560	2469	18'434	M.	246	1717	1821	347	2683	2319
7'125	K.	161	807	1299	113	571	1908	19'218	M.	167	1160	2045	119	908	2273
8'303	M.	117	703	3039	199	1186	3448	20'232	M.	240	1294	2517	147	794	2205
9'122	K.	106	745	2322	188	1315	2763	21'344	M.	309	1598	1692	200	1195	1831
10'241	M.	164	1015	3448	168	1058	4041	22'115	K.	269	1979	2020	165	1251	2199
11'528	G.	160	1148	1886	112	798	1853	23'121	K.	571	2981	3744	322	1673	3828
12'389	M.	255	1869	1955	160	1157	2013	24'115	K.	580	3075	2809	396	2127	3092
13'149	K.	397	2311	3029	225	1315	3076	25'115	K.	416	2706	1104	298	2085	1573
14'115	K.	209	1893	455	111	1002	571	26'200	M.	371	2402	2875	284	1878	2832
15'326	M.	324	2484	1832	168	1286	1865	27'117	K.	320	1709	4098	290	1568	3887
16'231	M.	386	2705	2463	230	1571	2471	28'625	G.	202	1188	1507	212	1478	2213
17'546	G.	253	2025	1940	172	1322	1963								
18'351	M.	213	1431	2940	150	1043	2733	March 1'122	K.	202	1245	2915	199	1277	3289
19'197	M.	145	1051	3462	114	863	3201	2'237	M.	178	1154	2635	135	826	2627
20'222	M.	187	1046	2595	171	1165	3020	3'125	K.	225	1224	3744	190	1106	3767
21'451	M.	145	933	1591	111	844	2592	4'527	G.	288	1840	3933	202	1291	4270
22'245	M.	164	1023	1891	123	716	1917	5'494	G.	356	2176	2937	320	1972	3503
23'247	M.	164	1036	1827	105	672	1924	6'680	G.	382	2330	4231	281	1729	4305
24'122	K.	253	1303	4298	197	973	3905	7'348	M.	436	2651	3960	296	1772	3744
25'125	K.	220	1285	4711	216	1271	4165	8'327	M.	649	2998	2879	381	1777	2697
26'231	M.	171	1004	1482	126	779	1742	9'209	M.	637	3736	1668	358	2106	1739
27'232	M.	149	920	2123	113	726	2516	10'491	G.	483	3059	1921	274	1740	1944
28'118	K.	182	956	3393	155	834	3625	11'511	G.	259	2165	1786	163	1303	2217
29'487	G.	295	1853	1226	262	1683	1346	12'485	G.	278	1790	2835	177	1112	3134
30'549	G.	393	2834	2460	281	2031	2292	13'467	G.	185	1390	3758	122	992	3934
31'476	G.	447	3474	1146	287	2253	1179	14'499	G.	172	1164	2784	115	830	2907
								15'125	K.	145	836	2340	136	776	2518
February 1'240	M.	547	3511	2315	347	2193	2302	16'122	K.	97	681	2126	91	651	2458
2'181	K.	505	2948	1064	289	1692	1122	17'502	G.	70	480	2002	92	619	2195
3'156	K.	438	2802	1240	253	1670	1510	18'628	G.	47	310	1617	45	277	1652
4'128	K.	406	2607	2215	301	2239	2461	19'481	G.	34	159	741	18	87	1047
5'118	K.	452	2930	2697	388	2565	2908	20'513	G.	60	430	1462	33	228	1800
6'125	K.	504	3042	3942	417	2575	4217	21'669	G.	51	381	2405	30	220	2495
7'431	M.	631	3791	5435	497	3104	5261	22'113	K.	49	325	1959	31	202	1969
8'424	M.	706	4041	2574	451	2581	2522	23'517	G.	69	423	2225	57	339	2428
9'122	K.	657	4085	537	389	2429	685	24'476	G.	37	433	1954	27	365	2161
10'481	G.	808	6001	393	453	3402	525	25'113	K.	83	515	3339	64	477	3049
11'570	G.	1016	6553	889	579	3881	817	26'664	G.	37	231	2283	20	122	2595
12'242	M.	1191	6548	1535	703	3912	1675	27'668	G.	28	119	1893	15	65	2321

## TOTAL AREAS of SUN SPOTS and FACULÆ—continued.

Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.			Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.		
		Umbra.	Whole Spots.	Facula.	Umbra.	Whole Spots.	Facula.			Umbra.	Whole Spots.	Facula.	Umbra.	Whole Spots.	Facula.
1907. d March 28:519	G.	10	50	1579	6	31	1812	1907. d May 24:607	G.	19	150	1282	31	236	1674
29:481	G.	9	122	2324	14	177	2335	25:269	D.	7	130	1512	3	150	1949
30:244	M.	17	73	2076	23	99	2272	26:130	K.	7	80	1192	9	82	1359
31:383	G.	46	271	2129	102	512	2540	27:622	G.	19	64	1402	15	50	1370
								28:229	M.	19	94	601	12	65	618
								29:245	M.	22	171	1662	40	265	1886
								30:147	K.	23	129	1685	23	133	2366
								31:111	K.	19	143	1277	16	123	1621
April 1:476	G.	121	955	3124	150	1244	3513								
2:538	G.	192	1543	3258	172	1406	3392								
3:168	K.	199	1830	2279	152	1412	2551								
4:128	K.	395	2350	3342	246	1481	3121								
5:640	G.	425	2658	1229	276	1742	1251	June 1:470	G.	25	192	948	16	122	941
6:500	G.	356	2346	1983	206	1390	1938	2:115	K.	46	253	441	34	169	507
7:607	G.	272	2097	2018	159	1234	1878	3:277	M.	64	353	2279	41	220	2032
8:239	M.	348	2172	1887	212	1322	1739	4:254	M.	57	319	1103	31	173	1006
9:128	K.	173	1434	1276	116	962	1437	5:652	G.	27	238	892	15	137	1047
10:252	M.	208	1304	3529	162	1026	3677	6:652	G.	18	135	777	11	88	930
11:653	G.	63	651	2902	75	742	3020	7:124	K.	17	97	323	11	64	479
12:110	K.	47	420	2701	78	616	2959	8:514	G.	11	107	771	11	240	897
13:495	G.	51	358	2901	28	212	3103	9:094	K.	15	85	907	28	172	1089
14:114	K.	117	508	2302	67	289	2330	10:656	G.	23	195	1711	23	238	1989
15:518	G.	89	530	1963	57	339	2057	11:675	G.	27	246	1329	23	213	1258
16:614	G.	46	321	1339	35	250	1659	12:632	G.	42	305	596	28	207	768
17:511	G.	60	353	1599	62	365	2079	13:497	G.	101	716	319	134	1372	640
18:116	K.	37	428	534	54	638	743	14:678	G.	218	1857	988	243	2158	1171
19:334	M.	28	264	1261	65	584	1756	15:060	D.	792	2996	1408	804	2874	1364
20:515	G.	59	394	2056	70	444	2186	16:316	M.	548	3468	1244	387	2496	1287
21:253	M.	74	457	1179	69	426	1175	17:511	G.	476	3710	1012	285	2225	1026
22:635	G.	82	517	679	54	345	872	18:692	G.	445	4339	1705	240	2345	1483
23:250	M.	81	550	969	49	324	1312	19:467	G.	566	4246	1404	298	2238	1395
24:531	G.	71	460	1221	38	243	1340	20:694	G.	611	4126	1301	325	2208	1687
25:107	K.	101	557	2044	52	290	1869	21:514	G.	484	3446	1446	282	1988	2119
26:114	K.	106	608	1357	54	312	1595	22:486	G.	359	2698	1976	242	1797	2010
27:523	G.	133	801	2065	71	429	2082	23:631	G.	176	1760	3675	158	1550	3276
28:544	G.	79	613	2394	47	370	2574	24:122	K.	169	1408	2010	174	1555	2031
29:634	G.	59	364	993	48	291	1342	25:417	M.	117	654	1040	260	1394	1652
30:379	K.	59	295	2226	61	298	2101	26:712	G.	10	74	1585	10	77	1881
								27:227	M.	5	33	1586	5	32	1866
								28:106	K.	8	49	2638	6	33	2471
								29:334	M.	22	98	504	13	54	529
								30:581	G.	6	86	1729	3	43	1550
May 1:666	G.	2	17	747	3	16	1066								
2:607	G.	0	21	1155	0	12	1368								
3:519	G.	23	279	1120	55	755	1235								
4:470	G.	192	1204	2731	187	1268	2602	July 1:191	K.	3	53	1424	2	27	1297
5:269	M.	317	1855	1475	227	1433	1507	2:443	M.	40	396	1134	50	512	1402
6:471	G.	358	2541	2121	231	1643	2004	3:132	K.	71	481	2136	67	462	2412
7:685	G.	324	2155	387	203	1353	351	4:626	G.	99	582	1840	62	363	1723
8:511	G.	387	2191	1404	229	1342	1504	5:637	G.	122	746	1512	65	400	1435
9:504	G.	334	1998	1940	182	1114	2498	6:485	G.	63	541	560	32	275	681
10:475	G.	349	1997	1967	179	1159	2273	7:309	M.	129	674	1701	65	341	2045
11:492	G.	382	2064	1950	211	1133	1778	8:115	K.	119	689	773	60	354	914
12:483	G.	330	2035	1512	205	1264	1635	9:285	M.	123	652	1372	70	375	1265
13:472	G.	240	1750	919	185	1331	904	10:483	G.	44	385	508	32	282	770
14:251	M.	182	1252	1487	180	1220	1615	11:425	G.	74	746	1222	96	1295	1399
15:391	G.	93	980	1199	141	1287	1708	12:440	G.	192	1422	1966	260	2102	2320
16:647	G.	49	331	661	39	274	795	13:427	G.	267	2000	1882	236	1860	1841
17:620	G.	60	370	1064	46	282	1044	14:248	M.	319	2145	1519	234	1608	1285
18:507	G.	30	300	2737	22	227	2641	15:106	K.	396	2558	2611	269	1731	2295
19:525	G.	20	153	2067	13	110	2010	16:661	G.	436	2387	1042	234	1676	1144
20:118	K.	37	206	1974	25	143	1972	17:218	M.	469	3298	1424	247	1732	1587
21:492	G.	38	198	912	23	115	1020	18:690	G.	310	2345	1121	168	1261	1434
22:619	G.	40	226	1080	22	135	1267	19:245	K.	388	2261	1456	219	1263	1406
23:499	G.	36	165	1106	26	137	1232								

## TOTAL AREAS OF SUN SPOTS AND FACULÆ FOR EACH DAY IN THE YEAR 1907.

## TOTAL AREAS of SUN SPOTS and FACULÆ—continued.

Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.			Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.		
		Umbra.	Whole Spots.	Faculae.	Umbra.	Whole Spots.	Faculae.			Umbra.	Whole Spots.	Faculae.	Umbra.	Whole Spots.	Faculae.
1907. July	d							1907. September	d						
20:468	G.	304	1840	1199	206	1296	1270	15:411	G.	318	2347	2269	212	1558	2429
21:328	M.	270	1475	1904	235	1295	1925	16:328	M.	397	2000	1277	272	1413	1265
22:490	G.	133	1060	1259	103	1222	1308	17:626	G.	282	1943	1251	243	1630	1758
23:226	M.	157	983	1937	229	1207	2296	18:528	G.	215	1997	1575	168	1618	1930
24:247	K.	80	632	333	46	472	502	19:637	G.	251	1997	2997	169	1369	2999
25:543	G.	46	790	700	24	500	752	20:632	G.	307	2038	2938	201	1367	2677
26:625	G.	121	979	1681	71	583	1646	21:487	G.	281	1798	2950	185	1242	2785
27:542	G.	129	872	717	100	598	948	22:280	M.	357	2032	2942	235	1414	3019
28:670	G.	145	1001	2000	99	671	2418	23:233	M.	311	1669	1620	198	1081	2188
29:527	G.	92	734	1223	79	599	1368	24:634	G.	193	1609	2303	170	1677	2651
30:682	G.	118	634	1060	98	517	1059	25:500	G.	329	2296	2620	184	1379	2503
31:478	G.	71	583	2097	61	480	2047	26:626	G.	300	2346	1516	197	1571	1614
								27:666	G.	353	2437	2133	267	1846	2144
								28:475	G.	347	2295	3819	306	2018	3984
								29:103	D.	355	1987	2035	351	1994	2332
								30:227	M.	232	1274	2306	279	1847	2772
August								October							
1:130	K.	64	497	1512	37	472	1433	1:454	G.	59	615	2867	42	446	3327
2:524	G.	54	430	1241	33	262	1165	2:602	G.	76	681	2855	44	647	3065
3:638	G.	88	466	1506	64	363	1629	3:339	M.	128	793	2259	95	635	2651
4:519	G.	65	324	892	42	210	1016	4:472	G.	74	488	2235	51	383	2328
5:452	G.	39	354	723	24	343	766	5:500	G.	54	345	2282	42	258	2313
6:438	G.	81	676	1301	71	557	1389	6:288	M.	30	318	1413	24	233	1543
7:542	G.	75	587	1856	66	705	2212	7:122	D.	63	308	776	41	211	998
8:229	M.	111	693	987	113	709	1308	8:120	D.	66	284	1645	34	152	1702
9:241	M.	214	1212	1150	136	790	1302	9:218	M.	113	574	2426	131	692	2521
10:470	G.	136	1120	1548	111	900	1535	10:500	G.	172	1393	3434	136	1189	3650
11:391	G.	134	865	1110	106	709	978	11:666	G.	264	2054	1975	175	1328	1842
12:234	K.	105	620	315	76	507	389	12:477	G.	278	2382	2982	167	1432	2935
13:314	M.	130	794	982	75	653	1134	13:523	G.	332	2462	1293	255	1743	1745
14:471	G.	127	902	822	160	1144	1093	14:237	M.	489	3047	1284	329	2229	1745
15:517	G.	144	1120	1872	130	1175	2056	15:625	G.	450	3325	1978	374	2793	2120
16:178	K.	225	1506	2720	196	1336	2906	16:106	K.	693	4119	3674	605	3527	3597
17:622	G.	204	1597	1926	144	1137	1798	17:113	K.	816	4604	3091	648	3698	3059
18:586	G.	204	1472	1440	136	995	1359	18:224	M.	705	4131	1776	597	3404	1902
19:637	G.	215	1583	636	148	1164	1017	19:503	G.	426	3207	1508	253	1905	1524
20:680	G.	247	1430	1338	160	953	1438	20:601	G.	314	2734	1102	180	1630	1419
21:227	M.	264	1504	1651	178	1032	1650	21:499	G.	322	2642	992	169	1463	1582
22:490	G.	188	1300	317	124	1090	696	22:653	G.	322	2163	1415	199	1269	1469
23:344	M.	198	1265	1087	136	878	1065	23:329	M.	356	2115	1301	238	1366	1309
24:511	G.	115	985	1494	91	799	1630	24:468	G.	167	1335	1253	138	1069	1268
25:513	G.	86	639	2468	77	561	2771	25:212	M.	166	972	2322	165	977	2327
26:268	M.	66	498	1934	45	320	2182	26:224	N.	69	470	1799	75	567	1895
27:625	G.	62	480	1320	89	779	1555	27:177	K.	98	558	3333	131	618	3850
28:654	G.	108	925	1858	118	1069	1994	28:233	K.	65	405	1719	38	240	2158
29:613	G.	228	1626	2450	199	1429	2471	29:249	M.	71	351	1276	48	225	1244
30:500	G.	252	1825	1022	170	1270	984	30:238	M.	107	568	1392	68	357	1451
31:438	G.	212	2147	687	122	1248	886	31:413	G.	77	534	878	46	310	974
September								November							
1:186	K.	339	2214	624	184	1200	681	1:315	D.	108	545	2222	65	317	2286
2:409	G.	350	2044	966	205	1244	1500	2:141	K.	111	628	1015	102	653	1237
3:643	G.	281	2077	2386	156	1155	2524	3:265	M.	76	463	875	74	483	1416
4:404	G.	321	1898	1910	178	1075	2175	4:251	M.	82	454	1785	91	500	2111
5:462	G.	208	1865	2118	123	1128	2031	5:275	M.	70	469	2205	81	515	2396
6:593	G.	193	1291	1564	151	1032	1822	6:309	M.	97	451	2005	65	309	1885
7:228	M.	232	1451	2044	203	1240	2202	7:219	M.	114	626	2293	80	434	2188
8:551	G.	105	1204	1357	83	1252	1594	8:245	M.	124	552	1696	89	370	1784
9:603	G.	185	1119	901	127	762	1047	9:543	G.	166	1277	840	171	1437	1045
10:464	G.	142	1237	1392	83	738	1575	10:426	K.	366	2331	1605	333	2162	1711
11:654	G.	139	1341	1653	102	1258	1875								
12:517	G.	250	1812	1991	204	1521	2300								
13:519	G.	249	2075	2281	217	1979	2540								
14:504	G.	321	2448	1866	207	1698	1846								

## TOTAL AREAS OF SUN SPOTS and FACULÆ—concluded.

Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.			Greenwich Civil Time.	Where taken.	Projected Area.			Area Corrected for Foreshortening.		
		Umbrae.	Whole Spots.	Faculae.	Umbrae.	Whole Spots.	Faculae.			Umbrae.	Whole Spots.	Faculae.	Umbrae.	Whole Spots.	Faculae.
1907. <sup>d</sup>								1907. <sup>d</sup>							
November 11:414	M.	487	3103	2060	358	2313	2086	December 5:514	G.	91	535	314	69	445	511
12:316	M.	520	4129	2657	340	2673	2392	6:479	G.	93	836	1248	113	1035	1613
13:532	G.	517	4422	3199	309	2639	3194	7:453	G.	114	1055	1744	97	925	1826
14:142	K.	662	4119	2805	389	2364	2640	8:508	G.	135	1301	1180	97	948	1020
15:172	K.	624	3522	2730	384	2124	3042	9:526	G.	244	1917	2423	154	1228	2424
16:124	K.	520	2756	2600	272	1439	2899	10:517	G.	285	2359	2701	167	1410	2723
17:147	K.	578	2833	2005	326	1604	2321	11:540	G.	327	2798	2384	176	1550	2459
18:324	M.	550	2729	2050	358	1798	2044	12:240	M.	423	3077	1546	230	1687	1670
19:239	M.	411	2497	2572	336	2039	2411	13:498	G.	297	2382	1697	159	1276	2249
20:331	M.	329	1802	2214	371	2148	2510	14:182	K.	458	2381	2242	261	1353	2282
21:240	M.	175	1058	2199	262	1962	2654	15:183	K.	405	2429	1212	307	1834	1073
22:320	M.	131	627	2005	125	656	1983	16:502	G.	353	2623	3013	266	2148	3314
23:501	G.	61	386	1370	45	325	1722	17:204	K.	488	2778	3551	363	2151	3764
24:503	G.	61	340	1448	41	245	1596	18:238	M.	405	2618	921	298	2205	1285
25:135	K.	102	422	2070	70	337	2236	19:210	K.	451	2150	2364	293	1400	2412
26:208	K.	46	224	2353	24	117	2485	20:255	K.	392	2271	1822	272	1634	1783
27:239	M.	8	77	1396	4	39	1313	21:445	G.	204	1486	1850	140	1129	2071
28:464	G.	0	50	872	0	29	1077	22:531	G.	159	1128	1146	81	732	1000
29:375	M.	0	0	1173	0	0	1166	23:138	K.	206	1231	2994	111	661	2906
30:341	M.	14	68	1916	45	208	2099	24:133	K.	208	1113	1428	125	664	1499
								25:138	K.	129	832	2198	95	803	2516
								26:132	K.	142	760	2423	151	749	2580
								27:253	M.	61	367	1803	89	532	2160
								28:139	K.	28	147	2182	20	109	2520
December 1:156	K.	32	297	2109	56	631	2590	29:222	K.	20	177	2443	14	121	2916
2:476	G.	46	344	3348	41	309	3503	30:373	M.	38	268	2940	55	372	3206
3:238	M.	62	449	1886	46	330	1847	31:355	M.	51	354	2602	47	443	2834
4:149	K.	93	442	3059	57	272	2816								

MEAN AREAS of SUN SPOTS and FACULÆ, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, in INDIA, and in MAURITIUS, for each ROTATION of the SUN, from 1906 December 15 to 1908 January 1.

The Mean Areas have been formed by taking the Means of the Areas for each day of observation throughout each Rotation of the Sun, the Projected Areas being the Areas as measured on the photographs and expressed in millionths of the Sun's apparent disk, and the Areas Corrected for Foreshortening being expressed in millionths of the Sun's visible hemisphere.

The Rotations adopted in the following table (which is in continuation of those for the years 1873-1906 printed in the Greenwich Observations for 1884 and succeeding years) correspond to the synodic rotation of the Sun, and the commencement of each is defined by the coincidence of the assumed prime meridian with the central meridian, the assumed prime meridian being that meridian which passed through the ascending node at mean noon on January 1, 1854, and the assumed period of the Sun's sidereal rotation being 25.38 days. The numeration of the rotations is in continuation of Carrington's series (*Observations of Solar Spots made at Redhill* by R. C. Carrington, F.R.S.), No. 1 being the rotation commencing 1853 November 9. The dates of commencement of the rotations are given in GREENWICH CIVIL TIME, reckoning from midnight.

No. of Rotation.	Date of Commencement of each Rotation.	No. of Days on which Photographs were taken.	Mean of Daily Areas.					
			Projected.			Corrected for Foreshortening.		
			Umbrae.	Whole Spots.	Faculae.	Umbrae.	Whole Spots.	Faculae.
712	1906 December 15 <sup>d</sup> 64	27	297	1913	2072	222	1493	2334
713	1907 January 11 97	27	312	2040	2434	221	1465	2515
714	February 8 32	28	490	3034	2416	349	2236	2600
715	March 7 65	27	151	980	2250	106	710	2432
716	April 3 95	27	134	882	1850	93	628	1970
717	May 1 21	28	139	886	1418	97	655	1536
718	May 28 43	27	199	1398	1303	145	1014	1419
719	June 24 63	27	163	1062	1459	119	820	1548
720	July 21 84	27	114	818	1314	95	697	1424
721	August 18 06	27	201	1456	1514	141	1080	1688
722	September 14 31	27	222	1493	2245	166	1169	2407
723	October 11 59	28	259	1708	1812	195	1263	1960
724	November 7 89	27	248	1513	2083	180	1132	2191
725	December 5 20	28	224	1491	2007	153	1067	2156

MEAN AREAS of SUN SPOTS and FACULÆ, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, in INDIA, and in MAURITIUS, for the YEAR 1907.

The Mean Projected Areas are expressed in millionths of the Sun's apparent disk.

The Mean Areas Corrected for Foreshortening are expressed in millionths of the Sun's visible hemisphere.

YEAR.	No. of Days on which Photographs were taken.	Mean of Daily Areas.					
		Projected.			Corrected for Foreshortening.		
		Umbrae.	Whole Spots.	Faculae.	Umbrae.	Whole Spots.	Faculae.
1907	365	221	1453	1859	160	1082	1999



MEAN HELIOGRAPHIC LATITUDE of SUN SPOTS, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, in INDIA, and in MAURITIUS, for each ROTATION of the SUN, from 1906 December 15, to 1908 January 1.

The numbers given in the accompanying table have been formed as follows:—

The Heliographic Latitude of each Spot for each day has been multiplied by its Area (corrected for foreshortening), and the sum of the products, for Spots North of the Equator, has been divided by the sum of the corresponding Areas to form Mean Heliographic Latitude of Spotted Area North of Equator; similarly for Spots South of the Equator. In forming the Mean Heliographic Latitude of entire Spotted Area, the algebraic sum of the products for Spots North and South of the Equator has been divided by the sum of the Areas; and for the Mean Distance from the Equator for all Spots, the numerical sum of the products, without regard to the sign of the latitude, has been similarly divided.

The Mean Areas have been formed by dividing the sum of the Daily Areas (corrected for foreshortening) by the number of days of observation for each Rotation of the Sun, and are expressed in millionths of the Sun's visible hemisphere.

No. of Rotation.	Date of Commencement of each Rotation.	No. of Days on which Photographs were taken.	Spots NORTH of the Equator.		Spots SOUTH of the Equator.		Mean Heliographic Latitude of entire Spotted Area.	Mean Distance from Equator of all Spots.
			Mean of Daily Areas.	Mean Heliographic Latitude.	Mean of Daily Areas.	* Mean Heliographic Latitude.		
712	1906 Dec. 15 <sup>d</sup> 64	27	1034	11.13	459	15.85	+ 2.84	12.58
713	1907 Jan. 11.97	27	832	14.81	632	14.62	+ 2.11	14.73
714	Feb. 8.32	28	555	12.24	1682	14.45	- 7.83	13.90
715	Mar. 7.65	27	266	11.10	444	15.00	- 5.21	13.54
716	Apr. 3.95	27	432	11.29	196	11.81	+ 4.08	11.45
717	May 1.21	28	171	5.84	484	11.69	- 7.12	10.17
718	May 28.43	27	50	10.99	963	14.58	- 13.31	14.40
719	June 24.63	27	186	4.18	634	10.08	- 6.84	8.74
720	July 21.84	27	236	9.21	461	14.71	- 6.62	12.85
721	Aug. 18.06	27	603	9.12	478	15.50	- 1.77	11.94
722	Sept. 14.31	27	656	7.84	513	13.82	- 1.67	10.47
723	Oct. 11.59	28	743	7.88	520	16.64	- 2.21	11.49
724	Nov. 7.89	27	937	10.91	195	11.91	+ 6.98	11.08
725	Dec. 5.20	28	504	10.49	563	10.30	- 0.47	10.39

MEAN HELIOGRAPHIC LATITUDE of SUN SPOTS, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, in INDIA, and in MAURITIUS, for the YEAR 1907.

YEAR.	No. of Days on which Photographs were taken.	Spots NORTH of the Equator.		Spots SOUTH of the Equator.		Mean Heliographic Latitude of entire Spotted Area.	Mean Distance from Equator of all Spots.
		Mean of Daily Areas.	Mean Heliographic Latitude.	Mean of Daily Areas.	* Mean Heliographic Latitude.		
1907	365	488	10.12	593	13.77	- 2.98	12.12