

GREENWICH
SPECTROSCOPIC AND PHOTOGRAPHIC
RESULTS.

1884.

SPECTROSCOPIC AND PHOTOGRAPHIC
OBSERVATIONS

MADE AT THE

ROYAL OBSERVATORY, GREENWICH,

1884.

(EXTRACTED FROM THE GREENWICH OBSERVATIONS, 1884.)

GREENWICH SPECTROSCOPIC AND PHOTOGRAPHIC RESULTS, 1884.

INTRODUCTION.

§ 14. *Spectroscopic Observations in the Year 1884.*

The spectroscope used for these observations was mounted on the South-east equatoreal, the object-glass of which (made by Merz and Son of Munich) has a clear aperture of 12·8 inches, with a focal length of about 17^{ft} 10ⁱⁿ.

This section contains:—Measures of Displacement of Lines in the Spectra of Stars and of Jupiter, and Concluded Motions in the Line of Sight; and Observations of the Spectrum of Comet *b* 1883 (PONS-BROOKS).

The measures of displacement of lines in the spectra of stars were made with a micrometer in the viewing telescope of the “Half-prism” Spectroscope. The eye-piece used gives a magnifying power of 14. Estimations of the displacement, in terms of the apparent breadth of the bright comparison-line, were also made; the breadth corresponding to any given width of slit being determined by a careful observation under similar conditions. 1^{rev.} of the screw for opening the slit corresponds to 0·01 inch, or 10^{''}. It has not been thought necessary to give in detail all these particulars of the reductions. The values used in each case may be inferred from the observed motion, which is the algebraic sum of the concluded motion and of the Earth’s motion. One tenth-metre corresponds at D to a motion of 31·7 miles per second, at *b* to a motion of 36·1 miles, and at F to a motion of 38·4 miles. For comparison with the spectrum of hydrogen or other chemical element, an image of the vacuum tube or electrodes is formed on the slit, by means of a transparent plate of glass placed at an angle of 45° with the axis of the collimator, in connexion with a collimating lens, so that the cone of rays from the comparison-light, as well as that from the star, fills the whole of the object-glass of the collimator.

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Whenever the star-line was sufficiently distinct to allow of its being seen at the same time as the bright comparison-line, a direct comparison of the two was made; in other cases the bright line was compared with the pointer of the micrometer which had just previously been placed on the star-line, giving an indirect comparison.

The reading of the position-circle is given, as it is conceivable that the results might be affected by the position of the spectroscope. The slit lies north and south when the reading is 5° .

With regard to the observations of the bright bands in the spectra of comets, it is sufficient to remark that curves have been laid down in the usual manner, connecting micrometer readings and wave-lengths, and that the value of a revolution of the micrometer in tenthmetres of wave-length has been inferred from these for each point of the spectrum that has been measured. The tabular wave-lengths of comparison-lines have been taken from Ångström and Thalén's *Récherches sur les Spectres des Métalloïdes*.

§ 15. *Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk on Photographs taken at the Royal Observatory, Greenwich, and at Dehra Dûn in India in the year 1884; with the deduced Heliographic Longitudes and Latitudes.*

The photographs from which these measures were made were taken either at Greenwich or at Dehra Dûn, North-West Provinces, India.

The photographs of the Greenwich series were taken with the Dallmeyer Photo-heliograph returned from the Transit of Venus expedition to New Zealand, which in its original state gave an image of the Sun 4 inches in diameter. From 1884 April 2 a new secondary magnifier, giving a solar image of 8 inches diameter on the photographic plate has been used.

Bromo-iodized gelatine dry plates with alkaline development have been regularly used throughout the year.

The Indian photographs, which have been forwarded by the Solar Physics Committee to fill the gaps in the Greenwich series, were taken under the superintendence of J. B. N. Hennessey, F.R.S., Deputy Superintendent, Trigonometrical Survey of India, with a Dallmeyer photoheliograph giving an image of the Sun nearly 8 inches in diameter. In the process adopted at Dehra Dûn bromo-iodized collodion has been used in connexion with iron development.

Photographs of the Sun were taken at Greenwich on 154 days, and Indian photographs on 161 days have been received from the Solar Physics Committee to

complete the total of 315 days for which there are either Greenwich or Indian photographs of the Sun available in 1884.

Many of the Greenwich photographs taken during the months of May and June are badly defined, the focal adjustment of the photoheliograph having been completely disturbed by an accidental alteration of the position of the tube carrying the wire-frame and secondary magnifier. The cause was not discovered for some time.

The *first* column on each page contains the Greenwich Mean Solar Time at which each photograph was taken, expressed by the day of the year and decimals of a day, reckoning from Greenwich mean noon of January 1, 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 in India are distinguished by the letter I.

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 1884:—

E. W. Maunder	-	M	S. Phillips	-	SP
H. P. Hollis	-	H	F. E. Wilkins	-	W
J. Hawton	-	JH			

The *third* column gives the No. of the group. The groups are numbered in the 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 instrumental distortion and 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 eye-piece, 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 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° , 90° , 180° , and 270° 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-wires which serve to determine the zero of position-angles on the photograph.

The zero of the Dallmeyer Photoheliograph employed at Greenwich has been determined by allowing the diurnal motion to carry the spot or Sun's limb along the wire, a correction for the inclination of the Sun's path being applied to the reading of the position-circle so obtained, and also by running the image along the wire by the use of the R.A. slow motion, the mean of the two determinations being adopted as the zero.

For the photoheliograph giving a four-inch solar image:—

Date.		Corrected Zero of Position-Circle from transit.		Zero of Position-Circle obtained when using R. A. Slow Motion.		Zero Adopted.
		Wire a.	Wire b.	Wire a.	Wire b.	
	h	° /	° /	° /	° /	° /
1884, January	10. 22	353. 59	83. 50	353. 57	83. 50	353. 54
February	13. 22	353. 48	83. 48	353. 54	83. 48	353. 50
March	18. 0	352. 51	82. 46	352. 50	82. 48	352. 49

For the photoheliograph giving an eight-inch solar image:—

Date.		Corrected Zero of Position-Circle from transit.		Zero of Position-Circle obtained when using R. A. Slow Motion.		Zero Adopted.
		Wire <i>a</i> .	Wire <i>b</i> .	Wire <i>a</i> .	Wire <i>b</i> .	
	h	° ' "	° ' "	° ' "	° ' "	° ' "
1884, April	4. 0	356. 6	85. 54	356. 2	85. 50	355. 58
June	11. 0	356. 39	86. 41	356. 38	86. 40	356. 40
July	25. 0	356. 37	86. 34	356. 36	86. 30	356. 34
	30. 23	356. 23	86. 21	356. 30	86. 24	356. 25
August	4. 23	356. 33	86. 27	356. 33	86. 27	356. 30
	6. 0	356. 3	85. 57	356. 0	86. 0	356. 0
	16. 0	355. 21	85. 21	355. 24	85. 24	355. 23
September	19. 2	355. 26	85. 26	355. 24	85. 24	355. 25
November	4. 22	355. 29	85. 29	355. 32	85. 32	355. 30

The correctness of the adjustment of the wires was also tested on April 9, 19, May 17, August 2, 4, 7, November 29, and December 19, by allowing the diurnal motion to carry a spot along the equatoreal wire *a*, but the position-circle was not altered. The photoheliograph was dismounted on August 5, and re-mounted on August 6.

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 correction for zero of position of the photoheliograph adopted for any date has been the mean of the determinations of that zero made next before and next after that date, except in the interval 1884 April 4^d. 0^h—June 11^d. 0^h, when the determination made on April 4^d was employed alone, and also in the interval 1884 August 6^d. 0^h—August 14^d. 23^h, when the determination made on August 6 was used alone, the position-circle having been found to have been disturbed on June 11 and on August 15. The determination of the zero August 4^d. 23^h was made after the photographs were taken on that day and before the photoheliograph was dismounted; the determination made on August 6 was made after the photoheliograph was re-mounted and before any photographs had been taken. 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 at Dehra Dûn the position-circle has always been set to the zero as determined by allowing the diurnal motion to carry a spot or the Sun's limb along the horizontal wire, and the accuracy of the adjustment has been tested at short intervals. No correction for zero of the photoheliograph has therefore been required for the reduction of the photographs taken in India.

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 new 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.

Corrections are then applied for optical distortion of the photoheliographs and for refraction. The distortion has been determined for the Dallmeyer photoheliographs giving a solar image of four inches diameter from measures of photographs of a scale of equal parts, 16 feet long, constructed by Mr. De La Rue, and lent by him for this purpose. The scale has eight plates of iron with edges carefully planed, the plates being each exactly one foot in breadth, and attached to a braced iron framework so as to leave equidistant spaces of exactly one foot between the plates. The scale was photographed at a distance of about 1,200 feet, and extended completely across the field of view.

The following table gives the distortion for the Dallmeyer Photoheliographs for images of the Sun, of about four inches diameter thus determined for every tenth of an inch distance from the centre of the field :--

Distance from Centre.	Correction for Distortion.	Distance from Centre.	Correction for Distortion.	Distance from Centre.	Correction for Distortion.
r	r	r	r	r	r
0	0.000	9	+ 0.035	18	+ 0.010
1	+ .006	10	+ .036	19	+ .004
2	+ .012	11	+ .035	20	— .004
3	+ .017	12	+ .034	21	— .012
4	+ .022	13	+ .032	22	— .020
5	+ .026	14	+ .028	23	— .029
6	+ .029	15	+ .024	24	— .038
7	+ .032	16	+ .020	25	— .047
8	+ .034	17	+ .016	26	— .057

$1^r = 0^{\text{in}}.10$, corresponding to $49''.3$.

The distances as measured on the four-inch photographs taken at Greenwich have been corrected for the corresponding distortion, and in cases where the centre of the Sun's image did not fall very close to the centre of the plate, a correction has been applied to the position-angles for the resolved part of the distortion. No correction has been applied to the measure of Sun's radius on account of distortion, the scales adopted in forming the tables having been so chosen that the distortion shall be 0 at the average place of the Sun's limb on the photographic plate; viz., $19^{\circ}5$.

No correction has been applied to the eight-inch 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 δr and $\delta \theta$, the corrections to radius vector and position-angle for the effect of refraction—

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

The quantity δr 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 θ_0 , $\theta_0 + 90^\circ$ the position-angles of the two diameters measured. Thus the final correction to r becomes—

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

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

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 disc, R the measured radius of the Sun on the photograph, (R) the tabular semidiameter of the Sun in arc, and ρ, ρ' the angular distances of a spot from the centre of the apparent disc 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, λ are the heliographic latitudes of the Earth and the Spot respectively, referred to the Sun's Equator, and L, l the heliographic longitudes reckoned from the ascending node of the Sun's Equator on the ecliptic, and χ the position-angle from the Sun's axis, we have by the ordinary equations of spherical trigonometry—

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

The quantities L and D are derived from Warren De La Rue's Auxiliary Tables before referred to, in the computation of which the following formulæ have been used—

$$\begin{aligned} \tan L &= \cos I \tan (\odot - N) \\ \sin D &= \sin I \sin (\odot - N) \end{aligned}$$

where I is the inclination of the Sun's Equator to the ecliptic, N the longitude of the ascending node, and $\odot$ the longitude of the Sun.

* 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 position-angle χ is given by the formula—

$$\chi = P + G + H$$

where P is the position-angle from the north point of the Sun, and G and H two auxiliary angles given by the formulæ—

$$\tan G = \tan \omega \cos \odot$$

$$\tan H = \tan I \cos (\odot - N)$$

ω being the obliquity of the ecliptic.

It will be seen that G is the inclination of two planes through the line joining the centres of the Earth and Sun passing through the poles of the Earth and of the ecliptic respectively, and that H is the inclination of two planes through the same line and the poles of the Sun and of the ecliptic. The values assumed for I, N, ω in the computation of the Tables are $7^{\circ} 15'$, 74° , and $23^{\circ} 27' \cdot 5$ respectively.

The Heliographic Longitude of the Spot is found from l , the Heliographic Longitude from Node, by subtracting the Reduction to Prime Meridian, which is the Longitude of the Node at the epoch of the photograph, referred to the assumed Prime Meridian, the latter being the meridian which passed through the ascending node at the epoch 1854.0. The period of rotation assumed is 25.38 days.

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 nearly 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 some 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. The actual number of individual spots is usually stated in the Notes.

The Mean Areas of Spots and Faculæ and the mean Heliographic Latitude of Spots for each synodic Rotation of the Sun, and for each year from the commencement of the Greenwich series of photographs to the end of 1884, are given at the end of this section, and require no further explanation.

W. H. M. CHRISTIE.

ROYAL OBSERVATORY, GREENWICH.

SPECTROSCOPIC OBSERVATIONS

MADE AT THE

ROYAL OBSERVATORY, GREENWICH,

1884.

MEASURES OF DISPLACEMENT OF LINES in the SPECTRA of STARS, as compared with those of TERRESTRIAL ELEMENTS, and CONCLUDED MOTIONS in the LINE of SIGHT, from OBSERVATIONS at the ROYAL OBSERVATORY, GREENWICH, in the Year 1884.

Note.—The motion corresponding to the displacement actually observed may be inferred from the Concluded Motion by adding the Earth's Motion algebraically.

The "Half-prism" Spectroscope was used throughout. Each "Half-prism" is compound, and is composed of a flint "half-prism," (*i.e.*, the half of an isosceles prism, cut by a plane perpendicular to the base,) and a crown prism, cemented on the emergent face, so as to form the half of a direct-vision prism. With one such half-prism, a dispersion of about $18\frac{1}{2}^\circ$ from A to H, equivalent to that produced by four flint prisms of 60° , is obtained; and with a train of two a dispersion of about 80° , equivalent to that produced by sixteen flint prisms of 60° . One half-prism was usually employed; when two half-prisms were used the fact is stated in the "Remarks." The dispersions have been inferred from measurements of the distance between b_1 and b_4 as compared with the wave-length measure.

1^{rev.} of the micrometer corresponds, with one "half-prism" to 10.4 tenth-metres or 375 miles per second for the b lines, and to 7.91 tenth-metres or 30.4 miles per second for the F line; and with two "half-prisms" to 2.1 tenth-metres or 77 miles per second for b , and to 1.71 tenth-metres or 66 miles per second for F.

1^{rev.} of the screw for opening the slit corresponds to 0.01 inch, or about $10''$.

The slit lies north and south when the reading of the Position-Circle is 5° .

The day specified in the first column is the Mean Solar Day in ordinary astronomical reckoning; the hours and minutes are those of Greenwich Sidereal Time.

The velocity of light has been taken as 186,660 miles per second, and the distance of the Sun as 92,250,000 miles.

The estimations of displacements have been made by *indirect* comparison with the comparison-line, except where the contrary is expressly stated. The displacement is estimated in terms of the breadth of the comparison-line.

The sign + denotes a displacement towards the red or a motion of recession, — a displacement towards the blue or a motion of approach.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Jan. 24. 3. 55	M	Aldebaran	F	0.125	+0.100	+ $\frac{1}{2}$	+ 15.7	+ 14.7	+ 16.2	Spectrum tremulous. Definition only poor.
4. 10	M	"	F	0.125	+0.118	+ $\frac{1}{2}$	+ 15.7	+ 20.1	+ 22.6	Star-line seen with difficulty.
4. 30	M	Rigel	F	0.125	+0.022	+ $\frac{1}{2}$	+ 12.3	— 5.6	— 3.2	Cloud passing; spectrum faint and star-line not well seen.
4. 50	M	"	F	0.125	+0.024	+ $\frac{1}{2}$	+ 12.3	— 5.0	— 3.2	
5. 5	M	Sirius	F	0.125	—0.022	— $\frac{1}{2}$	+ 5.5	— 12.2	— 14.6	Spectrum very tremulous. Definition bad.
5. 20	M	"	F	0.125	—0.048	— $\frac{1}{2}$	+ 5.5	— 20.1	— 18.2	Measures made with much difficulty.
6. 30	M	Castor	F	0.125	+0.031	+ $\frac{1}{2}$	+ 5.1	+ 4.3	+ 7.6	Light cloud constantly passing interrupted work. Star-line very difficult to see.
Jan. 28. 21. 0	M	Sky	F	0.125	+0.021			+ 6.4		Spectrum faint. The evening was very unfavourable for observation.
	M	"	F	0.125	+0.023			+ 7.0		Position Circle, 5° .
	M	"	F	0.125	+0.005			+ 1.5		
	M	"	F	0.125	—0.011			— 3.3		
21. 20	M	"	F	0.125	—0.007			— 2.1		
4. 35	M	Rigel	F	0.188	+0.104	+ $\frac{1}{2}$	+ 13.0	+ 18.6	+ 28.5	The coincidence of the two spectra appeared perfect.
4. 40	M	"	F	0.188	+0.063	+ $\frac{1}{2}$	+ 13.0	+ 6.1	+ 20.2	
4. 45	M	γ Orionis	F	0.188	+0.023	+ $\frac{1}{2}$	+ 13.7	— 6.7	— 1.9	Spectrum very bright and fairly steady.
4. 50	M	"	F	0.188	+0.087	+ $\frac{1}{2}$	+ 13.7	+ 12.7	+ 19.5	Star-line fairly well defined.
5. 0	M	β Tauri	F	0.188	—0.002	0	+ 13.9	— 14.5	— 13.9	Spectrum bright and fairly steady.
5. 5	M	"	F	0.188	+0.016	+ $\frac{1}{10}$	+ 13.9	— 9.0	— 5.6	
5. 10	M	δ Orionis	F	0.188	—0.075	— $\frac{1}{2}$	+ 12.8	— 35.6	— 40.4	Cloud beginning to come up. Star only seen in glimpses.
5. 20	M	"	F	0.188	—0.130	— $\frac{1}{2}$	+ 12.8	— 52.3	— 40.4	Direct comparison failed to show displacement in either direction. Spectrum very tremulous. Cloud kept passing.
5. 35	M	Sirius	F	0.188	+0.033	+ $\frac{1}{2}$	+ 6.4	+ 3.6	+ 5.4	Position Circle, 5° .
5. 37	M	"	F	0.188	+0.019	+ $\frac{1}{10}$	+ 6.4	— 0.6	+ 1.9	
5. 40	M	"	F	0.188	—0.043	— $\frac{1}{2}$	+ 6.4	— 19.5	— 27.1	
Jan. 29. 21. 0	M	Sky	F	0.188	+0.018			+ 5.5		No displacement perceived.
	M	"	F	0.188	+0.070			+ 21.3		
	M	"	F	0.188	—0.035			— 10.6		
21. 15	M	"	F	0.188	—0.014			— 4.3		Position Circle, 5° .

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 2. 6. 5	N	β Aurigæ	F	0'185	-0'008	0	+ 12'4	- 14'8	- 12'4	A very doubtful measure. Spectrum faint.
6. 38	N	Moon	F	0'185	+0'017			+ 5'1		Sky cloudy. Moon in cloud. Position Circle, 5°.
Feb. 6. 7. 35	M	Aldebaran	F	0'135	+0'091	+ $\frac{1}{10}$	+ 17'6	+ 10'0	+ 10'5	Spectrum tremulous and star-line ill-defined.
7. 45	M	"	F	0'135	+0'084	+ $\frac{1}{10}$	+ 17'6	+ 7'9	+ 10'5	
7. 50	M	Moon	F	0'135	-0'053			- 16'1		The coincidence of the two spectra appeared perfect.
	M	"	F	0'135	-0'019			- 5'8		
	M	"	F	0'135	+0'001			+ 0'3		
	M	"	F	0'135	+0'001			+ 0'3		
	M	"	F	0'135	+0'033			+ 10'0		
7. 55	M	"	F	0'135	+0'013	+ $\frac{1}{10}$	+ 14'3	- 10'3	- 2'6	Spectrum tremulous, but star-line fairly distinct.
8. 0	M	Rigel	F	0'135	+0'116	+ $\frac{1}{10}$	+ 14'3	+ 21'0	+ 9'1	
8. 5	M	"	F	0'135	+0'116	+ $\frac{1}{10}$	+ 14'3	+ 21'0	+ 9'1	
8. 25	M	Sirius	F	0'135	-0'096	- $\frac{1}{10}$	+ 8'4	- 37'5	- 24'0	Spectrum tremulous. Clouds passing.
8. 30	M	"	F	0'135	-0'097	- $\frac{1}{10}$	+ 8'4	- 37'9	- 24'0	
8. 32	M	"	F	0'135	-0'027	- $\frac{1}{10}$	+ 8'4	- 16'6	- 20'1	
8. 35	M	"	F	0'135	-0'089	- $\frac{1}{10}$	+ 8'4	- 35'4	- 36'5	
8. 40	M	Procyon	F	0'135	-0'002	0	+ 7'3	- 7'9	- 7'3	
8. 41	M	"	F	0'135	+0'073	+ $\frac{1}{10}$	+ 7'3	+ 14'9	+ 16'1	
8. 43	M	"	F	0'135	+0'003	0	+ 7'3	- 6'4	- 7'3	
8. 45	M	"	F	0'135	+0'034	+ $\frac{1}{10}$	+ 7'3	+ 3'0	+ 4'4	
8. 55	M	Castor	F	0'135	+0'157	+ $\frac{1}{10}$	+ 9'0	+ 38'7	+ 26'1	The F line in this spectrum is very ill-defined.
8. 58	M	"	F	0'135	+0'030	+ $\frac{1}{10}$	+ 9'0	+ 0'1	+ 2'7	
9. 2	M	"	F	0'135	+0'024	+ $\frac{1}{10}$	+ 9'0	- 1'7	+ 6'6	
9. 5	M	"	F	0'135	+0'071	+ $\frac{1}{10}$	+ 9'0	+ 12'6	+ 6'6	
9. 10	M	Pollux	F	0'135	-0'088	- $\frac{1}{10}$	+ 8'0	- 34'7	- 36'1	
9. 15	M	"	F	0'135	-0'113	- $\frac{1}{10}$	+ 8'0	- 42'3	- 31'4	
9. 55	M	Regulus	F	0'180	+0'005	0	- 3'4	+ 4'9	+ 3'4	Spectrum tremulous; star-line ill-defined.
9. 57	M	"	F	0'180	+0'012	+ $\frac{1}{10}$	- 3'4	+ 7'0	+ 8'6	Measures difficult. Position Circle, 5°.
Feb. 11. 5. 30	M	Capella	F	0'090	+0'161	+ $\frac{3}{10}$	+ 15'4	+ 33'5	+ 37'0	Spectrum bright and steady. Star-line well-defined.
5. 35	M	"	F	0'090	+0'088	+ $\frac{1}{10}$	+ 15'4	+ 11'3	+ 37'0	
5. 40	M	Rigel	F	0'090	+0'203	+ $\frac{1}{10}$	+ 14'9	+ 46'8	+ 54'9	
5. 45	M	"	F	0'090	+0'189	+ $\frac{1}{10}$	+ 14'9	+ 42'5	+ 54'9	
5. 55	M	γ Orionis	F	0'090	+0'163	+ $\frac{1}{10}$	+ 16'1	+ 33'4	+ 18'8	The star-line was much more distinctly seen during the second and third observations than during the first and last.
5. 58	M	"	F	0'090	+0'062	+ $\frac{1}{10}$	+ 16'1	+ 2'7	+ 7'2	
6. 0	M	"	F	0'090	+0'059	+ $\frac{1}{10}$	+ 16'1	+ 1'8	+ 7'2	
6. 5	M	"	F	0'090	+0'049	+ $\frac{1}{10}$	+ 16'1	- 1'2	+ 1'4	
6. 10	M	β Tauri	F	0'090	-0'059	- $\frac{1}{10}$	+ 16'5	- 34'4	- 39'8	Spectrum steady. Star-line well defined.
6. 15	M	"	F	0'090	-0'086	- $\frac{1}{10}$	+ 16'5	- 42'6	- 44'5	
6. 25	M	δ Orionis	F	0'090	+0'036	+ $\frac{1}{10}$	+ 15'2	- 4'3	- 1'2	Spectrum tremulous. Star-line very faint and ill-defined.
6. 35	M	"	F	0'090	-0'033	- $\frac{1}{10}$	+ 15'2	- 25'2	- 22'2	
6. 40	M	ϵ Orionis	F	0'090	+0'014	+ $\frac{1}{10}$	+ 15'0	- 11'3	- 8'0	Spectrum tremulous. Star-line very faint and ill-defined.
6. 45	M	"	F	0'090	-0'048	- $\frac{1}{10}$	+ 15'0	- 29'6	- 29'0	
6. 50	M	ζ Orionis	F	0'090	-0'001	0	+ 14'7	- 15'0	- 14'7	Spectrum tremulous. Star-line very faint and ill-defined.
6. 55	M	"	F	0'090	-0'078	- $\frac{1}{10}$	+ 14'7	- 38'4	- 42'7	
7. 5	M	κ Orionis	F	0'090	+0'043	+ $\frac{1}{10}$	+ 13'4	- 0'3	+ 14'6	Spectrum and star-line too faint to be observed satisfactorily.
7. 10	M	"	F	0'090	-0'013	0	+ 13'4	- 17'4	- 13'4	
7. 20	M	Sirius	F	0'090	-0'051	- $\frac{1}{10}$	+ 9'4	- 24'9	- 26'9	
7. 23	M	"	F	0'090	-0'151	- $\frac{1}{10}$	+ 9'4	- 55'2	- 44'3	
7. 26	M	"	F	0'090	-0'068	- $\frac{1}{10}$	+ 9'4	- 30'1	- 32'7	
7. 30	M	"	F	0'090	-0'091	- $\frac{1}{10}$	+ 9'4	- 37'0	- 32'7	
7. 50	M	Procyon	F	0'090	+0'030	+ $\frac{1}{10}$	+ 8'7	+ 0'4	+ 14'6	Spectrum bright. Star-line very well seen.
7. 52	M	"	F	0'090	+0'107	+ $\frac{1}{10}$	+ 8'7	+ 23'8	+ 37'9	
7. 54	M	"	F	0'090	+0'103	+ $\frac{1}{10}$	+ 8'7	+ 22'6	+ 33'2	
7. 56	M	"	F	0'090	+0'086	+ $\frac{1}{10}$	+ 8'7	+ 17'4	+ 26'2	
8. 0	M	Castor	F	0'090	+0'046	+ $\frac{1}{10}$	+ 10'4	+ 3'6	+ 12'9	
8. 5	M	"	F	0'090	+0'043	+ $\frac{1}{10}$	+ 10'4	+ 2'7	+ 7'1	
8. 10	M	Pollux	F	0'090	-0'118	- $\frac{1}{10}$	+ 9'4	- 45'2	- 44'3	
8. 15	M	"	F	0'090	-0'071	- $\frac{1}{10}$	+ 9'4	- 31'0	- 32'7	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 11. 8. 20	M	Moon	F	0'090	+0'017			+ 5'1		
	M	"	F	0'090	+0'032			+ 9'7		
	M	"	F	0'090	-0'022			- 6'7		
	M	"	F	0'090	+0'003			+ 0'9		
8. 25	M	"	F	0'090	+0'004			+ 1'2		
										Position Circle, 5°.
Feb. 12. 6. 42	N	Sirius	F	0'204	-0'041	- $\frac{1}{10}$	+ 9'6	- 22'0	- 22'2	Spectrum tremulous. Wind high.
6. 45	N	"	F	0'204	-0'106	- $\frac{1}{10}$	+ 9'6	- 41'8	- 38'9	
7. 10	N	Rigel	F	0'204	+0'136	+ $\frac{1}{10}$	+ 15'0	+ 26'3	+ 17'9	
7. 13	N	"	F	0'204	+0'106	+ $\frac{1}{10}$	+ 15'0	+ 17'2	+ 14'3	
7. 38	N	β Tauri	F	0'204	-0'057	- $\frac{1}{10}$	+ 16'7	- 34'0	- 34'2	
7. 42	N	"	F	0'204	+0'028	0	+ 16'7	- 8'2	- 16'7	
8. 5	N	Procyon	F	0'204	+0'127	+	+ 9'0	+ 29'6	+ 26'1	
8. 9	N	"	F	0'204	+0'179	+	+ 9'0	+ 45'4	+ 61'7	
8. 49	N	Moon	F	0'204	-0'028			- 8'5		The coincidence of the two spectra appeared perfect. The moon was in light cloud.
8. 52	N	"	F	0'204	-0'011			- 3'3		Position Circle, 5°.
Feb. 15. 4. 50	M	β Tauri	F	0'161	+0'046	+ $\frac{1}{10}$	+ 17'1	- 3'1	- 8'5	Definition fair.
4. 55	M	"	F	0'161	+0'012	+ $\frac{1}{10}$	+ 17'1	- 13'5	- 8'5	
5. 0	M	"	F	0'161	-0'022	- $\frac{1}{10}$	+ 17'1	- 23'8	- 25'7	
5. 10	M	"	F	0'161	+0'004	0	+ 17'1	- 15'9	- 17'1	
5. 20	M	γ Orionis	F	0'161	+0'023	+ $\frac{1}{10}$	+ 16'6	- 9'6	- 8'0	Definition good.
5. 30	M	"	F	0'161	+0'098	+ $\frac{1}{10}$	+ 16'6	+ 13'2	+ 26'4	
5. 35	M	Rigel	F	0'161	+0'128	+	+ 15'3	+ 23'6	+ 27'7	Spectrum tremulous, but definition very good.
5. 40	M	"	F	0'161	+0'103	+	+ 15'3	+ 16'0	+ 19'1	
5. 45	M	δ Orionis	F	0'161	+0'049	+ $\frac{1}{10}$	+ 15'7	- 0'8	+ 5'8	Spectrum tremulous. Star-line faint, but seen well by glimpses.
5. 50	M	"	F	0'161	+0'119	+	+ 15'7	+ 20'4	+ 18'7	
5. 55	M	ϵ Orionis	F	0'161	+0'172	+	+ 15'5	+ 36'8	+ 41'8	Spectrum tremulous. Star-line faint, but seen well by glimpses.
5. 58	M	"	F	0'161	+0'089	+ $\frac{1}{10}$	+ 15'5	- 11'5	+ 13'1	
6. 0	M	ζ Orionis	F	0'161	+0'008	+ $\frac{1}{10}$	+ 15'2	- 12'8	- 6'6	Spectrum tremulous. Star-line faint, but seen well by glimpses.
6. 5	M	"	F	0'161	+0'014	+ $\frac{1}{10}$	+ 15'2	- 10'9	- 6'6	
6. 10	M	κ Orionis	F	0'161	+0'067	+ $\frac{1}{10}$	+ 13'9	+ 6'5	+ 3'3	Spectrum tremulous. Star-line faint, but seen well by glimpses.
6. 15	M	"	F	0'161	+0'117	+	+ 13'9	+ 21'6	+ 20'5	
6. 25	M	η Tauri	F	0'161	-0'110	- $\frac{1}{10}$	+ 18'8	- 52'2	- 53'2	Star-line somewhat broad and diffused.
6. 30	M	"	F	0'161	-0'034	- $\frac{1}{10}$	+ 18'8	- 29'1	- 27'4	Measures made with difficulty, and considered rough.
6. 35	M	γ Persei	F	0'161	-0'087	- $\frac{1}{10}$	+ 15'5	- 41'9	- 44'1	Star-line broad, faint, and very diffused; a very difficult object to measure satisfactorily.
6. 40	M	"	F	0'161	-0'134	- $\frac{1}{10}$	+ 15'5	- 56'2	- 58'5	
6. 45	M	β Persei	F	0'161	-0'017	- $\frac{1}{10}$	+ 17'4	- 22'5	- 26'0	Star-line broad and dark and somewhat difficult to bisect with accuracy. There seems however no doubt but that the displacement is towards the blue.
6. 50	M	"	F	0'161	-0'148	- $\frac{1}{10}$	+ 17'4	- 62'4	- 69'0	
6. 52	M	"	F	0'161	-0'145	- $\frac{1}{10}$	+ 17'4	- 61'4	- 69'0	
6. 55	M	"	F	0'161	-0'040	- $\frac{1}{10}$	+ 17'4	- 29'5	- 38'9	
7. 0	M	α Persei	F	0'161	-0'176	- $\frac{1}{10}$	+ 16'2	- 69'7	- 67'8	Star-line broad and dark and somewhat difficult to bisect with accuracy. There seems however no doubt but that the displacement is towards the blue.
7. 5	M	"	F	0'161	-0'156	- $\frac{1}{10}$	+ 16'2	- 63'6	- 67'8	
7. 10	M	Aldebaran	F	0'161	+0'095	+ $\frac{2}{10}$	+ 18'4	+ 10'4	+ 16'0	Spectrum bright, and definition good.
7. 15	M	"	F	0'161	+0'083	+ $\frac{2}{10}$	+ 18'4	+ 6'8	+ 16'0	
7. 30	M	Orion Nebula..	F	0'161	-0'021	- $\frac{1}{10}$	+ 15'0	- 21'4	- 23'6	Measures purely tentative. The part of the Nebula examined was that immediately around the Trapezium.
7. 32	M	"	F	0'161	-0'124	- $\frac{1}{10}$	+ 15'0	- 52'7	- 49'4	
7. 34	M	"	F	0'161	-0'041	- $\frac{1}{10}$	+ 15'0	- 27'4	- 27'3	
7. 35	M	"	F	0'161	-0'058	- $\frac{1}{10}$	+ 15'0	- 32'6	- 23'6	
7. 43	M	Sirius	F	0'161	-0'097	- $\frac{1}{10}$	+ 10'1	- 39'6	- 38'7	Direct comparison showed the star-line to be displaced towards the blue, but only by a small amount.
7. 45	M	"	F	0'161	-0'020	- $\frac{1}{10}$	+ 10'1	- 16'2	- 18'7	
7. 46	M	"	F	0'161	-0'105	- $\frac{1}{10}$	+ 10'1	- 42'0	- 38'7	
7. 47	M	"	F	0'161	-0'079	- $\frac{1}{10}$	+ 10'1	- 34'1	- 27'3	
7. 55	M	Capella	F	0'161	+0'054	+ $\frac{1}{10}$	+ 15'9	+ 0'5	+ 12'7	Spectrum steady. Star-line very well defined.
8. 0	M	"	F	0'161	+0'128	+ $\frac{1}{10}$	+ 15'9	+ 23'0	+ 12'7	
8. 2	M	β Aurigæ	F	0'161	+0'017	+ $\frac{1}{10}$	+ 14'8	- 9'7	- 6'2	Spectrum steady. Star-line very broad, but measures considered good.
8. 4	M	"	F	0'161	+0'060	+ $\frac{1}{10}$	+ 14'8	+ 3'4	+ 2'4	
8. 12	M	Procyon	F	0'161	+0'024	+ $\frac{1}{10}$	+ 9'8	- 2'5	- 1'2	Spectrum steady.
8. 15	M	"	F	0'161	+0'005	0	+ 9'8	- 8'3	- 9'8	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 15. 8. 20	M	γ Geminorum..	F	0'161	-0'029	- $\frac{1}{10}$	+ 14'2	- 23'0	- 22'8	Spectrum steady. Star-line very broad, but measures considered good.
8. 22	M	"	F	0'161	-0'080	- $\frac{1}{4}$	+ 14'2	- 38'5	- 35'7	
8. 27	M	Castor.....	F	0'161	+0'123	+ $\frac{1}{10}$	+ 11'5	+ 25'9	+ 31'5	Spectrum steady. Observations considered good.
8. 30	M	"	F	0'161	+0'108	+ $\frac{1}{10}$	+ 11'5	+ 21'3	+ 31'5	
8. 35	M	Pollux.....	F	0'161	-0'170	- $\frac{1}{10}$	+ 10'5	- 62'1	- 62'1	Spectrum steady. Observations considered good.
8. 36	M	"	F	0'161	-0'207	- $\frac{1}{10}$	+ 10'5	- 73'4	- 62'1	
8. 38	M	"	F	0'161	-0'153	- $\frac{1}{10}$	+ 10'5	- 57'0	- 67'8	Position Circle, 5°.
8. 40	M	"	F	0'161	-0'151	- $\frac{1}{10}$	+ 10'5	- 56'3	- 53'5	
Feb. 16. 22. 0	M	Sky.....	F	0'161	-0'019			- 5'8		The coincidence of the two spectra appeared perfect.
	M	"	F	0'161	+0'037			+ 11'3		
	M	"	F	0'161	+0'024			+ 7'3		Position Circle, 5°.
	M	"	F	0'161	+0'010			+ 3'0		
22. 20	M	"	F	0'161	-0'015			- 4'6		
Feb. 18. 4. 55	M	Orion Nebula .	F	0'175	-0'161		+ 15'3	- 64'2		The F line in the spectrum of the Nebula was faint, very much fainter than the line at λ 5005. The measures, therefore, are not trustworthy. The two-prism train was also tried, but it was not found possible to obtain any satisfactory measures with it. The line λ 5005 was examined with this latter dispersion, the slit being very narrow, and was seen to be a single line. None of the lines in the spectrum of the Nebula, are however, very sharp. λ 5005 showed a faint fringe mainly on the side nearer the blue.
4. 58	M	"	F	0'175	-0'100		+ 15'3	- 45'7		
5. 2	M	"	F	0'175	-0'126		+ 15'3	- 53'6		
5. 5	M	"	F	0'175	-0'090		+ 15'3	- 42'6		
5. 44	M	Rigel.....	F	0'175	+0'133	+ $\frac{1}{10}$	+ 15'5	- 6'8	- 6'1	Spectrum faint and tremulous. Star-line difficult to see. Definition poor. Two prism train.
5. 46	M	"	F	0'175	+0'346	+ $\frac{1}{4}$	+ 15'5	+ 7'2	+ 7'9	
5. 50	M	γ Orionis.....	F	0'175	+0'267	+ $\frac{1}{4}$	+ 17'0	+ 0'5	+ 6'4	Two prism train. Spectrum fairly steady, but star-line faint.
5. 55	M	"	F	0'175	-0'097	- $\frac{1}{10}$	+ 17'0	- 23'8	- 26'8	
6. 0	M	β Tauri.....	F	0'175	-0'176	- $\frac{1}{10}$	+ 17'4	- 29'0	- 36'1	Two prism train. Spectrum fairly steady, but star-line faint.
6. 5	M	"	F	0'175	-0'042	- $\frac{1}{10}$	+ 17'4	- 20'2	- 26'8	
6. 15	M	δ Orionis.....	F	0'175	+0'320	+ $\frac{1}{10}$	+ 16'0	+ 5'0	+ 2'7	Two prism train. Spectrum fairly steady, but star-line exceedingly faint. Measures very doubtful.
6. 17	M	"	F	0'175	+0'619	+ $\frac{1}{2}$	+ 16'0	+ 24'6	+ 30'8	
6. 22	M	ϵ Orionis.....	F	0'175	+0'368	+ $\frac{1}{10}$	+ 15'9	+ 8'3	+ 15'3	Two prism train. Spectrum fairly steady, but star-line faint. Definition fair.
6. 25	M	"	F	0'175	+0'270	+ $\frac{1}{4}$	+ 15'9	+ 1'8	+ 7'5	
6. 33	M	ζ Orionis.....	F	0'175	+0'075	+ $\frac{1}{10}$	+ 15'6	- 10'7	- 6'2	Two prism train. Spectrum fairly steady but star-line faint. Definition fair.
6. 35	M	"	F	0'175	+0'327	+ $\frac{1}{10}$	+ 15'6	+ 5'9	+ 3'1	
6. 43	M	Sirius.....	F	0'175	-0'069	- $\frac{1}{10}$	+ 10'6	- 15'1	- 20'0	Two prism train. The F line in the spectrum of Sirius is not only broad and diffused, but it is not at all dark. Measures considered satisfactory.
6. 46	M	"	F	0'175	+0'030	0	+ 10'6	- 8'6	- 10'6	
6. 47	M	"	F	0'175	-0'342	- $\frac{3}{10}$	+ 10'6	- 33'1	- 38'7	Position Circle, 5°.
6. 50	M	"	F	0'175	-0'047	- $\frac{1}{10}$	+ 10'6	- 13'7	- 20'0	
Feb. 21. 5. 41	M	Venus.....	F	0'216	-0'085	- $\frac{2}{3}$		- 25'8	- 36'6	Calculated motion -6'4 miles per second. Measures not considered satisfactory. Planet obscured by cloud.
5. 42	M	"	F	0'216	-0'068	- $\frac{1}{3}$		- 20'7	- 30'5	
6. 5	M	β Arietis.....	F	0'216	-0'145	- $\frac{1}{10}$	+ 17'6	- 61'6	- 63'3	Star-line faint and very ill-defined.
6. 8	M	"	F	0'216	-0'101	- $\frac{1}{10}$	+ 17'6	- 48'3	- 48'1	
6. 31	M	γ Persei.....	F	0'216	+0'163	+ $\frac{1}{10}$	+ 15'4	+ 34'1	+ 30'3	Definition very bad.
6. 33	M	"	F	0'216	+0'147	+ $\frac{1}{10}$	+ 15'4	+ 29'3	+ 30'3	
6. 46	M	Aldebaran....	F	0'216	+0'142	+ $\frac{1}{10}$	+ 18'6	+ 24'5	+ 27'1	Star-line well seen.
6. 47	M	"	F	0'216	+0'096	+ $\frac{1}{10}$	+ 18'6	+ 10'5	+ 18'0	
6. 54	M	β Tauri.....	F	0'216	-0'034	- $\frac{1}{10}$	+ 17'7	- 28'0	- 36'0	
6. 55	M	"	F	0'216	-0'044	- $\frac{1}{4}$	+ 17'7	- 31'1	- 40'5	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 21. 7. 0	M	γ Orionis	F	0'216	+0'050	+ $\frac{1}{5}$	+ 17'2	- 2'0	+ 1'1	Spectrum tremulous. Star-line fairly well seen.
7. 2	M	"	F	0'216	+0'069	+ $\frac{1}{4}$	+ 17'2	+ 3'8	+ 5'6	Spectrum very tremulous. Star-line only well seen by glimpses.
7. 8	M	Rigel	F	0'216	+0'116	+ $\frac{1}{2}$	+ 15'7	+ 19'6	+ 20'9	Position Circle, 5°.
7. 12	M	"	F	0'216	+0'116	+ $\frac{1}{2}$	+ 15'7	+ 19'6	+ 20'9	
Feb. 29. 6. 54	N	Venus	F	0'216	-0'154	- $\frac{1}{2}$		- 46'8	- 45'7	Calculated motion -6'8 miles per second.
6. 57	N	"	F	0'216	-0'172	- $\frac{1}{2}$		- 52'2	- 45'7	Sky hazy.
7. 15	N	Moon	F	0'216	-0'034			- 10'3		Spectrum faint. Sky hazy.
7. 20	N	"	F	0'216	-0'020			- 6'1		
7. 58	N	Capella	F	0'216	+0'047	+ $\frac{1}{8}$	+ 17'0	- 2'7	- 1'8	Measures doubtful. Sky hazy.
8. 7	N	"	F	0'216	+0'016	0	+ 17'0	- 21'9	- 17'0	Position Circle, 5°.
Mar. 10. 7. 0	M	Orion Nebula .	F	..	..	..	..	..	..	With neither one nor two prism trains, after very careful direct comparison (the light from the comparison tube being weakened until it could be compared directly with the light from the Nebula), could any displacement be detected; the coincidence of the two spectra was evidently very close.
7. 59	M	γ Orionis	F	0'215	-0'011	0	+ 17'8	- 14'5	- 17'8	Star-line fairly well defined.
8. 1	M	"	F	0'215	+0'057	+ $\frac{1}{5}$	+ 17'8	- 0'5	- 3'6	
8. 12	M	β Tauri	F	0'215	-0'112	- $\frac{1}{3}$	+ 18'5	- 52'5	- 42'2	Star-line fairly well defined.
8. 14	M	"	F	0'215	-0'020	- $\frac{1}{10}$	+ 18'5	- 24'6	- 25'6	
8. 28	M	Sirius	F	0'215	-0'089	- $\frac{1}{3}$	+ 13'3	- 40'3	- 37'0	Spectrum very tremulous. Star-line very ill-defined.
8. 30	M	"	F	0'215	-0'017	- $\frac{1}{10}$	+ 13'3	- 18'4	- 20'4	
8. 31	M	"	F	0'215	-0'088	- $\frac{2}{3}$	+ 13'3	- 40'0	- 41'7	
8. 32	M	"	F	0'215	-0'111	- $\frac{2}{3}$	+ 13'3	- 47'0	- 41'7	
8. 36	M	Procyon	F	0'215	-0'071	- $\frac{1}{4}$	+ 14'9	- 36'5	- 32'7	Star-line very well defined. Displacement towards the blue, but only very slight.
8. 38	M	"	F	0'215	-0'014	- $\frac{1}{10}$	+ 14'9	- 19'2	- 22'0	
8. 39	M	"	F	0'215	-0'044	- $\frac{1}{10}$	+ 14'9	- 28'3	- 22'0	
8. 40	M	"	F	0'215	-0'021	- $\frac{1}{10}$	+ 14'9	- 21'3	- 25'0	
8. 59	M	γ Geminorum .	F	0'215	+0'178	+ $\frac{3}{5}$	+ 17'7	+ 36'4	+ 25'0	
9. 2	M	"	F	0'215	+0'042	+ $\frac{3}{10}$	+ 17'7	- 5'0	+ 3'6	The coincidence of the two spectra appeared perfect.
9. 8	M	Moon	F	0'215	+0'010			+ 3'0		
	M	"	F	0'215	-0'019			- 5'8		
	M	"	F	0'215	-0'006			- 1'8		
	M	"	F	0'215	-0'003			- 0'9		
9. 20	M	"	F	0'215	+0'014			+ 4'3		Position Circle, 5°.
Mar. 12. 7. 35	M	Aldebaran	F	0'226	+0'185	+ $\frac{2}{5}$	+ 17'9	+ 38'3	+ 18'7	Definition very bad.
7. 40	M	"	F	0'226	+0'240	+ $\frac{3}{5}$	+ 17'9	+ 55'0	+ 37'0	
7. 55	M	Rigel	F	0'226	+0'151	+ $\frac{1}{2}$	+ 15'8	+ 30'0	+ 14'7	Spectrum very tremulous. Star-line difficult to see.
8. 0	M	"	F	0'226	+0'109	+ $\frac{1}{2}$	+ 15'8	+ 17'3	+ 20'8	
8. 30	M	Orion Nebula . .	F	..	..	..	..	..	..	Spectrum too faint to obtain any measures. The hydrogen spectrum was brought down to almost exactly the same intensity as the light from the Nebula, and direct comparison with one prism train showed coincidence as complete as could be detected considering the faintness of the two spectra. The line at λ 5005 being very much brighter than the F line, it was carefully bisected, when the stars of the trapezium were on the slit, and then by means of the slow motion rods other parts of the Nebula were brought on to the slit. No part of the Nebula, which was sufficiently bright to show the pointer well on the 5005 line,

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					Measured.	Estimated.		Measured.	Estimated.	
d h m Mar. 12. 8. 30 —cont.				r	r					showed any <i>marked</i> displacement, but at a point a little preceding the trapezium it was thought that the pointer did not seem perfectly central on the line, but a little (perhaps $\frac{1}{10}$, certainly not more) towards the red.
8. 40	M	γ Orionis	F	0.226	-0.018	- $\frac{1}{10}$	+ 17.8	- 23.3	- 26.9	Spectrum very tremulous. Definition poor.
8. 45	M	"	F	0.226	+0.068	+ $\frac{1}{4}$	+ 17.8	+ 2.9	+ 5.0	
8. 55	M	β Tauri	F	0.226	+0.022	0	+ 18.5	- 11.8	- 18.5	Spectrum tremulous. Definition poor.
9. 0	M	"	F	0.226	-0.029	0	+ 18.5	- 27.3	- 18.5	
9. 15	M	Sirius	F	0.226	+0.070	+ $\frac{1}{10}$	+ 13.5	+ 7.8	- 4.4	Spectrum <i>very</i> tremulous. Star in much mist, and spectrum faint. The measures, however, which were wholly independent, were unusually accordant, and the star-line, perhaps on account of the faintness of the spectrum, appeared better defined at the edges than usual.
9. 20	M	"	F	0.226	+0.041	+ $\frac{1}{10}$	+ 13.5	- 1.1	- 4.4	
9. 23	M	"	F	0.226	+0.065	+ $\frac{1}{10}$	+ 13.5	+ 6.2	+ 4.8	
9. 25	M	"	F	0.226	+0.045	+ $\frac{1}{5}$	+ 13.5	+ 0.2	+ 4.8	
9. 55	M	Moon	F	0.226	-0.010			- 3.0		The coincidence of the two spectra appeared very satisfactory.
10. 0	M	"	F	0.226	-0.008			- 2.4		Position Circle, 5°.
Mar. 15. 7. 50	M	Sirius	F	0.209	+0.077	+ $\frac{1}{3}$	+ 13.7	+ 9.7	+ 8.6	Spectrum tremulous but very bright, and star-line well seen. The observations seemed to show that there was very little displacement, what there was being towards the red.
8. 0	M	"	F	0.209	-0.045	- $\frac{1}{10}$	+ 13.7	- 27.4	- 20.4	
8. 10	M	"	F	0.209	+0.023	+ $\frac{1}{10}$	+ 13.7	- 6.7	- 10.4	
8. 20	M	"	F	0.209	+0.050	+ $\frac{1}{5}$	+ 13.7	+ 1.5	- 0.3	
8. 40	M	γ Geminorum	F	0.209	-0.031	- $\frac{1}{10}$	+ 18.0	- 27.4	- 27.6	Spectrum steady, and star-line well seen, but a <i>most</i> difficult one to bisect.
8. 50	M	"	F	0.209	-0.025	- $\frac{1}{10}$	+ 18.0	- 25.6	- 27.6	
9. 5	M	Procyon	F	0.209	-0.030	- $\frac{1}{10}$	+ 15.7	- 24.8	- 25.3	Spectrum steady, but star-line somewhat faint. Definition good.
9. 10	M	"	F	0.209	-0.106	- $\frac{1}{10}$	+ 15.7	- 47.9	- 49.1	
9. 15	M	"	F	0.209	-0.026	- $\frac{1}{10}$	+ 15.7	- 23.6	- 22.4	
9. 20	M	"	F	0.209	-0.070	- $\frac{1}{10}$	+ 15.7	- 37.0	- 38.0	
9. 35	M	Pollux	F	0.209	-0.096	- $\frac{1}{10}$	+ 16.4	- 45.5	- 49.8	Spectrum bright and steady, but star-line very faint.
9. 45	M	"	F	0.209	-0.038	- $\frac{1}{10}$	+ 16.4	- 28.0	- 29.8	
9. 55	M	Castor	F	0.209	+0.032	+ $\frac{1}{10}$	+ 16.8	- 7.1	- 7.2	Spectrum bright and steady, but star-line difficult to bisect.
10. 5	M	"	F	0.209	+0.070	+ $\frac{1}{10}$	+ 16.8	+ 4.5	- 0.1	
10. 15	M	Mars	F	0.209	+0.054	+ $\frac{1}{10}$		+ 16.4	+ 13.4	Calculated motion +8.1 miles per second. Spectrum bright and steady. Planet-line very faint and difficult to see.
10. 25	M	"	F	0.209	+0.060	+ $\frac{1}{10}$		+ 18.2	+ 13.4	
10. 45	M	Regulus	F	0.209	+0.097	+ $\frac{2}{5}$	+ 8.6	+ 20.9	+ 18.1	Spectrum bright and steady. Star-line somewhat difficult to bisect from its breadth and diffused edges. The two measures secured seemed quite satisfactory.
10. 55	M	"	F	0.209	+0.091	+ $\frac{2}{5}$	+ 8.6	+ 19.0	+ 18.1	Throughout the evening the spectra were bright and steady, but the definition of the lines in the star-spectra was only poor. Position Circle, 5°.
Mar. 20. 8. 8	N	Capella	b_1	0.120	+0.026	+ $\frac{1}{10}$	+ 16.8	- 7.1	- 4.6	Spectrum tremulous. Wind high. Measures made with difficulty.
8. 40	N	"	b_1	0.120	+0.054	+ $\frac{1}{5}$	+ 16.8	+ 3.5	+ 7.5	
9. 14	N	Aldebaran	b_1	0.120	+0.024	+ $\frac{1}{10}$	+ 17.0	- 8.0	- 4.8	
9. 25	N	"	b_1	0.120	+0.081	+ $\frac{1}{4}$	+ 17.0	+ 13.4	+ 13.4	
9. 51	N	α Orionis	b_4	0.120	+0.180	+ $\frac{2}{3}$	+ 17.7	+ 49.9	+ 46.5	Star-line broad and diffused. The b_1 line could not be detected.
10. 2	N	"	b_4	0.120	+0.118	+ $\frac{2}{3}$	+ 17.7	+ 26.6	+ 25.1	
10. 5	N	"	b_4	0.120	+0.093	+ $\frac{1}{3}$	+ 17.7	+ 17.2	+ 18.0	Position Circle, 5°.
Mar. 24. 8. 38	M	Venus	b_1	0.090	-0.107	- $\frac{1}{2}$		- 40.1	- 40.9	Calculated motion -7.6 miles per second. Planet-lines faint. Displacement clearly to blue.
8. 39	M	"	b_1	0.090	-0.083	- $\frac{1}{4}$		- 31.2	- 27.3	
8. 40	M	"	b_1	0.090	-0.170	- $\frac{1}{2}$		- 63.9	- 40.9	
8. 41	M	"	b_1	0.090	-0.100	- $\frac{1}{3}$		- 37.5	- 27.3	
8. 50	M	Aldebaran	b_1	0.090	+0.098	+ $\frac{1}{3}$	+ 16.4	+ 20.4	+ 24.5	Spectrum and star-line very faint.
8. 53	M	"	b_1	0.090	+0.132	+ $\frac{1}{2}$	+ 16.4	+ 33.1	+ 24.5	

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					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Mar. 24. 9. 3	M	α Orionis	b_1	0.090	+0.144	+	+17.6	+36.5	+31.5	Definition good. Star lines sufficiently well defined for b_1 to be isolated. Measures considered very satisfactory. Spectrum tremulous. Not nearly so well seen as in the first two observations. Spectrum bright, but tremulous. Star-line clearly seen. Calculated motion +8.8 miles per second. Spectrum bright and steady. Planet-lines well seen. Spectrum faint and tremulous. Star-line very difficult to see. Measures very uncertain. Spectrum fairly bright, but star-line not well seen. Spectrum faint. Star-lines seen with great difficulty. Star-lines seen very well.
9. 5	M	,,	b_1	0.090	+0.202	+	+17.6	+58.2	+47.7	
9. 6	M	,,	b_1	0.090	+0.106	+	+17.6	+22.2	+31.5	
9. 8	M	,,	b_1	0.090	+0.118	+	+17.6	+26.8	+23.3	
9. 17	M	Pollux	b_1	0.090	-0.082	-	+17.4	-48.2	-44.7	
9. 18	M	,,	b_1	0.090	-0.092	-	+17.4	-51.9	-50.1	
10. 12	M	Mars	b_1	0.090	+0.036	+		+13.5	+20.5	
10. 13	M	,,	b_1	0.090	+0.031	+		+11.6	+20.5	
10. 30	M	α Hydræ	b_1	0.090	+0.083	+	+10.7	+20.5	+22.0	
10. 40	M	,,	b_1	0.090	+0.054	+	+10.7	+9.6	+16.6	
11. 0	M	γ Leonis	b_1	0.090	+0.099	+	+10.9	+26.3	+21.8	Position Circle, 5°.
11. 10	M	,,	b_1	0.090	-0.057	-	+10.9	-32.3	-38.2	
11. 25	M	ϵ Virginis	b_1	0.090	+0.025	+	-1.1	+10.5	+9.3	
11. 35	M	,,	b_1	0.090	-0.026	-	-1.1	-8.6	-7.1	
11. 55	M	Arcturus	b_1	0.090	-0.151	-	-4.8	-51.9	-49.7	
12. 5	M	,,	b_1	0.090	-0.157	-	-4.8	-54.0	-49.7	
Mar. 29. 10. 11	N	Capella	b_1	0.110	+0.026	+	+16.0	-6.3	-7.4	
10. 17	N	,,	b_1	0.110	+0.121	+	+16.0	+29.5	+27.0	
Apr. 5. 10. 27	N	Moon	F	0.182	-0.020			-6.1		Spectrum faint. Measures difficult and rough. Spectrum faint. Measures made with difficulty. Position Circle, 6°.
10. 30	N	,,	F	0.182	-0.013			-4.0		
10. 35	N	,,	F	0.182	-0.026			-7.9		
11. 33	N	Spica	F	0.182	-0.130	-	-1.8	-37.7	-38.8	
12. 37	N	Arcturus	F	0.182	-0.208	-	-1.6	-61.6	-59.2	
12. 40	N	,,	F	0.182	-0.130	-	-1.6	-37.9	-39.0	
Apr. 10. 9. 25	M	Sirius	F	0.063	-0.051	-	+13.9	-29.4	-31.3	
9. 35	M	,,	F	0.063	-0.104	-	+13.9	-45.5	-42.9	
9. 40	M	Procyon	F	0.063	-0.016	-	+17.5	-22.4	-17.5	
9. 45	M	,,	F	0.063	+0.158	+	+17.5	+30.5	+17.3	
9. 50	M	,,	F	0.063	+0.141	+	+17.5	+25.3	+17.3	Spectrum very faint. Star-line broad and ill-defined. Measures very difficult. Position Circle, 6°.
9. 55	M	,,	F	0.063	+0.067	+	+17.5	+2.9	-0.1	
11. 1	M	Regulus	F	0.063	-0.009	+	+14.7	-17.4	-14.7	
11. 6	M	,,	F	0.063	+0.067	+	+14.7	+5.7	+7.0	
11. 15	M	β Leonis	F	0.063	-0.181	-	+9.3	-64.4	-54.0	
11. 20	M	,,	F	0.063	-0.003	0	+9.3	-10.2	-9.3	
11. 28	M	Moon	F	0.063	+0.006			+1.8		
11. 30	M	,,	F	0.063	-0.013			-4.0		
11. 31	M	,,	F	0.063	+0.050			+15.2		
11. 32	M	,,	F	0.063	+0.026			+7.9		
11. 33	M	,,	F	0.063	+0.008			+2.4		Spectrum somewhat faint. Sky hazy. Measures probably not entitled to much weight. Misty. Position Circle, 6°.
Apr. 12. 11. 27	N	Regulus	F	0.292	-0.023	0	+15.0	-22.0	-15.0	
11. 51	N	,,	F	0.292	-0.006	0	+15.0	-16.8	-15.0	
12. 17	N	Arcturus	F	0.292	-0.100	-	+0.3	-30.7	-28.9	
12. 20	N	,,	F	0.292	-0.253	-	+0.3	-77.1	-76.6	
12. 28	N	,,	F	0.292	-0.188	-	+0.3	-57.4	-57.5	
12. 40	N	Moon	F	0.292	-0.013			-4.0		
12. 50	N	,,	F	0.292	-0.002			-0.6		

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					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r	+				
Apr. 28. 12.40	M	Regulus	F	0'208	+0'018	+ $\frac{1}{10}$	+ 17'1	- 11'6	- 8'2	Spectrum faint and rather tremulous.
12.43	M	"	F	0'208	+0'042	+ $\frac{1}{10}$	+ 17'1	- 4'4	+ 12'6	
12.54	M	β Leonis	F	0'208	-0'159	- $\frac{1}{10}$	+ 13'4	- 61'8	- 57'9	Spectrum tremulous and faint.
12.56	M	"	F	0'208	-0'104	- $\frac{1}{10}$	+ 13'4	- 45'0	- 49'0	
13.10	M	Arcturus	F	0'208	-0'074	- $\frac{1}{10}$	+ 4'4	- 26'9	- 34'1	Star-line only seen by glimpses.
13.20	M	"	F	0'208	-0'153	- $\frac{1}{10}$	+ 4'4	- 50'9	- 48'9	
13.40	M	α Coronæ Bor..	F	0'208	+0'104	+ $\frac{1}{10}$	- 0'3	+ 31'9	+ 44'8	Spectrum faint and unsteady. Star-line not well seen.
13.50	M	"	F	0'208	+0'164	+ $\frac{1}{10}$	- 0'3	+ 50'1	+ 44'8	Position Circle, 5°.
May 13. 13.48	N	Regulus	F	0'282	+0'072	+ $\frac{1}{10}$	+ 17'9	+ 4'0	+ 4'4	
14.10	N	"	F	0'282	+0'083	+ $\frac{1}{10}$	+ 17'9	+ 7'3	+ 10'0	
14.35	N	Arcturus	F	0'282	-0'170	- $\frac{1}{10}$	+ 8'0	- 59'6	- 63'7	
14.40	N	"	F	0'282	-0'229	- $\frac{1}{10}$	+ 8'0	- 77'5	- 82'3	
15.5	N	Moon	F	0'282	+0'002	- $\frac{1}{10}$		+ 0'6		
15.10	N	"	F	0'282	-0'018	- $\frac{1}{10}$		- 5'5		
15.40	N	α Lyre	F	0'282	-0'094	- $\frac{1}{10}$	- 6'5	- 22'1	- 21'4	
15.45	N	"	F	0'282	-0'093	- $\frac{1}{10}$	- 6'5	- 21'8	- 21'4	Position Circle, 5°.
May 22. 16.5	N	β Leonis	F	0'194	-0'029	- $\frac{1}{10}$	+ 16'7	- 25'5	- 25'2	Spectrum faint. Star-line indistinct.
16.20	N	"	F	0'194	-0'134	- $\frac{1}{10}$	+ 16'7	- 57'4	- 59'1	
16.49	N	Arcturus	F	0'194	-0'127	- $\frac{1}{10}$	+ 9'8	- 48'4	- 52'2	
16.55	N	"	F	0'194	-0'161	- $\frac{1}{10}$	+ 9'8	- 58'6	- 66'3	
17.15	N	α Coronæ Bor..	F	0'194	+0'079	+ $\frac{1}{10}$	+ 4'7	+ 19'3	+ 23'6	Star-line somewhat diffused.
17.22	N	"	F	0'194	+0'059	+ $\frac{1}{10}$	+ 4'7	+ 13'2	+ 12'2	
18.0	N	α Lyre	F	0'194	-0'083	- $\frac{1}{10}$	- 5'6	- 19'6	- 22'7	
18.8	N	"	F	0'194	-0'092	- $\frac{1}{10}$	- 5'6	- 22'4	- 22'7	Observations made with considerable difficulty throughout the evening. The Spectroscope, moreover, does not appear to be in perfect adjustment. Position Circle, 6°.
May 30. 14.20	M	Regulus	F	0'162	-0'004	0	+ 17'5	- 18'7	- 17'5	Spectrum faint and tremulous. Star-line faint and ill-defined. Measures made with great difficulty.
14.30	M	"	F	0'162	+0'041	+ $\frac{1}{4}$	+ 17'5	- 5'1	- 1'1	
14.35	M	Moon	F	0'162	+0'005			+ 1'5		The coincidence of the two spectra appeared perfect. The Moon spectrum being rather faint, the F line was a little difficult to see in consequence.
	M	"	F	0'162	-0'031			- 9'4		
	M	"	F	0'162	-0'021			- 6'4		
	M	"	F	0'162	0'000			0'0		
14.50	M	"	F	0'162	+0'027			+ 8'2		
15.5	M	Spica	F	0'162	+0'016	+ $\frac{1}{10}$	+ 13'2	- 8'3	- 6'6	Spectrum very tremulous and not bright. Star-line only poorly defined.
15.15	M	"	F	0'162	-0'033	- $\frac{1}{10}$	+ 13'2	- 23'2	- 19'8	
15.35	M	Arcturus	F	0'162	-0'148	- $\frac{1}{10}$	+ 11'3	- 56'2	- 55'1	Spectrum fairly bright and steady. Star-line faint and somewhat difficult to see.
15.45	M	"	F	0'162	-0'142	- $\frac{1}{10}$	+ 11'3	- 54'3	- 55'1	
15.55	M	"	F	0'162	-0'136	- $\frac{1}{10}$	+ 11'3	- 52'6	- 55'1	Position Circle, 5°.
June 2. 15.35	M	Moon	F	0'162	-0'098			- 29'8		The coincidence of the two spectra appeared perfect. The Moon spectrum being rather faint, and the F line not well defined, it was difficult to secure an exact bisection.
	M	"	F	0'162	-0'018			- 5'5		
	M	"	F	0'162	+0'076			+ 25'1		
	M	"	F	0'162	-0'016			- 4'9		
15.50	M	"	F	0'162	+0'014			+ 4'3		
16.5	M	Arcturus	F	0'162	-0'115	- $\frac{1}{10}$	+ 11'8	- 46'7	- 44'6	Spectrum faint. Star-line fairly well seen.
16.15	M	"	F	0'162	-0'118	- $\frac{1}{10}$	+ 11'8	- 47'6	- 44'6	
16.35	M	α Coronæ Bor..	F	0'162	+0'055	+ $\frac{1}{10}$	+ 6'8	+ 9'9	+ 9'6	Spectrum very faint. Star-line not well seen.
16.45	M	"	F	0'162	+0'037	+ $\frac{1}{10}$	+ 6'8	+ 4'5	+ 6'3	Position Circle, 5°.
June 26. 17.20	N	Arcturus	F	0'227	-0'139	- $\frac{1}{10}$	+ 14'6	- 56'8	- 62'0	
17.24	N	"	F	0'227	-0'116	- $\frac{1}{10}$	+ 14'6	- 49'9	- 52'5	
17.27	N	"	F	0'227	-0'110	- $\frac{1}{10}$	+ 14'6	- 48'0	- 52'5	
17.55	N	α Coronæ Bor..	F	0'227	+0'067	+ $\frac{1}{10}$	+ 10'4	+ 10'0	+ 13'3	Star-line diffused.

MOTIONS OF STARS IN THE LINE OF SIGHT, INFERRED FROM SPECTROSCOPIC OBSERVATIONS

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
a h m				r	r					
June 26. 18. 0	N	α Coronæ Bor..	F	0.227	+0.107	+ $\frac{1}{2}$	+ 10.4	+ 22.1	+ 21.2	Measures made with difficulty.
18. 20	N	α Ophiuchi....	F	0.227	-0.039	- $\frac{1}{2}$	+ 3.7	- 15.5	- 17.3	
18. 25	N	"	F	0.227	-0.138	-	+ 3.7	- 45.6	- 51.1	
18. 30	N	"	F	0.227	-0.071	- $\frac{1}{2}$	+ 3.7	- 25.3	- 27.4	
18. 35	N	"	F	0.227	-0.096	- $\frac{1}{2}$	+ 3.7	- 32.8	- 35.3	
19. 20	N	α Lyre.....	F	0.227	-0.220	-	- 1.2	- 65.6	- 62.0	
19. 30	N	"	F	0.227	-0.185	-	- 1.2	- 54.9	- 55.6	
19. 55	N	α Aquilæ	F	0.227	-0.143	-	- 6.4	- 37.0	- 41.0	
20. 0	N	"	F	0.227	-0.141	- $\frac{1}{2}$	- 6.4	- 36.4	- 41.0	
										Position Circle, 6°.
June 27. 8. 45	N	Sky.....	F	0.227	-0.034			- 10.3		The coincidence of the two spectra appeared perfect.
8. 50	N	"	F	0.227	-0.005			- 1.5		Position Circle, 6°.
July 12. 18. 35	N	Arcturus	F	0.216	-0.116	- $\frac{1}{2}$	+ 15.3	- 50.6	- 51.9	Star-line very faint.
18. 45	N	"	F	0.216	-0.208	-	+ 15.3	- 78.5	- 76.3	The coincidence of the two spectra appeared perfect.
19. 5	N	α Lyre.....	F	0.216	-0.138	- $\frac{1}{2}$	+ 1.1	- 43.0	- 46.8	
19. 15	N	"	F	0.216	-0.092	- $\frac{1}{2}$	+ 1.1	- 29.1	- 31.6	
19. 40	N	Moon	F	0.216	-0.004			- 1.2		
19. 45	N	"	F	0.216	-0.023			- 7.0		
										Position Circle, 15°.
July 17. 18. 35	M	α Coronæ Bor..	F	0.212	-0.156	- $\frac{1}{2}$	+ 12.3	- 59.6	- 54.4	Star-line very broad and diffused at edges.
18. 55	M	"	F	0.212	-0.163	- $\frac{1}{2}$	+ 12.3	- 61.8	- 54.4	Definition poor. Evidently a large displacement towards the blue, not towards the red, as usually observed.
19. 10	M	α Ophiuchi....	F	0.212	+0.002	0	+ 8.3	- 7.7	- 8.3	Star-line very ill-defined and difficult to bisect.
19. 25	M	"	F	0.212	-0.041	- $\frac{1}{2}$	+ 8.3	- 20.7	- 25.1	Spectrum bright, but star-line not well defined.
19. 40	M	α Lyre.....	F	0.212	-0.147	- $\frac{1}{2}$	+ 1.8	- 46.4	- 43.9	Spectrum faint and star-line ill-defined.
19. 50	M	"	F	0.212	-0.113	- $\frac{1}{2}$	+ 1.8	- 36.1	- 35.4	
20. 5	M	ζ Aquilæ	F	0.212	-0.165	- $\frac{1}{2}$	+ 1.9	- 52.1	- 35.5	Spectrum bright and star-line fairly well seen.
20. 15	M	"	F	0.212	-0.231	- $\frac{1}{2}$	+ 1.9	- 72.1	- 52.3	
20. 30	M	α Aquilæ	F	0.212	-0.098	- $\frac{1}{2}$	- 1.1	- 28.7	- 26.9	Spectrum faint. Measure made with extreme difficulty.
20. 40	M	"	F	0.212	-0.160	- $\frac{1}{2}$	- 1.1	- 47.5	- 41.0	
21. 25	M	α Cephei.....	F	0.212	-0.106	- $\frac{1}{2}$	- 6.2	- 26.0	- 21.8	Position Circle, 6°.
July 19. 17. 45	M	α Lyre.....	F	0.212	-0.062	- $\frac{1}{2}$	+ 2.0	- 20.8	- 30.0	Star-line very ill-defined and difficult to bisect.
18. 5	M	"	F	0.212	-0.178	- $\frac{1}{2}$	+ 2.0	- 56.1	- 58.1	Star-line diffused and difficult to bisect.
18. 25	M	α Aquilæ	F	0.212	-0.163	- $\frac{1}{2}$	- 0.7	- 48.8	- 41.4	
18. 35	M	"	F	0.212	-0.099	- $\frac{1}{2}$	- 0.7	- 29.4	- 27.3	Spectrum steady. Star-line very faint.
18. 50	M	α Cygni	F	0.212	-0.128	- $\frac{1}{2}$	- 5.2	- 33.6	- 28.4	
19. 0	M	"	F	0.212	-0.139	- $\frac{1}{2}$	- 5.2	- 37.0	- 36.9	Position Circle, 6°.
July 21. 18. 50	M	α Cygni	F	0.212	-0.093	- $\frac{1}{2}$	- 5.0	- 23.3	- 28.6	Star-line faint, and seen with difficulty by glimpses.
19. 5	M	"	F	0.212	-0.128	- $\frac{1}{2}$	- 5.0	- 33.8	- 37.1	Spectrum very steady, but work frequently interrupted by cloud.
19. 40	M	β Cassiopeiæ ..	F	0.212	-0.057	- $\frac{1}{2}$	- 11.1	- 6.2	- 9.9	
										Position Circle, 6°.
July 30. 20. 8	N	α Lyre.....	F	0.206	-0.179	- $\frac{1}{2}$	+ 3.5	- 57.9	- 56.5	Cloud passing. Observations made with difficulty.
20. 14	N	"	F	0.206	-0.123	- $\frac{1}{2}$	+ 3.5	- 40.9	- 47.7	Position Circle, 7°.
Aug. 5. 18. 15	M	Arcturus	F	0.185	-0.123	- $\frac{1}{2}$	+ 14.3	- 51.7	- 47.1	Spectrum exceedingly tremulous and somewhat faint. Measures therefore difficult.
18. 30	M	"	F	0.185	-0.131	- $\frac{1}{2}$	+ 14.3	- 54.1	- 55.3	
18. 45	M	α Coronæ Bor..	F	0.185	+0.128	+	+ 12.8	+ 26.0	+ 20.0	Spectrum somewhat tremulous and faint. Definition fair.
18. 55	M	"	F	0.185	+0.113	+	+ 12.8	+ 21.5	+ 41.8	
19. 15	M	α Ophiuchi....	F	0.185	+0.014	0	+ 11.6	- 7.6	- 11.6	Spectrum faint. Star-line diffused. Satisfactory bisection difficult.
19. 30	M	"	F	0.185	-0.071	- $\frac{1}{2}$	+ 11.6	- 33.2	- 28.0	

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					Measured.	Estimated.		Measured.	Estimated.	
Aug. 5. 19. 45	M	α Aquilæ	F	0'185	-0'096	$-\frac{1}{3}$	+ 3.7	- 32.8	- 31.0	Spectrum, though somewhat tremulous, well seen, and measures considered good. Evidently a large displacement towards the blue.
20. 0	M	"	F	0'185	-0'142	$-\frac{1}{2}$	+ 3.7	- 46.8	- 44.7	
20. 10	M	Moon	F	0'185	-0'037			- 11.3		The coincidence of the two spectra appeared perfect.
	M	"	F	0'185	-0'023			- 7.0		
	M	"	F	0'185	+0'046			+ 14.0		
	M	"	F	0'185	+0'002			+ 0.6		
20. 20	M	"	F	0'185	-0'017			- 5.1		Spectrum very faint. Star-line difficult to bisect satisfactorily. Measures considered rough. Evidently a large displacement towards the blue. Position Circle, 6°.
20. 45	M	α Pegasi	F	0'185	-0'079	$-\frac{1}{10}$	- 10.3	- 13.7	- 14.3	
21. 0	M	"	F	0'185	-0'147	$-\frac{1}{2}$	- 10.3	- 34.3	- 38.9	
Aug. 7. 18. 50	M	α Lyrae	F	0'178	-0'059	$-\frac{1}{4}$	+ 4.5	- 22.4	- 29.4	Measures considered satisfactory.
19. 40	M	"	F	0'178	-0'111	$-\frac{1}{2}$	+ 4.5	- 38.2	- 54.3	
20. 10	M	Moon	F	0'178	-0'003			- 1.0		The coincidence of the two spectra appeared perfect.
	M	"	F	0'178	-0'008			- 2.4		
20. 20	M	"	F	0'178	-0'006			- 1.8		
21. 40	M	α Andromedæ .	F	0'178	-0'014	$-\frac{1}{10}$	- 13.5	+ 9.2	+ 3.6	
22. 0	M	"	F	0'178	-0'047	$-\frac{1}{5}$	- 13.5	- 0.8	- 6.4	Spectrum exceedingly faint. Measures very difficult. Position Circle, 6°.
22. 20	M	β Cassiopeiæ ..	F	0'178	-0'017	$-\frac{1}{10}$	- 10.9	+ 5.8	+ 1.0	
22. 35	M	"	F	0'178	+0'028	$+\frac{1}{7}$	- 10.9	+ 19.4	+ 25.1	
Aug. 11. 19. 0	M	β Cassiopeiæ ..	F	0'161	+0'108	$+\frac{2}{5}$	- 10.8	+ 43.6	+ 35.6	Spectrum and star-line faint. Measures considered fairly satisfactory.
19. 35	M	"	F	0'161	+0'095	$+\frac{1}{3}$	- 10.8	+ 39.6	+ 31.5	
19. 55	M	γ Cassiopeiæ ..	F	0'161	-0'068	$-\frac{1}{3}$	- 11.7	- 9.0	- 9.0	Spectrum rather tremulous. Star-line faint, but fairly well defined.
20. 20	M	"	F	0'161	-0'120	$-\frac{1}{5}$	- 11.7	- 24.7	- 19.3	
20. 30	M	δ Cassiopeiæ ...	F	0'161	-0'045	$-\frac{1}{5}$	- 12.3	- 1.4	- 0.1	Spectrum faint, but star-line well defined.
20. 50	M	"	F	0'161	+0'027	$+\frac{1}{10}$	- 12.3	+ 20.5	+ 18.5	
21. 0	M	β Persei	F	0'161	-0'013	$-\frac{1}{10}$	- 16.5	+ 12.5	+ 10.3	Spectrum faint, but star-line fairly well defined.
21. 10	M	"	F	0'161	-0'035	$-\frac{1}{10}$	- 16.5	+ 5.9	+ 10.3	
21. 20	M	α Andromedæ .	F	0'161	-0'085	$-\frac{1}{3}$	- 12.9	- 12.9	- 7.8	Spectrum somewhat faint but steady, and star-line fairly well defined.
21. 25	M	"	F	0'161	-0'093	$-\frac{1}{3}$	- 12.9	- 15.4	- 11.9	
21. 30	M	"	F	0'161	-0'083	$-\frac{1}{3}$	- 12.9	- 12.3	- 7.8	The coincidence of the two spectra appeared perfect.
21. 45	M	Moon	F	0'161	-0'014			- 4.3		
		"	F	0'161	+0'018			+ 5.5		
		"	F	0'161	-0'002			- 0.6		
21. 55	M	"	F	0'161	-0'002			- 0.6		The spectra throughout the evening were faint owing to light cloud and strong moonlight, but they were steady, and the star-lines as distinct as the comparative feebleness of the spectra permitted. Position Circle, 6°.
		"	F	0'161	+0'103			+ 4.0		
Aug. 12. 20. 10	N	α Pegasi	F	0'150	-0'011	0	- 8.7	+ 5.4	+ 8.7	Star-line broad and ill-defined.
20. 15	N	"	F	0'150	-0'023	$-\frac{1}{10}$	- 8.7	+ 1.7	+ 1.6	
20. 35	N	α Andromedæ .	F	0'150	-0'146	$-\frac{1}{3}$	- 12.7	- 31.7	- 34.9	Star-line faint.
20. 40	N	"	F	0'150	-0'141	$-\frac{1}{3}$	- 12.7	- 30.1	- 34.9	
20. 55	N	γ Pegasi	F	0'150	-0'013	0	- 12.7	+ 8.7	+ 12.7	
21. 0	N	"	F	0'150	-0'004	0	- 12.7	+ 11.5	+ 12.7	
21. 15	N	Moon	F	0'150	-0'030			- 9.1		Position Circle, 5°.
21. 20	N	"	F	0'150	-0'030			- 9.1		
Aug. 14. 20. 10	N	β Cassiopeiæ ..	F	0'193	+0'056	$+\frac{1}{5}$	- 10.6	+ 27.6	+ 27.5	Spectrum very faint.
20. 18	N	"	F	0'193	+0'023	$+\frac{1}{10}$	- 10.6	+ 17.6	+ 19.0	
21. 5	N	δ Cassiopeiæ ..	F	0'193	-0'014	0	- 12.3	+ 8.0	+ 12.3	Cloudy.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Aug. 14. 21. 12	N	δ Cassiopeiae ..	F	0'193	-0'054	- $\frac{1}{5}$	- 12'3	- 4'1	- 4'6	Instrument somewhat askew; the measures are probably of little value. Position Circle, 5°.
22. 10	N	Moon	F	0'193	-0'013			- 4'0		
Aug. 19. 20. 20	M	α Lyrae	F	0'121	-0'121	- $\frac{1}{2}$	+ 5'9	- 42'6	- 38'7	Spectrum bright, but tremulous. Definition poor.
20. 35	M	,,	F	0'121	-0'069	- $\frac{3}{10}$	+ 5'9	- 26'9	- 25'6	
20. 55	M	γ Lyrae	F	0'121	-0'129	- $\frac{1}{2}$	+ 6'2	- 45'4	- 39'0	Spectrum faint, but star-line dark and fairly distinct.
21. 5	M	,,	F	0'121	-0'108	- $\frac{1}{2}$	+ 6'2	- 39'0	- 32'5	
21. 35	M	ζ Aquilae	F	0'121	+0'028	+ $\frac{1}{10}$	+ 9'2	- 0'7	- 2'6	Spectrum faint.
21. 45	M	,,	F	0'121	-0'045	- $\frac{1}{10}$	+ 9'2	- 22'9	- 22'3	
22. 0	M	α Aquilae	F	0'121	-0'053	- $\frac{1}{4}$	+ 7'2	- 23'3	- 23'6	Definition fair.
22. 15	M	,,	F	0'121	-0'052	- $\frac{1}{4}$	+ 7'2	- 23'0	- 23'6	
22. 30	M	α Delphini	F	0'121	-0'053	- $\frac{1}{4}$	+ 3'0	- 19'1	- 19'4	Spectrum exceedingly faint. Star-line seen with great difficulty. Cloud passing.
22. 45	M	,,	F	0'121	-0'121	- $\frac{1}{2}$	+ 3'0	- 39'7	- 35'8	
22. 55	M	α Cephei	F	0'121	-0'138	- $\frac{1}{2}$	- 4'5	- 37'4	- 35'1	Spectrum bright, but star-line difficult to bisect.
23. 5	M	,,	F	0'121	-0'148	- $\frac{1}{2}$	- 4'5	- 40'4	- 39'3	
23. 15	M	,,	F	0'121	-0'032	- $\frac{1}{5}$	- 4'5	- 14'2	- 44'1	Position Circle, 5°.
Aug. 21. 20. 0	N	α Lyrae	F	0'160	-0'122	- $\frac{1}{2}$	+ 6'1	- 43'2	- 43'3	Sky hazy.
20. 10	N	,,	F	0'160	-0'088	- $\frac{1}{2}$	+ 6'1	- 32'8	- 30'9	
20. 35	N	α Aquilae	F	0'160	-0'110	- $\frac{1}{2}$	+ 7'6	- 41'0	- 37'4	
20. 40	N	,,	F	0'160	-0'112	- $\frac{1}{2}$	+ 7'6	- 41'6	- 37'4	
Aug. 22. 11. 10	N	Sky	F	0'160	-0'017			- 5'1		The coincidence of the two spectra appeared perfect.
11. 15	N	,,	F	0'160	-0'015			- 4'6		
18. 55	M	α Ophiuchi	F	0'175	-0'061	- $\frac{1}{2}$	+ 13'6	- 32'1	- 28'8	Star-line very broad and ill-defined. An unmistakable displacement towards the blue.
19. 5	M	,,	F	0'175	-0'102	- $\frac{1}{2}$	+ 13'6	- 44'6	- 44'0	
19. 20	M	α Aquilae	F	0'175	-0'090	- $\frac{1}{2}$	+ 7'9	- 35'2	- 38'3	Definition fair.
19. 30	M	,,	F	0'175	-0'032	- $\frac{1}{10}$	+ 7'9	- 17'6	- 14'0	
19. 45	M	α Lyrae	F	0'175	-0'086	- $\frac{1}{2}$	+ 6'2	- 32'3	- 36'6	Measures considered very satisfactory. Definition good.
19. 55	M	,,	F	0'175	-0'095	- $\frac{1}{2}$	+ 6'2	- 35'0	- 36'6	
20. 45	M	δ Cygni	F	0'175	-0'045	- $\frac{1}{4}$	+ 2'1	- 15'8	- 17'3	Definition fair.
21. 0	M	,,	F	0'175	-0'137	- $\frac{1}{2}$	+ 2'1	- 43'7	- 38'5	
21. 25	M	α Delphini	F	0'175	-0'124	- $\frac{1}{2}$	+ 3'8	- 41'5	- 40'2	Spectrum faint. Measures therefore difficult.
21. 40	M	,,	F	0'175	-0'114	- $\frac{1}{2}$	+ 3'8	- 38'4	- 40'2	
22. 0	M	ζ Pegasi	F	0'175	-0'096	- $\frac{1}{2}$	- 4'2	- 24'9	- 26'2	Spectrum and star-line very faint. Measures very difficult.
22. 15	M	,,	F	0'175	-0'009	0	- 4'2	+ 1'5	+ 4'2	
22. 40	M	α Pegasi	F	0'175	-0'131	- $\frac{1}{2}$	- 6'2	- 33'6	- 30'2	Definition good.
22. 55	M	,,	F	0'175	-0'135	- $\frac{1}{2}$	- 6'2	- 34'9	- 30'2	
Aug. 23. 20. 0	N	α Ophiuchi	F	0'139	-0'087	- $\frac{3}{4}$	+ 13'7	- 40'1	- 42'8	Spectrum faint. Measures difficult.
20. 15	N	,,	F	0'139	-0'060	- $\frac{1}{4}$	+ 13'7	- 31'9	- 30'7	
20. 40	N	α Lyrae	F	0'139	-0'098	- $\frac{1}{2}$	+ 6'3	- 36'1	- 40'3	
20. 45	N	,,	F	0'139	-0'110	- $\frac{1}{2}$	+ 6'3	- 39'7	- 40'3	
21. 35	N	α Aquilae	F	0'139	-0'116	- $\frac{1}{2}$	+ 8'1	- 43'4	- 42'1	
21. 40	N	,,	F	0'139	-0'072	- $\frac{1}{2}$	+ 8'1	- 30'0	- 30'8	
22. 5	N	α Pegasi	F	0'139	-0'080	- $\frac{1}{2}$	- 6'0	- 18'3	- 16'7	Measures very difficult and rough.
22. 12	N	,,	F	0'139	-0'108	- $\frac{1}{2}$	- 6'0	- 26'8	- 28'0	
Aug. 25. 19. 25	M	α Aquilae	F	0'163	-0'068	- $\frac{3}{10}$	+ 8'5	- 29'2	- 27'4	Spectrum tremulous, and star line only seen well by glimpses. Measures considered satisfactory.
19. 45	M	,,	F	0'163	-0'073	- $\frac{3}{10}$	+ 8'5	- 30'7	- 27'4	
20. 5	M	α Pegasi	F	0'163	-0'092	- $\frac{1}{3}$	- 5'4	- 22'6	- 15'6	Spectrum somewhat tremulous. Definition poor.
20. 20	M	,,	F	0'163	-0'056	- $\frac{1}{4}$	- 5'4	- 11'6	- 10'3	
20. 35	M	α Andromedae ..	F	0'163	-0'113	- $\frac{1}{2}$	- 10'3	- 24'0	- 21'1	Definition fair.
20. 50	M	,,	F	0'163	-0'097	- $\frac{1}{2}$	- 10'3	- 19'2	- 14'9	
21. 10	M	β Cassiopeiae ..	F	0'163	-0'152	- $\frac{1}{2}$	- 9'8	- 36'3	- 27'9	Definition generally poor.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Aug. 25. 21. 25	M	β Cassiopeiæ ..	F	0.163	-0.130	-	- 9.8	- 29.7	- 21.6	Star-line very difficult to see and bisect. Definition very bad. Position Circle, 5°.
22. 0	M	γ Cassiopeiæ ..	F	0.163	-0.047	-	- 11.1	- 3.2	- 4.6	
22. 20	M	,,	F	0.163	-0.036	-	- 11.1	+ 0.2	- 4.6	
Aug. 26. 11. 30	M	Sky	F	0.163	+0.001			+ 0.3		It was very difficult to get a perfectly satisfactory comparison of the two spectra, as both were faint, but the impression was given that the sky spectrum was <i>slightly</i> displaced towards the red, as the measures also seemed to indicate. Position Circle, 5°.
	M	,,	F	0.163	+0.026			+ 7.9		
	M	,,	F	0.163	+0.011			+ 3.3		
	M	,,	F	0.163	+0.008			+ 2.4		
11. 48	M	,,	F	0.163	+0.001			+ 0.3		
Aug. 29. 20. 0	M	Areturus	F	0.165	-0.092	-	+ 11.1	- 39.1	- 47.4	Spectrum tremulous. Definition bad.
20. 15	M	,,	F	0.165	-0.094	-	+ 11.1	- 39.7	- 47.4	
20. 30	M	α Lyrae	F	0.165	-0.024	-	+ 6.9	- 14.2	- 14.2	Spectrum steady. Definition good.
20. 45	M	,,	F	0.165	-0.064	-	+ 6.9	- 26.3	- 35.9	
21. 0	M	α Aquilæ	F	0.165	-0.112	-	+ 9.5	- 43.5	- 45.8	Spectrum faint. Observations much interrupted by cloud. Position Circle, 5°.
21. 10	M	,,	F	0.165	-0.147	-	+ 9.5	- 54.1	- 52.9	
Sept. 1. 21. 20	N	α Aquilæ	F	0.138	-0.087	-	+ 10.1	- 36.5	- 39.8	Measure doubtful. Light cloud passing. The coincidence of the two spectra appeared perfect. Position Circle, 5°.
22. 5	N	Moon	F	0.138	-0.010	-		- 3.0		
22. 10	N	,,	F	0.138	-0.003	-		- 0.9		
Sept. 2. 19. 0	M	α Coronæ Bor..	F	0.122	+0.100	+	+ 11.2	+ 19.2	+ 14.6	Spectrum faint. Much light cloud. The second observation seemed perfectly satisfactory.
19. 15	M	,,	F	0.122	-0.209	+	+ 11.2	- 74.7	- 54.2	
19. 20	M	α Ophiuchi....	F	0.122	-0.159	-	+ 14.4	- 62.8	- 53.1	Spectrum faint but steady. Star-line seen distinctly.
19. 25	M	,,	F	0.122	-0.157	-	+ 14.4	- 62.0	- 57.4	
19. 30	M	α Lyrae	F	0.122	-0.091	-	+ 7.2	- 34.8	- 33.0	Definition fair.
19. 35	M	,,	F	0.122	-0.161	-	+ 7.2	- 56.0	- 45.9	
19. 45	M	Moon	F	0.122	-0.014	-		- 4.3		Spectrum and F line very faint. No want of coincidence could be detected.
	M	,,	F	0.122	+0.010	-		+ 3.0		
	M	,,	F	0.122	+0.009	-		+ 2.7		
	M	,,	F	0.122	-0.036	-		- 10.9		
19. 50	M	,,	F	0.122	+0.009	-		+ 2.7		
										Position Circle, 5°.
Sept. 4. 20. 25	M	α Lyrae	F	0.140	-0.057	-	+ 7.4	- 24.7	- 15.8	Spectrum bright and steady.
20. 30	M	,,	F	0.140	-0.115	-	+ 7.4	- 42.3	- 49.6	
20. 35	M	α Aquilæ	F	0.140	-0.053	-	+ 10.7	- 26.8	- 31.8	Spectrum somewhat faint, but steady. Definition good.
20. 40	M	,,	F	0.140	-0.122	-	+ 10.7	- 47.8	- 38.8	
20. 46	M	Moon	F	0.140	-0.009	-		- 2.7		The coincidence of the two spectra appeared perfect.
	M	,,	F	0.140	-0.005	-		- 1.5		
	M	,,	F	0.140	+0.005	-		+ 1.5		
	M	,,	F	0.140	+0.010	-		+ 3.0		
	M	,,	F	0.140	-0.012	-		- 3.6		
20. 52	M	,,	F	0.140	-0.090	-	- 2.7	- 24.6	- 25.4	Spectrum faint but steady. Definition fair.
21. 0	M	α Pegasi	F	0.140	-0.048	-	- 2.7	- 11.9	- 14.2	
21. 5	M	,,	F	0.140	-0.048	-	- 8.1	- 43.6	- 34.1	Spectrum faint but steady. Definition fair.
21. 10	M	α Andromedæ .	F	0.140	-0.170	-	- 8.1	- 16.2	- 20.0	
21. 15	M	,,	F	0.140	-0.080	-	- 8.1	- 25.1	- 20.7	Spectrum faint. Star-line difficult to see.
21. 25	M	γ Pegasi	F	0.140	-0.107	-	- 7.4	- 25.1	- 20.7	
21. 30	M	,,	F	0.140	-0.019	-	- 7.4	+ 1.6	- 1.0	Measures rough and doubtful. Star-line fairly well defined.
21. 40	M	β Cassiopeiæ ..	F	0.140	+0.040	+	- 8.7	+ 20.8	+ 17.1	
21. 45	M	,,	F	0.140	-0.037	+	- 8.7	- 2.6	+ 0.3	The bright F line in this star was fainter than ever noticed before. It was with the greatest difficulty that it could be even glimpsed now and then. Since the spectrum was bright and steady, the line would appear to be variable in its intensity. Measures rough. Position Circle, 5°.
22. 0	M	γ Cassiopeiæ ..	F	0.140	-0.059	-	- 10.3	- 7.6	- 10.8	
22. 10	M	,,	F	0.140	-0.023	0	- 10.3	+ 3.3	+ 10.3	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Sept. 10. 19. 32	M	α Lyrae	F	0'167	-0'035	- $\frac{1}{10}$	+ 7'8	- 18'4	- 24'6	Spectrum very tremulous. Star-line difficult to bisect. Definition poor. Spectrum rather faint.
19. 42	M	"	F	0'167	-0'133	- $\frac{1}{10}$	+ 7'8	- 48'2	- 49'9	
19. 50	M	ζ Aquilæ	F	0'167	-0'043	- $\frac{1}{10}$	+ 12'7	- 25'8	- 21'1	
19. 55	M	"	F	0'167	-0'085	- $\frac{1}{10}$	+ 12'7	- 38'5	- 33'7	Spectrum steady though faint, but star-line fairly well defined. Measures considered satisfactory.
20. 15	M	ζ Pegasi	F	0'167	-0'052	- $\frac{1}{10}$	+ 1'2	- 17'0	- 18'0	
20. 20	M	"	F	0'167	-0'038	- $\frac{1}{10}$	+ 1'2	- 12'8	- 18'0	
20. 25	M	α Pegasi	F	0'167	-0'057	- $\frac{1}{10}$	- 1'0	- 16'3	- 20'0	Spectrum bright and steady. Definition good.
20. 30	M	"	F	0'167	-0'106	- $\frac{1}{10}$	- 1'0	- 31'2	- 27'0	
20. 45	M	γ Pegasi	F	0'167	-0'153	- $\frac{1}{10}$	- 5'7	- 40'8	- 27'9	
20. 50	M	"	F	0'167	-0'129	- $\frac{1}{10}$	- 5'7	- 33'5	- 36'4	Spectrum steady, but star-line faint, and very difficult to see. Measures rough. Definition fair.
20. 53	M	α Andromedæ ..	F	0'167	-0'065	- $\frac{1}{10}$	+ 6'6	- 26'3	- 23'4	
20. 57	M	"	F	0'167	-0'037	- $\frac{1}{10}$	+ 6'6	- 17'9	- 15'0	
21. 3	M	β Cassiopeia ..	F	0'167	-0'121	- $\frac{1}{10}$	- 8'0	- 28'7	- 34'1	Spectrum fairly steady, but star-line very faint, and difficult to see.
21. 8	M	"	F	0'167	-0'108	- $\frac{1}{10}$	- 8'0	- 24'8	- 20'0	
21. 20	M	γ Cassiopeia ..	F	0'167	-0'171	- $\frac{1}{10}$	- 9'6	- 42'3	- 32'5	
21. 25	M	"	F	0'167	-0'028	- $\frac{1}{10}$	- 9'6	+ 1'1	- 7'2	Spectrum steady. The bright F line in this star is now barely visible. Its bisection was therefore very difficult, and the measures were exceedingly rough. Star-line fairly well seen.
22. 0	M	α Persei	F	0'167	-0'125	- $\frac{1}{10}$	- 14'9	- 23'1	- 27'2	
22. 15	M	"	F	0'167	-0'122	- $\frac{1}{10}$	- 14'9	- 22'2	- 27'2	
22. 30	M	β Persei	F	0'167	+0'065	+	- 15'3	+ 35'0	+ 36'3	Star-line seen with difficulty.
22. 40	M	"	F	0'167	+0'057	+	- 15'3	+ 32'6	+ 32'1	
22. 55	M	Moon	F	0'167	-0'029			- 8'8		
	M	"	F	0'167	+0'051			+ 15'5		The coincidence of the two spectra appeared perfect. Moon-line faint and very difficult to bisect.
	M	"	F	0'167	-0'026			- 7'9		
	M	"	F	0'167	-0'042			- 12'7		
23. 10	M	"	F	0'167	-0'047			- 14'3		Position Circle, 6°.
Sept. 11. 20. 15	N	α Cephei	F	0'165	-0'158	- $\frac{2}{10}$	- 2'4	- 45'6	- 44'8	
20. 25	N	"	F	0'165	-0'233	- $\frac{2}{10}$	- 2'4	- 68'3	- 68'3	
21. 10	N	β Cassiopeia ..	F	0'165	+0'035	+ $\frac{1}{10}$	- 7'9	+ 18'5	+ 19'7	Spectrum steady and fairly bright. Star-line diffused and difficult to bisect.
21. 23	N	"	F	0'165	-0'030	0	- 7'9	+ 1'2	+ 7'9	
21. 35	N	"	F	0'165	+0'021	+ $\frac{1}{10}$	- 7'9	+ 14'3	+ 13'8	
22. 0	N	γ Cassiopeia ..	F	0'165	-0'140	- $\frac{2}{10}$	- 9'5	- 33'1	- 29'7	Spectrum bright and steady. Star-line well defined.
22. 20	N	"	F	0'165	-0'180	- $\frac{2}{10}$	- 9'5	- 45'1	- 49'5	
22. 45	N	δ Cassiopeia ..	F	0'165	+0'023	0	- 10'5	+ 17'5	+ 10'5	
22. 50	N	"	F	0'165	-0'055	- $\frac{1}{10}$	- 10'5	- 6'2	- 6'3	Spectrum bright but tremulous. Definition poor.
23. 20	N	Moon	F	0'165	-0'005			- 1'5		
	N	"	F	0'165	-0'016			- 4'9		
	N	"	F	0'165	-0'001			- 0'3		Spectrum very faint. Star-line fairly distinct and well defined. It seems to be quite clear that the displacement is practically nil. It was almost impossible to get an exact bisection on account of the faintness of the spectrum.
23. 30	N	"	F	0'165	+0'013			+ 4'0		
	N	"	F	0'165	+0'013			+ 4'0		
Sept. 12. 19. 20	M	α Cephei	F	0'161	-0'008	0	- 2'3	- 0'1	+ 2'3	Spectrum steady and fairly bright. Star-line diffused and difficult to bisect.
19. 25	M	"	F	0'161	-0'128	- $\frac{1}{10}$	- 2'3	- 36'5	- 38'7	
19. 30	M	α Cygni	F	0'161	-0'111	- $\frac{1}{10}$	+ 2'6	- 36'3	- 35'4	
19. 35	M	"	F	0'161	-0'104	- $\frac{1}{10}$	+ 2'6	- 34'2	- 29'9	Spectrum bright and steady. Star-line well defined.
19. 45	M	α Aquilæ	F	0'161	+0'089	+ $\frac{1}{10}$	+ 12'2	+ 14'8	+ 15'1	
19. 50	M	"	F	0'161	+0'056	+ $\frac{1}{10}$	+ 12'2	+ 4'8	+ 8'3	
19. 55	M	δ Aquilæ	F	0'161	-0'029	- $\frac{1}{10}$	+ 14'1	- 22'9	- 22'3	Spectrum very faint. Star-line fairly distinct and well defined. It seems to be quite clear that the displacement is practically nil. It was almost impossible to get an exact bisection on account of the faintness of the spectrum.
	M	"	F	0'161	+0'047	+ $\frac{1}{10}$	+ 14'1	+ 0'2	+ 2'3	
	M	"	F	0'161	-0'098	- $\frac{1}{10}$	+ 14'1	- 43'9	- 34'6	
20. 5	M	"	F	0'161	+0'079	+	+ 14'1	+ 9'9	+ 6'4	Spectrum steady, but star-line very broad indeed, and greatly diffused at edges. Spectrum faint but steady. Star-line well defined. Bisection difficult from the extreme faintness of the spectrum.
20. 10	M	ζ Aquilæ	F	0'161	-0'150	- $\frac{1}{10}$	+ 13'0	- 58'6	- 54'0	
20. 15	M	"	F	0'161	-0'056	- $\frac{1}{10}$	+ 13'0	- 30'0	- 33'5	
20. 23	M	γ Lyrae	F	0'161	-0'090	- $\frac{1}{10}$	+ 9'0	- 36'3	- 36'3	Spectrum faint but steady. Star-line well defined. Bisection difficult from the extreme faintness of the spectrum.
20. 28	M	"	F	0'161	+0'029	+ $\frac{1}{10}$	+ 9'0	- 0'2	- 0'8	
20. 30	M	"	F	0'161	-0'064	- $\frac{1}{10}$	+ 9'0	- 28'4	- 36'3	
20. 35	M	"	F	0'161	-0'096	- $\frac{1}{10}$	+ 9'0	- 38'1	- 50'0	

Date, 1884, Greenwich Siderial Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Sept. 12. 20. 40	M	α Lyrae	F	0.161	-0.058	- $\frac{1}{4}$	+ 7.9	- 25.5	- 19.6	Spectrum very bright and steady. Definition good.
20. 45	M	"	F	0.161	-0.057	- $\frac{1}{4}$	+ 7.9	- 25.2	- 28.4	
20. 55	M	α Delphini	F	0.161	+0.038	+ $\frac{1}{8}$	+ 8.7	+ 2.9	+ 7.7	Spectrum steady but very faint. Definition good. Measures difficult from faintness of the spectrum.
21. 0	M	"	F	0.161	+0.039	+ $\frac{1}{10}$	+ 8.7	+ 3.1	- 0.5	
21. 12	M	δ Cygni	F	0.161	+0.085	+ $\frac{2}{5}$	+ 4.6	+ 21.2	+ 11.8	Spectrum steady. Definition good. Evidently a large displacement towards the red.
21. 17	M	"	F	0.161	+0.131	+ $\frac{1}{2}$	+ 4.6	+ 35.2	+ 36.4	
21. 22	M	ζ Pegasi	F	0.161	-0.082	- $\frac{1}{10}$	+ 1.8	- 26.7	- 29.1	Spectrum very faint but steady. Definition fair. Bisection difficult from faintness of the spectrum.
21. 27	M	"	F	0.161	-0.132	- $\frac{1}{3}$	+ 1.8	- 41.9	- 29.1	
21. 45	M	Fomalhaut	F	0.161	+0.137	+ $\frac{1}{2}$	+ 5.3	+ 36.3	+ 35.7	Spectrum very faint and tremulous. Definition very bad. Measures difficult and rough.
21. 55	M	"	F	0.161	+0.073	+ $\frac{1}{4}$	+ 5.3	+ 16.9	+ 15.2	
22. 10	M	α Pegasi	F	0.161	-0.036	- $\frac{1}{10}$	- 0.4	- 10.5	- 7.8	Spectrum bright and steady. Bisection of star-line difficult, it being very broad and diffused at edges.
22. 20	M	"	F	0.161	+0.050	+ $\frac{1}{3}$	- 0.4	+ 15.6	+ 16.8	Position Circle, 7°.
Sept. 17. 21. 22	N	α Lyrae	F	0.196	-0.149	- $\frac{1}{2}$	+ 8.2	- 53.5	- 50.9	
21. 32	N	"	F	0.196	-0.140	- $\frac{1}{2}$	+ 8.2	- 50.8	- 50.9	
21. 50	N	δ Cygni	F	0.196	-0.059	- $\frac{1}{10}$	+ 5.1	- 23.0	- 22.2	Star-line somewhat diffused.
21. 55	N	"	F	0.196	-0.137	- $\frac{1}{10}$	+ 5.1	- 46.7	- 47.8	
22. 5	N	"	F	0.196	-0.104	- $\frac{1}{10}$	+ 5.1	- 36.7	- 37.1	
22. 35	N	α Aquilæ	F	0.196	-0.159	- $\frac{1}{10}$	+ 13.1	- 61.4	- 64.3	
22. 40	N	"	F	0.196	-0.100	- $\frac{1}{10}$	+ 13.1	- 43.5	- 45.1	
23. 0	N	α Cygni	F	0.196	-0.169	- $\frac{1}{10}$	+ 3.4	- 54.8	- 54.6	Star-line faint.
23. 10	N	"	F	0.196	-0.111	- $\frac{1}{10}$	+ 3.4	- 37.1	- 37.5	
23. 20	N	"	F	0.196	-0.099	- $\frac{1}{10}$	+ 3.4	- 33.5	- 31.9	
23. 45	N	α Pegasi	F	0.196	-0.139	- $\frac{1}{10}$	+ 1.1	- 43.3	- 43.8	
23. 50	N	"	F	0.196	-0.109	- $\frac{1}{10}$	+ 1.1	- 34.2	- 35.2	Position Circle, 5°.
Sept. 18. 20. 0	M	α Lyrae	F	0.191	-0.160	- $\frac{1}{10}$	+ 8.2	- 56.8	- 40.3	Spectrum bright and steady. Definition good.
20. 10	M	"	F	0.191	-0.112	- $\frac{1}{10}$	+ 8.2	- 42.2	- 40.3	
20. 20	M	α Aquilæ	F	0.191	-0.025	- $\frac{1}{10}$	+ 13.2	- 20.8	- 19.6	Spectrum tremulous, and not so bright as usual for this star.
20. 25	M	"	F	0.191	-0.015	0	+ 13.2	- 17.8	- 13.2	
20. 30	M	α Delphini	F	0.191	-0.101	- $\frac{1}{10}$	+ 9.9	- 40.6	- 31.3	Spectrum exceedingly faint. Star-line seen with great difficulty.
20. 35	M	"	F	0.191	-0.167	- $\frac{1}{10}$	+ 9.9	- 60.6	- 42.0	
20. 40	M	α Pegasi	F	0.191	-0.193	- $\frac{1}{10}$	+ 1.4	- 60.0	- 44.1	Spectrum faint.
20. 45	M	"	F	0.191	-0.178	- $\frac{1}{10}$	+ 1.4	- 55.5	- 39.8	
20. 55	M	α Andromedæ . .	F	0.191	-0.081	- $\frac{1}{10}$	- 4.6	- 20.0	- 16.8	Spectrum fairly steady. Definition fair.
21. 0	M	"	F	0.191	-0.049	- $\frac{1}{10}$	- 4.6	- 10.3	- 8.2	
21. 5	M	γ Pegasi	F	0.191	-0.137	- $\frac{1}{10}$	- 3.4	- 38.2	- 28.7	Spectrum faint; star-line ill-defined. The first measure ought certainly to be rejected as it was too hastily made. The displacement was evidently small. It was very difficult to get an exact bisection of the star-line from the faintness of the spectrum.
	M	"	F	0.191	+0.050	+ $\frac{1}{10}$	- 3.4	+ 18.6	+ 19.4	
	M	"	F	0.191	-0.022	- $\frac{1}{10}$	- 3.4	- 3.3	- 3.0	
	M	"	F	0.191	-0.046	- $\frac{1}{10}$	- 3.4	- 10.6	- 12.6	
21. 15	M	"	F	0.191	+0.006	+ $\frac{1}{10}$	- 3.4	+ 5.2	+ 9.8	
21. 22	M	β Cassiopeiæ . .	F	0.191	+0.031	+ $\frac{1}{10}$	- 6.8	+ 16.2	+ 13.2	Spectrum steady. Definition good.
21. 26	M	"	F	0.191	-0.011	0	- 6.8	+ 3.5	+ 6.8	
21. 35	M	γ Cassiopeiæ . .	F	0.191	-0.111	- $\frac{1}{10}$	- 8.6	- 25.1	- 12.8	The bright F line in this star seems to be getting steadily fainter. The star-line was seen with the greatest difficulty, and the measures must be regarded as very rough. Their agreement is probably accidental.
21. 40	M	"	F	0.191	-0.118	- $\frac{1}{10}$	- 8.6	- 27.2	- 17.1	Spectrum faint. Star-line very diffused.
21. 46	M	δ Cassiopeiæ . .	F	0.191	-0.130	- $\frac{1}{10}$	- 9.6	- 29.9	- 22.5	
21. 52	M	"	F	0.191	-0.155	- $\frac{1}{10}$	- 9.6	- 37.5	- 28.8	
22. 0	M	α Persei	F	0.191	-0.061	- $\frac{1}{10}$	- 14.2	- 4.3	- 1.8	Definition fair.
22. 5	M	"	F	0.191	-0.007	0	- 14.2	+ 12.1	+ 14.2	
22. 20	M	β Persei	F	0.191	+0.121	+ $\frac{1}{10}$	- 14.3	+ 51.0	+ 46.4	Spectrum fairly well seen.
22. 30	M	"	F	0.191	+0.044	+ $\frac{1}{10}$	- 14.3	+ 27.7	+ 30.3	Position Circle, 7°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Sept. 19. 13. 50	M	Sky.....	F	0.191	-0.020			- 6.1		The coincidence of the two spectra appeared perfect.
	M	"	F	0.191	-0.001			- 0.3		
	M	"	F	0.191	+0.012			+ 3.6		
	M	"	F	0.191	+0.013			+ 3.9		
14. 0	M	"	F	0.191	-0.008			- 2.4		Position Circle, 7°.
Sept. 20. 19. 40	M	α Cygni	F	0.131	-0.049	- $\frac{1}{3}$	+ 3.8	- 18.7	- 25.2	Spectrum steady; star-line fairly well defined.
	M	"	F	0.131	-0.162	- $\frac{1}{3}$	+ 3.8	- 53.0	- 55.1	
	M	"	F	0.131	-0.198	- $\frac{1}{3}$	+ 3.8	- 64.0	- 65.5	
19. 48	M	α Cephei.....	F	0.131	-0.155	- $\frac{1}{3}$	- 1.5	- 45.6	- 36.9	Spectrum steady; star-line fairly well defined.
19. 55	M	"	F	0.131	-0.118	- $\frac{1}{3}$	- 1.5	- 34.3	- 30.6	
20. 0	M	ε Pegasi	F	0.131	+0.071	+	+ 8.0	+ 13.6	+ 17.7	Spectrum faint, and the bisection was there- fore difficult. Definition fair.
20. 10	M	"	F	0.131	+0.095	+	+ 8.0	+ 20.8	+ 17.7	Spectrum faint. Star-line broad. Measures very rough.
20. 15	M	ζ Pegasi	F	0.131	+0.081	+	+ 4.1	+ 20.5	+ 21.6	
20. 22	M	"	F	0.131	-0.041	- $\frac{1}{4}$	+ 4.1	- 16.5	- 20.1	Spectrum tremulous. Definition poor.
20. 27	M	"	F	0.131	-0.019	- $\frac{1}{10}$	+ 2.0	- 7.8	- 8.4	
20. 30	M	α Pegasi	F	0.131	+0.033	+	+ 2.0	+ 8.0	+ 4.4	
	M	"	F	0.131	+0.010	+	+ 2.0	+ 1.0	+ 4.4	
	M	"	F	0.131	+0.050	+	+ 2.0	+ 13.2	+ 4.4	
20. 36	M	"	F	0.131	-0.039	- $\frac{1}{10}$	- 4.0	- 7.8	- 2.4	Spectrum tremulous. Definition poor.
20. 40	M	α Andromedæ .	F	0.131	+0.028	+	- 4.0	+ 12.5	+ 10.4	
	M	"	F	0.131	-0.066	- $\frac{1}{10}$	- 4.0	- 16.0	- 8.8	
	M	"	F	0.131	-0.059	- $\frac{1}{10}$	- 4.0	- 13.9	- 8.8	
20. 50	M	"	F	0.131	+0.054	+	- 2.8	+ 19.2	+ 34.9	Spectrum tremulous. Definition poor.
21. 5	M	γ Pegasi	F	0.131	+0.060	+	- 2.8	+ 21.0	+ 18.8	
21. 10	M	"	F	0.131	-0.118	- $\frac{1}{3}$	- 6.5	- 29.3	- 14.9	Spectrum steady. Definition fair.
21. 15	M	β Cassiopeiæ...	F	0.131	-0.086	- $\frac{1}{3}$	- 6.5	- 19.6	- 14.9	
21. 20	M	"	F	0.131	-0.075	- $\frac{1}{4}$	- 8.3	- 14.5	- 7.7	Spectrum steady. Star-line faint, but well defined.
21. 35	M	γ Cassiopeiæ...	F	0.131	-0.074	- $\frac{1}{4}$	- 8.3	- 14.2	- 7.7	
21. 40	M	"	F	0.131	-0.122	- $\frac{1}{3}$	- 9.3	- 27.8	- 22.8	
21. 45	M	δ Cassiopeiæ...	F	0.131	-0.088	- $\frac{1}{3}$	- 9.3	- 17.4	- 12.1	Position Circle, 6°.
21. 50	M	"	F	0.131	+0.005			+ 1.5		
Sept. 22. 12. 10	M	"	F	0.131	+0.022			+ 6.7		
	M	"	F	0.131	-0.006			- 1.8		
	M	"	F	0.131	-0.023			- 7.0		
12. 30	M	"	F	0.131	+0.004			+ 1.2		Position Circle, 6°.
Sept. 25. 20. 20	M	Arcturus	b ₁	0.097	-0.126	- $\frac{1}{2}$	+ 5.2	- 52.5	- 45.0	Spectrum very tremulous indeed. Star-lines only seen by glimpses, and with great difficulty.
20. 25	M	"	b ₁	0.097	-0.131	- $\frac{1}{2}$	+ 5.2	- 54.4	- 52.9	
20. 40	M	γ Draconis	b ₁	0.097	-0.031	- $\frac{1}{3}$	+ 4.7	- 16.3	- 31.2	Spectrum fairly steady, but faint, and the star-lines very faint indeed. Measures very difficult.
20. 50	M	"	b ₁	0.097	-0.041	- $\frac{1}{3}$	+ 4.7	- 20.1	- 24.6	
20. 52	M	"	b ₁	0.097	-0.102	- $\frac{1}{2}$	+ 4.7	- 43.0	- 44.5	
20. 55	M	"	b ₁	0.097	-0.035	- $\frac{1}{3}$	+ 4.7	- 17.8	- 31.2	
21. 12	M	ε Pegasi	b ₁	0.097	-0.120	- $\frac{1}{3}$	+ 9.2	- 54.3	- 35.7	
21. 15	M	"	b ₁	0.097	+0.065	+	+ 9.2	+ 15.2	+ 10.7	Displacement very small indeed.
21. 20	M	"	b ₁	0.097	-0.010	- $\frac{1}{10}$	+ 9.2	+ 13.0	- 17.2	
21. 25	M	"	b ₁	0.097	-0.027	- $\frac{1}{5}$	+ 9.2	- 19.3	- 25.1	Definition bad.
21. 53	M	α Cygni	b ₁	0.097	+0.034	+	+ 4.5	+ 8.3	+ 3.5	
21. 58	M	"	b ₁	0.097	-0.043	+	+ 4.5	- 20.6	- 31.0	Definition bad.
22. 1	M	ε Cygni	b ₁	0.097	-0.028	- $\frac{1}{5}$	+ 7.2	- 17.7	- 33.7	
22. 6	M	"	b ₁	0.097	+0.008	0	+ 7.2	- 4.2	- 7.2	The definition throughout the evening was exceedingly bad, and the spectra unsteady. The star-lines were only detected with the greatest difficulty, and then but for a moment, notwithstanding that the high stars were very bright. Position Circle, 5°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Sept. 27. 21. 55	M	Moon	b ₁	0'187	+0'011			+ 4'1		Spectrum faint. Moon-lines very faint. No direct comparisons could be made. The adjustment of the Spectroscope seemed, however, satisfactory so far as could be ascertained.
	M	"	b ₁	0'187	+0'074			+ 27'8		
	M	"	b ₁	0'187	+0'043			+ 16'1		
	M	"	b ₁	0'187	-0'012			- 4'5		
22. 10	M	"	b ₁	0'187	+0'002			+ 0'8		Spectrum tremulous. Star-line sharp, but faint. Displacement evidently very small. Definition bad.
22. 25	M	ε Cygni	b ₁	0'187	+0'011	+ $\frac{1}{10}$	+ 7'5	+ 3'4	+ 2'6	
22. 35	M	"	b ₁	0'187	+0'014	+ $\frac{1}{10}$	+ 7'5	- 2'2	+ 2'6	
22. 50	M	γ Cygni	b ₁	0'187	+0'052	+ $\frac{1}{10}$	+ 6'7	+ 12'8	+ 3'4	
23. 0	M	"	b ₁	0'187	+0'015	+ $\frac{1}{10}$	+ 6'7	- 1'1	+ 3'4	Spectrum bright. Star-line faint, but well defined. Measures considered satisfactory. Spectrum faint. Star-line ill-defined. Measures very difficult.
23. 10	M	α Cygni	b ₁	0'187	-0'082	- $\frac{3}{10}$	+ 4'8	- 35'6	- 38'6	
23. 20	M	"	b ₁	0'187	-0'072	- $\frac{1}{10}$	+ 4'8	- 31'8	- 35'2	
23. 35	M	ε Pegasi	b ₁	0'187	-0'057	- $\frac{1}{10}$	+ 9'8	- 31'2	- 35'1	
23. 45	M	"	b ₁	0'187	-0'045	- $\frac{1}{10}$	+ 9'8	- 26'7	- 19'9	Star-lines seen with great difficulty, and not clearly isolated from the dark band on which they stand.
0. 0	M	β Pegasi	b ₁	0'187	+0'093	+ $\frac{3}{10}$	+ 2'1	+ 32'8	+ 31'7	
0. 5	M	"	b ₁	0'187	-0'014	- $\frac{1}{10}$	+ 2'1	- 7'4	- 12'2	
0. 10	M	"	b ₁	0'187	+0'092	+ $\frac{2}{10}$	+ 2'1	+ 32'4	+ 38'3	
0. 20	M	"	b ₁	0'187	+0'018	+ $\frac{1}{10}$	+ 2'1	+ 4'7	+ 8'0	Position Circle, 5°.
Oct. 22. 21. 18	M	α Lyrae	F	0'240	-0'078	- $\frac{1}{10}$	+ 8'4	- 32'1	- 36'0	Spectrum bright and fairly steady. Measures considered good. Spectrum very faint.
21. 23	M	"	F	0'240	-0'024	- $\frac{1}{10}$	+ 8'4	- 15'7	- 19'4	
21. 30	M	ζ Aquilæ	F	0'240	-0'189	- $\frac{1}{10}$	+ 14'7	- 72'1	- 69'9	
21. 35	M	"	F	0'240	-0'038	- $\frac{1}{10}$	+ 14'7	- 26'3	- 36'8	
21. 40	M	δ Cygni	F	0'240	-0'203	- $\frac{1}{10}$	+ 7'8	- 69'5	- 51'9	Spectrum faint but steady. Star-line faint, and therefore difficult to bisect. Spectrum bright and steady. Star-line exceedingly ill-defined.
21. 45	M	"	F	0'240	-0'029	- $\frac{1}{10}$	+ 7'8	- 16'6	- 18'8	
21. 50	M	α Aquilæ	F	0'240	+0'067	+ $\frac{1}{10}$	+ 16'2	+ 4'1	+ 11'4	
21. 55	M	"	F	0'240	+0'044	+ $\frac{1}{10}$	+ 16'2	+ 2'8	+ 11'4	
22. 2	M	α Delphini	F	0'240	+0'222	+ $\frac{1}{10}$	+ 15'0	+ 52'4	+ 40'2	Spectrum very faint, but steady. Measures considered fairly good. Spectrum bright and steady. Star-line faint and badly defined.
22. 7	M	"	F	0'240	+0'185	+ $\frac{1}{10}$	+ 15'0	+ 41'2	+ 40'2	
22. 13	M	α Cygni	F	0'240	-0'183	- $\frac{1}{10}$	+ 7'7	- 63'3	- 62'9	
22. 18	M	"	F	0'240	-0'097	- $\frac{1}{10}$	+ 7'7	- 37'2	- 44'4	
22. 25	M	γ Cygni	F	0'240	-0'025	- $\frac{1}{10}$	+ 9'3	- 16'9	- 20'3	Spectrum faint but steady. Star-line very faint. Spectrum very faint. Star-line very faint.
22. 30	M	"	F	0'240	-0'082	- $\frac{1}{10}$	+ 9'3	- 34'2	- 42'4	
23. 0	M	ε Cygni	F	0'240	+0'121	+ $\frac{1}{10}$	+ 10'9	+ 25'8	+ 33'2	
23. 5	M	"	F	0'240	+0'052	+ $\frac{1}{10}$	+ 10'9	+ 4'9	+ 11'1	
23. 9	M	ε Pegasi	F	0'240	-0'063	- $\frac{1}{10}$	+ 14'9	- 34'0	- 36'9	Spectrum and star-line faint. Spectrum fairly bright and steady. Star-line well-defined. Measures considered good.
23. 13	M	"	F	0'240	-0'012	0	+ 14'9	- 18'5	- 14'9	
23. 18	M	α Cephei	F	0'240	-0'115	- $\frac{2}{10}$	+ 2'1	- 37'0	- 46'2	
23. 24	M	"	F	0'240	-0'068	- $\frac{1}{10}$	+ 2'1	- 22'8	- 29'7	
23. 30	M	α Pegasi	F	0'240	-0'137	- $\frac{1}{10}$	+ 10'8	- 52'4	- 47'5	Position Circle, 6°.
23. 35	M	"	F	0'240	-0'137	- $\frac{1}{10}$	+ 10'8	- 52'4	- 54'9	
23. 45	M	α Andromedæ	F	0'240	-0'034	- $\frac{1}{10}$	+ 5'0	- 15'3	- 32'6	
23. 50	M	"	F	0'240	-0'044	- $\frac{1}{10}$	+ 5'0	- 18'4	- 16'0	
Oct. 24. 21. 55	M	α Cygni	F	0'107	-0'204	- $\frac{2}{10}$	+ 7'9	- 69'9	- 38'3	Spectrum faint. Star-line faint, and seen with difficulty. Spectrum faint. Star-line faint, and seen with difficulty. Star-line fairly well seen.
22. 0	M	"	F	0'107	-0'070	- $\frac{1}{10}$	+ 7'9	- 29'2	- 23'1	
22. 35	M	α Pegasi	F	0'107	-0'101	- $\frac{1}{10}$	+ 11'3	- 42'0	- 34'1	
22. 45	M	"	F	0'107	-0'121	- $\frac{1}{10}$	+ 11'3	- 48'0	- 34'1	
23. 10	M	α Andromedæ	F	0'107	-0'076	- $\frac{1}{10}$	+ 5'6	- 28'7	- 23'8	Star-line seen with great difficulty. Spectrum faint. Star-line very faint, and ill-defined. The night was not a favourable one for observation, as there was much mist, and the spectra were in general faint, and the definition poor. Position Circle, 6°.
23. 20	M	"	F	0'107	-0'023	- $\frac{1}{10}$	+ 5'6	- 12'6	- 10'2	
23. 30	M	β Persei	F	0'107	+0'063	+	- 6'6	+ 25'7	+ 33'9	
23. 40	M	"	F	0'107	+0'031	+	- 6'6	+ 16'0	+ 18'0	
23. 50	M	α Persei	F	0'107	-0'070	- $\frac{2}{10}$	- 7'7	- 13'6	- 10'5	
0. 0	M	"	F	0'107	-0'062	- $\frac{1}{10}$	- 7'7	- 11'1	- 1'4	

MOTIONS OF STARS IN THE LINE OF SIGHT, INFERRED FROM SPECTROSCOPIC OBSERVATIONS

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Oct. 25. 22. 30	N	α Aquilæ	F	0.196	-0.121	- $\frac{1}{2}$	+ 16.2	- 52.9	- 58.9	Star-line broad and diffused.
22. 35	N	"	F	0.196	-0.079	- $\frac{3}{10}$	+ 16.2	- 40.2	- 41.8	Misty. Measures difficult.
23. 45	N	α Lyrae	F	0.196	-0.279	- 1	+ 8.3	- 93.1	- 93.7	
23. 51	N	"	F	0.196	-0.281	- 1	+ 8.3	- 93.7	- 93.7	
23. 56	N	"	F	0.196	-0.210	- $\frac{3}{4}$	+ 8.3	- 72.1	- 72.4	Position Circle, 5°.
Oct. 28. 22. 11	N	α Aquilæ	F	0.170	-0.057	- $\frac{1}{4}$	+ 16.2	- 33.5	- 35.6	
22. 15	N	"	F	0.170	-0.156	- $\frac{1}{10}$	+ 16.2	- 63.6	- 55.0	
22. 35	N	α Cygni	F	0.170	-0.045	- $\frac{1}{10}$	+ 8.3	- 22.0	- 21.2	
22. 40	N	"	F	0.170	-0.125	- $\frac{1}{2}$	+ 8.3	- 46.3	- 47.1	
22. 58	N	Moon	F	0.170	-0.034	- $\frac{1}{10}$		- 10.3		
23. 2	N	"	F	0.170	-0.006	- $\frac{1}{10}$		- 1.8		
23. 34	N	α Pegasi	F	0.170	-0.138	- $\frac{1}{10}$	+ 12.2	- 54.1	- 51.0	Spectrum faint. Star-line indistinct.
23. 40	N	"	F	0.170	-0.074	- $\frac{1}{10}$	+ 12.2	- 34.7	- 38.0	
0. 7	N	α Andromedæ .	F	0.170	-0.037	- $\frac{1}{10}$	+ 6.7	- 18.0	- 17.8	
0. 15	N	"	F	0.170	-0.008	- $\frac{1}{10}$	+ 6.7	- 9.1	- 6.7	
0. 30	N	γ Pegasi	F	0.170	-0.103	- $\frac{1}{10}$	+ 8.7	- 40.0	- 39.7	Star-line very faint. Measures doubtful.
0. 35	N	"	F	0.170	-0.189	- $\frac{1}{10}$	+ 8.7	- 66.1	- 66.8	
0. 40	N	"	F	0.170	-0.103	- $\frac{1}{10}$	+ 8.7	- 40.0	- 39.7	
1. 35	N	β Persei	F	0.170	-0.021	- $\frac{1}{10}$	- 5.5	- 0.9	+ 5.5	Star-line broad and diffused.
1. 40	N	"	F	0.170	-0.031	- $\frac{1}{10}$	- 5.5	- 3.9	+ 1.6	
1. 56	N	α Persei	F	0.170	-0.177	- $\frac{1}{10}$	- 6.7	- 47.1	- 51.4	
2. 2	N	"	F	0.170	-0.219	- $\frac{1}{10}$	- 6.7	- 59.8	- 61.1	Position Circle, 6°.
Nov 6. 22. 55	M	α Cephei	F	0.183	-0.229	- $\frac{2}{3}$	+ 3.7	- 73.2	- 41.1	Spectrum and star-line faint.
23. 5	M	"	F	0.183	-0.130	- $\frac{1}{10}$	+ 3.7	- 43.2	- 31.8	
23. 15	M	α Lyrae	F	0.183	-0.147	- $\frac{1}{10}$	+ 7.6	- 52.2	- 35.7	Spectrum bright and steady.
23. 20	M	"	F	0.183	-0.071	- $\frac{1}{10}$	+ 7.6	- 29.2	- 26.3	
23. 30	M	α Cygni	F	0.183	-0.118	- $\frac{1}{10}$	+ 8.9	- 44.7	- 27.6	Spectrum bright and fairly steady. Star-line fairly well defined.
23. 35	M	"	F	0.183	-0.109	- $\frac{1}{10}$	+ 8.9	- 42.0	- 31.4	Spectrum bright and fairly steady. Star-line fairly well defined.
23. 50	M	α Pegasi	F	0.183	-0.012	- $\frac{1}{10}$	+ 14.1	- 17.7	- 19.7	Definition good.
23. 55	M	"	F	0.183	+0.028	+ $\frac{1}{10}$	+ 14.1	- 5.6	- 8.5	
0. 0	M	α Andromedæ .	F	0.183	-0.152	- $\frac{1}{10}$	+ 9.0	- 55.1	- 42.7	
0. 5	M	"	F	0.183	-0.100	- $\frac{1}{10}$	+ 9.0	- 39.4	- 31.5	
0. 10	M	γ Pegasi	F	0.183	+0.026	+ $\frac{1}{10}$	+ 11.1	- 3.2	+ 3.0	Spectrum rather faint but steady. Definition fair.
0. 15	M	"	F	0.183	+0.044	+ $\frac{1}{10}$	+ 11.1	+ 2.3	+ 5.8	
0. 25	M	β Arietis	F	0.183	-0.090	- $\frac{1}{10}$	- 10.9	- 16.4	- 7.8	
0. 30	M	"	F	0.183	-0.080	- $\frac{1}{10}$	- 10.9	- 13.4	- 3.2	
1. 5	M	β Persei	F	0.183	-0.115	- $\frac{1}{10}$	- 2.9	- 32.0	- 25.2	
1. 8	M	"	F	0.183	-0.088	- $\frac{1}{10}$	- 2.9	- 23.8	- 15.8	Position Circle, 6°.
Nov. 7. 16. 0	M	Sky	F	0.183	-0.027			- 8.2		The coincidence of the two spectra appeared perfect.
	M	"	F	0.183	-0.017			- 5.1		
	M	"	F	0.183	-0.016			- 4.9		
	M	"	F	0.183	-0.026			- 7.9		
16. 25	M	"	F	0.183	+0.049			+ 14.9		
0. 12	N	α Lyrae	F	0.122	-0.111	- $\frac{1}{10}$	+ 7.5	- 41.2	- 38.9	
0. 17	N	"	F	0.122	-0.050	- $\frac{1}{10}$	+ 7.5	- 22.7	- 23.2	
0. 35	N	α Cygni	F	0.122	-0.087	- $\frac{1}{10}$	+ 9.0	- 35.4	- 34.2	Spectrum faint and tremulous. Wind high.
0. 40	N	"	F	0.122	-0.080	- $\frac{1}{10}$	+ 9.0	- 33.3	- 34.2	
1. 40	N	β Persei	F	0.122	-0.016	- $\frac{1}{10}$	- 2.6	- 2.3	- 3.7	
1. 45	N	"	F	0.122	-0.067	- $\frac{1}{10}$	- 2.6	- 17.8	- 18.4	
2. 0	N	α Persei	F	0.122	-0.166	- $\frac{1}{10}$	- 4.0	- 46.4	- 46.3	
2. 5	N	"	F	0.122	-0.094	- $\frac{1}{10}$	- 4.0	- 24.6	- 27.4	
2. 20	N	Moon	F	0.122	-0.004			- 1.2		
	N	"	F	0.122	-0.010			- 3.0		
	N	"	F	0.122	+0.014			+ 4.3		
2. 30	N	"	F	0.122	-0.013			- 4.0		Position Circle, 5°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Nov. 8. 23. 40	M	β Persei	F	0'165	-0'020	- $\frac{1}{10}$	- 2'3	- 3'8	- 5'3	Spectrum fairly steady, but star-line not well defined. Star-line very ill-defined. Impossible to get a satisfactory bisection.
23. 50	M	"	F	0'165	-0'065	- $\frac{1}{3}$	- 2'3	- 17'4	- 23'0	
0. 0	M	α Persei	F	0'165	-0'040	- $\frac{1}{2}$	- 3'8	- 8'3	- 11'4	
0. 15	M	"	F	0'165	+0'060	+ $\frac{1}{4}$	- 3'8	+ 22'0	+ 22'8	
0. 25	M	"	F	0'165	+0'055	+ $\frac{1}{4}$	- 3'8	+ 20'5	+ 22'8	Spectrum faint but steady. Star-line faint though well defined. Clearly displaced to red by a considerable amount.
0. 35	M	"	F	0'165	-0'127	- $\frac{1}{2}$	- 3'8	- 34'8	- 34'2	
0. 45	M	δ Persei	F	0'165	+0'068	+ $\frac{1}{2}$	- 4'7	+ 25'4	+ 30'0	
0. 50	M	"	F	0'165	+0'100	+ $\frac{1}{2}$	- 4'7	+ 35'1	+ 42'7	
1. 0	M	η Tauri	F	0'165	+0'020	+ $\frac{1}{10}$	- 3'7	+ 9'8	+ 11'3	Spectrum faint but steady. Star-line faint but well defined. Displacement practically nil.
1. 10	M	"	F	0'165	-0'018	- $\frac{1}{10}$	- 3'7	- 1'8	- 3'9	
1. 20	M	Aldebaran	F	0'165	+0'220	+ $\frac{3}{4}$	- 6'7	+ 73'5	+ 63'7	Spectrum tremulous. Star-line faint and difficult to bisect. Displacement to red large.
1. 30	M	"	F	0'165	+0'156	+ $\frac{3}{4}$	- 6'7	+ 54'1	+ 57'4	
1. 35	M	"	F	0'165	+0'217	+ $\frac{3}{4}$	- 6'7	+ 72'7	+ 63'7	
1. 40	M	"	F	0'165	+0'072	+ $\frac{3}{4}$	- 6'7	+ 28'6	+ 32'0	
1. 55	M	Capella	F	0'165	+0'113	+ $\frac{3}{4}$	- 9'4	+ 43'7	+ 55'0	Star-line fairly well seen.
2. 5	M	"	F	0'165	+0'063	+ $\frac{3}{4}$	- 9'4	+ 28'5	+ 34'7	
Nov. 15. 22. 10	M	α Andromedæ .	F	0'243	-0'089	- $\frac{1}{3}$	+ 11'2	- 38'2	- 44'4	Spectrum somewhat faint. Star-line not well defined. Position Circle, 6°.
22. 25	M	"	F	0'243	-0'056	- $\frac{1}{3}$	+ 11'2	- 28'2	- 31'1	
Nov. 20. 1. 55	N	α Arietis	F	0'190	+0'051	+ $\frac{1}{2}$	+ 7'3	+ 8'2	+ 9'5	Spectrum tremulous. Star-line faint. Position Circle, 5°.
2. 0	N	"	F	0'190	+0'029	+ $\frac{1}{2}$	+ 7'3	+ 1'5	+ 3'2	
2. 25	N	β Persei	F	0'190	-0'098	- $\frac{1}{2}$	+ 1'4	- 31'2	- 35'0	
2. 30	N	"	F	0'190	-0'062	- $\frac{1}{4}$	+ 1'4	- 20'2	- 22'4	
2. 55	N	η Tauri	F	0'190	-0'069	- $\frac{1}{4}$	+ 0'3	- 21'3	- 21'3	
3. 0	N	"	F	0'190	-0'137	- $\frac{1}{2}$	+ 0'3	- 41'9	- 42'4	
3. 25	N	Aldebaran	F	0'190	+0'010	0	- 2'9	+ 5'9	+ 2'9	
3. 30	N	"	F	0'190	+0'026	+ $\frac{1}{10}$	- 2'9	+ 10'8	+ 11'3	
4. 0	N	Rigel	F	0'190	+0'149	+ $\frac{1}{2}$	- 4'4	+ 49'7	+ 46'5	
4. 5	N	"	F	0'190	+0'097	+ $\frac{1}{3}$	- 4'4	+ 33'9	+ 32'4	
Dec. 15. 2. 40	M	Aldebaran	F	0'154	+0'109	+ $\frac{1}{2}$	+ 5'3	+ 27'8	+ 24'8	Spectrum faint, and star-line ill-defined.
2. 55	M	"	F	0'154	+0'154	+ $\frac{1}{2}$	+ 5'3	+ 41'5	+ 34'8	
3. 15	M	Capella	F	0'154	-0'051	- $\frac{1}{2}$	+ 1'3	- 16'8	- 13'3	Spectrum bright. Star-line only fairly well defined. Small but unmistakeable displacement towards the blue.
3. 30	M	"	F	0'154	-0'018	- $\frac{1}{10}$	+ 1'3	- 6'8	- 7'3	
3. 45	M	β Tauri	F	0'154	-0'048	- $\frac{1}{2}$	+ 1'2	- 15'8	- 13'2	Spectrum fairly bright and steady. Star-line fairly defined.
4. 0	M	"	F	0'154	-0'089	- $\frac{1}{2}$	+ 1'2	- 28'2	- 25'2	
4. 15	M	γ Orionis	F	0'154	-0'013	- $\frac{1}{10}$	+ 1'7	- 5'7	- 7'7	Spectrum bright and steady. Star-line fairly defined.
4. 30	M	"	F	0'154	-0'062	- $\frac{1}{5}$	+ 1'7	- 20'5	- 13'7	
4. 45	M	Rigel	F	0'154	+0'064	+ $\frac{3}{10}$	+ 2'6	+ 16'8	+ 15'4	Spectrum bright. Star-line faint, but seen well defined by glimpses. Second measure considered very good.
4. 55	M	"	F	0'154	+0'039	+ $\frac{1}{5}$	+ 2'6	+ 9'2	+ 9'4	
5. 10	M	δ Orionis	F	0'154	-0'039	- $\frac{1}{5}$	+ 1'2	- 13'0	- 13'2	Spectrum faint; star-line faint and ill-defined. Measures considered rough.
5. 20	M	"	F	0'154	-0'010	0	+ 1'2	- 4'2	- 1'2	
5. 40	M	ϵ Orionis	F	0'154	+0'043	+ $\frac{1}{4}$	+ 0'8	+ 12'3	+ 14'3	Spectrum somewhat faint. Star-line only seen well by glimpses.
5. 50	M	"	F	0'154	-0'007	0	+ 0'8	- 2'9	- 0'8	
6. 0	M	ζ Orionis	F	0'154	+0'099	+ $\frac{1}{2}$	+ 0'5	+ 29'6	+ 29'6	Star-line only seen well by glimpses.
6. 10	M	"	F	0'154	+0'032	+ $\frac{1}{2}$	+ 0'5	+ 9'2	+ 11'5	
6. 20	M	Sirius	F	0'154	-0'123	- $\frac{1}{2}$	- 4'5	- 32'9	- 35'6	Spectrum very bright and fairly steady. Star-line well seen. Manifest displacement towards the blue, but direct comparison seemed to show it as smaller than the measures on the indirect comparison; say $\frac{1}{4}$ to $\frac{1}{5}$.
6. 25	M	"	F	0'154	-0'063	- $\frac{1}{2}$	- 4'5	- 14'6	- 15'6	
6. 35	M	"	F	0'154	-0'122	- $\frac{1}{2}$	- 4'5	- 32'6	- 40'7	
6. 40	M	"	F	0'154	-0'091	- $\frac{1}{2}$	- 4'5	- 23'1	- 25'6	

Date, 1884, Greenwich Sidereal Time.	Observer.	Objects.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Dec. 15. 6.50	M	Procyon	F	0'154	-0'063	- $\frac{1}{3}$	- 0'9	- 18'2	- 19'1	Spectrum very bright, but star-line very difficult to hold steadily. Direct comparison seemed to show a coincidence of the two spectra, <i>i.e.</i> , no marked displacement was discernible. Position Circle, 5°.
7. 0	M	,,	F	0'154	-0'026	- $\frac{1}{10}$	- 0'9	- 7'0	- 5'1	
Dec. 17. 2.30	M	α Andromedæ .	F	0'154	-0'009	0	+ 16'4	- 19'1	- 16'4	Spectrum faint. Measures considered rough.
2.35	M	,,	F	0'154	-0'122	- $\frac{1}{10}$	+ 16'4	- 53'5	- 41'6	
2.40	M	,,	F	0'154	-0'075	- $\frac{1}{10}$	+ 16'4	- 39'2	- 29'0	
2.45	M	,,	F	0'154	-0'102	- $\frac{1}{10}$	+ 16'4	- 47'4	- 41'6	
3. 0	M	β Persei	F	0'154	-0'249	- 1	+ 9'3	- 84'9	- 72'3	
3.10	M	,,	F	0'154	-0'114	- $\frac{1}{10}$	+ 9'3	- 43'9	- 34'5	
3.15	M	,,	F	0'154	-0'197	- $\frac{1}{10}$	+ 9'3	- 69'2	- 51'2	
3.20	M	α Persei	F	0'154	-0'037	- $\frac{1}{4}$	+ 7'2	- 18'4	- 22'9	
3.25	M	,,	F	0'154	-0'145	- $\frac{1}{10}$	+ 7'2	- 51'3	- 38'6	Spectrum fairly bright, but star-line very faint.
3.32	M	Aldebaran	F	0'154	+0'038	+	+ 6'0	+ 5'6	+ 6'6	
3.38	M	,,	F	0'154	+0'120	+	+ 6'0	+ 30'4	+ 25'4	
3.45	M	Capella	F	0'154	+0'045	+	+ 1'9	+ 11'8	+ 19'1	
3.50	M	,,	F	0'154	+0'069	+	+ 1'9	+ 19'1	+ 23'3	Spectrum bright but star-line faint.
5. 0	M	Rigel	F	0'154	+0'108	+	+ 3'2	+ 29'6	+ 28'2	
6. 5	M	,,	F	0'154	+0'051	+	+ 3'2	+ 12'3	+ 12'5	Spectrum bright but tremulous, and star-line faint.
6.15	M	γ Orionis	F	0'154	+0'026	+ $\frac{1}{10}$	+ 2'4	+ 5'5	+ 3'9	
6.20	M	,,	F	0'154	+0'031	+	+ 2'4	+ 7'0	+ 10'2	
6.25	M	,,	F	0'154	-0'071	- $\frac{1}{10}$	+ 2'4	- 24'0	- 23'4	
6.30	M	,,	F	0'154	+0'008	0	+ 2'4	- 4'8	- 2'4	Spectrum bright and fairly steady.
6.40	M	β Tauri	F	0'154	-0'128	- $\frac{1}{10}$	+ 1'9	- 40'7	- 33'3	
6.45	M	,,	F	0'154	-0'069	- $\frac{1}{4}$	+ 1'9	- 22'9	- 17'6	Spectrum bright. Star-line broad and ill-defined.
6.55	M	β Aurigæ	F	0'154	-0'033	- $\frac{1}{10}$	- 0'6	- 9'4	- 12'0	
7. 0	M	,,	F	0'154	-0'068	- $\frac{1}{10}$	- 0'6	- 20'1	- 18'3	Spectrum very bright, but tremulous. Star-line fairly well seen.
7.25	M	Sirius	F	0'154	-0'054	- $\frac{1}{4}$	- 4'0	- 12'4	- 11'7	
7.35	M	,,	F	0'154	-0'044	- $\frac{1}{10}$	- 4'0	- 9'4	- 8'6	The first four stars were observed under disadvantageous circumstances, as there was still a certain amount of fog about, and the spectra were faint. Position Circle, 5°.
7.45	M	,,	F	0'154	-0'077	- $\frac{1}{10}$	- 4'0	- 19'4	- 21'2	
8. 0	M	,,	F	0'154	-0'078	- $\frac{1}{10}$	- 4'0	- 19'7	- 21'2	

ROTATION OF JUPITER deduced from the Relative Displacement of Lines in the Spectrum at the East and West Limbs respectively.

Date, 1884, Greenwich Sidereal Time.	Observer.	W. Limb.	E. Limb.	Line.	Width of Slit.	Displace- ment Measured	Concluded Motion in Miles per Second.	REMARKS.
Feb. 6. 9. 30	M	0.763	0.647	F	0.180	+ 0.116	+ 35.3	The lines in the spectrum of Jupiter were not very well seen. The slit was placed tangential to the limb, and as nearly on it as was practicable.
9. 34	M	0.762	0.655	F	0.180	+ 0.107	+ 32.5	
9. 38	M	0.795	0.610	F	0.180	+ 0.185	+ 56.2	
9. 42	M	0.778	0.713	F	0.180	+ 0.065	+ 19.7	
9. 45	M	0.761	0.682	F	0.180	+ 0.079	+ 24.0	
							+ 33.5	Mean. Position Circle, 16°. 45'.
Mar. 24. 12. 20	M	0.292	0.201	b_1	0.150	+ 0.091	+ 34.2	The point observed was about 2" from the limb. The spectrum of the planet was faint and the lines indistinct. It was therefore difficult to measure the displacement. The slit was placed tangential to the limb.
12. 25	M	0.320	0.280	b_1	0.150	+ 0.040	+ 15.2	
12. 30	M	0.323	0.298	b_1	0.150	+ 0.025	+ 9.4	
12. 35	M	0.340	0.322	b_1	0.150	+ 0.018	+ 6.8	
							+ 16.4	Mean. Position Circle, 16°. 45'.

Calculated Relative Motion of the limbs, +32 miles per second.
The "half-prism" spectroscope with a dispersion of one "half-prism" was used on both occasions.

22 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT, FROM SPECTROSCOPIC OBSERVATIONS

COLLECTED RESULTS for MOTIONS of STARS in the line of Sight, from SPECTROSCOPIC OBSERVATIONS made at the ROYAL OBSERVATORY, GREENWICH, in the Year 1884.

(F for the Star or Moon is compared with H_{β} of Hydrogen, and b_1, b_2, b_4 with Mg_1, Mg_2, Mg_3 of Magnesium.)

(+ denotes Recession; - Approach.)

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
α ANDROMEDÆ.										
August	7	M	2	1	6	0.178	F	- 13.5	+ 4.2	- 1.4
	11	M	3	1	6	0.161	F	- 12.9	- 13.5	- 9.2
	12	N	2	1	5	0.150	F	- 12.7	- 30.9	- 34.9
	25	M	2	1	5	0.163	F	- 10.3	- 21.6	- 18.0
September	4	M	2	1	5	0.140	F	- 8.1	- 29.9	- 27.1
	10	M	2	1	6	0.167	F	- 6.6	- 22.1	- 19.2
	18	M	2	1	7	0.191	F	- 4.6	- 15.2	- 12.5
	20	M	4	1	6	0.131	F	- 4.0	- 6.3	- 2.4
October	22	M	2	1	6	0.240	F	+ 5.0	- 16.9	- 24.3
	24	M	2	1	6	0.107	F	+ 5.6	- 20.7	- 17.0
	28	N	2	1	6	0.170	F	+ 6.7	- 13.6	- 12.3
November	6	M	2	1	6	0.183	F	+ 9.0	- 47.3	- 37.1
	15	M	2	1	6	0.243	F	+ 11.2	- 33.2	- 37.8
December	17	M	4	1	5	0.154	F	+ 16.4	- 39.8	- 32.2
β CASSIOPEÆ.										
July	21	M	1	1	6	0.212	F	- 11.1	- 6.2	- 9.9
August	7	M	2	1	6	0.178	F	- 10.9	+ 12.6	+ 13.1
	11	M	2	1	6	0.161	F	- 10.8	+ 41.6	+ 33.6
	14	N	2	1	5	0.193	F	- 10.6	+ 22.6	+ 23.3
	25	M	2	1	5	0.163	F	- 9.8	- 33.0	- 24.8
September	4	M	2	1	5	0.140	F	- 8.7	+ 9.1	+ 8.7
	10	M	2	1	6	0.167	F	- 8.0	- 26.8	- 27.1
	11	N	3	1	6	0.165	F	- 7.9	+ 10.5	+ 13.8
	18	M	2	1	7	0.191	F	- 6.8	+ 9.9	+ 10.0
	20	M	2	1	6	0.131	F	- 6.5	- 24.5	- 14.9
γ PEGASÆ.										
August	12	N	2	1	5	0.150	F	- 12.7	+ 10.1	+ 12.7
September	4	M	2	1	5	0.140	F	- 7.4	- 11.8	- 10.9
	10	M	2	1	6	0.167	F	- 5.7	- 37.2	- 32.2
	18	M	5	1	7	0.191	F	- 3.4	- 5.7	- 3.0
	20	M	2	1	6	0.131	F	- 2.8	+ 20.1	+ 26.9
October	28	N	3	1	6	0.170	F	+ 8.7	- 48.7	- 48.7
November	6	M	2	1	6	0.183	F	+ 11.1	- 0.5	+ 4.4

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
γ CASSIOPELE.										
August	11	M	2	1	6	0.161	F	- 11.7	- 16.9	- 14.2
	25	M	2	1	5	0.163	F	- 11.1	- 1.5	- 4.6
September	4	M	2	1	5	0.140	F	- 10.3	- 2.2	- 0.3
	10	M	2	1	6	0.167	F	- 9.6	- 20.6	- 19.9
	11	N	2	1	6	0.165	F	- 9.5	- 39.1	- 39.6
	18	M	2	1	7	0.191	F	- 8.6	- 26.2	- 15.0
	20	M	2	1	6	0.131	F	- 8.3	- 14.4	- 7.7
δ CASSIOPELE.										
August	11	M	2	1	6	0.161	F	- 12.3	+ 9.6	+ 9.2
	14	N	2	1	5	0.193	F	- 12.3	+ 2.0	+ 3.9
September	11	N	2	1	6	0.165	F	- 10.5	+ 5.7	+ 2.1
	18	M	2	1	7	0.191	F	- 9.6	- 33.7	- 25.7
	20	M	2	1	6	0.131	F	- 9.3	- 22.6	- 17.5
β ARIETIS.										
February	21	M	2	1	5	0.216	F	+ 17.6	- 55.0	- 55.7
November	6	M	2	1	6	0.183	F	- 10.9	- 14.7	- 5.5
α ARIETIS.										
November	20	N	2	1	6	0.190	F	+ 7.3	+ 4.9	+ 6.4
γ PERSEI.										
February	15	M	2	1	5	0.161	F	+ 15.5	- 49.1	- 51.3
	21	M	2	1	5	0.216	F	+ 15.4	+ 31.7	+ 30.3
β PERSEI.										
February	15	M	4	1	5	0.161	F	+ 17.4	- 44.0	- 50.7
August	11	M	2	1	6	0.161	F	- 16.5	+ 9.2	+ 10.3

24 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT, FROM SPECTROSCOPIC OBSERVATIONS

Date 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
β PERSEI— <i>cont.</i>										
September	10	M	2	1	6	0'167	F	— 15'3	+ 33'8	+ 34'2
	18	M	2	1	7	0'191	F	— 14'3	+ 39'4	+ 38'4
October	24	M	2	1	6	0'107	F	— 6'6	+ 20'9	+ 26'0
	28	N	2	1	6	0'170	F	— 5'5	— 2'4	+ 3'6
November	6	M	2	1	6	0'183	F	— 2'9	— 27'9	— 20'5
	7	N	2	1	6	0'122	F	— 2'6	— 10'1	— 11'1
	8	M	2	1	6	0'165	F	— 2'3	— 10'6	— 14'2
	20	N	2	1	6	0'190	F	+ 1'4	— 25'7	— 28'7
December	17	M	3	1	5	0'154	F	+ 9'3	— 66'0	— 52'7
α PERSEI.										
February	15	M	2	1	5	0'161	F	+ 16'2	— 66'7	— 67'8
September	10	M	2	1	6	0'167	F	— 14'9	— 22'7	— 27'2
	18	M	2	1	7	0'191	F	— 14'2	+ 3'9	+ 6'2
October	24	M	2	1	6	0'107	F	— 7'7	— 12'4	— 6'0
	28	N	2	1	6	0'170	F	— 6'7	— 53'5	— 56'3
November	7	N	2	1	6	0'122	F	— 4'0	— 35'5	— 36'9
	8	M	4	1	6	0'165	F	— 3'8	— 0'2	0'0
December	17	M	2	1	5	0'154	F	+ 7'2	— 34'9	— 30'8
δ PERSEI.										
November	8	M	2	1	6	0'165	F	— 4'7	+ 30'3	+ 36'4
η TAURI.										
February	15	M	2	1	5	0'161	F	+ 18'8	— 40'7	— 40'3
November	8	M	2	1	6	0'165	F	— 3'7	+ 4'0	+ 3'7
	20	N	2	1	6	0'090	F	+ 0'3	— 31'6	— 31'9
α TAURI (<i>Aldebaran</i>).										
January	24	M	2	1	5	0'125	F	+ 15'7	+ 17'4	+ 19'4
February	6	M	2	1	5	0'135	F	+ 17'6	+ 9'0	+ 10'5
	15	M	2	1	5	0'161	F	+ 18'4	+ 8'6	+ 16'0
	21	M	2	1	5	0'216	F	+ 18'6	+ 17'5	+ 22'6

Date 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
α TAURI (<i>Aldebaran</i>).										
March	12	M	2	1	5	0.226	F	+ 17.9	+ 46.7	+ 27.9
	20	N	2	1	6	0.120	b_1	+ 17.0	+ 2.7	+ 4.3
	24	M	2	1	5	0.090	b_1	+ 16.4	+ 26.8	+ 24.5
November	8	M	4	1	6	0.165	F	- 6.7	+ 57.2	+ 54.2
	20	N	2	1	6	0.190	F	- 2.9	+ 8.4	+ 7.1
December	15	M	2	1	5	0.154	F	+ 5.3	+ 34.7	+ 29.8
	17	M	2	1	5	0.154	F	+ 6.0	+ 18.0	+ 16.0
α AURIGÆ (<i>Capella</i>).										
February	11	M	2	1	5	0.090	F	+ 15.4	+ 22.4	+ 37.0
	15	M	2	1	5	0.161	F	+ 15.9	+ 11.8	+ 12.7
	29	N	2	1	5	0.216	F	+ 17.0	- 12.3	- 9.4
March	20	N	2	1	6	0.120	b_1	+ 16.8	- 1.8	+ 1.5
	29	N	2	1	5	0.110	b_1	+ 16.0	+ 11.6	+ 9.8
November	8	M	2	1	6	0.165	F	- 9.4	+ 36.1	+ 44.9
December	15	M	2	1	5	0.154	F	+ 1.3	- 11.8	- 10.3
	17	M	2	1	5	0.154	F	+ 1.9	+ 15.5	+ 21.2
β ORIONIS (<i>Rigel</i>).										
January	24	M	2	1	5	0.125	F	+ 12.3	- 5.3	- 3.2
	28	M	2	1	5	0.188	F	+ 13.0	+ 12.4	+ 24.4
February	6	M	2	1	5	0.135	F	+ 14.3	+ 5.4	+ 3.3
	11	M	2	1	5	0.090	F	+ 14.9	+ 44.7	+ 54.9
	12	N	2	1	5	0.204	F	+ 15.0	+ 21.8	+ 16.1
	15	M	2	1	5	0.161	F	+ 15.3	+ 19.8	+ 23.4
	18	M	2	2	5	0.175	F	+ 15.5	+ 0.2	+ 0.9
	21	M	2	1	5	0.216	F	+ 15.7	+ 19.6	+ 20.9
March	12	M	2	1	5	0.226	F	+ 15.8	+ 23.7	+ 17.8
November	20	N	2	1	6	0.190	F	- 4.4	+ 41.8	+ 39.5
December	15	M	2	1	5	0.154	F	+ 2.6	+ 13.0	+ 12.4
	17	M	2	1	5	0.154	F	+ 3.2	+ 22.0	+ 20.4
γ ORIONIS.										
January	28	M	2	1	5	0.188	F	+ 13.7	+ 3.0	+ 8.8
February	11	M	4	1	5	0.090	F	+ 16.1	+ 9.2	+ 8.7
	15	M	2	1	5	0.161	F	+ 16.6	+ 1.8	+ 9.2
	18	M	2	2	5	0.175	F	+ 17.0	- 11.7	- 10.2
	21	M	2	1	5	0.216	F	+ 17.2	+ 0.9	+ 3.4

26 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT, FROM SPECTROSCOPIC OBSERVATIONS

Date 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
γ ORIONIS— <i>cont.</i>										
March	10	M	2	1	5	0.215	F	+ 17.8	— 7.5	— 10.7
	12	M	2	1	5	0.226	F	+ 17.8	— 10.2	— 11.0
December	15	M	2	1	5	0.154	F	+ 1.7	— 13.1	— 10.7
	17	M	4	1	5	0.154	F	+ 2.4	— 4.1	— 2.9
β TAURI.										
January	28	M	2	1	5	0.188	F	+ 13.9	— 11.8	— 9.8
February	11	M	2	1	5	0.090	F	+ 16.5	— 38.5	— 42.2
	12	N	2	1	5	0.204	F	+ 16.7	— 21.1	— 25.5
	15	M	4	1	5	0.161	F	+ 17.1	— 14.1	— 15.0
	18	M	2	2	5	0.175	F	+ 17.4	— 24.6	— 31.5
	21	M	2	1	5	0.216	F	+ 17.7	— 29.6	— 38.3
March	10	M	2	1	5	0.215	F	+ 18.5	— 38.6	— 33.9
	12	M	2	1	5	0.226	F	+ 18.5	— 19.6	— 18.5
December	15	M	2	1	5	0.154	F	+ 1.2	— 22.0	— 19.2
	17	M	2	1	5	0.154	F	+ 1.9	— 31.8	— 25.5
δ ORIONIS.										
January	28	M	2	1	5	0.188	F	+ 12.8	— 44.0	— 40.4
February	11	M	2	1	5	0.090	F	+ 15.2	— 14.8	— 11.7
	15	M	2	1	5	0.161	F	+ 15.7	+ 9.8	+ 12.3
	18	M	2	2	5	0.175	F	+ 16.0	+ 14.8	+ 16.8
December	15	M	2	1	5	0.154	F	+ 1.2	— 8.6	— 7.2
ϵ ORIONIS.										
February	11	M	2	1	5	0.090	F	+ 15.0	— 20.5	— 18.5
	15	M	2	1	5	0.161	F	+ 15.5	+ 24.2	+ 27.5
	18	M	2	2	5	0.175	F	+ 15.9	+ 5.1	+ 11.4
December	15	M	2	1	5	0.154	F	+ 0.8	+ 4.7	+ 6.8
ζ ORIONIS.										
February	11	M	2	1	5	0.090	F	+ 14.7	— 26.7	— 28.7
	15	M	2	1	5	0.161	F	+ 15.2	— 11.9	— 6.6
	18	M	2	2	5	0.175	F	+ 15.6	— 2.4	— 1.6
December	15	M	2	1	5	0.154	F	+ 0.5	+ 19.4	+ 20.6

Date 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
κ ORIONIS.										
February	11 15	M M	2 2	1 1	0 5 5	r 0'090 0'161	F F	+ 13'4 + 13'9	- 8'9 + 14'1	+ 0'6 + 11'9
α ORIONIS.										
March	20 24	N M	3 4	1 1	6 5	0'120 0'090	b ₄ b ₁	+ 17'7 + 17'6	+ 31'2 + 35'9	+ 29'9 + 33'5
β AURIGÆ.										
February	2 15	N M	1 2	1 1	5 5	0'185 0'161	F F	+ 12'4 + 14'8	- 14'8 - 3'2	- 12'4 - 1'9
December	17	M	2	1	5	0'154	F	- 0'6	- 14'8	- 15'2
γ GEMINORUM.										
February	15	M	2	1	5	0'161	F	+ 14'2	- 30'8	- 29'3
March	10 15	M M	2 2	1 1	5 5	0'215 0'209	F F	+ 17'7 + 18'0	+ 15'7 - 26'5	+ 14'3 - 27'6
α CANIS MAJORIS (Sirius.)										
January	24 28	M M	2 3	1 1	5 5	0'125 0'188	F F	+ 5'5 + 6'4	- 16'2 - 5'5	- 16'4 - 6'6
February	6 11 12 15 18	M M N M M	4 4 2 4 4	1 1 1 1 2	5 5 5 5 5	0'135 0'090 0'204 0'161 0'175	F F F F F	+ 8'4 + 9'4 + 9'6 + 10'1 + 10'6	- 31'9 - 36'8 - 31'9 - 33'0 - 17'6	- 26'2 - 34'2 - 30'6 - 30'9 - 22'3
March	10 12 15	M M M	4 4 4	1 1 1	5 5 5	0'215 0'226 0'209	F F F	+ 13'3 + 13'5 + 13'7	- 36'4 + 3'3 - 5'7	- 35'2 + 0'2 - 5'6
April	10	M	2	1	6	0'063	F	+ 13'9	- 37'5	- 37'1
December	15 17	M M	4 4	1 1	5 5	0'154 0'154	F F	- 4'5 - 4'0	- 25'8 - 15'2	- 29'4 - 15'7

28 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT, FROM SPECTROSCOPIC OBSERVATIONS

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
α^2 GEMINORUM (<i>Castor</i>).										
January 24	M	1	1	5	0.125	F	+ 5.1	+ 4.3	+ 7.6	
February 6	M	4	1	5	0.135	F	+ 9.0	+ 12.4	+ 10.5	
11	M	2	1	5	0.090	F	+ 10.4	+ 3.2	+ 10.0	
15	M	2	1	5	0.161	F	+ 11.5	+ 23.6	+ 31.5	
March 15	M	2	1	5	0.209	F	+ 16.8	— 1.3	— 3.7	
α CANIS MINORIS (<i>Procyon</i>).										
February 6	M	4	1	5	0.135	F	+ 7.3	+ 0.9	+ 1.5	
11	M	4	1	5	0.090	F	+ 8.7	+ 16.1	+ 28.0	
12	N	2	1	5	0.204	F	+ 9.0	+ 37.5	+ 43.9	
15	M	2	1	5	0.161	F	+ 9.8	— 5.4	— 5.5	
March 10	M	4	1	5	0.215	F	+ 14.9	— 26.4	— 25.4	
15	M	4	1	5	0.209	F	+ 15.7	— 33.3	— 33.7	
April 10	M	4	1	6	0.063	F	+ 17.5	+ 9.1	+ 4.3	
December 15	M	2	1	5	0.154	F	— 0.9	— 12.6	— 12.1	
β GEMINORUM (<i>Pollux</i>).										
February 6	M	2	1	5	0.135	F	+ 8.0	— 38.5	— 33.8	
11	M	2	1	5	0.190	F	+ 9.4	— 38.1	— 38.5	
15	M	4	1	5	0.161	F	+ 10.5	— 62.2	— 61.4	
March 15	M	2	1	5	0.209	F	+ 16.4	— 36.8	— 39.8	
24	M	2	1	5	0.090	F	+ 17.4	— 50.1	— 47.4	
α HYDRÆ.										
March 24	M	2	1	5	0.090	b_1	+ 10.7	+ 15.1	+ 19.3	
α LEONIS (<i>Regulus</i>).										
February 6	M	2	1	5	0.180	F	— 3.4	+ 6.0	+ 6.0	
March 15	M	2	1	5	0.209	F	+ 8.6	+ 20.0	+ 18.1	
April 10	M	2	1	6	0.063	F	+ 14.7	— 5.9	— 3.9	
12	N	2	1	6	0.292	F	+ 15.0	— 19.4	— 15.0	
28	M	2	1	5	0.208	F	+ 17.1	— 8.0	+ 2.2	
May 13	N	2	1	5	0.282	F	+ 17.9	+ 5.7	+ 7.2	
30	M	2	1	5	0.162	F	+ 17.5	— 11.9	— 9.3	

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
γ^1 LEONIS.										
March 24	M	2	1	5	0.090	b_1	+ 10.9	- 3.1	- 8.2	
β LEONIS.										
April 10	M	2	1	6	0.063	F	+ 9.3	- 37.3	- 31.7	
28	M	2	1	5	0.208	F	+ 13.4	- 53.4	- 53.5	
May 22	N	2	1	6	0.194	F	+ 16.7	- 41.5	- 42.2	
ϵ VIRGINIS.										
March 24	M	2	1	5	0.090	b_1	- 1.1	+ 1.0	+ 1.1	
α VIRGINIS (<i>Spica</i>).										
April 5	N	1	1	6	0.182	F	- 1.8	- 37.7	- 38.8	
May 30	M	2	1	5	0.162	F	+ 13.2	- 15.8	- 13.2	
α BOÖTIS (<i>Arcturus</i>).										
March 24	M	2	1	5	0.090	b_1	- 4.8	- 53.0	- 49.7	
April 5	N	2	1	6	0.182	F	- 1.6	- 49.8	- 49.1	
12	N	3	1	6	0.292	F	+ 0.3	- 55.1	- 54.3	
28	M	2	1	5	0.208	F	+ 4.4	- 38.9	- 41.5	
May 13	N	2	1	5	0.282	F	+ 8.0	- 68.6	- 73.0	
22	N	2	1	6	0.194	F	+ 9.8	- 53.5	- 59.3	
30	M	3	1	5	0.162	F	+ 11.3	- 54.4	- 55.1	
June 2	M	2	1	5	0.162	F	+ 11.8	- 47.2	- 44.6	
26	N	3	1	6	0.227	F	+ 14.6	- 51.6	- 55.7	
July 12	N	2	1	15	0.216	F	+ 15.3	- 64.6	- 64.1	
August 5	M	2	1	6	0.185	F	+ 14.3	- 52.9	- 51.2	
29	M	2	1	5	0.165	F	+ 11.1	39.4	- 47.4	
September 25	M	2	1	5	0.097	b_1	+ 5.2	- 53.5	- 49.0	

30 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT, FROM SPECTROSCOPIC OBSERVATIONS

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
α CORONÆ BOREALIS.									
April 28	M	2	1	5	0'208	F	- 0'3	+ 41'0	+ 44'8
May 22	N	2	1	6	0'194	F	+ 4'7	+ 16'3	+ 17'9
June 2	M	2	1	5	0'162	F	+ 6'8	+ 7'2	+ 8'0
26	N	2	1	6	0'227	F	+ 10'4	+ 16'1	+ 17'3
July 17	M	2	1	6	0'212	F	+ 12'3	- 60'7	- 54'4
August 5	M	2	1	6	0'185	F	+ 12'8	+ 23'8	+ 30'9
September 2	M	2	1	5	0'122	F	+ 11'2	- 27'8	- 19'8
α OPHIUCHI.									
June 26	N	4	1	6	0'227	F	+ 3'7	- 29'8	- 32'8
July 17	M	2	1	6	0'212	F	+ 8'3	- 14'2	- 16'7
August 5	M	2	1	6	0'185	F	+ 11'6	- 20'4	- 19'8
22	M	2	1	5	0'175	F	+ 13'6	- 38'4	- 36'4
23	N	2	1	5	0'139	F	+ 13'7	- 36'0	- 36'8
September 2	M	2	1	5	0'122	F	+ 14'4	- 62'4	- 55'3
γ DRACONIS.									
September 25	M	4	1	5	0'097	b ₁	+ 4'7	- 24'3	- 32'9
α LYRÆ (<i>Vega</i>).									
May 13	N	2	1	5	0'282	F	- 6'5	- 22'0	- 21'4
22	N	2	1	6	0'194	F	- 5'6	- 21'0	- 22'7
June 26	N	2	1	6	0'227	F	- 1'2	- 60'3	- 58'8
July 12	N	2	1	15	0'216	F	+ 1'1	- 36'1	- 39'2
17	M	2	1	6	0'212	F	+ 1'8	- 41'3	- 39'7
19	M	2	1	6	0'212	F	+ 2'0	- 38'5	- 44'1
30	N	2	1	7	0'206	F	+ 3'5	- 49'4	- 52'1
August 7	M	2	1	6	0'178	F	+ 4'5	- 30'3	- 41'9
19	M	2	1	5	0'121	F	+ 5'9	- 34'8	- 32'2
21	N	2	1	5	0'160	F	+ 6'1	- 38'0	- 37'1
22	M	2	1	5	0'175	F	+ 6'2	- 33'7	- 36'6
23	N	2	1	5	0'139	F	+ 6'3	- 37'9	- 40'3
29	M	2	1	5	0'165	F	+ 6'9	- 20'3	- 25'1
September 2	M	2	1	5	0'122	F	+ 7'2	- 45'4	- 39'5
4	M	2	1	5	0'140	F	+ 7'4	- 33'5	- 32'7
10	M	2	1	6	0'167	F	+ 7'8	- 33'3	- 37'3
12	M	2	1	7	0'161	F	+ 7'9	- 25'4	- 24'0
17	N	2	1	5	0'196	F	+ 8'2	- 52'2	- 50'9
18	M	2	1	7	0'191	F	+ 8'2	- 49'5	- 40'3

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
<i>α LYRE (Vega)—cont.</i>										
October	22	M	2	1	0	r				
	25	N	3	1	6	0°240	F	+ 8.4	— 23.9	— 27.7
					6	0°196	F	+ 8.3	— 86.3	— 86.6
November	6	M	2	1	6	0°183	F	+ 7.6	— 40.7	— 31.0
	7	N	2	1	6	0°122	F	+ 7.5	— 32.0	— 31.1
<i>γ LYRÆ.</i>										
August	19	M	2	1	5	0°121	F	+ 6.2	— 42.2	— 35.8
September	12	M	4	1	7	0°161	F	+ 9.0	— 25.8	— 30.9
<i>ζ AQUILÆ.</i>										
July	17	M	2	1	6	0°212	F	+ 1.9	— 62.1	— 43.9
August	19	M	2	1	5	0°121	F	+ 9.2	— 11.8	— 12.5
September	10	M	2	1	6	0°167	F	+ 12.7	— 32.2	— 27.4
	12	M	2	1	7	0°161	F	+ 13.0	— 44.3	— 43.8
October	22	M	2	1	6	0°240	F	+ 14.7	— 49.2	— 53.4
<i>δ AQUILÆ.</i>										
September	12	M	4	1	7	0°161	F	+ 14.1	— 14.2	— 12.1
<i>δ CYGNI.</i>										
August	22	M	2	1	5	0°175	F	+ 2.1	— 29.8	— 27.9
September	12	M	2	1	7	0°161	F	+ 4.6	+ 28.2	+ 24.1
	17	N	3	1	5	0°196	F	+ 5.1	— 35.5	— 35.7
October	22	M	2	1	6	0°240	F	+ 7.8	— 43.1	— 35.4
<i>α AQUILÆ (Altair).</i>										
June	26	N	2	1	6	0°227	F	— 6.4	— 36.7	— 41.0
July	17	M	2	1	6	0°212	F	— 1.1	— 38.1	— 34.0
	19	M	2	1	6	0°212	F	— 0.7	— 39.1	— 34.4

32 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT FROM SPECTROSCOPIC OBSERVATIONS

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
<i>α AQUILÆ (Altair)—cont.</i>										
August	5	M	2	1	6	0.185	F	+ 3.7	— 39.8	— 37.9
	19	M	2	1	5	0.121	F	+ 7.2	— 23.2	— 23.6
	21	N	2	1	5	0.160	F	+ 7.6	— 41.3	— 37.4
	22	M	2	1	5	0.175	F	+ 7.9	— 26.4	— 26.2
	23	N	2	1	5	0.139	F	+ 8.1	— 36.7	— 36.5
	25	M	2	1	5	0.163	F	+ 8.5	— 30.0	— 27.4
	29	M	2	1	5	0.165	F	+ 9.5	— 48.8	— 49.4
September	1	N	1	1	5	0.138	F	+ 10.1	— 36.5	— 39.8
	4	M	2	1	5	0.140	F	+ 10.7	— 37.3	— 35.3
	12	M	2	1	7	0.161	F	+ 12.2	+ 9.8	+ 11.7
	17	N	2	1	5	0.196	F	+ 13.1	— 52.5	— 54.7
	18	M	2	1	7	0.191	F	+ 13.2	— 19.3	— 16.4
October	22	M	2	1	6	0.240	F	+ 16.2	+ 0.7	+ 11.4
	25	N	2	1	6	0.196	F	+ 16.2	— 46.6	— 50.4
	28	N	2	1	6	0.170	F	+ 16.2	— 48.6	— 45.3
<i>γ CYGNI.</i>										
September	27	M	2	1	5	0.187	b ₁	+ 6.7	+ 5.9	+ 3.4
October	22	M	2	1	6	0.240	F	+ 9.3	— 25.6	— 31.4
<i>α DELPHINI.</i>										
August	19	M	2	1	5	0.121	F	+ 3.0	— 29.4	— 27.6
	22	M	2	1	5	0.175	F	+ 3.8	— 40.0	— 40.2
September	12	M	2	1	7	0.161	F	+ 8.7	+ 3.0	+ 3.6
	18	M	2	1	7	0.191	F	+ 9.9	— 50.6	— 36.7
October	22	M	2	1	6	0.240	F	+ 15.0	+ 46.8	+ 40.2
<i>α CYGNI.</i>										
July	19	M	2	1	6	0.212	F	— 5.2	— 35.3	— 32.7
	21	M	2	1	6	0.212	F	— 5.0	— 28.6	— 32.9
September	12	M	2	1	7	0.161	F	+ 2.6	— 35.3	— 32.7
	17	N	3	1	5	0.196	F	+ 3.4	— 41.8	— 41.3
	20	M	3	1	6	0.131	F	+ 3.8	— 45.2	— 42.3
	25	M	2	1	5	0.097	b ₁	+ 4.5	— 6.2	— 13.8
	27	M	2	1	5	0.187	b ₁	+ 4.8	— 33.7	— 36.9
October	22	M	2	1	6	0.240	F	+ 7.7	— 50.3	— 53.7
	24	M	2	1	6	0.107	F	+ 7.9	— 49.6	— 30.7
	28	N	2	1	6	0.170	F	+ 8.3	— 34.2	— 34.2
November	6	M	2	1	6	0.183	F	+ 8.9	— 43.4	— 29.5
	7	N	2	1	6	0.122	F	+ 9.0	— 34.4	— 34.2

GREENWICH, IN THE YEAR 1884.

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
ε CYGNI.										
September 25	M	2	1	5	0'097	b ₁	+ 7'2	- 11'0	- 20'5	
27	M	2	1	5	0'187	b ₁	+ 7'5	- 2'8	+ 2'6	
October 22	M	2	1	6	0'240	F	+ 10'9	+ 15'4	+ 22'2	
α CEPHEI.										
July 17	M	1	1	6	0'212	F	- 6'2	- 26'0	- 21'8	
August 19	M	3	1	5	0'121	F	- 4'5	- 30'7	- 39'5	
September 11	N	2	1	6	0'165	F	- 2'4	- 57'0	- 56'6	
12	M	2	1	7	0'161	F	- 2'3	- 18'3	- 18'3	
20	M	2	1	6	0'131	F	- 1'5	- 40'0	- 33'8	
October 22	M	2	1	6	0'240	F	+ 2'1	- 29'9	- 38'0	
November 6	M	2	1	6	0'183	F	+ 3'7	- 58'2	- 36'5	
ε PEGASI.										
September 20	M	2	1	6	0'131	F	+ 8'0	+ 17'2	+ 17'7	
25	M	4	1	5	0'097	b ₁	+ 9'2	- 17'9	- 16'8	
27	M	2	1	5	0'187	b ₁	+ 9'8	- 29'0	- 27'5	
October 22	M	2	1	6	0'240	F	+ 14'9	- 26'3	- 25'9	
ζ PEGASI.										
August 22	M	2	1	5	0'175	F	- 4'2	- 11'7	- 11'0	
September 10	M	2	1	6	0'167	F	+ 1'2	- 14'9	- 18'0	
12	M	2	1	7	0'161	F	+ 1'8	- 34'3	- 29'1	
20	M	2	1	6	0'131	F	+ 4'1	+ 2'0	+ 0'8	
α PISCIS AUSTRALIS (<i>Fomalhaut</i>).										
September 12	M	2	1	7	0'161	F	+ 5'3	+ 26'6	+ 25'5	
β PEGASI.										
September 27	M	4	1	5	0'187	b ₁	+ 2'1	+ 15'6	+ 16'5	

34 COLLECTED RESULTS FOR MOTIONS OF STARS IN THE LINE OF SIGHT, FROM SPECTROSCOPIC OBSERVATIONS

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
α PEGAS.									
August	5	M	2	1	6	0.185	F	- 10.3	- 24.0
	12	N	2	1	5	0.150	F	- 8.7	+ 3.6
	22	M	2	1	5	0.175	F	- 6.2	- 34.3
	23	N	2	1	5	0.139	F	- 6.0	- 22.6
	25	M	2	1	5	0.163	F	- 5.4	- 17.1
September	4	M	2	1	5	0.140	F	- 2.7	- 18.3
	10	M	2	1	6	0.167	F	- 1.0	- 23.8
	12	M	2	1	7	0.161	F	- 0.4	+ 2.6
	17	N	2	1	5	0.196	F	+ 1.1	- 38.8
	18	M	2	1	7	0.191	F	+ 1.4	- 57.8
	20	M	4	1	6	0.131	F	+ 2.0	+ 3.6
October	22	M	2	1	6	0.240	F	+ 10.8	- 52.4
	24	M	2	1	6	0.107	F	+ 11.3	- 45.0
	28	N	2	1	6	0.170	F	+ 12.2	- 44.4
November	6	M	2	1	6	0.183	F	+ 14.1	- 11.7
MOON.									
February	2	N	1	1	5	0.185	F	..	+ 5.1
	6	M	5	1	5	0.135	F	..	+ 2.3
	11	M	5	1	5	0.090	F	..	+ 2.0
	12	N	2	1	5	0.204	F	..	- 5.9
	29	N	2	1	5	0.216	F	..	- 8.2
March	10	M	5	1	5	0.215	F	..	- 0.2
	12	M	2	1	5	0.226	F	..	- 2.7
April	5	N	3	1	6	0.182	F	..	- 6.0
	10	M	5	1	6	0.063	F	..	+ 4.7
	12	N	2	1	6	0.292	F	..	- 2.3
May	13	N	2	1	5	0.282	F	..	- 2.5
	30	M	5	1	5	0.162	F	..	- 1.2
June	2	M	5	1	5	0.162	F	..	- 2.6
July	12	N	2	1	15	0.216	F	..	- 4.1
August	5	M	5	1	6	0.185	F	..	- 1.8
	7	M	3	1	6	0.178	F	..	- 1.7
	11	M	5	1	6	0.161	F	..	+ 0.8
	12	N	2	1	5	0.150	F	..	- 9.1
	14	N	1	1	5	0.193	F	..	- 4.0
September	1	N	2	1	5	0.138	F	..	- 2.0
	2	M	5	1	5	0.122	F	..	- 1.4
	4	M	5	1	5	0.140	F	..	- 0.7
	10	M	5	1	6	0.167	F	..	- 5.6
	11	N	4	1	6	0.165	F	..	- 0.7
	27	M	5	1	5	0.187	b_1	..	+ 8.9
October	28	N	2	1	6	0.170	F	..	- 6.1
November	7	N	4	1	6	0.122	F	..	- 1.0

Date 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.		
								Measured.	Estimated.	
SKY.										
January	28	M	5	1	0	r				
	29	M	4	1	5	0.125	F	..	+ 1.9	..
					5	0.188	F	..	+ 3.0	..
February	16	M	5	1	5	0.161	F	..	+ 2.2	..
June	27	N	2	1	6	0.227	F	..	- 5.9	..
August	22	N	2	1	5	0.160	F	..	- 4.9	..
	26	M	5	1	5	0.163	F	..	+ 2.8	..
September	19	M	5	1	7	0.191	F	..	- 0.3	..
	22	M	5	1	6	0.131	F	..	+ 0.1	..
November	7	M	5	1	5	0.183	F	..	- 2.2	..
VENUS.										
February	21	M	2	1	5	0.216	F	..	- 23.2	- 33.6
	29	N	2	1	5	0.216	F	..	- 49.5	- 45.7
March	24	M	4	1	5	0.090	b ₁	..	- 43.2	- 34.1
MARS.										
March	15	M	2	1	5	0.209	F	..	+ 17.3	+ 13.4
	24	M	2	1	5	0.090	b ₁	..	+ 12.6	+ 20.5
ORION NEBULA.										
February	15	M	4	1	5	0.161	F	+ 15.0	- 33.5?	- 31.0?
	18	M	4	1	5	0.175	F	+ 15.3	- 51.5?	..
March	10	M	..	1	5	0.215	F	+ 16.3	..	- 16.3?
	12	M	..	1	5	0.226	F	+ 16.3	..	- 16.3?
ROTATION OF JUPITER. Displacement between the <i>p</i> and <i>f</i> limbs.										
February	6	M	5	1	17	0.180	F	..	+ 33.5	..
March	24	M	4	1	17	0.150	b ₁	..	+ 16.4	..

OBSERVATIONS of the SPECTRUM of COMET *b* 1883, made at the ROYAL OBSERVATORY, GREENWICH, in the YEAR 1884.COMET *b* 1883 (PONS-BROOKS).

1884, January 10.

Half-prism Spectroscope. One "half-prism" reversed.

Observer, M.

The sky was very misty and the Comet exceedingly faint. The three usual cometary bands were, however, seen, but those in the yellow and blue were too faint for measurement. The green band was fairly bright, and the following measures of its sharp edge as compared with the sharp edge of the green band of the spectrum given by a vacuum tube containing alcohol-vapour were made:—

Greenwich Sidereal Time.	Comet-band—Alcohol-band.		Inferred Wave-length of Comet-band.
	Micrometer Reading.	Wave-length.	
h m	r	tenth-metres.	tenth-metres.
2. 10	1'662	30'4	5166'6
2. 20	1'647	30'1	5166'9
2. 30	1'664	30'5	5166'5
		Mean	5166'7

The slit was very wide, viz., $2^{\circ}455 = 23\cdot0$ tenth-metres. The continuous spectrum from the nucleus was bright, but very narrow, being not more than 1" in breadth. A fainter continuous spectrum from the neighbouring parts of the head was traceable for a total breadth of about 24". The green band was traced the entire height of the field, about 4', and so far as could be ascertained, it extended in one direction as far as 10' of arc.

Position-circle reading, 10° . Magnifying power, 15.

1884, January 12.

Half-prism Spectroscope. One "half-prism" reversed.

Observer, M.

Moonlight and mist interfered with observation, and the band spectrum of the Comet did not appear materially brighter than on December 6. The continuous spectrum appeared not to have changed since January 10, except as regards its brightness, which had somewhat increased; indeed it was bright enough to interfere considerably with the distinctness of the band in the yellow. The band in the green was by far the brightest of the three; the presence of the band in the blue could only just be suspected. No bands or lines other than these three were seen. The band in the green was as bright at its bright sharp edge as the very brightest part of the continuous spectrum, but it could not be traced over so wide an area as on former occasions, its total breadth being about 3', whilst that of the band in the yellow was about 1' 36". The appearance of the Comet as seen in the finder of 3 inches aperture attached to the great telescope had not changed since December 6.

The following measures were obtained of the sharp edges of the bands in the yellow and green, as compared with the sharp edges of the bright bands nearest to them in the spectrum from a vacuum tube containing alcohol-vapour.

BAND IN THE YELLOW.

Greenwich Sidereal Time.	Comet-band - Alcohol-band.		Inferred Wave-length of Comet-band.
	Micrometer Reading.	Wave-length.	
h m	r	tenth-metres.	tenth-metres.
2. 0	2'774	68.0	5539.5
2. 5	2'763	67.7	5541.8
2. 10	2'779	68.1	5539.4
3. 10	3'108	76.1	5531.4
Mean.....5538.0 $\pm$ 1.4			

BAND IN THE GREEN.

2. 15	2'025	37.1	5159.9
2. 19	1'441	26.4	5170.6
2. 23	1'512	27.7	5169.3
2. 27	1'798	32.9	5164.1
2. 30	2'090	38.2	5158.8
2. 33	1'847	33.8	5163.2
2. 36	1'834	33.6	5163.4
2. 40	1'757	32.2	5164.8
2. 42	1'643	30.1	5166.9
2. 45	1'795	32.8	5164.2
Mean.....5164.5			

Mean of all observations of the Band in the Green.....5163.7 $\pm$ 0.6 tenth-metres.

Width of slit, 1".180, corresponding to 11.1 tenth-metres for the band in the green, and to 15.0 tenth-metres for that in the yellow.

Position-circle reading, 10°. Magnifying power, 28.



ROYAL OBSERVATORY, GREENWICH.

MEASURES OF POSITIONS AND AREAS

OF

SPOTS AND FACULÆ

UPON THE SUN'S DISK

ON

PHOTOGRAPHS

TAKEN WITH THE

PHOTOHELIOGRAPHS

AT GREENWICH AND IN INDIA;

WITH THE DEDUCED

HELIOGRAPHIC LONGITUDES AND LATITUDES.

1884.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK ON PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, and at DEHRA DUN in INDIA, in the Year 1884.

NOTE.—The Greenwich Mean Solar Time at which the photograph was taken is expressed by the Day of the Year and decimals of a day, reckoning from Greenwich Mean Noon of January 1.

For convenience of reference the Month and Day of the Month (Civil Reckoning) are added.

The letter I. signifies that the photograph was taken in India; the time given is Greenwich Mean Solar Time.

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

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 0 ^d .732	H, W		0°885	289°1	°	°			333	1884. 0 ^d .732	H, W		0°816	143°1	°	°			95
I.			0°849	243°9					126	I.			0°880	64°1					69
		1217	0°993	272°3	201°0	+ 1°9	30	158	523 <i>n f</i>				0°882	105°0					442
		1216	0°971	259°9	194°6	— 10°6	11	54	472 <i>n f</i>	Jan. 2			0°896	90°6					137
		1218	0°970	253°9	194°3	— 16°4	19	80	563 <i>c</i>								(117)	(1096)	(4304)
		1223	0°918	254°8	184°7	— 15°3	11	242	} 699 <i>c</i>										
		1223	0°905	257°0	183°0	— 13°2	0	10											
		1223	0°880	257°9	179°8	— 12°3	5	22		1°649	H, W	1223	0°978	255°3	184°5	— 15°1	11	421	} 940 <i>c</i>
		1226a	0°751	260°9	166°8	— 9°0	3	13		I.		1223	0°964	258°8	180°9	— 11°7	2	4	
		1226b	0°726	260°1	164°6	— 9°5	0	2				1223	0°963	257°8	180°7	— 12°7	0	6	
		1227	0°600	288°1	153°3	+ 8°0	10	42				1226a	0°885	261°6	168°4	— 9°1	5	9	
		1227	0°555	289°6	150°0	+ 7°9	2	32				1227	0°774	281°8	155°8	+ 6°9	3	35	68 <i>f</i>
		1228	0°289	316°3	129°9	+ 8°8	4	17				1227	0°767	284°0	154°8	+ 8°5	3	7	37 <i>c</i>
		1228	0°266	316°1	129°0	+ 7°8	0	5				1227	0°726	284°2	151°3	+ 7°8	4	50	21 <i>c</i>
		1228	0°259	324°1	127°1	+ 8°8	0	4				1228	0°477	295°8	131°8	+ 8°9	3	11	71 <i>c</i>
		1225	0°214	160°1	114°0	— 14°9	0	16				1228	0°440	296°2	129°6	+ 8°1	0	3	
		1229	0°379	51°3	100°9	+ 10°6	0	28				1225	0°261	217°4	115°6	— 15°3	0	6	
		1229	0°406	56°6	98°3	+ 9°8	0	14				1225	0°262	206°2	113°1	— 16°9	0	7	
		1229	0°429	54°3	97°6	+ 11°4	3	28				1229	0°247	15°7	102°3	+ 10°3	3	22	
		1230a	0°762	70°7	71°1	+ 12°4	4	28	84 <i>s f</i>			1229	0°270	20°6	100°7	+ 11°2	0	1	
		1230	0°779	72°3	69°2	+ 11°6	0	2				1229	0°297	25°9	98°6	+ 12°1	2	20	
		1230	0°807	73°8	66°4	+ 11°0	3	15	67 <i>c</i>			1229	0°283	30°2	97°9	+ 10°7	2	12	
		1230	0°824	74°3	64°6	+ 10°9	0	2				1230a	0°615	64°5	71°7	+ 12°5	3	24	21 <i>c</i>
		1231a	0°969	102°9	42°5	— 13°3	4	24	513 <i>c</i>			1230	0°661	68°6	67°5	+ 11°3	0	4	
		1232a	0°991	78°3	37°1	+ 11°1	8	258	124 <i>n p</i>			1231a	0°884	103°7	44°3	— 13°7	5	26	
			0°715	110°5					57			1231	0°920	103°2	39°4	— 13°4	0	5	495 <i>c</i>

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

- Group 1216, 1883 Dec 20–1884 Jan. 2. A large regular spot, with a long stream of small spots, principally to the south of it, and following it. The small spots undergo frequent changes.
- Group 1217, 1883 Dec. 21–1884 Jan. 2. A regular spot. A very small spot is seen near it on Dec. 21, but disappears before Dec. 22. Other similar spots, however, appear for a short time on Dec. 24, 25, 26, and 29.
- Group 1218, 1883 Dec. 21–1884 Jan. 2. A regular spot with several smaller spots near it. The smaller spots undergo several changes, and have all disappeared before Dec. 28. A very small spot is seen near the large spot on Dec. 29.
- Group 1223, 1883 Dec. 28–1884 Jan. 3. A small faint spot on Dec. 28. The group has greatly increased in size before Dec. 29, and appears as a number of small spots, the preceding spot being the largest, scattered over a considerable area.
- Group 1225, 1883 Dec. 28–1884 Jan. 5. A regular spot. It has broken up before Jan. 2, and only two or three very small faint spots remain to mark its place.
- Group 1226, 1884 Jan 2–3. Two small spots, *a* and *b*; the following spot is not seen on Jan. 3.
- Group 1227, Jan. 2–5. Several small spots, measured in two clusters on Jan. 2. Only two spots remain on Jan. 4, and only one on Jan. 5.
- Group 1228, Jan. 2–3. Three small spots on Jan. 2. Two clusters of very small spots on Jan. 3.
- Group 1229, Jan. 2–5. A wedge-shaped and somewhat compact group of small spots on Jan. 2. The group undergoes many changes on the succeeding days, the spots in the middle of the group disappearing before Jan. 5, leaving two small clusters.
- Group 1230, Jan. 2–6. A small regular spot, *a*, followed by several smaller spots. The latter disappear before Jan. 5.
- Group 1231, Jan. 2–13. A small spot, *a*, on Jan. 2. Several smaller spots are seen following it on Jan. 3, and again on Jan. 5 and 6. Other spots precede it on Jan. 7, and represent the group on Jan. 8 and 9, when *a* has disappeared. These all disappear before Jan. 10, and are replaced by two spots, *b* and *c*, of considerable size, of which *c* disappears before Jan. 12.
- Group 1232, Jan. 2–14. A fine group, composed of two large spots, *a* and *b*, with a number of small spots between them. The group undergoes various changes, and by Jan. 13 forms a compact cluster composed of a number of distinct spots.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 4 ^d 700	H, W	1238	0°227	102°3	53°2	— 6°5	0	3		1884. 5 ^d 686	H, W	1235	0°698	64°3	12°6	+14°6	15	131	157 c
I.		1231a	0°355	119°3	47°5	—13°6	+	6		I.		1235b	0°770	64°2	6°8	+16°8	95	650	365 c
		1231	0°418	114°1	43°0	—13°3	0	3				1237	0°849	100°7	355°0	—11°1	57	599	
		1231	0°443	113°5	41°4	—13°6	0	3				1240	0°922	100°9	345°7	—11°6	0	12	
		1232a	0°517	57°3	39°6	+12°8	22	192				1240	0°931	102°1	344°4	—12°7	0	9	
		1232	0°539	61°0	37°3	+11°8	5	30				1241	0°942	98°6	342°5	— 9°4	18	78	1121 c
		1232	0°546	63°6	36°3	+10°7	6	56				1243a	0°948	75°3	343°2	+12°6	4	35	
		1232	0°561	65°6	34°9	+10°1	0	7				1243	0°967	74°0	339°6	+14°4	0	13	383 c
		1232b	0°616	67°8	30°7	+10°3	11	212				1243	0°972	75°3	338°1	+13°3	0	2	
		1233	0°581	102°5	30°9	—10°3	4	22					0°954	114°5				204	
		1239	0°557	108°3	33°2	—13°3	0	3					0°900	83°3				75	
		1239	0°591	108°4	30°9	—13°9	0	4					0°918	71°3				256	
		1235a	0°732	69°7	21°6	+12°0	25	152	153 c	Jan. 7							(302)	(2626)	(3625)
		1235	0°816	68°2	14°4	+15°3	11	144											
		1235	0°842	69°4	11°5	+15°0	10	179					0°901	255°7					361
		1235	0°876	69°0	7°8	+16°3	15	299	622 c				0°895	237°6					179
		1235	0°894	68°5	5°7	+17°2	19	170					0°891	299°6					209
		1237	0°946	100°2	354°8	—10°9	48	496	749 c			1229	0°930	283°3	105°2	+10°8	0	13	
		1240	0°988	102°3	344°5	—12°8	0	13	631 c			1229	0°911	284°6	102°2	+11°6	0	8	
		1241	0°994	98°9	342°0	— 9°3	13	135				1229	0°902	284°9	101°0	+11°6	0	22	
			0°934	111°9					75			1229	0°897	284°3	100°4	+11°0	3	15	
			0°959	74°3					309			1231	0°255	242°9	51°6	—10°5	1	13	
			0°977	85°5					44			1231	0°238	235°1	49°7	—11°7	5	12	
			0°996	113°9					29			1232a	0°280	355°1	39°7	+12°1	19	129	
							(218)	(2395)	(4018)			1232	0°217	355°7	39°2	+ 8°5	0	4	
												1232	0°264	2°9	37°5	+11°3	5	81	
												1232	0°211	6°8	36°8	+ 8°1	0	8	
												1232	0°241	11°2	35°6	+ 9°6	3	25	
												1232b	0°276	26°3	31°2	+10°3	6	90	
												1233	0°167	136°3	31°6	—10°9	2	16	
Jan. 6 5 ^d 686	H, W	1236c	0°829	255°3					207	I.		1235a	0°392	45°5	21°8	+12°1	21	154	
		1242	0°971	279°3	128°1	+ 8°0	0	11	302 c			1235	0°422	48°6	19°5	+12°4	0	8	
		1229	0°803	286°4	104°4	+10°7	2	30	202 p			1235	0°463	49°6	17°1	+13°7	12	175	
		1229	0°764	288°3	100°5	+11°3	7	51	353 c			1235	0°506	52°4	14°0	+14°3	9	98	
		1231	0°123	155°8	50°1	—10°3	0	4				1235	0°550	53°1	11°2	+15°7	2	47	
		1231	0°153	146°0	48°0	—11°1	0	6				1235b	0°606	55°4	7°1	+16°6	53	552	
		1231a	0°197	148°7	47°0	—13°6	0	4				1237	0°690	102°0	355°0	—11°2	56	629	
		1232a	0°363	39°1	39°5	+12°6	25	192				1243a	0°826	71°9	345°0	+12°4	4	44	
		1232	0°376	45°7	37°1	+11°4	3	39				1243	0°854	73°1	341°8	+12°1	6	16	
		1232	0°348	51°4	37°1	+ 8°8	5	40				1243	0°874	72°1	339°7	+13°5	9	45	
		1232	0°404	40°8	37°3	+14°0	0	6				1240	0°814	102°5	344°0	—12°5	0	44	
		1232	0°422	42°0	36°1	+14°5	0	5				1241	0°826	99°2	342°7	— 9°9	2	47	423 c
		1232	0°408	45°1	35°8	+13°0	0	9				1244	0°848	116°2	342°0	—24°2	0	4	
		1232b	0°444	57°3	30°8	+10°2	12	212				1245	0°892	119°2	336°9	—27°7	0	3	408 c
		1233	0°389	107°7	31°0	—10°4	2	14											
		1235a	0°577	62°7	21°5	+12°0	21	153											
		1235	0°670	62°9	15°1	+14°7	24	175											

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 Faculae 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.

Group 1238, Jan. 6. Two small faint spots.

Group 1240, Jan. 6-11. A small faint spot. A second appears near it on Jan. 7, and others on Jan. 8. On Jan. 8 and the succeeding days, the group consists of several small spots in a compact cluster. It is measured in two parts on Jan. 10.

Group 1241, Jan. 6-11. A regular spot. It divides into two parts, which are measured together, on Jan. 8. It breaks up further on Jan. 9, and on Jan. 11 only one small spot remains.

Group 1242, Jan. 7. A small spot.

Group 1243, Jan. 7-15. A regular spot, *a*, followed by several small spots. The regular spot alone remains on Jan. 11.

Group 1239, Jan. 6. Two very small spots.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1884. 6 ^d 8 ^o 7	H, W	1246	0° 9' 70"	77° 8'	323° 6'	+10° 8'	3	29	662 <i>n p</i>	1884. 8 ^d 7 ^o 75	H, W		0° 9' 75"	252° 0'					147
I.			0° 9' 24"	106° 3'					270	I.			0° 9' 73"	276° 8'				59	
			0° 9' 33"	72° 3'					123				0° 9' 28"	290° 8'				126	
			0° 9' 59"	62° 3'					193				0° 8' 80"	251° 6'				147	
Jan. 8			0° 9' 64"	112° 0'					57			1248	0° 8' 22"	285° 7'	65° 7'	+10° 3'	2	17	
							(221)	(2331)	(4026)			1248	0° 7' 93"	286° 5'	62° 8'	+10° 3'	0	11	164 <i>c</i>
7 ^h 783	H, W		0° 9' 47"	296° 5'					150			1231 <i>b</i>	0° 6' 18"	253° 6'	49° 8'	-13° 4'	4	40	43 <i>c</i>
I.			0° 8' 88"	282° 7'					96			1231 <i>c</i>	0° 5' 70"	254° 3'	46° 4'	-12° 3'	8	37	72 <i>c</i>
			0° 8' 58"	314° 5'					60			1232 <i>a</i>	0° 5' 27"	301° 2'	39° 7'	+12° 1'	12	93	
		1229	0° 9' 75"	282° 9'	101° 3'	+11° 6'	9	66	395 <i>c</i>			1232	0° 4' 75"	300° 9'	36° 8'	+10° 2'	9	380	
		1231	0° 4' 77"	254° 9'	53° 3'	-10° 7'	2	5				1232 <i>b</i>	0° 4' 02"	307° 5'	31° 2'	+10° 2'	0	6	
		1231	0° 4' 04"	248° 7'	48° 0'	-12° 2'	1	10				1233	0° 3' 49"	249° 8'	31° 8'	-10° 9'	0	4	
		1231	0° 3' 69"	242° 3'	45° 1'	-13° 7'	0	10				1235 <i>a</i>	0° 3' 37"	328° 4'	22° 8'	+12° 5'	25	142	
		1232 <i>a</i>	0° 3' 68"	318° 3'	39° 9'	+11° 9'	17	120				1235	0° 3' 15"	342° 4'	18° 0'	+13° 2'	19	253	
		1232	0° 3' 84"	323° 7'	39° 0'	+14° 0'	0	3				1235	0° 3' 28"	350° 5'	15° 6'	+14° 6'	12	80	
		1232	0° 3' 30"	320° 7'	37° 7'	+10° 7'	3	56				1235	0° 3' 53"	354° 1'	14° 6'	+16° 3'	7	14	
		1232	0° 2' 98"	325° 6'	35° 3'	+10° 2'	6	62				1235	0° 3' 45"	4° 6'	10° 8'	+15° 8'	4	27	
		1232 <i>b</i>	0° 2' 71"	336° 5'	31° 8'	+10° 3'	1	31				1235 <i>b</i>	0° 3' 75"	15° 1'	6° 6'	+16° 9'	54	476	
		1233	0° 1' 60"	222° 5'	31° 8'	-10° 9'	1	9				1237	0° 3' 33"	124° 4'	35° 6'	-14° 9'	0	5	
		1235 <i>a</i>	0° 2' 90"	11° 2'	22° 2'	+12° 4'	23	152				1237	0° 3' 19"	112° 7'	35° 0'	-11° 0'	58	552	
		1235	0° 3' 37"	23° 1'	17° 7'	+14° 0'	13	111				1247	0° 4' 45"	53° 0'	351° 2'	+11° 6'	0	3	
		1235	0° 3' 67"	28° 7'	15° 0'	+14° 7'	13	64				1247	0° 4' 71"	56° 8'	348° 8'	+11° 0'	0	1	
		1235	0° 4' 06"	32° 7'	12° 4'	+15° 9'	0	16				1243 <i>a</i>	0° 5' 09"	56° 9'	346° 6'	+12° 3'	11	57	
		1235	0° 4' 29"	41° 3'	8° 5'	+14° 8'	2	19				1243	0° 5' 40"	58° 9'	344° 3'	+12° 4'	0	4	
		1235 <i>b</i>	0° 4' 71"	40° 6'	6° 9'	+17° 0'	47	498				1243	0° 5' 95"	59° 7'	340° 6'	+13° 8'	0	4	
		1237	0° 5' 20"	105° 0'	354° 8'	-11° 3'	45	631				1240	0° 4' 84"	107° 2'	344° 3'	-11° 9'	0	19	
		1247	0° 6' 23"	66° 1'	350° 1'	+11° 3'	0	12				1240	0° 5' 07"	108° 6'	343° 0'	-13° 0'	0	27	
		1243 <i>a</i>	0° 6' 88"	66° 8'	345° 3'	+12° 6'	7	57	54 <i>c</i>			1244	0° 5' 62"	127° 7'	343° 5'	-23° 7'	0	32	
		1243	0° 7' 17"	68° 2'	342° 7'	+12° 4'	3	11				1244	0° 6' 15"	126° 5'	339° 5'	-25° 0'	3	15	
		1243	0° 7' 51"	67° 9'	340° 0'	+13° 6'	0	17				1241	0° 5' 05"	102° 3'	342° 5'	-9° 8'	2	13	
		1243	0° 7' 60"	69° 4'	338° 9'	+12° 7'	0	7	115 <i>c</i>			1246 <i>a</i>	0° 7' 73"	72° 5'	324° 0'	+10° 6'	4	20	
		1240	0° 6' 57"	103° 8'	344° 9'	-12° 1'	0	32				1246 <i>b</i>	0° 8' 06"	73° 9'	320° 7'	+10° 3'	0	3	
		1244	0° 7' 16"	119° 7'	342° 9'	-23° 7'	0	11				1246 <i>c</i>	0° 8' 48"	74° 5'	316° 4'	+10° 7'	0	4	
		1244	0° 7' 48"	119° 5'	340° 0'	-24° 5'	0	8				0° 7' 85"	125° 0'						
		1241	0° 6' 85"	100° 1'	342° 5'	-9° 9'	3	17				0° 7' 87"	55° 3'						
		1246 <i>a</i>	0° 8' 95"	75° 9'	323° 7'	+10° 7'	0	22		Jan. 10			0° 8' 07"	107° 8'					
		1246	0° 9' 37"	77° 0'	317° 5'	+10° 7'	0	21	853 <i>n f</i>										
			0° 6' 71"	60° 6'					170										
			0° 8' 67"	62° 1'					253										
			0° 8' 86"	97° 4'					68										
			0° 8' 88"	57° 3'					100										
			0° 9' 60"	106° 9'					90										
Jan. 9							(196)	(2078)	(2404)										

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1244, Jan. 8-11. A small faint spot. Three others are seen with it on Jan. 9, the four being arranged in two pairs. On Jan. 10 the four spots are arranged in a straight line. The two pairs of spots have moved away from each other by Jan. 11.

Group 1245, Jan. 8. A small spot.

Group 1246, Jan. 8-14. A small regular spot, *a*. Two small spots, which are measured together, follow it on Jan. 9. They move apart on the following days and are measured separately as *b* and *c*. They undergo several changes in size, position, and shape.

Group 1247, Jan. 9-10. Two small spots. They are measured together on Jan. 9, but separately on Jan. 10, when they are somewhat further apart.

Group 1248, Jan. 10. Three small spots. The first two spots are measured together.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																				
Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1884. 9 ^d -988	JH, SP	1235	0°466	307°4	18°6	+12°4	37	333		1884. 11 ^d -650	H, W	1231 <i>b</i>	0°970	257°6	50°8	-13°1	7	78	583 <i>c</i>	
		1235	0°422	312°1	15°0	+12°3	16	83				1232	0°923	285°0	39°9	+12°0	16	135		
		1235	0°453	314°6	15°8	+14°4	9	66		I.		1232	0°910	281°8	38°6	+8°8	6	67	1005 <i>c</i>	
		1235	0°450	320°1	13°8	+16°0	9	95				1231	0°909	284°3	38°1	+11°0	5	44		
		1235	0°408	326°9	9°7	+15°7	6	18				1232	0°891	284°0	35°8	+10°3	6	99		
		1235 <i>b</i>	0°400	335°2	6°5	+17°0	60	447				1249	0°907	264°8	39°7	-6°6	7	21	104 <i>c</i>	
		1237	0°133	198°5	358°9	-11°5	3	12				1249	0°903	266°4	39°1	-5°2	3	5		
		1237	0°121	171°4	355°3	-11°1	78	416				1235 <i>a</i>	0°787	290°2	23°5	+12°8	30	239		
		1237	0°100	155°1	354°0	-9°5	16	61				1235	0°749	289°6	20°4	+11°4	4	69		
		1243 <i>a</i>	0°324	28°5	347°3	+12°3	10	28				1235	0°749	292°3	19°7	+13°3	39	219		
		1240	0°233	121°8	344°8	-11°3	1	19				1235	0°708	292°1	16°5	+12°1	20	121	222 <i>c</i>	
		1244	0°388	148°3	343°6	-23°4	7	13				1235	0°727	297°9	16°4	+16°5	1	5		
		1244	0°460	142°1	338°3	-25°4	5	18				1235	0°719	295°6	16°4	+14°7	17	71		
		1241	0°264	109°2	341°8	-9°1	8	15				1235 <i>b</i>	0°622	305°0	6°6	+17°0	56	342		
		1246 <i>a</i>	0°580	65°0	324°2	+10°6	9	20				1237	0°382	251°7	356°1	-11°1	73	392		
		1246 <i>b</i>	0°605	68°3	321°8	+9°3	13	41				1237	0°353	254°0	354°5	-9°8	11	20		
		1246 <i>c</i>	0°681	66°1	316°9	+12°7	0	24				1243 <i>a</i>	0°368	321°1	348°1	+12°2	9	27		
Jan. 11							(464)	(2534)	(524)			1250	0°303	253°7	351°6	-9°2	0	2		
10°995	JH, SP		0°954	264°6				255				1250	0°301	248°3	351°0	-10°7	0	2		
			0°925	257°4				345				1250	0°248	241°3	347°3	-11°2	0	2		
		1231 <i>b</i>	0°921	256°6	50°3	-14°0	16	47	198 <i>c</i>			1250	0°218	240°5	345°6	-10°6	0	1		
		1232	0°833	285°5	37°6	+10°3	15	529	351 <i>c</i>			1250	0°158	242°6	342°6	-8°6	1	2		
		1235 <i>a</i>	0°682	293°7	22°7	+12°5	28	221				1246 <i>a</i>	0°309	33°2	324°6	+10°5	0	3		
		1235	0°638	293°5	19°6	+11°2	0	63				1246 <i>b</i>	0°289	38°4	324°1	+8°6	1	3		
		1235	0°642	297°1	18°9	+13°4	45	190				1246 <i>c</i>	0°423	46°0	316°4	+12°8	6	14		
		1235	0°604	297°6	16°2	+12°6	18	224				1251	0°973	107°1	257°3	-17°7	0	16	585 <i>p</i>	
		1235	0°615	300°8	16°1	+14°6	21	62					0°700	104°0				98		
		1235	0°616	302°3	15°7	+15°4	0	23					0°732	58°9				167		
		1235 <i>b</i>	0°525	314°0	6°3	+17°3	67	335					0°835	83°6				288		
		1237	0°289	245°5	358°6	-11°1	0	8					0°861	109°0				108		
		1237	0°244	241°8	355°7	-10°9	43	339					0°880	136°7				66		
		1237	0°213	243°3	354°2	-9°8	0	45												
		1243 <i>a</i>	0°295	344°9	347°6	+12°1	8	26												
		1246 <i>a</i>	0°404	50°8	324°6	+10°6	0	17												
		1246 <i>b</i>	0°404	57°0	323°2	+8°5	0	9												
		1246 <i>c</i>	0°526	57°1	316°5	+11°1	0	33												
Jan. 12							(261)	(2171)	(1493)											
11°650	H, W		0°980	264°9				135												
I.			0°967	271°7				90												
			0°964	241°4				132												
			0°844	256°5				104												
			0°818	264°0				81												

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1249, Jan. 13-14. Two small spots measured together on Jan. 14.

Group 1250, Jan. 13-15. A number of very small faint spots scattered over a considerable area. Only one spot remains on Jan. 15.

Group 125¹, Jan. 13-15. A number of very small hunt spots scattered over a considerable area. Only one spot remains on Jan. 15. Group 125², Jan. 13-25. Two small faint spots on Jan. 13. The group rapidly increases in size. On Jan. 14 it is composed of nine small spots, measured in two clusters. On Jan. 15 these have coalesced to form a large and irregular spot. This breaks up into a number of spots before Jan. 17, and the group then consists of a large spot, *a*, closely followed by another large spot, *b*, and with a number of small spots around them. The group undergoes further changes, but retains the same general character until Jan. 24, by which date all the small spots have disappeared.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		Area for each Group (and for Day).		
1884. 12 ^d 760	H, W	1250	0.501	255.6	349.4	-11.2	0	24		1884. 15 ^d 760	H, W	1256	0.978	87.9	202.8	+ 1.1	9	133	122 c			
I.		1250	0.466	255.4	347.1	-10.9	0	2		I.			0.853	128.4				115				
		1250	0.463	252.4	346.6	-12.1	0	4					0.863	103.9				920				
		1250	0.436	255.8	345.2	-10.3	2	7			Jan. 17						(263)	(1848)	(5481)			
		1250	0.410	253.7	343.4	-10.8	0	8														
		1243a	0.549	301.4	348.5	+12.6	5	7														
		1246c	0.301	9.9	316.9	+12.6	1	2														
		1251	0.893	107.0	256.8	-17.2	4	91	} 353 c			16.856	H, W		0.965	258.8					609	
	1251	0.918	108.6	253.3	-18.9	5	10						0.962	289.1					427			
Jan. 14			0.797	106.0					138	I.				0.940	243.8				654			
			0.970	99.2					486					0.842	291.8					677		
						(139)	(1827)	(3227)					1252a	0.651	306.8	299.3	+18.7	7	46			
									307				1252d	0.620	308.9	296.5	+18.5	0	2			
									203				1252e	0.603	312.8	293.9	+19.7	2	6			
													1251	0.193	158.9	261.9	-15.4	2	30			
													1251	0.209	143.6	258.7	-14.6	1	6			
I.		1235	0.968	284.4	21.6	+12.7	16	344	} 1235 c			1251a	0.265	147.5	257.4	-17.8	81	580				
		1235	0.946	286.2	16.9	+13.7	14	97				1251b	0.301	135.4	253.3	-17.2	18	160				
		1235b	0.888	292.2	7.1	+17.2	40	314				1251	0.361	139.7	251.6	-20.8	4	25				
		1237	0.753	259.9	356.7	-10.7	41	306		} 59 n p			1251	0.352	133.9	250.5	-18.9	8	41			
		1243a	0.696	293.5	348.6	+12.6	4	10					1254a	0.706	85.5	221.4	-0.4	5	47	} 64 c		
		1250	0.620	260.1	346.0	-9.8	0	3				1254	0.741	85.2	218.6	+0.2	0	7				
		1252a	0.425	24.6	297.2	+18.1	2	3				1255a	0.844	96.7	208.3	-8.4	72	416	434 s f			
		1253	0.310	118.9	291.7	-13.1	0	4				1256	0.891	86.2	203.4	+ 1.1	15	111	299 f			
		1251	0.794	109.2	256.0	-18.1	93	666	280 c				0.769	107.8					205			
	Jan. 15			0.934	99.8					1052	Jan. 18			0.835	105.2					422		
			0.946	122.7					91				0.966	105.6					555			
						(210)	(1747)	(3227)									(215)	(1477)	(4346)			
15.760				0.902	290.2					773		I.			0.933	289.9				110		
				0.885	243.1					577						0.922	251.6				306	
				0.797	251.2					97					1252a	0.784	298.7	299.6	+18.6	5	39	212 c
				0.714	295.2					176					1252d	0.739	300.3	295.2	+18.1	0	3	
		1237	0.972	260.7	357.2	-10.2	34	210	1651 f				1257	0.696	258.1	297.1	-11.9	0	9			
		1252a	0.489	324.7	297.7	+18.7	9	59					1257	0.660	257.0	294.2	-12.4	2	8			
		1252b	0.454	325.7	295.9	+17.2	0	7					1251	0.237	221.3	262.5	-15.3	3	8			
I.		1252c	0.469	332.0	293.9	+19.6	5	27				1251	0.221	207.8	259.3	-16.3	6	34				
		1251	0.394	117.7	259.3	-15.1	7	37				1251a	0.229	193.9	256.5	-17.9	39	450				
		1251a	0.451	122.7	256.9	-18.6	51	577				1251b	0.213	176.8	252.5	-17.4	9	134				
		1251b	0.502	116.8	252.5	-17.4	28	265				1251	0.279	174.6	251.6	-21.2	0	4				
		1251	0.544	120.0	250.4	-20.0	6	98				1251	0.250	164.2	249.1	-19.0	3	31				
		1254	0.882	88.1	218.8	-0.7	3	12	652 n f			1254a	0.533	81.9	221.5	0.0	10	56				
		1255a	0.954	96.9	207.6	-8.1	111	423	398 s f			1254	0.585	83.1	217.8	-0.1	0	2				
												1255a	0.713	96.5	207.7	-8.2	80	386	549 c			

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1252, Jan. 15-20. A small spot, *a*, on Jan. 15. Two others, *b* and *c*, follow it on Jan. 17, but *b* disappears before Jan. 18, *c* before Jan. 19. A fourth spot, *d*, appears on Jan. 18; spots *a* and *d* move away from each other.

Group 1253, Jan. 15. A small faint spot.

Group 1254, Jan. 17-25. A regular spot, *a*, followed by several very small spots. The whole group is measured together on Jan. 17. The smaller spots vary in number and position from day to day, and are not seen after Jan. 20.

Group 1255, Jan. 17-29. A large regular spot, *a*. A second spot, *b*, is seen on Jan. 29 after *a* has passed out of sight at the W. limb.

Group 1256, Jan. 17-29. A regular spot.

Group 1257, Jan. 19. Two small spots.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		Area for each Group (and for Day).
1884. 23 ^d 015	JH, SP	1254a	0.628	276.8	223.2	- 0.1	3	13	39 c	1884. 26 ^d 000	JH, SP	1261a	0.649	68.4	108.3	+ 9.2	32	130	627 c	
		1255a	0.396	261.3	208.0	- 8.5	65	358				1261	0.680	65.1	106.8	+ 12.1	0	17	} 118 c	
		1256	0.337	290.5	203.1	+ 1.6	15	79				1261	0.714	69.5	103.2	+ 10.2	8	20		
		1259a	0.714	108.6	139.9	- 17.1	12	84	} 110 c			1264a	0.959	77.9	73.9	+ 9.9	70	273	700 c	
		1259b	0.738	108.2	137.8	- 17.1	0	12		185 c				0.781	128.6				181	
		1260	0.714	75.9	140.8	+ 6.1	23	64					0.804	56.8				951		
		1260	0.749	76.3	137.9	+ 6.5	6	31					0.852	53.7				347		
		1260	0.772	77.6	135.7	+ 5.9	3	25					0.879	127.0				346		
		1261	0.982	78.2	107.3	+ 10.4	0	37					0.899	112.0				276		
Jan. 24							(168)	(957)	(820)	Jan. 27							(360)	(1564)	(6322)	
										27 ^d 039	M, SP		0.893	290.4					54	
23 ^d 948	JH, SP		0.915	268.9					209				0.775	257.4				115		
			0.810	267.9					124			1262	0.976	252.9	210.5	- 18.0	27	219	275 c	
		1251a	0.993	252.3	257.1	- 18.2	0	199	625 c			1255a	0.967	262.5	209.3	- 8.8	78	334	548	
		1254a	0.779	273.9	223.5	- 0.5	0	19				1256	0.955	273.2	204.3	+ 1.3	15	65	79 n f	
		1255a	0.586	263.6	208.6	- 8.3	60	360	200 c			1263	0.923	257.5	201.4	- 13.8	0	37	} 221 c	
		1256	0.522	282.7	203.2	+ 1.8	16	71	69 c			1263	0.905	259.0	198.9	- 12.4	0	28		
		1260	0.533	69.8	142.7	+ 5.7	28	208				1265	0.475	268.9	160.4	- 5.8	19	53		
		1260	0.597	68.6	138.7	+ 7.9	0	12				1260	0.307	301.6	147.1	+ 3.5	0	3		
		1260	0.611	73.0	136.9	+ 5.8	10	158	173 c			1260a	0.313	312.2	145.4	+ 6.3	60	392		
		1259a	0.555	113.6	140.6	- 17.5	1	58	102 c			1260	0.242	329.2	139.1	+ 6.1	43	209		
		1261a	0.921	77.5	107.3	+ 9.2	0	102	160 c			1260	0.222	336.9	137.0	+ 5.9	17	66		
Jan. 25			0.682	115.9					94			1259a	0.254	213.7	140.5	- 18.0	0	5		
							(115)	(1187)	(1756)			1259c	0.208	200.3	136.3	- 17.1	7	17		
												1259d	0.187	186.4	133.2	- 16.6	5	20		
												1261a	0.475	57.6	108.1	+ 9.3	27	181		
26 ^d 000	JH, SP		0.964	257.1					465			1261	0.545	60.6	103.3	+ 10.3	0	1		
			0.955	271.1					243			1264a	0.866	74.4	74.2	+ 10.3	102	455	1190 c	
			0.936	280.1					456			1264	0.915	72.0	68.6	+ 13.8	2	25		
			0.877	271.6					231				0.944	106.8				305		
			0.820	281.1					219	Jan. 28							(402)	(2120)	(2787)	
			0.767	237.6					410				0.960	289.6				315		
		1262	0.949	253.8	218.0	- 17.2	25	102	} 104 c				0.942	311.0				73		
		1262	0.894	254.0	209.5	- 16.9	18	160		391 c				0.771	285.5				99	
		1255a	0.894	263.0	209.5	- 8.9	85	369	113 c	27 ^d 862	H, W		1255b	0.997	259.4	207.2	- 11.0	11	94	732 f
		1256	0.854	274.8	203.9	+ 1.1	16	62	144 c			1256	0.995	272.0	204.8	+ 1.4	0	13	302 f	
		1263	0.807	260.6	199.8	- 11.0	0	10				1265	0.678	266.3	163.9	- 6.9	2	12	} 139 c	
		1260	0.215	353.5	147.2	+ 6.7	23	92				1265	0.641	267.7	161.0	- 6.0	0	14		
		1260	0.208	0.9	145.6	+ 6.2	31	162				1265	0.631	269.4	160.3	- 5.0	5	24		
		1260	0.228	26.7	139.9	+ 6.0	21	66				1260a	0.466	296.5	145.8	+ 6.6	55	362		
		1260	0.253	37.1	137.0	+ 5.9	23	84				1260	0.411	295.2	142.9	+ 4.6	0	6		
		1260	0.265	46.2	134.8	+ 4.8	0	4				1260	0.428	304.0	142.0	+ 8.3	0	6		
		1259a	0.226	157.9	140.7	- 17.8	8	13												

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1261, Jan. 24-Feb. 2. A regular spot, *a*. Small spots are seen near it on Jan. 27 and 28. It breaks up into a number of small spots on passing the central meridian on Jan. 30.

Group 1262, Jan. 27-28. Five small spots in two clusters on Jan. 27. One spot has disappeared before Jan. 28, and the others seem through the effect of foreshortening to form but one cluster.

Group 1263, Jan. 27-28. A small spot on Jan. 27. A second spot is seen near it on Jan. 28.

Group 1264, Jan. 27-Feb. 7. A large irregular spot, *a*. A portion, *b*, is detached from the main spot on Jan. 29, and a second portion, *c*, on Feb. 1. The spot, *c*, breaks up into several small spots on the following days, moving forward and northward at the same time; it disappears before Feb. 6. Some small spots are seen close to the principal spots on Jan. 28, 29, 31, and Feb. 1.

Group 1265, Jan. 28-30. Several small spots. The group is measured as a whole on Jan. 28. The arrangement of the spots changes from day to day.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 27 ^d 862	H, W	1260	0°37.4	298°1	140°3	+ 4°6	0	4		1884. 29 ^d 841	H, W	1260b	0°71.3	286°5	138°4	+ 7°3	0	70	179 c
I.		1260b	0°36.5	305°7	138°4	+ 6°6	23	173		I.		1259d	0°62.0	253°3	132°8	-15°1	0	13	
		1260	0°33.6	302°6	137°5	+ 4°7	2	11				1261a	0°35.3	319°4	108°4	+ 9°6	5	26	
		1259e	0°42.7	236°8	143°2	-19°0	0	3				1261	0°36.3	326°1	106°9	+11°5	3	44	
		1259a	0°38.8	235°5	140°7	-18°3	0	2				1264a	0°43.2	50°1	75°4	+10°3	39	359	
		1259c	0°32.4	233°0	136°7	-16°9	2	19				1264	0°41.7	58°9	74°0	+ 6°7	0	2	
		1259d	0°26.8	227°9	133°0	-16°1	2	20				1264b	0°45.2	54°7	73°1	+ 9°5	9	83	
		1261a	0°35.4	40°5	107°7	+ 9°9	9	117				1264	0°48.7	54°3	71°4	+10°9	0	20	
		1264a	0°76.1	71°1	74°3	+10°2	46	403				1266	0°81.4	74°4	42°7	+ 8°9	17	163	949 c
		1264b	0°78.1	72°5	72°2	+ 9°8	16	117				1267a	0°90.7	114°2	29°9	-24°5	75	581	
		1264	0°81.7	67°7	70°0	+14°4	0	7	779.f			1267	0°94.1	115°6	24°4	-26°1	9	172	644 s.f
		1266	0°98.9	79°4	41°1	+ 9°5	55	114	607 p			1268	0°93.8	75°3	27°4	+11°5	0	8	752 c
		0°88.9	87°0						107			1268a	0°95.8	74°1	24°0	+13°3	46	446	
		0°90.3	103°9						531				0°89.9	97°6					275
Jan. 29							(228)	(1521)	(3684)	Jan. 31							(243)	(2400)	(3872)
28°841	H, W	1265	0°94.0	252°9	165°0	- 6°6	4	6	599	30°950	M, JH	1260a	0°80.0	252°5					808
I.		1265	0°83.5	266°1	165°0	- 6°6	0	10		I.		1260	0°92.4	280°1	146°6	+ 6°9	46	354	906 c
		1265	0°80.6	266°1	162°0	- 6°7	0	10				1260	0°90.6	278°9	144°2	+ 5°4	0	90	
		1265	0°79.1	268°2	160°5	- 5°1	6	17				1260	0°86.1	279°4	138°7	+ 5°0	4	44	
		1260a	0°64.6	287°9	146°3	+ 6°7	47	366				1260b	0°85.7	282°5	137°7	+ 7°4	0	43	
		1260	0°58.7	287°9	142°2	+ 5°4	0	36				1261a	0°52.6	298°4	108°2	+ 9°1	5	11	
		1260b	0°54.0	292°8	138°2	+ 6°9	21	112				1261	0°50.9	303°5	105°9	+10°7	0	5	
		1260	0°53.4	289°2	138°5	+ 4°9	0	57				1264c	0°27.1	19°4	75°2	+ 8°7	14	86	
		1259d	0°43.7	246°7	132°7	-15°4	0	4				1264a	0°30.7	18°2	74°8	+10°9	58	395	
		1261a	0°27.0	1°0	107°9	+ 9°6	10	67				1264b	0°30.1	27°5	72°3	+ 9°4	17	62	
		1261	0°29.7	7°5	105°9	+11°1	1	22				1264	0°33.0	28°6	71°2	+10°8	1	12	
		1264a	0°60.8	63°9	74°6	+10°5	29	380				1264	0°39.5	31°5	68°2	+13°6	0	8	
		1264b	0°62.9	66°8	72°5	+ 9°5	9	88				1266	0°65.9	69°3	42°0	+ 8°7	37	195	68 c
		1266	0°92.8	77°4	41°9	+ 9°3	22	162	1022 c			1267a	0°79.3	116°0	29°2	-24°2	101	595	909 c
		1267a	0°97.5	113°8	29°8	-24°5	72	420	285 c			1267	0°84.2	116°7	24°1	-25°7	22	158	
		1267	0°99.1	115°6	24°0	-26°1	6	218	217			1268	0°83.2	71°8	26°9	+11°4	0	9	903 c
Jan. 30			0°75.3	62°9					245	Feb. 1		1268a	0°87.1	70°5	22°9	+13°6	94	543	330 c
			0°89.9	104°1					209			1269	0°96.7	74°9	7°4	+12°8	0	27	328
			0°91.3	95°1									0°98.1	99°3					328
							(227)	(1965)	(2577)								(399)	(2637)	(4252)
29°841	H, W	1260	0°92.6	272°0					431	31°752	H, W	1260a	0°90.0	252°7					384
I.			0°81.2	256°4					313	I.		1260a	0°97.3	278°4	145°4	+ 6°7	12	349	417 c
		1260a	0°80.3	283°0	146°8	+ 6°6	26	325				1260	0°94.3	277°9	139°4	+ 5°4	0	67	
		1260	0°77.2	282°3	144°1	+ 5°5	0	36	329 c			1260b	0°93.4	280°6	137°5	+ 7°6	0	16	
		1260	0°72.1	282°4	139°8	+ 4°6	2	52				1261a	0°66.6	291°7	108°6	+ 9°4	0	9	

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.

Group 1266, Jan. 29-Feb. 10. A regular spot.

Group 1267, Jan. 30-Feb. 11. A large regular spot, *a*, closely followed by another large irregular spot. The latter has broken up by Feb. 1 into several portions, which are, however, measured together, and afterwards diminishes in size, disappearing before Feb. 9. Some small spots are seen near *a* on Feb. 5 and 6.

Group 1268, Jan. 31-Feb. 11. A large irregular spot, *a*, with a number of small spots in its neighbourhood. The small spots undergo constant changes in number, size, and position. The large spot, *a*, also undergoes great changes in shape and size.

Group 1269, Feb. 1-8. A small spot. A second is seen on Feb. 2.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1884. 31 ^d 7 ^h 52 ^m	H, W	1264c	0°28'4	336°9	76°4	+ 8°9	2	48		1884. 34 ^d 7 ^h 48 ^m	H, W	1268	0°34'2	359°6	29°9	+13°5	0	42	
I.		1264a	0°30'8	342°7	75°2	+10°9	50	286		I.		1268	0°31'0	4°0	28°5	+11°6	0	5	
		1264b	0°27'2	349°9	72°7	+ 9°3	8	51				1268	0°31'5	12°2	25°9	+11°5	0	15	
		1266	0°52'2	61°7	42°3	+ 8°8	20	174				1268a	0°36'6	17°5	23°3	+14°0	40	333	
		1268	0°70'1	63°9	29°9	+12°4	0	6				1267a	0°30'9	174°9	28°1	-24°3	79	463	
		1268a	0°77'5	67°0	23°1	+12°6	38	422				1267	0°37'3	173°4	27°0	-28°1	0	29	
		1267a	0°69'3	119°1	28°4	-24°3	71	536				1267	0°36'6	161°2	22°3	-26°6	0	50	
		1267	0°74'5	119°7	24°6	-24°9	8	129				1270	0°44'8	26°4	17°8	+17°3	0	11	
		1269	0°90'6	72°7	7°9	+12°1	0	17				1270	0°47'4	31°6	14°8	+17°6	4	32	
		1269	0°92'0	69°7	6°8	+15°1	0	8	740 n			1270	0°51'2	41°9	9°0	+16°3	0	4	
		0°88'9	125°3						156			1269	0°48'7	47°8	8°2	+13°1	5	13	
		0°88'8	125°3						173			1272	0°75'0	90°2	341°2	- 4°4	0	4	36 c
		0°93'3	99°5						344			1271	0°89'0	73°7	329°4	+11°4	13	170	938 n
Feb. 2							(209)	(2118)	(2214)			1273	0°94'5	74°0	321°4	+12°8	0	4	154 118 (1887)
33°9'55"	M, SP	0°92'4	284°4						347	Feb. 5							(181)	(1626)	(1887)
I.		1264c	0°64'3	293°4	77°4	+ 9°8	15	75		I.		0°93'9	237°1						146
		1264a	0°62'3	297°5	75°0	+11°5	68	283				0°89'7	259°3						97
		1264b	0°57'8	295°2	72°6	+ 8°9	20	68				1264a	0°86'6	288°0	75°6	+12°1	29	260	459 c
		1266	0°25'3	351°7	42°9	+ 8°2	34	175				1264b	0°84'4	284°7	73°9	+ 8°8	9	34	69 c
		1268	0°39'7	31°5	28°5	+13°6	0	19				1266	0°49'4	299°6	44°0	+ 8°4	20	151	
		1268	0°36'3	35°2	28°5	+11°1	0	3				1268	0°38'6	328°6	30°3	+12°9	3	27	
		1268	0°40'0	40°3	25°5	+11°6	4	31				1268	0°37'1	335°9	27°3	+13°4	0	8	
		1268a	0°45'5	41°2	22°9	+14°0	55	424				1268	0°33'1	336°9	26°0	+11°2	5	38	
		1267a	0°36'8	146°7	28°1	-24°0	100	518				1268a	0°36'2	345°3	23°8	+14°1	36	366	
		1267	0°43'8	143°5	23°9	-26°6	14	76				1267	0°39'8	201°8	28°0	-27°9	0	3	
		1270	0°58'6	47°8	13°8	+17°5	6	41				1267a	0°34'5	205°8	27°8	-24°3	77	466	
		1270	0°61'3	50°9	11°0	+17°2	0	9				1267	0°37'2	193°3	23°9	-27°5	0	35	
		1269	0°62'1	59°5	7°6	+13°1	8	26	532 c	Feb. 6		1270	0°40'9	0°6	18°1	+17°7	0	4	
Feb. 4		0°83'6	101°9						331			1270	0°40'7	7°4	15°3	+17°3	3	30	
		0°96'8	68°5						246			1270	0°40'6	14°3	12°4	+16°6	0	1	
							(345)	(1934)	(1456)			1269	0°37'3	26°9	8°5	+13°0	4	14	
34°7'98"	H, W	0°95'9	282°7						209			1272a	0°57'1	88°3	343°7	- 4°3	0	3	
I.		0°91'0	298°8						97			1272b	0°62'2	89°1	340°0	- 4°5	3	10	
		0°88'1	245°9						111			1271	0°79'0	60°8	329°4	+11°6	13	182	474 np
		1264c	0°77'7	288°9	77°9	+10°3	2	9	173 c			1273	0°84'1	68°6	324°8	+14°0	0	6	629 c
		1264a	0°75'4	291°5	75°4	+11°6	12	242				1273	0°86'5	71°1	321°6	+12°8	0	13	
		1264b	0°72'0	288°6	73°3	+ 8°6	6	39	51 c			0°93'5	99°5						137
1266	0°34'4	316°1	43°7	+ 8°1	20	161						0°97'4	68°3						222
												0°98'1	81°1						156
																			2389

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1270, Feb. 4-8. Several small faint spots arranged in a nearly straight line. The group undergoes frequent changes.

Group 1271, Feb. 4-15. A large regular spot. A second spot appears on Feb. 14.

Group 1272, Feb. 5-8. Two small spots on Feb. 5, on which day they are measured together. They have moved apart and increased in size by Feb. 6. The preceding spot has disappeared by Feb. 7.

Group 1273, Feb. 5-15. A small spot when first seen. A second is seen on Feb. 6, a third on Feb. 7. The group consists after this of a number of small spots irregularly arranged, the size, distribution, and number changing from day to day.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 40 ^d .931	M, JH	1281	0°37' 0°855	98°2' 105°5'	238°9'	—10°1'	14	90	497 f 654	1884. 44 ^d .059	M, SP	1285	0°307	252°2'	285°1'	—12°0'	2	7	
Feb. 11							(374)	(1817)	(5141)			1285	0°270	256°7'	283°2'	—10°2'	0	2	
												1285b	0°276	249°4'	283°1'	—12°3'	20	65	
												1277a	0°273	27°6'	260°5'	+7°1'	60	231	
41 ^d .981	M, JH		0°57' 0°929	292°3' 258°8'					228			1277	0°294	35°0'	258°1'	+7°1'	33	123	
		1278b	0°722	288°9'	338°7'	+8°6'	5	15	367			1277	0°332	46°7'	253°8'	+6°5'	3	30	
		1271	0°629	298°5'	329°5'	+11°9'	22	156				1277b	0°396	54°4'	249°0'	+6°7'	72	344	
		1273	0°609	303°7'	326°5'	+13°9'	10	32				1281	0°467	100°5'	240°0'	—11°0'	14	60	
		1273	0°580	303°9'	324°7'	+12°9'	0	19				1283	0°735	104°6'	220°5'	—15°4'	0	5	
		1277a	0°621	68°8'	259°6'	+7°4'	41	259				1284	0°834	102°0'	210°9'	—13°8'	12	137	1608 s
		1277	0°657	71°0'	256°6'	+7°0'	13	58				1284a	0°866	97°1'	207°4'	—9°6'	89	351	
		1277	0°693	73°0'	253°5'	+6°6'	12	52						0°894	82°2'				
		1277b	0°751	74°1'	248°7'	+7°2'	40	324									(380)	(1670)	(144)
		1280	0°744	110°7'	247°7'	—19°8'	0	48	85 c	Feb. 14									(3526)
		1281	0°825	98°0'	239°3'	—10°4'	24	93	484 f (1164)	44°953	M, JH	1271	0°990	284°9'	335°7'	+13°6'	0	56	
Feb. 12							(167)	(1056)				1271	0°970	284°3'	329°7'	+12°0'	48	185	
												1273	0°961	289°3'	326°7'	+16°3'	0	27	1403 mf
												1285a	0°520	260°3'	287°3'	—11°0'	25	191	
												1285	0°486	257°1'	284°9'	—12°3'	0	9	
42°903	M, JH		0°899	258°1'					965			1285b	0°449	257°1'	282°4'	—11°9'	29	141	
			0°830	292°2'					1050			1277a	0°258	342°4'	260°5'	+7°3'	29	202	
		1282	0°901	296°6'	342°0'	+20°4'	0	21				1277	0°250	350°1'	258°5'	+7°3'	15	101	
		1271	0°768	291°9'	329°6'	+12°0'	32	163				1277	0°250	17°4'	251°7'	+6°9'	9	24	
		1273	0°764	297°0'	327°8'	+15°5'	0	31				1277b	0°273	27°1'	248°8'	+7°1'	43	260	
		1277a	0°452	59°1'	260°1'	+7°1'	39	245				1286	0°101	118°1'	250°8'	—9°6'	9	24	
		1277	0°489	62°0'	257°3'	+7°1'	21	66				1286	0°165	114°1'	247°2'	—10°7'	5	21	
		1277	0°543	65°6'	253°2'	+7°0'	15	92				1281	0°280	105°5'	240°1'	—10°9'	13	38	
		1277b	0°607	68°8'	248°4'	+7°1'	37	293				1284	0°706	102°4'	211°0'	—13°6'	14	55	
		1281	0°688	98°2'	239°3'	—10°6'	30	101				1284	0°735	92°8'	208°5'	—6°8'	0	12	852 f
		1283	0°885	104°3'	220°2'	—15°8'	0	21	1741 c			1284a	0°743	96°5'	207°7'	—9°5'	57	344	
		1284	0°945	102°7'	211°3'	—14°2'	12	151						0°772	79°0'				108
		1284a	0°967	98°1'	207°1'	—9°6'	58	286						0°934	68°1'				78
			0°873	75°3'					165					0°936	116°4'				80
			0°984	85°1'					167					0°952	110°6'				118
Feb. 13							(244)	(1470)	(4088)	Feb. 15							(296)	(1690)	(2639)
44°059	M, SP		0°943	258°8'					375										397
		1282	0°979	292°7'	342°2'	+20°5'	0	29	346 s	45°970	SP, JH		0°969	287°4'					268
		1271	0°928	288°4'	332°9'	+14°2'	12	57					0°904	295°4'					377
		1271	0°900	286°8'	329°3'	+11°9'	37	125	1053 c				0°861	231°2'					265
		1273	0°900	292°0'	328°0'	+16°3'	0	18					0°820	280°4'					164
		1285a	0°341	256°1'	287°4'	—11°2'	26	86					0°816	301°9'					
												1285a	0°724	260°8'	289°2'	—11°4'	23	175	

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1282, Feb. 13-14. A small spot.

Group 1284, Feb. 13-25. A large regular spot, *a*, preceded by a number of small spots, which diminish in size day by day, and disappear before Feb. 20.

Group 1285, Feb. 14-18. Two considerable spots, *a* and *b*, which appear suddenly near the centre of the Sun. Several small spots are seen close to them. The appearance and areas of the spots undergo frequent changes.

Group 1286, Feb. 15-16. Two compact clusters of very small spots. The members of each cluster have coalesced by Feb. 16, thus forming two small spots.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																			
Greenwich Mean Solar 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 Mean Solar 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).	
1884. 45 ^d .970	SP, JH	1285	0.690	261.7	286.4	—10.7	10	69		1884. 47 ^d .898	SP, JH	1291a	0.932 0.603 0.714 0.786 0.943	79.3 84.8 129.5 113.3 110.0	150.0	+ 7.3	39	191	702 c 124 194 124 496 (3969)
		1285b	0.631	259.6	281.8	—11.9	26	162		Feb. 18									
		1277a	0.382	308.0	260.2	+ 7.0	42	250		49 ^d .981	SP, JH	1277a	0.963	279.3	262.8	+ 6.9	37	207	1210 c
		1277	0.372	312.7	258.6	+ 7.9	13	68				1277b	0.868	284.0	247.9	+ 8.4	15	106	
		1277	0.307	329.1	251.2	+ 8.4	8	17				1289	0.946	262.4	261.5	— 9.5	1	25	1082 c
		1277	0.276	332.7	249.9	+ 7.3	2	6				1292	0.422	246.4	213.4	—16.2	6	20	
		1277b	0.264	337.3	248.5	+ 7.2	40	173				1284a	0.303	261.4	207.4	— 9.4	47	298	
		1286	0.165	255.7	251.9	— 9.2	8	10				1287	0.307	241.1	205.9	—15.4	0	36	
		1286	0.102	227.0	246.9	—10.9	0	12				1287	0.268	230.4	202.2	—16.8	0	7	
		1281	0.078	149.6	240.3	—10.8	8	16				1287	0.228	238.6	201.3	—13.7	0	8	
		1284	0.519	106.1	211.8	—14.2	9	14				1288a	0.416	30.2	177.4	+14.0	29	181	
		1284	0.535	102.9	210.4	—12.7	1	9				1288	0.453	31.9	175.5	+15.7	0	11	
		1284a	0.571	96.5	207.6	— 9.4	49	301	98 c			1288	0.428	35.8	175.0	+13.4	13	73	
		1287	0.615	106.4	205.0	—15.5	0	23	533 s f			1288	0.482	43.3	170.0	+13.8	16	52	
		1288	0.953	72.9	173.0	+14.0	1	50	69			1291a	0.656	70.6	151.4	+ 7.0	32	230	616
			0.763	25.0					74				0.934	78.1					(2908)
			0.797	72.2					447										
Feb. 16			0.868	114.3			(240)	(1355)	(2692)										
47 ^d .988	SP, JH		0.750	256.8					642	Feb. 20									
			0.613	348.9					80	51 ^d .038	SP, JH	1292	0.629	254.9	214.7	—15.0	0	18	
		1285a	0.946	261.4	288.9	—10.4	26	227				1292	0.604	251.8	212.5	—16.6	0	9	
		1285	0.916	263.6	284.0	— 8.6	1	40				1284a	0.520	263.7	207.3	— 9.3	34	288	
		1285b	0.904	259.6	282.5	—12.4	17	158	1050 c			1287	0.517	250.5	206.3	—16.1	0	19	
		1277a	0.726	287.0	261.4	+ 7.3	59	243	329 c			1287	0.476	252.1	203.7	—14.7	0	25	
		1277	0.606	289.4	258.6	+ 8.1	6	52				1288a	0.351	352.4	178.6	+13.2	39	193	
		1277	0.681	285.9	258.2	+ 5.5	8	39				1288	0.356	2.7	174.9	+13.7	15	132	
		1277	0.582	292.9	249.8	+ 7.2	4	29				1288	0.376	15.7	169.9	+14.1	0	29	
		1277	0.593	297.6	249.3	+10.0	3	10				1291a	0.471	59.3	151.9	+ 7.4	21	172	
		1277b	0.559	295.9	247.6	+ 8.1	23	132				1293	0.958	95.3	102.2	— 7.1	0	63	331 c
		1289	0.686	258.6	260.6	—12.9	0	7		Feb. 21									(331)
		1289	0.662	263.1	258.9	— 9.9	0	1		51 ^d .783	H, W		0.995	279.7					389
		1289	0.632	260.3	257.2	—15.2	0	3					0.995	274.7					159
		1281	0.396	260.4	240.5	—10.2	8	12					0.924	260.2					765
		1290	0.264	167.2	213.6	—21.9	0	4					0.895	280.7					170
		1284	0.159	144.8	211.8	—14.4	4	6											
		1284	0.180	125.3	208.6	—12.9	0	27											
		1284a	0.171	103.9	207.6	— 9.3	50	279				1292	0.724	253.1	212.2	—17.1	0	4	
		1287	0.224	128.3	206.8	—14.9	4	11				1292	0.721	248.9	211.6	—20.1	0	5	
		1287	0.295	122.9	202.3	—15.9	0	23				1284a	0.658	264.1	207.4	— 9.2	29	255	
		1288a	0.731	62.6	175.3	+14.4	14	145	228 c			1287	0.647	253.9	206.0	—15.7	1	8	
		1288	0.761	64.5	172.2	+14.2	28	52				1287	0.613	255.8	203.7	—14.3	3	16	

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.

The photograph on Feb. 21 is much over-exposed.

Group 1288, Feb. 16-27. A large regular spot, *a*, followed by a stream of smaller spots.

Group 1289, Feb. 18-20. A number of small faint spots irregularly arranged.

Group 1291, Feb. 18-27. A regular spot, *a*. A small spot appears near it on Feb. 22 and is measured with it. Other small spots appear on Feb. 23. The whole group is measured together as one on Feb. 24. A small but dark spot, *b*, appears on Feb. 25. The group is measured in three portions on Feb. 25 and 26; *a* and *b* separately, and the remaining small spots together. The small spots seen on Feb. 26 are wholly different from those seen on Feb. 25.

Group 1292, Feb. 20-22. A scattered group of small faint spots.

Group 1287, Feb. 16-22. A scattered group of small faint spots.

Group 1290, Feb. 18. A small well-defined spot.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).				
1884. 56 ^d 73 ^d	H, W	1298	0° 97' 1	279° 2	175° 6	+ 7° 1	19	269	} 236 c	1884. 59 ^d 058	SP, JH		0° 87' 2	124° 3					229			
I.		1298	0° 93' 9	279° 3	169° 3	+ 6° 1	14	152		Feb. 29			0° 89' 4	102° 4			(238)	(1389)	726			
		1291 ^b	0° 84° 0	289° 6	154° 7	+ 12° 2	7	14										(3980)				
		1291 ^a	0° 81' 4	286° 4	152° 8	+ 8° 9	5	44														
		1291	0° 81' 4	291° 9	151° 5	+ 13° 1	0	7		59° 934	SP, JH		0° 94' 5	285° 9				961				
		1291	0° 78' 7	289° 2	149° 7	+ 10° 3	0	3					0° 94' 5	249° 6				422				
		1298	0° 53' 2	304° 4	127° 3	+ 11° 0	5	79					0° 72' 4	268° 7				890				
		1298	0° 51' 9	309° 2	125° 0	+ 12° 6	1	16				1296	0° 39' 6	255° 6	81° 7	— 12° 3	15	85	123 c			
		1298	0° 48' 6	308° 9	123° 4	+ 11° 1	0	1				1296	0° 33' 9	251° 3	77° 9	— 13° 0	2	8				
		1293	0° 06' 5	275° 0	104° 5	— 6° 9	3	18				1295	0° 41' 1	323° 4	73° 2	+ 12° 3	10	34				
		1293	0° 03' 3	244° 8	102° 5	— 8° 0	0	11				1297	0° 29' 1	323° 8	68° 6	+ 6° 5	4	14				
		1296 ^a	0° 38' 5	109° 7	79° 0	— 14° 1	10	49				1302 ^a	0° 02' 4	154° 6	58° 1	— 8° 4	33	254				
		1296 ^b	0° 46' 5	107° 1	73° 6	— 14° 3	15	75				1302 ^b	0° 12' 2	110° 1	52° 1	— 9° 6	24	207				
		1295	0° 55' 8	54° 2	73° 3	+ 12° 7	9	59				1301 ^a	0° 41' 9	45° 2	41° 2	+ 10° 3	58	474				
		1297	0° 61' 8	66° 9	65° 9	+ 8° 1	7	45				1304	0° 30' 8	92° 7	40° 7	— 7° 7	0	43				
		1300	0° 70' 7	67° 4	59° 4	+ 10° 4	0	4				1304	0° 36' 5	94° 2	37° 2	— 8° 2	0	20				
		1302	0° 72' 5	94° 5	54° 1	— 8° 2	8	21				1303 ^a	0° 65' 6	122° 6	20° 8	— 26° 4	16	122	408 c			
		1302	0° 74' 6	93° 0	52° 4	— 7° 1	0	2				1303	0° 68' 3	124° 1	19° 0	— 28° 1	3	42				
		1302	0° 76' 3	94° 8	50° 8	— 8° 3	2	12				1303	0° 69' 1	125° 9	18° 8	— 29° 5	0	23				
		1301 ^a	0° 88' 7	73° 8	40° 9	+ 10° 8	72	506				1303	0° 68' 3	120° 6	18° 1	— 25° 9	0	22				
		1303 ^a	0° 98° 0	114° 8	20° 4	— 25° 7	10	70					0° 81' 9	102° 8				545				
		1303 ^b	0° 98' 2	116° 6	19° 6	— 27° 4	0	38					0° 88' 4	62° 2				566				
			0° 98' 8	70° 3									0° 96' 2	73° 7				725				
Feb. 27							(192)	(1710)	(10244)	Mar. 1							(165)	(1348)	(4640)			
59° 058	SP, JH		0° 98' 2	277° 0					} 445 366 641	61° 053	SP, JH		0° 85° 0	266° 5					348			
			0° 90' 9	247° 8									0° 62' 7	258° 3	82° 8	— 13° 0	13	63	183 c			
			0° 86' 1	287° 3									0° 60' 2	259° 8	81° 0	— 11° 9	10	23				
		1296 ^a	0° 21' 2	241° 0	81° 2	— 13° 0	21	77					1295	0° 57' 7	303° 4	73° 3	+ 12° 2	10	47			
		1296 ^a	0° 20' 1	228° 9	79° 1	— 14° 7	0	10					1297	0° 48' 4	297° 0	69° 5	+ 6° 2	6	12			
		1296 ^b	0° 13' 1	212° 6	74° 4	— 13° 5	0	14					1302 ^a	0° 24' 1	262° 0	57° 8	— 8° 9	32	285			
		1295	0° 33' 8	350° 3	73° 6	+ 12° 2	14	48					1302 ^b	0° 14' 6	255° 6	52° 1	— 9° 2	27	162			
		1297	0° 24' 3	7° 2	68° 5	+ 6° 7	8	21					1304	0° 03' 5	88° 0	41° 9	— 7° 1	0	7			
		1302 ^a	0° 21' 5	97° 6	57° 9	— 8° 6	42	347					1301 ^a	0° 30' 5	8° 3	41° 3	+ 10° 3	73	503			
		1302	0° 26' 9	100° 4	54° 8	— 9° 8	0	17					1301	0° 34' 2	16° 5	38° 2	+ 11° 9	3	15			
		1302	0° 28' 7	109° 8	54° 3	— 12° 5	6	13					1303 ^a	0° 49' 5	133° 4	20° 3	— 26° 4	25	116			
		1302	0° 29' 5	90° 2	53° 1	— 7° 0	0	47					1303	0° 54' 5	136° 6	18° 5	— 29° 8	4	27			
		1302 ^b	0° 32' 2	99° 3	51° 6	— 9° 8	23	134					1303	0° 52' 1	131° 8	18° 2	— 26° 8	0	16			
		1301 ^a	0° 55' 4	58° 9	41° 6	+ 10° 3	104	531						0° 86' 7	103° 4				368			
		1304	0° 49' 7	93° 6	40° 5	— 6° 9	4	11						0° 91' 6	70° 4				1173			
		1303 ^a	0° 77' 2	118° 3	21° 2	— 26° 2	16	93						0° 95' 9	284° 3				58			
		1303 ^b	0° 79' 4	119° 8	19° 3	— 27° 9	0	26						0° 91° 0	265° 3				324			
			0° 86' 1	64° 6										1242	I.		1296					

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.

Group 1303, Feb. 27—March 10. A regular spot, *a*, followed by a smaller one, *b*. The latter has broken up into a number of very small spots by March 1. These have all disappeared by March 6.

Group 1304, Feb. 29—March 2. A small spot. A second is seen near it on March 1.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 61 ^d 797	H, W	1296	0° 73' 4	259° 6	81° 7	-12° 5	1	9	70 c	1884. 64 ^d 839	H, W	1301	0° 78' 1	288° 4	42° 6	+9° 5	31	230	161 c
I.		1295	0° 69' 6	295° 7	73° 9	+12° 1	6	44	38 c	I.		1301	0° 76' 6	290° 9	40° 7	+10° 9	20	160	
		1297	0° 62' 4	289° 3	70° 4	+6° 1	0	2				1303a	0° 51' 8	228° 2	19° 6	-26° 6	10	106	
		1302a	0° 40' 5	265° 4	58° 2	-8° 5	24	218				1307a	0° 58' 2	60° 8	323° 1	+10° 3	14	76	
		1302	0° 37' 1	262° 5	56° 0	-9° 5	3	56				1308a	0° 53' 1	96° 1	321° 9	-9° 3	15	173	
		1302	0° 31' 8	270° 1	52° 8	-6° 8	0	4				1308b	0° 60' 1	97° 4	317° 0	-10° 2	26	400	
		1302	0° 31' 0	261° 3	52° 2	-9° 5	18	93				1308	0° 66' 9	98° 7	311° 9	-11° 1	0	12	
		1302	0° 25' 5	266° 0	49° 0	-8° 0	0	3				1308	0° 69' 9	100° 4	309° 5	-12° 4	0	18	
		1301a	0° 33' 0	336° 5	41° 9	+10° 4	50	486				1308	0° 73' 4	102° 6	306° 7	-14° 1	0	4	
		1301	0° 30' 2	344° 8	38° 8	+9° 7	0	12				1309a	0° 94' 8	92° 6	282° 5	-4° 8	6	40	526 s p
		1305	0° 45' 6	23° 1	23° 4	+17° 7	0	3				1310	0° 99' 8	105° 8	265° 3	-16° 2	14	148	371 p
		1303	0° 42' 2	152° 5	21° 4	-29° 0	0	2											(2359)
		1303a	0° 39' 8	147° 0	20° 3	-26° 4	13	97											
		1303	0° 46' 1	147° 1	17° 5	-29° 6	0	17											
		1306	0° 90' 2	74° 1	332° 3	+11° 0	0	3											
		1307a	0° 95' 8	77° 1	322° 8	+10° 2	9	105	420 c	Mar. 6	SP, JH	1302	0° 97' 4	263° 0	57° 0	-8° 5	0	249	740 c
Mar. 3		1308	0° 97' 2	98° 9	317° 0	-10° 3	8	144	332 c			1301	0° 91' 1	284° 1	42° 9	+9° 7	25	141	271 c
			0° 82' 8	103° 9					121			1301	0° 89' 6	286° 7	40° 3	+11° 5	16	96	
		0° 89' 9	69° 7						1081			1303a	0° 67' 8	238° 1	19° 3	-26° 5	18	74	
												1307a	0° 39' 5	42° 5	323° 7	+10° 0	15	69	
												1308a	0° 28' 0	99° 5	323° 2	-9° 6	33	152	
												1308	0° 32' 9	99° 9	320° 3	-10° 0	0	10	
												1308b	0° 37' 5	98° 2	317° 4	-9° 7	57	294	
												1308	0° 43' 2	100° 5	313° 9	-11° 0	4	20	
												1308	0° 50' 6	102° 2	309° 1	-12° 4	0	23	
												1308	0° 53' 9	104° 3	307° 0	-13° 8	0	11	
												1309a	0° 83' 0	91° 2	283° 2	-5° 0	6	51	128 c
												1310	0° 94' 9	105° 1	266° 8	-16° 6	23	124	525 c
												1311	0° 95' 8	96° 6	265° 5	-8° 4	18	78	345 c
																			(2009)
63° 965	SP, JH		0° 94' 3	257° 2					561	Mar. 7	SP, JH	1303a	0° 90' 8	244° 0	17° 5	-26° 6	18	87	
			0° 90' 4	284° 5					552			1307a	0° 36' 0	323° 6	324° 4	+9° 8	11	61	
		1302	0° 76' 3	264° 4	55° 6	-8° 9	78	392	357 c			1307	0° 36' 0	331° 1	322° 1	+11° 2	0	37	
		1301a	0° 64' 7	295° 6	41° 8	+10° 4	62	353				1308a	0° 19' 9	261° 7	323° 4	-8° 7	37	169	
		1305	0° 51' 8	324° 9	23° 8	+18° 2	0	12				1308	0° 14' 8	253° 6	320° 1	-9° 5	4	39	
		1303	0° 45' 1	213° 7	22° 1	-28° 9	2	17				1308b	0° 09' 9	247° 7	317° 2	-9° 3	30	199	
		1303a	0° 40' 1	213° 7	19° 9	-26° 4	18	107				1308	0° 07' 9	189° 9	312° 6	-11° 7	0	12	
		1307a	0° 71' 8	68° 3	323° 1	+10° 0	23	88	94 c			1308	0° 12' 2	165° 6	310° 0	-14° 0	7	17	
		1308a	0° 68' 2	96° 3	322° 3	-9° 6	24	106	287 c			1308	0° 15' 7	140° 2	305° 9	-14° 1	0	12	
		1308b	0° 74' 1	97° 0	317° 5	-10° 0	37	337	262 f			1308	0° 20' 2	128° 7	302° 5	-14° 4	0	23	
		1308	0° 81' 1	99° 3	311° 0	-11° 8	0	6	482			1309a	0° 48' 0	86° 9	283° 3	-4° 8	7	22	
			0° 97' 2	103° 7								1312	0° 54' 2	92° 6	278° 9	-7° 5	0	13	
												1310	0° 68' 9	107° 1	268° 6	-16° 9	38	403	
Mar. 5										Mar. 5									
64° 839	H, W		0° 98' 4	254° 7					313	I.									
			0° 93' 8	285° 2					414										
			0° 92' 9	249° 8					104										
		1302	0° 90' 0	262° 0	58° 8	-10° 3	4	33											
		1302	0° 90' 0	264° 8	58° 6	-7° 8	8	103											
		1302	0° 86' 2	264° 7	54° 0	-8° 2	0	25											
		1302	0° 85' 6	262° 4	53° 4	-10° 2	0	51	470 c										

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1305, March 3-5. A small spot.

Group 1306, March 3. A small spot.

Group 1307, March 3-12. A regular spot, *a*, followed on March 9, 10, and 11 by several small spots.

Group 1308, March 3-12. Two large irregular spots, *a* and *b*. A great number of very small spots are seen in their neighbourhood March 5-11; these are partly between *a* and *b*, and partly following *b*.

Group 1309, March 6-12. A small regular spot, *a*; a second, *b*, appears closely following it on March 9.

Group 1310, March 6-18. A regular spot, which breaks up into several portions on March 9. The group again appears as a single regular spot on March 14, and as the group on the intermediate days always forms a compact cluster, it is measured as a whole.

Group 1311, March 7-16. A regular spot.

Group 1312, March 9-11. A small spot. A second is seen close to it on March 10 and 11, but the two are measured together.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 68 ^d 043	SP, JH	1311	0.716	94.4	265.9	- 8.2	9	76		1884. 69 ^d 728	H, W	1310	0.394	116.6	268.1	-16.8	27	234	
		1313a	0.795	71.2	262.2	+10.3	5	20	456 c			1311	0.399	93.8	266.0	- 8.1	3	45	
		1313b	0.822	72.5	259.4	+ 9.9	16	27		I.		1313a	0.531	57.0	262.8	+10.4	0	2	
		1314a	0.970	74.8	238.4	+12.8	17	199				1313b	0.577	60.5	259.0	+10.3	1	6	
		1314b	0.990	75.0	232.4	+13.7	0	85	435 c			1319	0.531	110.1	258.4	-16.6	0	2	
Mar. 9							(199)	(1501)	(891)			1319	0.581	109.5	254.8	-17.1	0	5	
												1317	0.565	102.8	255.3	-13.2	5	13	
												1314a	0.829	68.3	237.4	+13.4	9	144	
69.066	SP, JH	1303a	0.976	243.8	17.6	-27.1	2	93	315 c			1314b	0.889	69.4	230.5	+14.6	27	223	
		1315	0.925	259.7	6.8	-12.3	0	59	749 c			1320	0.988	98.8	207.6	- 9.8	9	114	420 c
		1307a	0.528	303.7	324.8	+10.6	14	41		Mar. 11							(130)	(1419)	(2732)
		1307	0.510	308.4	322.4	+11.9	5	34				1308a	0.806	265.0	325.6	- 8.4	31	162	
		1308a	0.430	266.0	324.0	- 8.2	33	195				1308b	0.725	264.4	318.3	- 9.1	8	131	
		1308	0.373	262.9	320.3	- 9.3	0	22		71.093	SP, JH	1307a	0.832	288.3	325.0	+10.9	0	24	
		1308b	0.326	263.2	317.5	- 9.1	39	221				1309a	0.243	277.5	285.5	- 5.2	0	11	
		1308	0.247	239.9	311.1	-14.1	0	8				1309b	0.214	281.5	283.7	- 4.7	0	12	
		1316	0.204	103.8	286.9	- 9.9	0	8				1310	0.177	164.3	268.7	-17.0	45	201	
		1309a	0.245	80.9	284.4	- 4.8	4	25				1311	0.093	97.9	266.3	- 8.0	4	16	
		1309b	0.279	83.7	282.3	- 5.2	0	8				1319	0.245	134.9	261.2	-17.1	5	25	
		1312	0.329	90.1	279.1	- 6.8	0	35				1319	0.239	126.2	260.1	-15.1	0	10	
		1310	0.516	111.7	268.4	-17.2	53	363				1319	0.286	123.7	257.3	-16.1	8	41	
		1311	0.533	93.8	266.0	- 8.1	11	70				1313b	0.355	35.9	259.5	+ 9.6	0	6	
		1313a	0.639	64.1	262.8	+10.3	0	9				1317	0.300	111.5	255.0	-13.3	16	73	
		1313b	0.679	66.0	259.5	+10.4	3	19				1314a	0.645	59.4	237.0	+13.3	13	83	
		1317	0.682	101.9	255.3	-13.4	0	7				1314b	0.718	62.0	230.9	+14.2	32	153	351 c
		1314a	0.897	70.9	237.9	+13.6	12	143	418 c			1320	0.895	97.6	207.6	-10.0	23	117	
		1314b	0.944	72.0	230.7	+14.3	22	213		Mar. 12							(185)	(1065)	(351)
Mar. 10							(198)	(1573)	(1482)										
69.728	H, W		0.970	248.5					352										
			0.874	295.0					713										
			0.789	256.2					250										
I.		1315	0.969	259.3	6.2	-12.1	0	47	345 c										
		1307a	0.635	296.4	324.8	+10.5	0	37		73.077	SP, JH	1321	0.928	260.3	314.3	-11.7	3	41	
		1307	0.613	300.5	322.2	+12.1	5	37				1321	0.896	258.2	309.8	-13.7	0	41	
		1308a	0.569	265.5	324.4	- 8.5	25	194				1310	0.415	245.0	268.5	-16.6	25	173	
		1308	0.517	262.5	320.8	-10.0	0	16				1311	0.357	268.0	266.5	- 7.4	4	13	
		1308b	0.467	264.1	317.5	- 9.1	14	219				1319	0.302	244.0	261.7	-14.4	0	11	
		1308	0.378	251.0	311.1	-13.8	0	10				1317a	0.219	245.9	257.2	-12.1	0	71	
		1309a	0.096	64.8	284.6	- 4.9	5	25				1317b	0.164	236.5	253.5	-12.2	17	106	
		1309b	0.127	70.8	282.7	- 4.8	0	27				1314a	0.379	21.4	237.4	+13.6	0	19	
		1318	0.094	105.9	284.4	- 8.6	0	6				1314c	0.398	28.6	234.3	+13.4	0	9	
		1318	0.109	116.1	283.9	- 9.9	0	3				1314b	0.438	32.0	231.7	+14.9	29	157	
		1312	0.185	87.3	278.9	- 6.6	0	10				1320	0.599	96.9	208.5	- 9.8	15	153	
												1322a	0.668	102.6	203.5	-13.7	0	11	
												1322b	0.698	102.1	201.1	-13.6	0	11	

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

Group 1313, March 9-12. Two small spots, *a* and *b*; *a* disappears before March 12.

Group 1314, March 9-19. Two large spots, *a* and *b*; *a* breaks up into several portions on March 12, and diminishes in size; it is still, however, measured as a whole. A small spot, *c*, is seen between *a* and *b* on March 14 and 15; *a* and *c* disappear before March 16.

Group 1315, March 10-11. Two spots.

Group 1317, March 10-19. A small spot on March 10 and 11; it rapidly increases in size, and on March 12 is composed of seven spots in a compact cluster. This has broken up into two well-defined clusters, *a* and *b*, by March 14, and the separate spots have coalesced to form two spots by March 17, *a* showing a large proper motion in longitude.

Group 1319, March 11-15. Several small spots. The group has greatly increased in size by March 12, but only one small spot remains on March 14.

Group 1320, March 11-23. A regular spot.

Group 1322, March 14-21. Four small spots, *a, b, c*, and *d*; a number of other spots appear close to *b* on March 15 and 16, and are measured with it.

Group 1316, March 10. A small spot.

Group 1318, March 11. Two very small spots.

Group 1321, March 14-15. Two spots.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		
1884. 73 ^d .077	SP, JH	1322c	0°745	103°3	197°2	-14°6	0	28		1884. 74 ^d .941	SP, JH	1323	0°621	59°9	187°8	+12°2	17	115		
		1322d	0°745	102°4	197°1	-14°0	6	18				1324a	0°695	72°1	179°4	+7°0	51	367	185 c	
		1323	0°869	71°6	188°2	+12°1	16	74	247 c			1326	0°829	80°0	166°3	+4°2	1	7	51 c	
		1324a	0°923	79°4	179°7	+6°9	58	295	424 c				0°910	73°0					419	
Mar. 14			0°959	77°4					582		Mar. 16						(191)	(1441)	(655)	
							(173)	(1231)	(1253)											
73°963	SP, JH	1321	0°986	259°0	315°2	-12°0	0	145		76°003	SP, JH		0°868	280°5					195	
		1321	0°963	256°9	309°3	-14°5	0	121	803 c			1310	0°873	254°9	268°2	-16°6	19	101	515 c	
		1310	0°579	250°6	268°5	-16°9	28	188				1317a	0°819	260°6	262°3	-11°7	6	29	384 p	
		1311	0°537	267°3	266°4	-7°4	4	13	39 c			1317b	0°717	259°4	252°9	-12°4	6	122		
		1319	0°477	253°1	261°8	-14°3	5	8				1314b	0°546	312°6	231°4	+15°3	27	153		
		1317a	0°423	257°0	258°6	-11°9	16	89				1325	0°184	197°0	210°1	-17°1	2	8		
		1317b	0°347	253°4	253°6	-12°4	37	298				1325	0°195	173°7	205°6	-18°2	0	6		
		1314a	0°360	350°1	237°4	+13°6	0	9				1320	0°057	210°0	208°5	-9°9	22	110		
		1314c	0°347	358°0	234°5	+13°1	0	4				1322a	0°126	167°4	205°3	-14°1	10	54		
		1314b	0°377	5°4	231°7	+14°9	37	179				1322b	0°154	135°9	200°6	-13°3	5	46		
		1320	0°428	98°4	208°5	-10°0	24	124				1322c	0°213	133°2	197°7	-15°3	14	66		
		1325	0°450	113°4	208°4	-16°7	4	14				1322d	0°204	123°6	196°9	-13°4	21	59		
		1325	0°483	117°5	206°9	-19°2	0	9				1323	0°465	43°9	187°7	+12°9	19	110		
		1325	0°492	113°7	205°7	-17°7	0	7				1324a	0°516	63°0	179°4	+7°4	68	377		
		1322a	0°321	103°9	202°6	-13°3	10	27				1326	0°648	74°6	168°3	+4°4	0	12		
		1322b	0°552	104°0	200°5	-13°6	7	35				1326	0°679	74°3	166°0	+5°3	0	8		
		1322d	0°597	103°2	197°2	-13°6	8	77		Mar. 17		1327a	0°983	73°5	130°1	+14°7	0	88	188 c	
		1322c	0°603	105°6	197°0	-15°0	10	42									(219)	(1349)	(1282)	
		1323	0°764	67°4	187°8	+12°2	16	106	122 c											
		1324a	0°832	76°6	179°4	+7°0	62	378	260 c											
Mar. 15			0°973	75°5			(268)	(1873)	885		76°938	SP, JH		0°958	281°6				586	
									(2109)				0°728	302°5					42	
													1310	0°959	255°1	269°2	-16°2	29	141	} 1900 c
													1317a	0°931	260°3	263°9	-11°6	1	45	
													1317b	0°851	260°7	253°4	-11°6	14	90	
													1328	0°769	294°5	240°5	+13°8	0	36	
													1314b	0°681	301°4	231°5	+15°1	21	76	155 c
													1325	0°306	234°5	209°6	-17°0	0	12	
													1320	0°245	258°4	208°6	-9°6	18	109	
													1322a	0°227	235°1	205°6	-14°3	4	31	
													1322b	0°163	229°4	201°9	-13°0	3	35	
													1322c	0°157	198°6	197°6	-15°6	8	96	
													1322d	0°120	204°2	107°5	-13°3	15	109	
													1323	0°361	16°8	188°5	+13°2	26	97	
													1329	0°300	22°1	188°1	+9°2	0	8	
													1324a	0°349	45°2	180°2	+7°4	60	349	

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1323, March 14-24. A regular spot.

Group 1324, March 14-25. A regular spot, *a*; a small spot, *b*, is seen near it on March 21, 22, and 23.

Group 1325, March 15-18. Three small spots on March 15. Four spots measured in two pairs are seen on March 16 and 17. Only one spot remains on March 18.

Group 1326, March 16-19. A small spot on March 16. Other small spots are seen near it on March 17. Only one spot remains on March 18. Two spots are seen on March 19.

Group 1327, March 17-22. A regular spot, *a*. A second, *b*, follows on March 18. Several smaller spots (measured as one) are seen between them on March 19. *b* has disappeared by March 21. On March 22 *a* is followed by a long straggling line of very small faint spots.

Group 1328, March 18. A faint spot.

Group 1329, March 18. A faint spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																				
Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1884. 80 ^d 738 I. Mar. 22	SP, JP		0° 962 0° 974	110° 2 79° 1	°	°			147 260 (5214)	1884. 83 ^d 811 I.	H, W	1330a 1330b 1336a 1336 1339 1340	0° 328 0° 282 0° 574 0° 609 0° 657 0° 877 0° 934 0° 902 0° 960	262° 8 263° 6 100° 4 97° 2 101° 9 75° 1 72° 8 98° 7 110° 3	123° 1 120° 4 69° 0 66° 3 62° 9 44° 9 37° 7	— 8° 8 — 8° 4 — 11° 5 — 9° 8 — 13° 0 + 9° 6 + 13° 4	93 4 31 1 8 10 0	484 66 190 8 25 50 4		
82° 053	SP, JH		0° 939 1320 0° 986 1323 0° 911 1324 ^b 0° 857 1324 ^a 0° 829 1331 0° 832 1331 0° 783 1337 0° 442 1337 0° 429 1337 0° 397 1330 ^a 0° 113 1330 ^b 0° 144 1330 ^c 0° 186 1336 ^a 0° 847 1336 0° 895	255° 8 261° 4 288° 8 285° 8 283° 6 290° 8 293° 5 316° 7 320° 6 323° 8 113° 1 95° 9 102° 3 99° 1 99° 7	208° 3 — 9° 6 + 14° 0 + 9° 8 + 7° 3 + 13° 1 + 13° 6 + 12° 3 + 12° 8 + 12° 0 121° 2 — 7° 6 — 8° 9 — 11° 3 63° 2	29 1 0 46 7 3 2 0 0 50 10 16 43 14	145 30 12 247 19 17 16 11 7 404 63 51 225 58		458 351 c 267 c (1700)	Mar. 25	H, W	I.	1330a 1330b 1330 1330 1336a 1336 1336 1339 1340	0° 898 0° 537 0° 496 0° 379 0° 372 0° 375 0° 472 0° 513 0° 749 0° 832 0° 962 0° 966	287° 4 264° 4 264° 5 258° 5 264° 2 103° 2 107° 9 103° 8 70° 9 69° 2 120° 7 98° 3	123° 6 120° 8 120° 8 113° 1 112° 9 69° 3 63° 5 60° 4 45° 3 38° 2	— 8° 7 — 8° 5 — 10° 6 — 8° 4 — 11° 1 — 14° 3 — 12° 8 + 9° 5 + 13° 2	80 6 0 0 28 0 0 4 4 0	445 63 6 4 198 10 4 17 4	612 n f 141 75 (2701) 620 155 c 124 c 1220 n f 177 519 (2815)
Mar. 23							(221)	(1305)		84° 794	H, W	I.	1330a 1330b 1330 1330 1336a 1336 1336 1339 1340	0° 898 0° 537 0° 496 0° 379 0° 372 0° 375 0° 472 0° 513 0° 749 0° 832 0° 962 0° 966	287° 4 264° 4 264° 5 258° 5 264° 2 103° 2 107° 9 103° 8 70° 9 69° 2 120° 7 98° 3	123° 6 120° 8 120° 8 113° 1 112° 9 69° 3 63° 5 60° 4 45° 3 38° 2	— 8° 7 — 8° 5 — 10° 6 — 8° 4 — 11° 1 — 14° 3 — 12° 8 + 9° 5 + 13° 2	80 6 0 0 28 0 0 4 4 0	445 63 6 4 198 10 4 17 4	612 n f 141 75 (2701) 620 155 c 124 c 1220 n f 177 519 (2815)
82° 795	H, W		0° 850 0° 783 0° 965 0° 910 0° 904 0° 874 0° 565 0° 539 0° 506 0° 321 0° 096 0° 052 0° 053 0° 098 0° 747 0° 783 0° 815 0° 961	246° 7 282° 7 287° 0 281° 7 288° 5 290° 8 304° 8 307° 9 308° 6 333° 2 246° 2 231° 6 156° 9 118° 0 98° 8 100° 0 100° 4 78° 0	189° 5 + 14° 4 181° 2 + 7° 7 179° 1 + 13° 5 174° 7 + 14° 4 144° 4 + 12° 8 143° 2 + 13° 2 141° 2 + 12° 1 125° 8 + 9° 9 122° 5 — 9° 0 119° 8 — 8° 6 115° 6 — 9° 6 112° 4 — 9° 5 68° 8 — 11° 1 65° 5 — 12° 1 62° 4 — 12° 4 45° 2 + 9° 5	0 41 0 0 0 0 0 0 4 1 63 2 7 0 24 2 3 0	18 303 8 3 5 10 10 4 428 63 28 2 219 30 28 42		47 128 1162 c 664 c 333 n p (2334)	Mar. 26	H, W	I.	1330a 1330b 1336a 1339 1341a 1340	0° 923 0° 896 0° 727 0° 691 0° 155 0° 589 0° 553 0° 699 0° 891 0° 913 0° 924	286° 9 250° 5 264° 4 264° 0 120° 8 69° 7 63° 6 92° 9 63° 4 98° 8 64° 5 121° 9	124° 3 121° 4 121° 4 121° 4 69° 7 45° 3 43° 8 37° 7	— 8° 6 — 9° 0 — 11° 1 + 9° 5 — 7° 2 + 13° 1	93 1 25 0 0 0 0	432 20 170 3 5 3	624 65 120 c 543 697 323 (2372)
Mar. 24							(147)	(1201)		83° 811	H, W	I.	1330a 1330b 1336a 1339	0° 911 0° 908 0° 858	288° 3 245° 7 264° 3	124° 6 — 8° 2	74 448	517 172 395 c		

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1337, March 23-24. Three pairs of very small spots on March 23; two single spots and one pair on March 24.

Group 1338, March 24. A small faint spot.

Group 1340, March 25-27. A very small spot.

Group 1341, March 27-April 1. A small spot, *a*. A second, *b*, appears on March 28. Each increases in size before March 29, and forms a compact cluster of small spots.

Group 1339, March 24-27. A regular spot.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		
1884. 86 ^d 75 ^o	H, W	1330 <i>b</i>	0'829	264'1	121'5	— 8'6	0	8		1884. 89 ^d 75 ^o	H, W		0'827	58'8				332		
I.		1336 <i>a</i>	0'111	226'9	69'9	— 10'9	20	166		Mar. 31	I.		0'905	69'0				94 ^o		
		1341 <i>a</i>	0'346	91'7	44'9	— 6'8	0	5					0'922	126'0				68		
		1341 <i>b</i>	0'405	94'9	41'3	— 8'0	0	3					0'948	104'4				720		
			0'860	110'3					109									(40)	(423)	
			0'879	62'6					1018										(3224)	
Mar. 28			0'886	121'9					335	I.			0'966	252'1				174		
			0'961	100'8					153				0'960	286'0				50		
													0'831	290'7				67		
													1336 <i>a</i>	0'853	261'2	71'0	— 10'9	21	123	
													1341 <i>a</i>	0'572	268'2	47'1	— 6'3	1	4	
87'773	H, W		0'899	286'5					408	I.			1341 <i>b</i>	0'495	266'5	41'8	— 7'3	2	6	
		1330 <i>a</i>	0'951	262'6	124'3	— 9'1	62	419	792 <i>c</i>				1344 <i>a</i>	0'566	257'3	46'4	— 12'4	7	15	
		1336 <i>a</i>	0'314	255'4	69'8	— 10'8	9	164					1344 <i>b</i>	0'512	257'0	42'6	— 12'1	3	18	
		1341 <i>a</i>	0'119	91'6	45'0	— 6'7	1	22					1345	0'570	247'2	45'5	— 18'1	0	3	
		1341 <i>b</i>	0'169	95'8	42'1	— 7'5	2	18					1343 <i>a</i>	0'164	251'2	21'1	— 9'3	7	88	
		1342 <i>a</i>	0'981	97'6	332'3	— 8'8	11	154	566 <i>c</i>				1343	0'127	244'2	18'7	— 9'6	6	38	
			0'819	51'7					513				1343	0'139	225'2	17'9	— 12'0	4	10	
			0'885	127'1					136				1343	0'088	211'2	14'7	— 10'7	7	41	
			0'939	72'3					961				1342 <i>a</i>	0'634	96'4	332'6	— 9'0	24	157	
													1342	0'672	98'9	329'8	— 10'7	0	6	
														0'862	62'6				583	
Mar. 29													0'917	103'7				1206		
																		(82)	(509)	
										Apr. 1										
													0'909	259'7				5	33	
													1344 <i>a</i>	0'764	259'5	47'1	— 12'1	0	19	
88'710	H, W		0'964	262'7					469				1344 <i>b</i>	0'708	259'3	42'3	— 12'0	0	19	
		1336 <i>a</i>	0'514	259'6	70'2	— 10'9	9	150		91'913	SP, JH			1343 <i>a</i>	0'421	263'3	22'0	— 8'6	75	445
		1341 <i>a</i>	0'118	270'3	46'2	— 6'4	5	14					1343	0'372	254'8	18'5	— 11'5	12	179	
		1341 <i>b</i>	0'051	252'0	42'2	— 7'4	5	42	625 <i>s f</i>				1343	0'351	260'1	17'5	— 9'4	0	84	
		1342 <i>a</i>	0'919	97'0	332'2	— 9'0	10	174	83				1343	0'297	252'4	13'8	— 11'2	11	155	
		0'838	109'4					868				1342 <i>a</i>	0'414	98'0	332'7	— 9'1	14	122		
		0'926	72'4									1342	0'444	96'7	330'7	— 8'6	0	6		
Mar. 30													1346	0'942	103'3	286'0	— 14'6	6	77	
													1347	0'952	99'5	284'3	— 11'0	15	337	
													1348	0'973	103'3	279'6	— 14'4	2	74	
													0'876	100'3						
89'757	H, W		0'969	260'4					165	I.										
			0'909	290'9					137											
			0'869	250'5					149											
			0'782	259'7					124											
		1336 <i>a</i>	0'704	261'1	70'4	— 10'9	10	153	43 <i>c</i>											
I.		1341 <i>a</i>	0'357	268'6	46'5	— 6'6	1	16		92'734	H, M		0'958	260'9				469		
		1341 <i>b</i>	0'281	266'1	41'8	— 7'4	2	21					0'938	279'4				40		
		1343	0'132	115'7	18'6	— 9'8	2	32					0'885	289'9				376		
		1343	0'178	111'3	15'8	— 10'1	0	21												
		1342 <i>a</i>	0'796	96'4	332'5	— 9'1	25	180	395 <i>f</i>											
		0'740	135'9					151												

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

Group 1342, March 29–April 9. A large regular spot, *a*, followed, April 1–4, by several very small spots.

Group 1343, March 31–April 7. Three small spots close together, followed by a fourth at a little distance, on March 31. The group increases in size rapidly, and on April 2 consists of a very large regular spot, *a*, followed by several spots of various sizes close together. These spots tend to coalesce, and on April 3, 4, and 5 consist of one large spot of irregular outline, *b*, with two small spots close to it, which are measured with it. The large spot, *b*, divides in two parts on April 6.

Group 1344, April 1–3. Two small spots, *a* and *b*.

Group 1345, April 1. A very small spot.

Group 1346, April 2–7. A regular spot.

Group 1347, April 2–14. A large regular spot with two well-defined nuclei. Several very small faint spots are seen near it on April 6, 7, and 9.

Group 1348, April 2–8. A regular spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 92 ^d 734	H, M		0°769	303°5	°	°			293	1884. 94 ^d 852	H, SP	1346	0°524	107°7	287°4	—14°4	14	52	
I.		1344a	0°885	259°5	49°0	—12°2	2	7		I.		1348	0°631	107°0	279°7	—15°4	19	71	353 c
		1344b	0°835	260°1	43°2	—11°7	0	4	364 c			1353a	0°789	72°0	268°8	+10°2	0	6	
		1343a	0°607	264°4	23°8	—8°4	145	669				1353b	0°821	71°5	265°9	+11°4	0	8	599 c
		1343b	0°504	258°0	16°4	—11°5	106	815				1350	0°772	108°4	268°1	—18°1	17	116	
		1342a	0°218	103°8	334°0	—9°1	18	97				1351	0°783	101°9	266°6	—13°1	62	562	1520 c
		1342	0°243	101°2	332°4	—8°8	1	8				1352	0°844	102°7	260°5	—14°0	0	39	5 f
		1342	0°275	101°3	330°5	—9°2	0	3				1352	0°853	104°7	259°5	—15°7	0	42	
		1349	0°427	136°4	327°6	—23°9	1	2				1352	0°864	102°5	258°2	—13°9	0	52	
		1346	0°855	103°3	287°2	—14°6	17	74			Apr. 5								
		1347	0°871	99°4	285°3	—11°3	60	337											
		1348	0°912	103°3	280°0	—14°7	14	95	1874 c										
		1350	0°973	106°7	268°5	—17°7	20	123			95°703	H, M		0°907	297°6				702
		1351	0°981	102°2	266°5	—13°2	21	429						0°887	238°3				106
			0°967	81°0							I.	1343a	0°975	261°6	24°8	—9°5	197	1319	
Apr. 3							(405)	(2663)	(3694)			1343	0°936	259°8	17°0	—11°7	20	671	
94°007	SP, JH		0°977	283°6					106	I.		1343	0°909	258°3	12°9	—13°2	24	256	1166 c
			0°964	258°9					144			1342a	0°457	261°3	334°2	—9°4	13	75	
			0°952	263°1					173			1347	0°329	113°0	289°1	—13°1	0	16	
			0°876	298°3					390			1347	0°386	106°5	285°0	—12°0	57	367	
			0°843	306°4					76			1347	0°441	103°6	281°3	—11°4	0	6	
		1343a	0°816	263°8	24°5	—8°6	100	953				1346	0°361	114°6	287°4	—14°4	3	19	
		1343b	0°723	259°6	16°0	—11°8	58	753				1348	0°479	111°6	279°7	—15°6	14	45	
		1342a	0°094	234°4	334°0	—9°3	7	74				1353a	0°659	66°5	269°3	+10°4	6	17	191 s f
		1342	0°076	226°7	332°8	—9°2	0	5				1353b	0°700	65°9	266°5	+12°0	6	15	
		1342	0°058	226°2	332°0	—8°5	0	3				1350	0°642	110°8	268°1	—18°0	19	119	
		1346	0°677	104°2	287°2	—14°2	7	49				1351	0°648	103°3	266°9	—13°3	80	587	1025 c
		1347	0°693	100°1	285°7	—11°5	72	565	426 c			1352	0°754	103°7	258°2	—14°3	4	33	
		1348	0°766	104°1	279°6	—14°8	16	76			Apr. 6	1354	0°909	75°7	243°8	+10°3	6	36	432 n f
		1350	0°874	106°8	268°4	—17°7	17	111	86 c			1355	0°945	107°1	235°5	—18°1	8	39	264 f
94°852	H, SP		0°834	300°7					743	I.									
		1343a	0°911	262°8	24°3	—9°1	186	1096			96°780	W, SP		0°974	309°8				200
		1343b	0°841	260°9	15°8	—11°0	57	909						0°957	240°0				116
		1342a	0°275	257°4	334°0	—9°3	10	80						0°949	295°9				433
		1347	0°544	102°2	285°6	—11°7	66	477	354 c					0°917	248°6				71
												1343	0°992	260°1	16°5	—10°6	0	269	
												1343	0°985	257°7	13°8	—13°1	19	252	373 c
												1342a	0°661	263°1	334°4	—9°1	6	55	
												1346	0°181	146°9	287°1	—14°7	1	8	
												1347	0°167	126°5	285°1	—11°6	42	316	
												1347	0°216	129°5	283°1	—13°8	0	3	
												1348	0°276	127°2	279°8	—15°4	5	13	

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

Group 1349, April 3. A very small spot.

Group 1351, April 3-15. A very large spot. Some small spots, measured as one cluster, appear near its preceding edge on April 9. These are measured with the principal spot on April 13 and following days.

Group 1352, April 4-11. A number of small faint spots. They undergo frequent changes.

Group 1353, April 5-8. Two small spots, *a* and *b*, which tend to move away from each other. *b* disappears before April 8.

Group 1354, April 6-7. Three small spots measured together.

Group 1355, April 6-14. Two small spots, *a* and *b*, which are measured together on April 6. Another small spot is seen near the group on April 7, and again another on April 8. On April 9 only *a* remains. Some other spots are seen close to and following *a* on April 10 and 11.

Group 1350, April 3-15. A regular spot.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																				
Greenwich Mean Solar 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 Mean Solar 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).		
1884. 96 ^d 78 ^o	W, SP	1353a	0.461	56.3	270.1	+ 9.2	7	14		1884. 99 ^d 067	SP, JH	1351	0.145	233.7	269.5	-10.7	2	37		
I.		1353b	0.536	54.6	266.4	+12.7	0	16				1351	0.138	208.6	266.6	-12.7	76	510		
		1350	0.458	118.0	267.9	-17.8	20	113				1356a	0.223	188.5	264.7	-18.5	3	9		
		1351	0.454	107.1	266.6	-13.0	67	586				1356	0.251	173.0	260.8	-20.2	0	8		
		1356a	0.529	116.8	263.1	-18.9	3	29				1356b	0.269	167.7	259.2	-21.0	2	13		
		1356	0.540	120.2	263.1	-20.8	0	6				1352	0.137	167.1	260.9	-13.4	0	23		
		1356	0.583	122.0	260.5	-23.0	0	3				1352	0.156	153.3	258.6	-13.8	0	37		
		1356b	0.573	117.2	260.1	-20.3	6	38				1355a	0.387	123.0	242.9	-17.6	4	24		
		1352	0.574	106.3	258.4	-14.3	0	41	68 c			1357	0.817	97.0	207.7	- 9.1	4	15	158 f	
		1354	0.779	71.9	244.3	+10.0	1	7		Apr. 9		1358a	0.990	80.6	182.1	+ 8.4	0	69	402 p	
		1355a	0.800	108.3	240.0	-18.2	2	7				0.890	113.8					89		
		1355	0.846	106.1	235.0	-16.8	0	5	90 c										(149)	
		1355b	0.868	107.8	232.5	-18.4	2	10											(1143)	
Apr. 7			0.925	102.2			(181)	(1791)	(1638)	100.087	SP, JH		0.955	291.3					136	
I.	H, M		0.901	258.6					389			1347	0.591	258.6	285.3	-11.4	17	137	233	
			0.899	229.4					313			1350	0.368	239.1	268.3	-16.3	5	105		
			0.863	293.5					1339			1351	0.365	254.6	270.1	-11.0	8	103		
		1342a	0.812	264.2	334.2	- 8.1	15	59	264 s f			1351	0.317	246.0	266.4	-13.0	91	578		
		1347	0.138	222.9	285.2	-11.7	40	314				1356a	0.353	230.2	265.7	-18.6	0	9		
		1348	0.164	183.0	280.2	-15.3	3	10				1356b	0.311	211.1	259.1	-21.1	2	17		
		1353a	0.300	32.5	270.4	+ 8.8	2	11				1352	0.213	236.0	259.6	-12.6	0	46		
		1350	0.282	136.3	268.0	-17.5	19	120				1352	0.225	226.1	258.8	-14.7	0	8		
		1351	0.259	119.6	266.4	-13.1	64	619				1355a	0.226	153.3	243.5	-17.6	13	34		
		1356a	0.339	132.6	264.5	-18.9	6	13				1355	0.227	150.1	242.4	-17.1	1	7		
		1356	0.390	124.8	260.1	-18.4	0	13				1355	0.254	153.3	242.3	-18.9	0	4		
		1356b	0.414	129.2	259.7	-20.7	11	45		Apr. 10		1355	0.255	147.6	241.0	-18.1	0	31		
I.		1352	0.365	113.9	259.7	-14.1	0	24				1357	0.658	97.6	208.0	- 9.3	0	19		
		1355a	0.634	111.6	241.5	-18.1	6	18				1358a	0.927	79.0	182.7	+ 8.0	9	73	512	
		1355	0.661	110.0	239.2	-17.5	0	5				0.893	106.4					136		
		1355b	0.743	109.6	232.4	-18.4	0	6				0.816	119.6					35		
		1357	0.946	98.1	208.2	- 9.6	4	22											(146)	
			0.800	59.2					293										(1171)	
			0.890	104.8					1004											(1052)
			0.942	118.4					71											
							(170)	(1279)	(3673)	100.816	H, JH		0.996	246.4					57	
													0.989	291.2					419	
													0.961	254.9					804	
Apr. 8												1347	0.718	259.0	285.4	-11.9	38	164	697 c	
I.	SP, JH		0.944	290.0					92			1350	0.506	246.5	268.3	-16.6	16	81		
			0.886	295.5					208			1351	0.519	257.7	270.5	-11.3	11	93		
		1342a	0.944	262.7	333.8	- 8.8	6	40				1351	0.468	252.7	266.7	-13.1	91	763		
		1347	0.392	258.3	285.6	- 9.9	0	7				1356	0.480	238.5	265.2	-19.7	1	10		
		1347	0.391	254.6	285.2	-11.3	40	250				1356	0.415	229.7	259.2	-20.9	11	25		
		1350	0.207	206.2	268.1	-16.5	12	101				1352	0.388	253.6	261.7	-11.6	0	7		
												1352	0.365	250.0	260.0	-12.5	3	32		

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.

Group 1356, April 7-15. Two regular spots, *a* and *b*. Two or three small faint spots are seen near them on April 7, 8, and 9. By April 11 each spot has broken up into several small spots. On April 13 the group is represented by a close pair of small spots which are measured together. These move apart on the following days.

Group 1357, April 8-10. A small regular spot.

Group 1358, April 9-21. A regular spot, *a*. On April 17 several other spots, arranged in two clusters, *b* and *c*, appear close to it. *a* and *c* coalesce to form one large spot on April 20, and the whole group is measured as one spot on April 21.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1884. 100 ^d 8.16	H, JH	1355a	0.215	106.3	243.1	-17.5	16	64		1884. 104 ^d 7.95	H, M	1363b	0.954	98.6	114.0	-9.9	15	140	958 c
I.		1355	0.231	189.6	241.8	-18.9	0	1		Apr. 15			0.785	74.6					87
		1355	0.219	182.6	240.1	-18.3	1	11									(113)	(1048)	(2784)
		1359	0.759	74.0	192.2	+ 8.2	0	13											
		1359	0.783	71.7	190.6	+10.5	0	11											
Apr. 11		1358a	0.855	76.7	182.5	+ 8.2	16	115	1170 c	105.889	H, M		0.954	255.0					951
							(204)	(1390)	(3147)	I.		1362a	0.835	277.8	228.4	+ 3.6	3	15	454
102.915	H, SP	1347	0.861	285.4					392			1362	0.828	279.7	227.4	+ 5.0	0	6	246 c
I.		1350	0.829	254.1	267.8	-16.2	7	76	788 c			1358a	0.293	323.9	182.6	+ 8.5	14	80	
		1351	0.816	258.2	266.7	-12.8	64	680				1365	0.493	42.7	152.3	+16.2	0	6	
		1356	0.770	247.7	261.2	-20.6	0	25				1366a	0.601	67.8	138.5	+ 8.7	4	11	
		1355a	0.539	245.1	242.6	-17.8	2	41				1366	0.633	68.4	137.2	+ 9.2	0	5	
		1358a	0.542	64.4	182.4	+ 8.7	10	124	101 c			1366	0.653	68.1	134.8	+ 9.9	1	10	
		1360	0.993	98.8	128.1	- 9.4	0	38	170 p			1360	0.691	97.6	128.9	- 9.1	12	79	75 c
Apr. 13			0.806	69.1					352	Apr. 16		1363a	0.795	98.8	119.8	-10.2	28	173	
							(92)	(1082)	(2439)			1363b	0.855	97.3	113.7	- 9.0	15	200	479 c
103.782	H, M		0.920	286.3					439	106.780	W, M		0.988	262.3					(2205)
I.			0.783	296.8					25				0.969	251.6					49
		1347	0.995	258.6	285.6	-11.9	0	103	450 f	I.			0.890	304.5					103
		1350	0.922	254.4	268.1	-16.5	12	78					0.871	258.7					31
		1351	0.912	258.3	266.7	-13.0	57	628				1362a	0.935	275.6	229.3	+ 3.3	0	17	123 n f
		1356	0.893	249.1	263.6	-21.1	0	17	2174 c			1358b	0.487	301.9	185.5	+10.2	9	38	
		1356	0.868	248.6	260.4	-21.3	0	8				1358a	0.432	300.8	182.7	+ 7.9	27	85	
		1355a	0.690	249.6	243.2	-18.0	2	12				1358a	0.429	304.8	181.6	+ 9.3	7	31	
		1358a	0.388	52.5	182.4	+ 8.4	12	93				1366a	0.435	57.1	139.2	+ 8.8	8	25	
		1361	0.829	95.4	144.4	- 7.5	0	7	210 f			1366	0.488	60.2	135.5	+ 9.3	0	4	
		1360	0.948	98.3	128.7	- 9.6	8	68	634 s f			1360	0.536	98.8	128.5	- 9.1	11	81	
Apr. 14			0.911	111.3					139			1363a	0.649	98.9	120.4	- 9.8	29	158	
			0.917	78.4					118			1363	0.679	101.5	118.2	-11.6	0	8	
							(91)	(1014)	(4189)			1363b	0.729	98.4	114.0	- 9.7	23	138	
104.795	H, M		0.863	291.2					300				0.848	97.8					33
I.		1350	0.984	254.1	267.6	-16.6	0	13		Apr. 17			0.860	102.0					23
		1351	0.983	258.1	267.2	-12.7	40	540	1439 c				0.944	108.0					58
		1356	0.973	250.1	264.1	-20.6	0	12					0.971	83.0					215
		1356	0.955	249.0	260.3	-21.6	0	11											(796)
		1362a	0.664	282.1	227.4	+ 3.9	5	17		107.787	W, JH		0.972	274.2					129
		1358a	0.252	18.6	182.4	+ 8.4	18	95		I.			0.961	273.7					82
		1364	0.364	146.2	174.4	-22.8	0	10					0.956	256.5					444
		1360	0.849	97.6	128.7	- 9.3	16	71					0.870	248.6					244
		1363a	0.927	99.1	118.7	-10.5	19	139					0.789	289.1					448

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

Group 1359, April 11. Two small spots.

Group 1361, April 14. Two small faint spots measured together.

Group 1363, April 15-26. Two regular spots, *a* and *b*. Small spots begin to appear on April 17, and a spot of some size, *c*, on April 18. By April 19 *b* has extended itself in a remarkable manner, and another spot, *d*, is seen. This disappears before April 24, *b* and *c* disappearing before April 26.

Group 1364, April 15. Two very small spots measured together.

Group 1366, April 16-22. A small spot, *a*, followed by several yet smaller spots. *a* increases in size on April 17 and 18, and shows considerable proper motion. The other spots have disappeared by April 21.

Group 1360, April 13-23. A regular spot. A small spot is seen near it on April 20.

Group 1362, April 15-17. A small spot, *a*. A second is seen near it on April 16.

Group 1365, April 16. A small faint spot.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 107 ^d 787	W, JH	1367	0.842	262.2	205.1	-9.3	6	10	178 c	I.	H, SP	1366a	0.415	309.0	141.4	+10.4	4	73	213 c
		1358b	0.664	291.7	186.3	+10.2	9	104				1366	0.348	321.8	134.9	+10.9	0	6	
		1358a	0.613	290.2	183.0	+8.1	12	72				1360	0.140	241.2	129.4	-8.8	7	60	
		1358c	0.506	293.2	181.2	+9.3	13	108				1360	0.140	218.7	127.4	-11.2	0	11	
		1366a	0.283	25.6	140.5	+9.7	11	67				1363a	0.086	160.4	120.6	-9.6	25	121	
		1366	0.310	37.1	136.7	+9.2	0	1				1363d	0.126	140.9	117.7	-10.6	2	38	
		1366	0.338	39.0	135.2	+10.2	2	6				1363b	0.145	120.5	115.1	-9.2	15	209	
		1360	0.329	102.9	128.7	-9.1	9	63				1363c	0.187	124.4	113.3	-11.0	6	50	
		1363a	0.456	100.7	120.7	-9.4	25	154				1368a	0.832	111.6	66.7	-20.7	11	54	
		1363	0.517	103.1	116.9	-11.1	2	9				1368	0.863	111.8	63.3	-21.2	0	17	
		1363	0.530	99.3	115.7	-9.3	3	7				1368	0.882	110.4	60.7	-20.3	0	51	
		1363b	0.552	99.3	114.2	-9.4	12	104				1369a	0.922	102.9	54.8	-13.8	44	146	
		1363c	0.568	102.1	113.3	-11.0	6	47				1369	0.962	102.9	47.7	-13.8	2	54	
		1368a	0.988	110.0	65.6	-20.5	0	14	96 c				0.754	99.7				849 c	
			0.838	107.7					46									397	
			0.888	82.6					474										
			0.898	71.7					174										
			0.914	123.3					161										
			0.942	98.0					486										
Apr. 18	SP, JH		0.852	267.3					536	I.	SP, JH	1358	0.981	281.2	183.0	+10.0	0	264	216 c
		1358b	0.837	286.3	186.3	+10.7	7	163				1370	0.651	264.0	146.1	-7.7	0	14	
		1358a	0.796	284.9	182.6	+8.6	9	51				1370	0.629	262.3	144.4	-8.7	0	17	
		1358c	0.783	287.1	181.0	+10.0	23	187				1370	0.584	261.1	141.1	-9.2	5	33	
		1366a	0.309	328.4	141.1	+10.3	10	54				1366a	0.636	293.2	141.9	+10.6	0	33	
		1366	0.297	333.8	139.3	+10.4	0	5				1360	0.425	259.6	130.4	-8.8	4	37	
		1366	0.278	340.0	137.2	+10.1	0	7				1363a	0.276	253.6	121.0	-9.2	27	108	
		1366	0.275	348.2	135.0	+10.6	3	24				1363d	0.239	247.0	118.4	-10.2	0	37	
		1360	0.081	146.2	129.1	-8.9	4	53				1363b	0.189	246.6	115.6	-9.2	12	160	
		1363a	0.205	113.2	120.7	-9.5	20	150				1363c	0.185	232.3	114.1	-11.3	0	27	
		1363	0.245	106.6	118.0	-8.9	0	7				1368a	0.652	116.2	67.0	-20.6	0	55	
		1363d	0.264	111.0	117.3	-10.3	0	61				1369a	0.763	103.9	56.0	-13.7	31	150	
		1363b	0.294	104.4	115.0	-9.0	14	171				1369	0.765	102.0	55.7	-12.3	0	8	
		1363c	0.332	109.5	113.2	-11.1	6	63				1371	0.955	96.8	32.5	-8.0	0	19	
		1368a	0.908	110.6	66.5	-20.8	0	15				1371a	0.982	98.9	26.0	-9.7	140	559	
		1368	0.921	110.6	64.6	-20.9	0	7											
		1368	0.939	110.6	61.6	-21.1	0	15											
		1369	0.972	103.6	54.6	-14.4	0	99	447 p										
Apr. 19	H, SP		0.944	252.4					466	I.	H, SP	1370	0.840	265.4	148.1	-6.5	25	101	321 c
		1358	0.916	283.6	186.9	+10.3	13	172				1370	0.825	262.9	146.6	-8.6	5	44	
		1358	0.875	284.2	181.5	+9.8	29	385	1228 n p			1370	0.773	263.2	141.6	-8.3	39	253	
	H, SP									I.	H, SP	1366a	0.801	286.8	141.9	+10.4	0	17	216 c
												1360	0.635	262.5	130.3	-8.5	5	18	
												1363a	0.504	260.3	121.0	-9.0	21	128	
												1363d	0.471	257.8	118.6	-10.0	0	16	
												1363b	0.422	258.9	115.6	-9.1	2	86	
	H, SP									I.	H, SP	1363c	0.411	252.4	114.4	-11.6	0	13	216 c
												1372a	0.324	150.2	81.0	-21.0	5	23	

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

- Group 1367, April 18. A small spot.
- Group 1369, April 19-May 1. A regular spot, *a*, followed by a second and smaller spot on April 20. A number of small spots have formed behind *a* by April 22. These are measured all together, or in two or three divisions, according to their arrangement, which changes greatly from day to day. Only *a* remains on April 29.
- Group 1370, April 21-24. Three small spots on April 21. The first two spots coalesce to form a large spot on April 22, and a new spot appears on the same day. The group increases in size and has undergone yet further change by April 23.
- Group 1371, April 21-May 3. A magnificent group composed of a very large regular spot, *a*, followed at a considerable distance by another regular spot, with which it is connected by a stream of smaller spots, which undergo great changes. *b* has broken up before April 29. Occasionally one or two small spots are seen in advance of *a*. The entire group, with the exception of *a*, has disappeared by May 2.
- Group 1372, April 22-27. Two spots, *a* and *b*. *b* has disappeared by April 27.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 116 ^d .001	SP, JH	1371	0°23'0	103°6	26°0	—7°6	2	47		1884. 119 ^d .923	SP, JH	1369a	0°947	256°6	58°6	—14°0	10	183	120 c
		1371	0°30'0	114°3	22°9	—11°6	0	24				1371a	0°653	260°0	27°7	—9°6	43	609	
		1371	0°30'6	110°3	22°1	—10°4	3	37				1371	0°603	252°9	23°4	—13°4	0	40	
		1371	0°32'7	117°6	21°8	—13°1	4	26				1371	0°490	251°5	15°5	—12°4	2	51	
		1371	0°34'5	114°3	20°3	—12°5	7	131				1371	0°485	244°9	14°2	—15°4	0	15	
		1371	0°38'5	112°6	17°7	—12°8	0	6				1371	0°455	248°1	12°8	—13°4	3	45	
		1371	0°41'2	116°9	16°7	—15°0	0	36				1373	0°257	138°9	33°2	—15°0	16	174	
		1371	0°41'3	110°8	15°8	—12°7	0	37				1373	0°316	127°2	33°2	—14°9	15	318	
		1371	0°42'7	107°6	14°6	—11°6	0	28				1373	0°346	122°7	32°8	—14°6	0	15	
		1371b	0°44'9	113°8	14°0	—14°6	35	202		Apr. 30		1373	0°379	116°0	32°8	—13°3	0	31	
		1373	0°9'02	105°1	334°5	—15°6	0	13	71 c								(89)	(1481)	(120)
		1373	0°9'50	103°8	326°9	—14°6	0	52	(237) (1637) (357)										
Apr. 26										120°8'14	W, M		0°959	263°5				101	
												1369a	0°991	256°6	58°0	—13°8	0	189	455 c
												1371	0°796	263°7	28°1	—7°4	0	17	278 c
116°7'17	H, M		0°9'67	259°3					262	I.		1371a	0°792	260°8	27°7	—9°7	68	524	
			0°8'66	279°2					164			1371	0°746	256°0	23°2	—13°0	0	10	
		1372a	0°8'04	247°6	81°8	—20°5	0	5	31 f			1371	0°653	255°7	15°6	—12°3	2	114	
		1369a	0°497	249°0	57°9	—14°0	36	274				1373	0°189	178°9	335°2	—14°8	33	403	
		1369	0°402	241°4	50°8	—15°1	0	3				1373	0°219	157°2	330°4	—15°5	14	140	
		1371a	0°105	152°5	26°7	—9°6	103	694				1373	0°226	138°6	326°6	—13°6	3	64	
		1371	0°171	131°1	22°0	—10°7	6	67				1373	0°290	129°4	322°1	—14°4	0	2	
		1371	0°202	140°0	21°9	—13°1	12	57				1374a	0°944	101°5	264°5	—12°2	0	21	810 s
		1371	0°221	131°6	19°8	—12°7	0	20					0°850	94°1				59	
		1371	0°245	133°9	19°1	—14°0	0	13					0°902	73°6				143	
		1371	0°285	131°8	16°8	—15°1	3	16											
		1371	0°279	119°8	15°2	—12°1	6	54		May 1							(120)	(1484)	(1846)
		1371b	0°323	124°5	13°6	—14°7	46	185											
		1373	0°819	105°8	334°9	—15°4	21	103											
		1373	0°847	104°3	331°8	—14°4	3	31	777 c										
		1373	0°881	105°1	327°9	—15°3	16	123	663	121°9'48	SP, M	1371a	0°925	260°4	27°8	—10°3	65	434	421 c
			0°8'97	66°8					(252) (1645) (1897)			1373	0°346	235°3	337°5	—15°0	29	118	
Apr. 27												1373	0°316	232°3	335°3	—14°8	25	182	
												1373	0°263	230°5	332°4	—13°3	0	17	
												1373	0°268	223°7	331°4	—14°9	3	25	
												1373	0°259	217°5	329°8	—15°6	5	67	
												1373	0°202	219°8	328°0	—12°7	0	29	
												1373	0°200	208°0	325°9	—13°9	0	8	
												1374a	0°832	100°6	264°2	—10°9	0	24	995 s
																	(127)	(904)	(1416)
118°9'58	SP, JH		0°9'09	249°2					43										
		1369a	0°858	256°0	58°8	—14°1	60	161	151 c										
		1371a	0°474	257°5	27°8	—9°5	74	543											
		1371	0°421	246°8	23°2	—13°3	5	59											
		1371	0°287	239°8	14°5	—12°3	0	189											
		1371	0°298	229°2	13°3	—15°1	0	81											
		1373	0°420	118°8	337°6	—15°4	0	120											
		1373	0°500	111°9	331°4	—14°3	19	250											
		1373	0°574	107°1	325°8	—13°1	0	39											
Apr. 29							(158)	(1442)	(194)										

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.

Many of the Greenwich photographs taken during the months of May and June are badly defined, the focus of the photoheliograph having been completely disturbed on May 10. The days on which the photographs show the worst definition are May 2, 24 and 30, and June 16, 20, 21 and 29.

Group 1373, April 26–May 7. A number of spots closely following one another. The group undergoes striking and frequent changes, the different members increasing and diminishing, coalescing and breaking up from day to day.

Group 1374, May 1–6. A small spot, *a*, which has disappeared by May 5, when another small spot, *b*, appears.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		
1884. 123 ^d 053	H, SP	1373	0.489	243.0	332.6	-16.1	0	12		1884. 126 ^d 675	H, SP	1373	0.963	258.1	332.4	-12.4	20	152	998 f	
		1373	0.468	246.4	332.3	-16.9	0	17		I.		1378a	0.569	268.3	292.5	-3.7	0	2		
		1373	0.468	242.4	331.2	-15.9	0	21				1378b	0.540	267.4	290.5	-4.2	4	26		
		1373	0.387	241.8	326.6	-16.8	0	9				1375	0.279	134.4	246.1	-14.4	9	20		
		1374a	0.661	100.8	264.7	-9.9	0	25				1375	0.354	131.6	241.9	-16.8	0	6		
		1375a	0.862	101.6	246.4	-11.9	0	33				1376	0.452	63.8	233.8	+8.5	3	14		
		1375b	0.894	103.5	242.6	-13.7	0	25	47 c			1376	0.463	65.9	232.8	+7.9	0	1		
May 3							(17)	(850)	(295)			1376	0.495	63.5	231.3	+9.8	1	11		
												1376	0.522	69.3	228.5	+7.8	1	5		
												1376	0.551	65.8	227.3	+10.2	3	11		
124 ^d 024	SP, JH	1373	0.696	250.2	335.7	-16.3	23	324				1377	0.834	73.3	203.4	+12.0	5	16		
		1373	0.648	252.0	332.2	-14.4	0	28				1379	0.922	78.7	191.8	+9.1	0	43		
		1373	0.608	249.7	328.9	-15.1	0	21				1380	0.969	79.9	183.1	+9.0	0	190	1008 np	
		1374b	0.479	105.7	265.0	-10.6	4	32					0.873	104.3				301		
		1375a	0.720	103.6	247.3	-12.3	0	10					0.893	119.9				216		
		1375b	0.785	104.7	241.7	-13.7	0	22	157 c	May 7							(46)	(1064)	(3004)	
			0.883	83.2					77											
			0.919	74.3					111											
May 4							(27)	(437)	(345)											
124 ^d 945	SP, JH	1373	0.828	252.7	336.0	-16.2	44	497					0.985	292.5					226	
		1373	0.790	254.7	332.4	-14.2	0	60					0.924	243.3					115	
		1373	0.751	254.2	328.8	-14.1	0	27					0.903	266.4					103	
		1374b	0.356	108.5	260.9	-9.8	0	26	210 c				0.899	255.2					522	
		1375a	0.581	106.9	246.2	-12.6	0	15					0.869	270.1					76	
		1375c	0.622	109.8	243.7	-15.0	0	38					0.729	267.2	290.4	-4.2	3	9		
		1375b	0.653	107.7	241.1	-14.1	0	30					1375	0.194	197.1	-13.8	0	2		
May 5							(44)	(693)	(210)				1375	0.238	173.7	242.1	-16.8	0	4	
													1376	0.269	33.1	234.1	+9.0	4	44	
													1376	0.302	45.2	231.2	+9.2	0	8	
													1376	0.327	41.6	231.0	+11.0	2	10	
													1376	0.362	47.2	228.1	+11.1	0	2	
													1377	0.677	68.8	203.7	+11.7	4	13	
125 ^d 917	SP, JH	1373	0.927	253.6	335.7	-16.5	36	551	521 c				1379	0.788	76.4	193.1	+8.6	2	14	
		1374b	0.168	133.3	260.8	-10.0	0	8					1380	0.876	78.8	183.7	+8.2	10	121	397 c
		1375a	0.395	116.4	246.7	-13.3	0	19					0.934	64.4				231		
		1375c	0.457	118.2	243.3	-15.6	0	5		May 8							(25)	(227)	(1670)	
		1375b	0.488	115.1	240.8	-15.0	0	12												
		1376	0.638	69.0	230.8	+10.5	0	11												
		1376	0.673	68.8	228.3	+11.4	0	37												
		1377	0.915	73.1	203.7	+14.0	0	26												
May 6							(36)	(669)	(521)											
126 ^d 675	H, SP		0.927	292.1					346											
			0.805	248.5					135											
I.		1373	0.978	255.6	336.1	-14.8	0	567		May 9							(69)	(759)	(597)	

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

Group 1375, May 3-8. Two small spots, *a* and *b*. A third, *c*, appears on May 5. On May 7 the group consists of a cluster of very small spots followed by a single very small spot. Of this cluster only one spot remains on May 8.

Group 1376, May 6-15. A number of small spots irregularly distributed over a considerable area. The preceding spot increases in size, and by May 9 has become a large regular spot, *a*.

Group 1378, May 7-8. Two small spots, *a* and *b*. *a* disappears before May 8.

Group 1380, May 7-16. A number of small spots which undergo great changes from day to day.

Group 1381, May 9-21. A very large regular spot, *a*. Small spots are seen near it on May 13, 14, 15, 16 and 19.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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 of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1884. 130 ^d 662	H, SP		0° 85' 9"	244° 7'	236° 9'	+ 9° 3'	53	351	632	1884. 132 ^d 731	W, SP	1376	0° 84' 4"	282° 5'	234° 2'	+ 9° 1'	2	53	392 c	
I.		1376a	0° 55' 9"	291° 3'	236° 9'	+ 9° 3'	4	42	I.		1376	0° 80' 5"	283° 6'	230° 1'	+ 9° 3'	3	22			
		1376	0° 47' 9"	291° 5'	231° 8'	+ 7° 6'	4	42			1376	0° 81' 1"	281° 1'	230° 0'	+ 7° 4'	5	36			
		1376b	0° 48' 5"	299° 6'	230° 6'	+ 11° 3'	7	112			1376b	0° 80' 7"	285° 8'	229° 9'	+ 11° 1'	14	91			
		1376	0° 45' 0"	299° 2'	228° 6'	+ 10° 0'	4	37			1382a	0° 74' 9"	286° 3'	224° 6'	+ 10° 3'	5	34			
		1382a	0° 37' 8"	307° 9'	222° 8'	+ 10° 7'	1	18			1380	0° 244'	313° 2'	188° 1'	+ 7° 0'	3	30			
		1382	0° 35' 6"	317° 4'	219° 4'	+ 12° 4'	0	13			1380	0° 183'	319° 6'	184° 6'	+ 5° 4'	7	89			
		1382	0° 32' 8"	320° 7'	217° 4'	+ 11° 9'	0	5			1380	0° 239'	332° 6'	184° 2'	+ 9° 6'	2	5			
		1377	0° 27' 0"	3° 5'	204° 2'	+ 12° 8'	2	10			1380	0° 288'	341° 2'	183° 2'	+ 13° 2'	0	4			
		1380	0° 37' 2"	60° 0'	186° 3'	+ 8° 1'	13	81			1380	0° 186'	336° 8'	182° 0'	+ 7° 2'	0	9			
		1380	0° 41' 8"	60° 1'	183° 7'	+ 9° 4'	0	10			1387	0° 191'	24° 3'	173° 3'	+ 7° 4'	0	5			
		1380	0° 40' 0"	67° 2'	183° 5'	+ 6° 3'	12	172			1383a	0° 377'	46° 8'	161° 5'	+ 12° 4'	0	10			
		1383a	0° 72' 4"	70° 0'	161° 2'	+ 12° 3'	8	22			1383	0° 413'	51° 2'	158° 6'	+ 12° 5'	1	5			
		1381a	0° 78' 6"	97° 8'	153° 6'	— 7° 8'	117	639			1383	0° 431'	53° 5'	157° 1'	+ 12° 4'	1	7			
		1384	0° 9' 59"	82° 5'	132° 4'	+ 6° 4'	0	29			1381a	0° 426'	102° 9'	153° 1'	— 7° 8'	122	603			
		1385	0° 9' 89"	98° 2'	123° 7'	— 8° 5'	2	41			1381	0° 517'	99° 1'	147° 0'	— 6° 9'	0	6			
May 11 131 ^d 776	W, M		0° 9' 52"	248° 5'				834	May 13									371		
I.			0° 9' 12"	281° 6'				171	I.									60		
			0° 82' 3"	253° 0'							380								2307	
		1386	0° 9' 10"	282° 3'	254° 8'	+ 10° 0'	0	11			230 c								104	
		1376a	0° 74' 8"	285° 3'	237° 3'	+ 9° 6'	36	343			W, SP								118	
		1376	0° 70' 4"	286° 5'	233° 5'	+ 9° 5'	0	30											81	
		1376	0° 67' 2"	284° 5'	231° 4'	+ 7° 7'	7	41												
		1376b	0° 67' 3"	289° 0'	230° 7'	+ 10° 6'	10	117				1376a	0° 9' 64"	280° 5'	237° 6'	+ 9° 4'	35	349	620 c	
		1382a	0° 60' 7"	292° 3'	225° 3'	+ 11° 0'	4	12				1376	0° 9' 28"	280° 7'	231° 1'	+ 9° 0'	0	15		
		1380	0° 18' 2"	17° 1'	187° 4'	+ 7° 3'	0	58				1376	0° 9' 27"	279° 0'	231° 0'	+ 7° 4'	5	34		
		1380	0° 18' 7"	37° 8'	183° 9'	+ 5° 8'	18	154				1376b	0° 9' 25"	282° 7'	230° 3'	+ 10° 7'	8	67		
		1380	0° 24' 1"	29° 1'	183° 7'	+ 9° 4'	0	5				1376	0° 9' 07"	283° 1'	227° 7'	+ 10° 7'	4	101		
		1380	0° 22' 8"	39° 1'	182° 2'	+ 7° 5'	0	4				1382a	0° 87' 8"	283° 9'	223° 9'	+ 10° 9'	4	28		
		1387	0° 32' 9"	61° 0'	173° 7'	+ 6° 6'	0	10				1382	0° 86' 7"	282° 1'	222° 8'	+ 9° 2'	0	20		
		1383a	0° 54' 2"	62° 0'	161° 3'	+ 12° 3'	0	15				1380	0° 44' 6"	290° 1'	188° 7'	+ 6° 5'	0	2		
		1383	0° 58' 6"	65° 2'	157° 7'	+ 12° 0'	0	33				1380	0° 39' 2"	289° 5'	185° 6'	+ 5° 2'	10	72		
		1381a	0° 60' 7"	99° 5'	153° 5'	— 8° 0'	98	633				1380	0° 36' 4"	294° 4'	183° 3'	+ 6° 3'	0	10		
		1384	0° 8' 58"	80° 7'	132° 2'	+ 6° 6'	4	16				362 c	1387	0° 21' 4"	313° 4'	172° 9'	+ 5° 9'	0		7
		1385	0° 9' 20"	97° 9'	123° 6'	— 8° 4'	9	51				336 c	1383	0° 26' 0"	16° 3'	159° 6'	+ 11° 9'	0		13
May 12 132 ^d 731	W, SP		0° 9' 17"	107° 7'				132	May 14									114		
			0° 9' 71"	239° 9'				201										44		
			0° 9' 67"	287° 8'							347							33		
			0° 9' 61"	223° 8'							76							114		
			0° 9' 51"	251° 8'							468									
		1376a	0° 87' 1"	282° 0'	237° 2'	+ 9° 2'	27	301			392 c									

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.

- Group 1382, May 11–15. A small regular spot, *a*, followed by a stream of very small faint spots, which disappear by May 12. *a* moves rapidly forward between May 11 and 12, and after May 12 it moves slowly backward. Another spot appears near it on May 14.
- Group 1383, May 11–15. A small spot, *a*, followed by several very small spots; *a* disappears before May 14.
- Group 1385, May 11–16. A regular spot.
- Group 1387, May 12–18. Two small spots close together on May 12. The group diminishes in size until about May 14, and then increases. It undergoes continual change in the number, size, and arrangement of the spots composing it. It is measured as a whole until May 16.
- Group 1384, May 11–12. A small spot.
- Group 1386, May 12. A small spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).				
1884. 134 ^h 78 ^m	I.	W, JH	0 ^h 926	252 ^h 1	0	0			262	1884. 136 ^h 77 ^m	I.	W, JH	0 ^h 934	245 ^h 7	0	0			286			
			0 ^h 841	263 ^h 7					81				0 ^h 913	278 ^h 5					923			
			0 ^h 800	283 ^h 1					239				0 ^h 856	296 ^h 4					229			
			1376	0 ^h 979	281 ^h 2	228 ^h 1	+ 10 ^h 4	11	267	} 904 c			1387	0 ^h 821	278 ^h 0	178 ^h 8	+ 5 ^h 4	0	23	91 c		
			1382a	0 ^h 955	281 ^h 3	222 ^h 4	+ 10 ^h 0	0	38				1387	0 ^h 809	280 ^h 0	177 ^h 5	+ 6 ^h 8	0	9			
			1382	0 ^h 954	279 ^h 5	222 ^h 4	+ 8 ^h 3	9	74				1387	0 ^h 768	280 ^h 0	173 ^h 7	+ 6 ^h 3	0	25			
			1380	0 ^h 595	282 ^h 4	186 ^h 3	+ 5 ^h 4	1	12				1391a	0 ^h 616	295 ^h 0	159 ^h 2	+ 13 ^h 3	0	9			
			1380	0 ^h 570	281 ^h 7	184 ^h 6	+ 4 ^h 7	3	18	1391b			0 ^h 597	297 ^h 0	157 ^h 4	+ 14 ^h 0	0	11				
			1387	0 ^h 416	290 ^h 1	173 ^h 7	+ 6 ^h 0	0	20	1381a			0 ^h 478	257 ^h 8	152 ^h 3	— 7 ^h 7	95	588				
			1383	0 ^h 282	335 ^h 3	157 ^h 6	+ 12 ^h 4	0	18	1388a			0 ^h 776	90 ^h 5	73 ^h 6	— 1 ^h 7	27	194	} 257 c			
			1381a	0 ^h 102	205 ^h 1	153 ^h 2	— 7 ^h 7	111	612	1388			0 ^h 787	88 ^h 2	72 ^h 6	+ 0 ^h 1	0	3		415 c		
			1381	0 ^h 115	172 ^h 4	149 ^h 8	— 8 ^h 9	0	5				1389	0 ^h 894	105 ^h 4	61 ^h 5	— 14 ^h 7	31	279			
			1385	0 ^h 459	104 ^h 6	124 ^h 1	— 8 ^h 8	0	9				1390	0 ^h 923	93 ^h 2	57 ^h 1	— 3 ^h 7	0	14			
			1388a	0 ^h 976	91 ^h 7	73 ^h 5	— 2 ^h 2	17	127	410 c			1392	0 ^h 966	93 ^h 8	49 ^h 4	— 4 ^h 3	0	94	396 c		
				0 ^h 928	41 ^h 2					30				0 ^h 739	109 ^h 1				147			
				0 ^h 968	106 ^h 8					205				0 ^h 941	106 ^h 6				447			
		0 ^h 983	98 ^h 9					116	May 17						(153)	(1249)	(3191)					
May 15						(152)	(1200)	(2247)	137 ^h 647	W, M		0 ^h 966	277 ^h 9				509					
	I.	W, JH	0 ^h 916	285 ^h 5					660	I.	W, M	0 ^h 915	308 ^h 6					29				
			0 ^h 906	251 ^h 8					452			0 ^h 916	296 ^h 5					185				
			0 ^h 769	299 ^h 5					134			0 ^h 793	266 ^h 3					73				
			1380	0 ^h 777	283 ^h 3	187 ^h 2	+ 8 ^h 8	0	3			1387	0 ^h 892	278 ^h 9	175 ^h 2	+ 7 ^h 0	0	6	} 248 c			
			1380	0 ^h 752	279 ^h 5	185 ^h 5	+ 5 ^h 6	4	14			1387	0 ^h 884	278 ^h 1	174 ^h 2	+ 6 ^h 2	0	12				
			1387	0 ^h 676	281 ^h 7	179 ^h 1	+ 6 ^h 2	6	22			1391a	0 ^h 764	288 ^h 7	160 ^h 5	+ 12 ^h 8	5	23				
			1387	0 ^h 660	282 ^h 5	177 ^h 8	+ 6 ^h 5	0	3			1391b	0 ^h 738	291 ^h 9	157 ^h 6	+ 14 ^h 5	0	10				
			1387	0 ^h 648	285 ^h 2	176 ^h 5	+ 8 ^h 0	2	12			1381a	0 ^h 646	260 ^h 5	152 ^h 6	— 7 ^h 7	116	588				
			1387	0 ^h 623	284 ^h 8	174 ^h 7	+ 7 ^h 3	1	10			1388a	0 ^h 633	90 ^h 3	73 ^h 7	— 1 ^h 7	27	181				
			1381a	0 ^h 284	251 ^h 5	153 ^h 2	— 7 ^h 4	134	583			1388	0 ^h 659	90 ^h 8	71 ^h 7	— 2 ^h 0	0	9				
			1381	0 ^h 240	239 ^h 5	149 ^h 5	— 9 ^h 2	0	2			1388	0 ^h 666	91 ^h 3	71 ^h 2	— 2 ^h 4	0	4				
			1381	0 ^h 216	247 ^h 0	149 ^h 0	— 7 ^h 1	0	2			1389	0 ^h 791	107 ^h 1	61 ^h 6	— 14 ^h 7	38	276	51 c			
			1381	0 ^h 185	226 ^h 1	145 ^h 2	— 9 ^h 6	0	3			1392	0 ^h 893	93 ^h 8	49 ^h 7	— 4 ^h 3	7	60	364 p			
			1381	0 ^h 145	237 ^h 8	144 ^h 6	— 6 ^h 7	1	14			1393	0 ^h 995	99 ^h 7	28 ^h 6	— 9 ^h 9	65	275				
			1385	0 ^h 252	116 ^h 2	124 ^h 3	— 8 ^h 6	0	7				0 ^h 874	110 ^h 4					375			
			1388a	0 ^h 899	91 ^h 0	73 ^h 6	— 2 ^h 0	27	155			270 c		0 ^h 900	73 ^h 7				110			
			1389	0 ^h 971	104 ^h 2	61 ^h 4	— 14 ^h 4	39	276			803 c	May 18	0 ^h 963	97 ^h 6				401			
			1390	0 ^h 990	93 ^h 6	55 ^h 8	— 3 ^h 9	4	35			133 c	138 ^h 793	W, JH		0 ^h 982	277 ^h 0			(258)	(1444)	(2345)
				0 ^h 841	63 ^h 8							76	I.	W, JH	0 ^h 908	240 ^h 4					397	
			0 ^h 875	103 ^h 7					126			0 ^h 907			264 ^h 7	1391a	0 ^h 911	284 ^h 9	162 ^h 0	+ 12 ^h 7	1	9
			0 ^h 931	76 ^h 8					160			1381			0 ^h 825	268 ^h 5	153 ^h 1	— 2 ^h 4	7	32		
												1381a			0 ^h 822	262 ^h 2	152 ^h 7	— 7 ^h 5	112	651	} 483 c	
												1381			0 ^h 807	261 ^h 6	151 ^h 2	— 8 ^h 0	0	22		
May 16								(218)	(1141)			(3423)				1381	0 ^h 794	266 ^h 4	150 ^h 1	— 4 ^h 0	2	11

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1388, May 15-27. A regular spot, *a*. Some very small spots are seen near it on May 17, 18, 21, 22, and 24.

Group 1389, May 16-28. Two regular spots in contact with each other and measured together; the smaller spot diminishes in size and breaks up before May 24, disappearing before May 26. Several small spots are seen near the large spots on May 19-25.

Group 1391, May 17-19. Two small spots, *a* and *b*. They move rapidly apart, and *b* disappears before May 19.

Group 1392, May 17-21. A spot of irregular outline. It has broken up into a number of small spots by May 21.

Group 1393, May 18-30. A regular spot. It shows a large proper motion in longitude between May 29 and 30.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).				
1884. 138 ^d 793	W, JH	1388a	0°397	90°0	74°4	— 1°7	27	183		1884. 141 ^d 814	W, SP		0°863	62°7	0	0			324			
		1389	0°588	109°0	63°1	— 12°6	0	3					0°872	81°9					442			
		1389	0°615	116°1	62°5	— 17°2	0	32		I.			0°886	105°1					136			
		1389	0°617	112°2	61°6	— 15°0	47	285	63 c				0°900	117°5					173			
		1392	0°733	93°8	50°7	— 4°1	6	85	93 c				0°981	93°5					136			
		1393	0°935	99°9	28°7	— 9°9	65	328	946 c	May 22							(212)	(1264)	(2755)			
			0°751	115°1					304													
			0°826	68°6					118													
			0°856	98°7					532													
May 19							(267)	(1641)	(3743)	I.												
140°803	W, JH		0°862	268°8					128				1388a	0°517	267°2	75°4	— 2°7	32	168			
			0°861	282°0					292				1389	0°410	232°9	64°2	— 15°6	4	35			
			0°828	255°4					173				1389	0°359	238°4	62°5	— 12°1	5	7			
			0°738	264°7					99				1389	0°387	229°7	62°2	— 15°7	2	29			
		1381a	0°989	262°2	152°5	— 8°0	96	576	828 c				1389	0°343	232°1	60°5	— 13°5	40	231			
		1388a	0°070	260°2	75°0	— 2°4	34	185					1393	0°308	117°2	28°4	— 9°4	55	277			
		1388	0°054	287°1	74°0	— 0°8	0	5					1394a	0°912	69°7	337°9	+ 17°8	27	190	677 c		
		1388	0°048	257°4	73°8	— 2°3	0	1					1395	0°949	105°7	333°3	— 15°3	29	157			
		1389	0°286	152°8	63°3	— 16°3	1	9					1396	0°956	99°5	331°7	— 9°5	0	13			
		1389	0°298	149°3	62°0	— 16°5	1	10					1396	0°961	101°6	330°7	— 11°6	4	120			
		1389	0°278	142°4	61°1	— 14°4	49	264					1396	0°978	103°2	326°7	— 13°2	0	116	802 c		
		1389	0°351	139°4	57°3	— 17°1	0	4					1397	0°987	114°5	324°2	— 24°4	0	43	238 c		
		1392	0°284	101°4	54°9	— 4°8	0	3						0°762	58°6					221		
		1392	0°337	102°9	51°9	— 5°9	0	2						0°842	76°5					176		
		1392	0°351	97°5	50°8	— 4°3	1	33						0°922	94°5					129		
		1393	0°684	102°6	28°6	— 9°9	59	281		May 23										(2567)		
			0°840	110°1					821				144°073	SP, JH	1388	0°845	269°2	85°3	— 1°4	0	15	
			0°946	65°4					259						1388a	0°742	266°9	75°5	— 3°2	30	183	
			0°962	83°4					343						1389	0°569	248°1	60°5	— 13°3	25	197	
			0°967	115°6					167						1393	0°140	185°9	28°6	— 9°3	46	223	
							(241)	(1373)	(3110)						1394a	0°799	66°0	337°9	+ 18°1	14	137	
May 21															1395	0°815	107°7	334°5	— 15°1	15	176	
141°814	W, SP		0°948	278°9					284						1396	0°828	102°9	332°6	— 11°4	0	112	
			0°857	259°3					527						1396	0°869	103°2	328°1	— 12°1	0	191	
		1388a	0°312	267°0	75°8	— 2°4	37	183							1397	0°905	116°0	325°1	— 24°0	0	27	
		1388	0°293	270°3	74°7	— 1°3	0	8							1398	0°958	114°3	315°6	— 23°7	0	136	
		1388	0°266	262°9	73°0	— 3°3	0	4		May 24										(130)	(1397)	(195)
		1389	0°269	204°5	64°3	— 15°6	10	63														
		1389	0°262	198°4	62°6	— 15°8	11	52														
		1389	0°220	197°1	61°5	— 13°6	48	324														
		1393	0°499	106°7	28°8	— 9°6	58	279														
		1394a	0°988	71°7	337°8	+ 17°8	18	149	168 c													
		1395	0°994	105°3	334°1	— 15°4	30	202	406 p													
			0°779	121°1					159						1394a	0°728	63°7	337°2	+ 17°9	30	159	

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

May 24. The photograph on this day is very badly defined.

Group 1394, May 22–June 1. A regular spot, *a*. A few small faint spots are occasionally seen near it.

Group 1395, May 22–June 3. A regular spot. Two small spots are seen near it on May 28.

Group 1396, May 23–June 3. A large and irregular group composed of a great number of small spots, which change in number, area, and arrangement from day to day.

The umbra of the last spot of the group is completely hidden by the wire on May 26, and its area is merely estimated.

Group 1397, May 23–28. A regular spot which decreases in size after May 25.

Group 1398, May 24–28. A regular spot which decreases in size after May 25. It divides into two portions on May 28.

Group 1399, May 25. Three small spots, measured together.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).
1884. 147 ^d 794 I. May 28	W, SP		0°553 0°977 0°983	99°1 83°7 157°3	°	°			107 333 113 (3528)	1884. 148 ^d 655 I.	W, JH	1394a 1394 1394 1395 1396 1396 1396 1396 1400a 1400b 1403a 1403 1403 1404a 1405a	0°865 0°850 0°655 0°666 0°644 0°603 0°553 0°544 0°501 0°595 0°498 0°891 0°892 0°928 0°936 0°986 0°822 0°849	270°1 254°6 299°4 302°4 300°8 245°8 252°3 249°0 248°5 297°7 307°9 82°1 84°3 80°6 108°2 107°9 112°8 129°5	° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	+18°3 +20°4 +18°8 -14°7 -10°1 -11°6 -11°0 +15°6 +17°3 +6°8 +4°8 +8°5 -17°2 -17°7	21 1 0 10 14 0 29 12 13 23 0 0 16 15	128 4 4 122 238 12 241 123 77 185 5 63 177 64	41 73
148°655 I. May 29	W, M	1393 1394a 1394 1395 1396 1396 1396 1396 1400a 1400 1400 1400b 1401 1402	0°950 0°821 0°887 0°360 0°374 0°290 0°197 0°218 0°183 0°245 0°283 0°271 0°254 0°290 0°648 0°928 0°855 0°931 0°940	265°0 250°5 261°4 333°0 336°9 207°7 214°2 207°6 194°3 165°5 341°5 349°1 356°1 8°5 115°5 81°9 117°5 111°4 122°1	29°3 337°1 337°1 336°1 335°2 333°6 333°1 329°8 323°6 332°5 330°2 328°2 324°7 289°7 259°4	-8°0 +18°0 +19°4 -15°6 -10°0 -11°8 -10°9 -14°4 +14°8 +14°7 +13°9 +15°9 -16°7 -7°8	43 28 0 31 6 8 39 0 23 7 2 42 0 0	236 145 2 171 28 56 240 1 158 52 8 237 5 439 c 111 188 129 (2059)		May 31 151°7 18 I.	W, SP	1394a 1395 1396 1396 1396 1400a 1400b 1403a 1403 1403 1404a 1405a	0°962 0°952 0°949 0°834 0°800 0°762 0°729 0°698 0°669 0°662 0°757 0°666 0°756 0°764 0°807 0°828 0°908 0°872 0°899 0°969 0°980	278°0 296°2 257°0 253°5 293°8 251°4 256°7 255°4 254°2 256°1 291°5 297°9 80°6 77°0 78°4 110°8 109°3 75°5 82°8 110°1 77°9	+18°6 -14°3 -9°9 -10°4 -10°8 -9°5 +15°8 +17°8 +6°8 +9°6 +9°1 -17°3 -17°7	18 17 12 6 17 0 15 8 27 0 4 19 11	103 113 221 71 123 5 98 32 189 14 48 166 68	189 180 76 264	
150°064 H, JH		1393 1394a 1395 1396 1396 1400a 1400 1400b 1403 1403 1404a	0°973 0°561 0°490 0°424 0°377 0°493 0°461 0°408 0°934 0°959 0°958 0°768	261°2 304°0 239°1 246°8 239°4 303°6 306°8 317°7 80°0 78°4 104°7 76°3	24°8 337°6 334°2 331°7 327°8 +15°3 +15°4 +16°9 240°0 235°7 235°7 -14°3	-8°7 +17°7 -15°1 -10°1 -11°6 +15°3 +15°4 +16°9 +9°1 +11°0 -14°3	0 20 24 25 58 31 0 12 0 0 0	220 126 132 203 123 107 6 128 211 38 155	255 c 56 c 648 c 360 c 486 (1805)	May 30 148°655 W, JH		0°962 0°904 0°867	253°3 296°0 279°5					745 100 90	(154) (1251) (2506)

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

May 30. The photograph on this day is very badly defined.

Group 1401, May 29. A very small spot.

Group 1403, May 30-June 7. A regular spot, *a*, followed by some smaller spots. The latter have disappeared by June 4.

Group 1404, May 30-June 11. A regular spot, *a*. Several very small spots are seen near it on June 3, 4, and 11. On June 11 these are measured with the principal spot.

Group 1405, May 31-June 11. A regular spot, *a*. It divides into two parts on June 3, but these are still measured together. A very small spot is seen near *a* on June 3.

Group 1402, May 29. Two very small spots measured together.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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 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).	
1884. 153 ^d 684			0.902	290°9	°	°								°	°	°			
I.	W, SP		0°880	240°1					339	1884.	H, JH	1403a	0°331	294°1	238°6	+ 8°0	41	208	
			0°798	229°0					703	156 ^d 685	I.	1404a	0°337	214°6	232°3	-15°9	37	180	
		1395	0°964	253°8	334°2	-15°6	10	62	222			1405a	0°278	188°2	223°3	-16°1	20	90	
		1396	0°960	259°5	333°8	-10°1	0	15				1407	0°334	71°0	202°5	+ 6°4	0	6	
		1396	0°959	257°3	333°4	-12°3	0	39				1407	0°395	64°7	199°8	+ 9°9	5	19	
		1396	0°936	257°7	329°2	-11°6	0	92	74°0 c			1407	0°389	71°1	199°2	+ 7°4	2	20	
		1400a	0°962	284°6	333°9	+14°0	7	47				1407	0°430	70°9	196°8	+ 8°2	0	15	
		1403	0°415	61°1	238°8	+11°4	0	4				1407	0°473	69°5	194°3	+ 9°7	0	23	
		1403a	0°398	69°2	238°5	+ 8°0	40	180				1407	0°511	66°2	192°5	+12°0	0	20	
		1403	0°418	67°8	237°5	+ 8°9	0	2				1407	0°518	70°3	191°3	+10°2	6	17	
		1403	0°488	62°7	234°2	+12°8	0	3				1409a	0°928	98°0	153°2	- 7°4	33	169	} 969 a
		1403	0°479	66°6	234°0	+10°9	0	5		June 6		1409b	0°939	98°4	151°5	- 7°8	0	15	
		1403	0°520	66°4	231°5	+12°0	0	3									(149)	(803)	(1421)
		1404a	0°531	121°4	232°5	-16°1	30	171		157°667	W, SP		0°870	245°8					213
		1404	0°546	118°0	230°7	-14°9	0	3					0°841	280°7					241
		1404	0°565	119°8	229°9	-16°3	0	4			I.	1408a	0°753	295°0	253°7	+18°7	0	7	
		1404	0°581	122°2	229°5	-18°0	0	2				1403a	0°524	284°8	238°4	+ 7°9	41	179	
		1405a	0°653	114°7	222°6	-15°9	22	111				1404	0°484	239°6	233°2	-13°8	0	9	
		1405	0°692	110°4	218°7	-14°0	0	3				1404a	0°489	235°7	232°5	-15°6	35	174	
		1406	0°772	113°7	212°7	-18°1	0	21				1404	0°489	232°7	231°7	-16°9	0	12	
		1406	0°806	115°8	209°9	-20°6	0	11	175 c			1404	0°451	233°6	229°8	-15°2	0	11	
		1407	0°876	78°6	200°1	+ 9°9	8	64				1405a	0°382	223°4	223°6	-15°8	15	71	
		1407	0°907	79°7	196°0	+ 9°3	13	356	1082 c			1407	0°205	36°2	200°8	+ 9°8	3	5	
June 3			0°906	110°5					195			1407	0°195	47°1	199°6	+ 7°9	0	20	
154°821	JH, M		0°985	257°4			(130)	(1198)	(3456)			1407	0°244	53°3	196°4	+ 8°6	0	3	
I.			0°982	288°6					161			1407	0°297	55°1	193°5	+10°0	0	8	
			0°929	241°4					118			1407	0°326	48°1	193°5	+12°8	0	4	
			0°881	229°9					735			1409a	0°831	99°0	152°2	- 7°3	28	208	} 206 c
									134			1409b	0°850	99°4	150°3	- 7°8	0	15	
		1403a	0°186	39°1	238°7	+ 8°3	12	201					0°891	109°0					269
		1404	0°301	146°0	235°5	-14°4	0	3					0°923	74°6					77
		1404a	0°349	142°0	232°6	-15°9	23	162					0°957	85°7					101
		1405a	0°459	126°5	223°0	-15°8	13	96									(122)	(726)	(1107)
		1406	0°659	122°5	209°2	-20°7	0	7	106 c										
		1407	0°759	77°7	197°0	+ 9°3	18	247	74°0 c				0°942	277°8					326
			0°862	121°8					58				0°879	247°4					231
			0°875	85°9					222				0°849	284°6					398
			0°934	65°5					264				1404	0°983	254°6	230°0	-15°0	0	62
June 4							(66)	(716)	(2538)				1405a	0°959	253°4	223°7	-15°6	0	33
156°685	H, JH		0°913	241°1					452				1409a	0°130	186°9	152°3	- 6°5	28	201
I.		1408a	0°585	301°9	252°3	+18°1	4	16					1410	0°952	92°5	79°5	- 2°1	3	68
		1408b	0°562	304°7	250°0	+18°8	1	5		June 11			1411	0°970	83°8	75°6	+ 6°3	0	86
																	(31)	(450)	(1372)

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1406, June 3-4. Several small faint spots. The greater number have disappeared by June 4.

Group 1406, June 3-4. Several small faint spots. The greater number have disappeared by June 4.
Group 1407, June 3-7. A great number of small spots. The spots greatly diminish in size, and become much more scattered between June 4 and 6.

Group 1408, June 6-7. Two small spots, *a* and *b*. Only *a* remains on June 7.

Group 1400, June 6-16. A large regular spot, *a*, followed by a small spot, *b*. The latter has disappeared by June 11.

Group 1410, June 11-20. A regular spot.

Group 1411, June 11-16. A regular spot.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULAE UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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).	Greenwich Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1884. 162 ^d .957	SP, JH		0°892	281°3	°	°			302	1884. 171 ^d .089	SP, JH	1410	0°774	264°6	80°6	— 3°0	0	62		
		1409a	0°274	242°9	151°9	— 6°2	36	184				1415a	0°135	216°3	34°9	— 4°3	2	29		
		1412	0°652	83°6	97°4	+ 4°9	0	13				1415b	0°073	186°7	30°8	— 2°3	0	21		
		1410	0°855	92°8	79°3	— 1°9	5	81	79 c			1414	0°171	187°2	31°5	— 7°8	27	131		
		1411	0°889	83°5	75°3	+ 6°3	11	115	146 n			1416	0°430	64°4	7°0	+ 12°4	0	30		
June 12							(52)	(393)	(527)			1416	0°475	67°9	3°7	+ 12°0	0	24		
										June 20		1416	0°566	67°3	357°9	+ 14°1	0	47	(o)	
163°623	H, M		0°995	250°4					151								(29)	(344)		
			0°942	281°2					960			171°975	SP, JH	1417	0°674	251°7	58°8	— 10°6	0	29
I.			0°918	248°8					84					1417	0°613	250°5	54°3	— 10°2	0	11
			0°831	223°2					26					1415a	0°316	246°1	35°3	— 5°4	0	6
		1409a	0°417	252°1	152°5	— 6°4	27	182						1414	0°295	231°4	31°9	— 8°6	22	123
		1412	0°477	79°1	101°1	+ 6°2	0	2						1416	0°228	44°8	9°1	+ 11°3	0	10
		1412	0°512	81°6	98°7	+ 5°2	3	7	82 c					1416	0°367	58°6	359°8	+ 12°8	0	25
		1410	0°761	93°8	79°8	— 2°1	13	83	212 n f					1416	0°418	60°0	356°7	+ 13°9	0	16
		1411	0°802	82°8	76°1	+ 6°5	19	112	157	June 21								(22)	(220)	(o)
			0°932	109°5					116			172°590	H, JH	1417	0°774	255°9	59°8	— 9°5	0	68
June 13			0°961	94°4			(62)	(386)	(1788)			I.		1417	0°722	255°2	55°2	— 9°2	0	67
														1415a	0°452	254°2	36°2	— 5°1	0	7
165°091	SP, JH	1409a	0°685	260°1	152°1	— 5°9	33	183						1414	0°417	246°1	32°9	— 7°8	22	124
		1413	0°105	7°5	108°8	+ 7°1	0	9						1416	0°171	7°4	9°1	+ 11°9	0	5
		1413	0°135	25°4	106°3	+ 8°2	0	5						1416	0°191	30°3	4°8	+ 11°6	2	5
		1410	0°503	96°4	79°7	— 2°2	11	87	34 c					1416	0°256	42°5	0°2	+ 12°9	3	11
		1411	0°562	80°3	75°9	+ 6°4	10	90	77 c					1416	0°288	47°6	357°8	+ 13°2	1	45
		1414	0°983	98°3	30°7	— 8°0	0	23	213 c					1418	0°657	117°0	333°1	— 15°6	0	6
			0°861	113°2					136						0°776	128°6				49 c
			0°884	101°1					318						0°837	109°9				198
June 14							(54)	(397)	(778)						0°839	74°2				49
										June 22							(28)	(338)	(691)	
165°935	SP, JH	1409a	0°811	261°5	152°1	— 6°2	36	169	300 c			173°933	SP, JH	1417	0°934	258°0	60°6	— 10°4	0	14
		1410	0°327	100°2	79°8	— 2°1	17	90						1417	0°888	257°2	54°0	— 10°2	0	37
		1411	0°389	76°4	76°2	+ 6°5	16	93						1415	0°676	258°7	34°2	— 5°9	0	5
		1414	0°931	99°0	30°6	— 7°9	0	76	209 c					1414	0°659	254°2	32°3	— 8°6	21	128
June 15							(69)	(428)	(509)					1416	0°283	305°5	6°1	+ 11°7	0	13
														1416	0°269	312°3	4°3	+ 12°7	3	22
167°066	SP, JH	1409a	0°936	262°9	152°3	— 6°0	3	108						1416	0°233	326°5	0°2	+ 13°4	0	14
		1410	0°085	139°1	80°3	— 2°2	11	75						1416	0°235	347°5	355°6	+ 15°5	0	11
		1411	0°146	52°9	76°8	+ 6°6	8	76						1416	0°235	347°5	355°6	+ 15°5	0	11
		1414	0°806	101°0	30°7	— 7°9	18	126						1418	0°449	130°7	332°1	— 14°8	0	3
June 16							(40)	(385)	(o)	June 23							(24)	(247)	(o)	

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

The photographs on June 16, 20, 21 and 29 are very badly defined.

Group 1412, June 12-13. A small spot. A second spot is seen near it on June 13.

Group 1414, June 14-25. A regular spot.

Group 1415, June 20-23. Two small spots, *a* and *b*. *b* has disappeared by June 21, *a* by June 23. A small spot is however seen near its place on June 23.

Group 1416, June 20-27. A number of small spots in a long irregular stream. The following portion of the stream has disappeared by June 24.

Group 1417, June 21-23. Five small spots arranged in two compact clusters on June 21. Other small spots are seen near these, and are measured with them on June 22.

The group has diminished in size by June 23.

Group 1413, June 14. Two small spots.

Group 1418, June 22-23. A very small spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																			
Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1884. 175 ^d 049	SP, JH	1414 1416 1416	0° 821 0° 508 0° 452	257° 9 289° 4 295° 8	31° 8 7° 0 2° 4	— 8° 5 + 11° 8 + 13° 5	13 0 0	102 25 30	130 c	1884. 180 ^d 986	SP, JH	1423 1419a 1419b 1421 1421	0° 455 0° 434 0° 524 0° 622 0° 699	56° 1 125° 2 121° 7 72° 1 75° 1	236° 0 238° 1 232° 1 221° 9 215° 6	+ 17° 5 — 11° 6 — 13° 2 + 13° 4 + 12° 6	0 53 0 22 0	15 381 38 156 76	21 c 318 c 184 c 202 (1056)
June 24							(13)	(157)	(130)										
176° 098	SP, JH	1414 1416 1416	0° 931 0° 693 0° 654	258° 9 282° 6 284° 3	31° 5 7° 2 4° 1	— 9° 4 + 10° 5 + 11° 2	7 0 7	119 89 56		June 30							(94)	(750)	
June 25							(14)	(264)	(0)										
177° 000	SP, JH	1416 1416 1420 1419a	0° 841 0° 795 0° 954 0° 966	280° 7 281° 9 80° 0 102° 1	8° 9 4° 2 239° 5 238° 0	+ 10° 4 + 11° 0 + 10° 3 — 11° 0	0 0 0 0	69 60 124 273	365 c	I.	1422a 1422 1422 1420 1419a 1419 1419 1419 1421 1419 1421 1421 1421 1421 1421 1424a 1424 1424 1424 1424 1425 1426	0° 922 0° 916 0° 766 0° 731 0° 682 0° 323 0° 404 0° 413 0° 373 0° 421 0° 377 0° 383 0° 179 0° 162 0° 215 0° 176 0° 706 0° 725 0° 748 0° 760 0° 946 0° 985	230° 7 249° 7 280° 1 277° 6 279° 6 286° 6 225° 9 213° 7 215° 0 209° 4 213° 5 210° 9 339° 8 5° 2 18° 5 24° 0 101° 2 99° 5 100° 9 98° 1 99° 0 82° 2	230° 7 268° 3 264° 2 239° 7 238° 7 235° 3 234° 2 234° 0 233° 9 233° 2 225° 1 220° 6 217° 5 217° 3 177° 6 175° 9 174° 1 172° 8 151° 3 141° 2	+ 9° 9 + 7° 9 + 9° 1 + 8° 5 — 13° 0 — 16° 7 — 14° 4 — 18° 1 — 15° 0 — 15° 8 + 13° 0 + 12° 6 + 15° 1 + 12° 6 — 5° 5 — 4° 5 — 5° 8 — 3° 9 — 7° 4 + 8° 3	28 0 10 17 63 0 0 0 16 0 0 20 1 0 3 7 10 3 7 0	183 3 92 52 382 5 10 1 2 8 163 59 6 15 118 7 101 c 132 f 125 c 387 c		
June 26							(0)	(526)	(484)										
177° 952	SP, JH	1416 1416 1420 1419a	0° 941 0° 907 0° 868 0° 890	280° 4 280° 7 79° 7 104° 0	9° 5 4° 4 239° 4 238° 0	+ 10° 7 + 10° 9 + 10° 3 — 11° 1	0 0 6 46	88 68 109 340	215 c 134 c 545 c										
June 27							(52)	(605)	(894)										
178° 904	SP, JH	1420 1419a 1419b 1421	0° 739 0° 775 0° 836 0° 906	79° 3 107° 1 107° 3 76° 7	239° 5 237° 9 232° 2 222° 1	+ 9° 8 — 11° 3 — 12° 8 + 13° 3	6 51 0 0	59 355 46 59	310 c 74 c										
June 28							(57)	(519)	(384)										
177° 930	SP, JH	1420 1419a 1419b 1421	0° 561 0° 614 0° 697 0° 787	77° 0 112° 7 112° 4 75° 4	239° 7 238° 1 231° 9 221° 9	+ 9° 6 — 11° 3 — 13° 2 + 13° 3	0 54 0 0	53 371 42 90	182 c	July 3									
June 29							(54)	(556)	(182)										
180° 986	SP, JH		0° 962 0° 944 0° 147 1420	241° 4 237° 1 324° 2 71° 6					193 61 30 54										
									77 c										

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Group 1419, June 26–July 8. A large regular spot, *a*, followed by another spot, *b*. *b* has broken up into a number of small faint and widely scattered spots by July 3. On July 4 these have become a compact cluster and are measured together. The group is on the actual limb on July 8, and only *a* is distinguishable.

Group 1420, June 26–July 5. A regular spot.

Group 1421, June 28–July 9. A regular spot on June 28. The spot increases in size on the succeeding days, and smaller spots appear following it, forming on July 3, 4, and 5 a long stream.

Group 1422, June 30–July 5. A small spot on June 30. On July 3 the group consists of a large regular spot, *a*, followed by a stream of smaller spots.

Group 1423, June 30. A small spot.

Group 1424, July 3–9. A regular spot, *a*, followed by a stream of small spots. *a* has broken up into a number of small spots by July 8.

Group 1425, July 3–12. A regular spot.

Group 1426, July 3–9. A regular spot. A small spot is seen near it on July 5, and it has broken up by July 8 into a number of small spots.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																					
Greenwich Mean Solar 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 Mean Solar 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).			
1884. 184 ^d 743	W, M	1421	0°29'6"	309°2'	223°1'	+14°1'	13	38	270 s f 496 c (1814)	1884. 188 ^d 848	H, JH	0°973	275°0'	0°	0°	57	353	782 s f 871 c			
I.		1421	0°261	307°6'	221°7'	+12°6'	5	16		0°864		244°7'	0°	0°	0		11				
		1421	0°253	313°1'	220°4'	+13°4'	10	33		1419a		0°999	256°0'	241°3'	-13°8'		0		12		
		1421	0°223	318°1'	218°3'	+13°0'	0	21		1421		0°954	282°6'	227°9'	+13°2'		5		98		
		1424a	0°543	105°8'	178°0'	-5°5'	26	117		1421		0°930	282°0'	223°7'	+12°6'		6		21		
		1424	0°573	105°6'	175°9'	-5°9'	0	2		1421		0°917	283°5'	221°7'	+13°9'		4		31		
		1424	0°596	104°3'	174°2'	-5°6'	2	5		1421		0°886	285°6'	217°4'	+15°6'		0		4		
		1424	0°613	101°7'	172°6'	-4°4'	10	60		1424		0°424	250°9'	178°8'	-4°4'		6		20		
		1425	0°861	100°8'	151°2'	-7°5'	22	98		1424		0°405	247°5'	177°2'	-5°3'		17		75		
		1426	0°931	82°7'	140°9'	+8°1'	16	151		1424		0°364	243°6'	174°2'	-5°6'		8		25		
July 4	H, SP	185°866	0°884	245°4'					115	July 8	H, M	0°914	246°2'	0°	0°	13	102	766 c (123) (838) (2883)			
I.		185°866	0°881	231°9'					130			0°806	287°0'	0°	0°		5		47		
		1422a	0°978	280°2'	272°8'	+10°7'	23	283	493 c 261 c 312 c			1427	0°928	78°9'	87°0'		+11°8'		13	102	
		1422	0°968	278°3'	270°3'	+8°9'	0	17				1427a	0°956	80°1'	82°1'		+10°6'		13	102	
		1422	0°949	278°7'	266°4'	+9°4'	8	47				I.	1421	0°976	285°2'		222°1'		+15°7'	4	20
		1420	0°715	278°7'	240°2'	+8°8'	3	18					1421	0°976	283°3'		222°1'		+13°9'	3	69
		1419	0°729	251°9'	239°3'	-10°5'	4	87					1421	0°954	285°0'		217°0'		+15°5'	7	29
		1419a	0°737	248°3'	239°2'	-13°2'	46	314					1428	0°805	286°8'		197°4'		+15°9'	0	3
		1419	0°714	245°9'	236°8'	-14°3'	0	5					1429	0°755	274°6'		193°3'		+6°1'	5	17
		1419	0°717	241°0'	235°7'	-17°6'	9	91					1424	0°577	256°0'		178°3'		-4°7'	2	15
		1419	0°693	244°1'	234°7'	-14°9'	0	19					1424	0°551	253°9'		176°3'		-5°4'	0	1
		1419	0°690	240°8'	233°5'	-16°8'	0	10					1424	0°526	252°3'		174°4'		-5°8'	3	16
		1419	0°670	242°4'	232°5'	-15°2'	2	24					1424	0°487	252°8'		172°0'		-4°7'	0	7
		1419	0°684	237°4'	232°0'	-18°7'	0	16					1425	0°231	212°5'		151°5'		-7°2'	20	81
		1419	0°673	239°9'	232°0'	-16°8'	0	8					1426	0°117	4°9'		143°7'		+10°5'	0	1
		1421	0°595	292°6'	229°4'	+16°2'	0	3					1426	0°091	30°9'		141°6'		+8°5'	4	15
		1421	0°545	288°8'	226°6'	+13°2'	25	98					1426	0°070	48°1'		141°3'		+6°7'	0	3
		1421	0°538	291°1'	225°8'	+14°3'	1	17					1426	0°135	36°1'		139°7'		+10°2'	0	9
		1421	0°489	291°8'	222°4'	+13°6'	13	86					1426	0°121	63°0'		138°1'		+7°7'	0	2
		1421	0°451	292°6'	219°9'	+13°2'	0	7					1427	0°819	78°6'		89°5'		+11°6'	5	15
		1421	0°438	294°6'	218°8'	+13°7'	0	4					1427	0°853	78°9'		85°8'		+11°6'	15	85
		1421	0°444	297°1'	218°7'	+14°9'	3	42					1427a	0°881	80°1'		82°5'		+10°6'	25	167
		1421	0°410	301°3'	216°9'	+15°6'	1	5					0°859	65°7'							
		1424a	0°322	117°5'	178°1'	-5°1'	18	107					0°880	94°9'							
		1424	0°390	111°5'	173°4'	-4°8'	0	10					0°980	77°8'							
1424	0°405	109°8'	172°3'	-4°6'	9	36	555 c 128 (1994)	July 9		190°705	W, SP		0°948	244°2'					147		
1425	0°704	104°3'	151°4'	-7°4'	12	100		0°932	283°5'									390			
1426	0°791	85°2'	142°5'	+6°0'	1	16		0°917	254°3'									126			
1426	0°803	82°7'	141°4'	+8°1'	10	106	(188) (1576) (1994)	I.													
July 5																					

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Group 1427, July 8-19. A large spot of irregular outline, *a*, preceded by a stream of small spots. On July 19 only one large regular spot is seen.

Group 1428, July 9. A very small spot.

Group 1429, July 9. Two small spots measured together.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).							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).
1884. 190 ^d .705	W, SP		0.868	271.1	°	°				1884. 199 ^d .709	W, SP	1437	0.976	100.6	292.7	— 9.2	10	56	152 c	
I.		1425	0.403	241.9	151.5	— 7.1	11	71	172	I.			0.801	65.0				69		
		1427	0.654	77.1	90.2	+ 11.5	0	34					0.823	130.0				93		
		1427	0.672	76.6	88.8	+ 12.0	0	3					0.831	54.7				130		
		1427	0.692	77.1	87.2	+ 11.9	5	26					0.857	97.6				132		
		1427a	0.749	79.5	82.3	+ 10.6	21	204	320 c	July 19			0.953	121.1				63		
			0.923	105.5					374								(82)	(586)	(2272)	
			0.924	75.7					173											
July 10							(37)	(338)	(1702)	200 ^d .914	H, JH		0.936	150.3					142	
191 ^d .664	W, JH		0.859	262.7					576	I.		1434	0.860	261.2				438		
I.		1425	0.577	251.6	151.2	— 7.0	13	70				1436	0.981	276.6	74.5	+ 7.4	0	17	354 n	
		1427	0.468	73.5	90.8	+ 11.4	4	36				1436	0.594	108.4	321.1	— 6.7	19	117		
		1427	0.509	73.0	88.2	+ 12.2	0	24				1438	0.707	99.8	311.4	— 3.3	0	7		
		1427	0.553	75.3	84.9	+ 11.6	0	7				1438	0.734	99.9	309.2	— 3.8	0	6		
		1427a	0.594	76.9	81.9	+ 11.1	13	79				1437	0.893	103.0	293.9	— 9.2	10	69	534 c	
		1430	0.969	99.4	43.3	— 8.1	0	36	799 c	July 20		1439	0.991	80.6	272.8	+ 10.0	14	67	319 p	
			0.909	117.8					95				0.880	123.3				(43)	(283)	(1964)
July 11							(30)	(252)	(1470)	204 ^d .907	F, JH	1436	0.392	238.8	322.3	— 6.6	18	109		
192 ^d .780	JH, M		0.948	261.9					275			1438a	0.261	237.9	315.4	— 2.7	18	105		
I.		1431	0.929	277.4	171.5	+ 8.5	0	6	46 p			1438b	0.212	213.2	309.4	— 4.8	22	124		
		1431	0.916	279.3	169.6	+ 10.2	3	14				1437	0.252	157.4	297.1	— 8.1	0	32		
		1425	0.751	257.1	150.4	— 6.7	13	86	98 c	July 24			0.949	110.3				(58)	(370)	(908)
		1432	0.704	251.6	145.6	— 9.7	12	34												
		1432	0.706	249.0	145.2	— 11.4	0	8												
		1432	0.704	248.7	145.0	— 11.6	10	21		205 ^d .966	SP, JH	1436	0.589	249.0	322.1	— 7.5	18	89	75 c	
		1427	0.268	62.1	89.2	+ 11.4	15	69				1438a	0.487	253.1	316.3	— 3.2	23	112	100 c	
		1427	0.318	65.1	86.0	+ 11.8	2	33				1438b	0.394	243.2	309.2	— 5.1	30	147	173 c	
		1427a	0.387	71.5	81.2	+ 11.0	19	81		July 25		1437	0.284	211.3	297.2	— 8.6	0	39		
		1430	0.880	101.8	42.8	— 8.2	16	68	1344 c								(71)	(387)	(348)	
July 12		1433	0.950	102.4	32.7	— 10.3	0	6	(90)	206 ^d .955	W, JH		0.905	247.1					477	
199 ^d .709	W, SP		0.965	267.8					87	I.		1436	0.891	232.8				119		
I.			0.915	237.0					119			1436	0.756	256.1	323.1	— 6.7	21	103		
			0.891	251.4					160			1438a	0.685	259.7	317.9	— 3.0	25	148		
		1427	0.994	281.5	93.2	+ 12.0	54	390	826 f			1438	0.650	259.9	315.3	— 2.3	2	17		
		1434	0.908	275.1	74.2	+ 6.7	1	4	357 n			1438	0.616	258.3	312.6	— 2.8	3	8		
		1435	0.624	279.5	47.3	+ 9.8	1	5				1438b	0.587	254.7	310.1	— 4.4	21	211		
		1436	0.763	102.9	320.5	— 6.6	16	131	84 c			1437	0.463	241.7	299.8	— 7.7	0	3		

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1430, July 11–12. A single spot.

Group 1432, July 12. Five small spots; three being close together are measured as one.

Group 1434, July 19–20. A very small spot on July 19. Two small spots on July 20.

Group 1436, July 19–27. A regular spot.

Group 1437, July 19–26. A regular spot on July 19 and 20. It has broken up by July 24, and forms two faint spots close together. On July 26 the group consists of three very small spots.

Group 1438, July 20–27. Three very small spots, of which the two following are measured as one. The group has greatly increased in size by July 24, and consists of two spots, *a* and *b*, of considerable size and irregular outline. The preceding spot, *a*, becomes more regular in shape, and moves forward in longitude on the succeeding days. Several small spots appear between *a* and *b*.

Group 1431, July 12. Two small spots.

Group 1433, July 12. A small spot.

Group 1435, July 19. A very small spot.

Group 1439, July 20. A regular spot.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 206 ^d 9 ^h 55 ^m	W, JH	1437	0°44'5"	237°1'	297°7'	-8°9'	0	4		1884. 211 ^d 8 ^h 57 ^m	W, SP	1445	0°24'0"	211°6'	218°0'	-5°9'	0	4	
I.		1437	0°41'8"	232°5'	295°2'	-9°5'	0	8		I.		1445	0°21'7"	205°1'	216°1'	-5°5'	0	12	
		1440	0°57'6"	120°3'	245°2'	-12°1'	4	9				1445	0°17'8"	198°8'	214°1'	-3°8'	3	9	
		1440	0°61'6"	119°3'	242°3'	-12°9'	1	16				1441a	0°13'6"	249°5'	218°1'	+3°2'	28	213	
		1440	0°65'9"	118°8'	239°2'	-14°1'	5	25				1441	0°06'0"	234°5'	213°6'	+4°8'	0	17	
		1441	0°84'8"	87°7'	217°6'	+4°9'	3	13				1441	0°03'6"	209°4'	211°8'	+4°2'	0	5	
		1441	0°87'3"	89°0'	214°8'	+3°6'	0	3				1441	0°07'2"	155°0'	209°1'	+2°2'	0	7	
		1441	0°92'6"	87°2'	207°7'	+4°7'	0	4	213 c			1441b	0°05'0"	117°6'	208°3'	+4°6'	21	199	
			0°82'4"	73°0'					182										149
			0°88'7"	126°4'					69										164
			0°91'0"	111°7'					226										189
July 26							(85)	(572)	(1286)	July 31							(81)	(664)	(1325)
207 ^d 744 ^m	H, W		0°94'9"	254°0'					122	212 ^d 933 ^m	SP, JH		0°92'7"	280°9'					168
I.			0°93'6"	239°3'					275				0°83'5"	276°9'					296
		1436	0°86'1"	258°6'	323°1'	-6°9'	15	99	86 s f			1443	0°92'5"	250°8'	261°2'	-15°2'	0	33	120 c
		1438a	0°81'2"	262°2'	318°6'	-3°0'	17	138				1444a	0°57'7"	240°0'	227°0'	-11°6'	34	147	
		1438	0°79'2"	260°9'	316°5'	-3°7'	0	29				1444	0°54'6"	236°2'	224°1'	-12°3'	0	38	
		1438	0°75'9"	262°3'	313°7'	-2°1'	5	10				1444	0°53'4"	237°1'	223°6'	-11°4'	0	10	
		1438b	0°72'8"	258°6'	310°6'	-4°4'	25	252				1444	0°51'3"	234°5'	221°7'	-11°9'	0	12	
		1440	0°47'0"	129°2'	243°3'	-12°0'	1	4				1444b	0°48'4"	234°9'	220°2'	-10°6'	33	299	
		1440	0°53'7"	127°9'	239°3'	-14°2'	7	13				1445	0°42'3"	242°2'	218°5'	-5°8'	0	88	
		1441	0°73'9"	90°9'	217°6'	+3°1'	0	3				1445	0°37'7"	240°6'	215°7'	-5°0'	0	26	
		1441	0°76'7"	90°0'	215°1'	+3°6'	1	7				1445	0°35'4"	244°0'	215°0'	-3°2'	12	53	
		1441	0°81'0"	90°5'	211°1'	+2°9'	0	7	135 c			1441a	0°37'7"	263°3'	218°4'	+3°1'	29	200	188 c
		1441	0°84'4"	88°5'	207°5'	+4°3'	0	6				1441b	0°20'5"	264°2'	208°3'	+4°7'	26	167	184 c
		1442	0°81'0"	105°1'	213°0'	-8°7'	5	23	97 c			1446a	0°64'1"	82°5'	156°6'	+9°4'	8	67	
			0°88'2"	118°9'					154			1446b	0°66'7"	80°7'	154°6'	+10°7'	0	76	302 c
			0°92'5"	107°9'					190			1446c	0°70'7"	80°6'	151°4'	+10°9'	26	98	
			0°95'1"	80°6'					295				0°94'4"	135°1'					
July 27			0°98'5"	93°7'			(76)	(591)	(1424)	Aug. 1							(168)	(1314)	(1387)
211 ^d 857 ^m	W, SP		0°97'5"	259°6'					91	213 ^d 932 ^m	SP, JH		0°98'6"	252°3'					222
I.			0°90'9"	225°6'					143				0°91'8"	253°9'					417
			0°89'7"	279°7'					514				0°91'6"	277°9'					243
		1443	0°82'0"	246°4'	261°9'	-15°5'	7	31	75 c				0°82'5"	268°5'					219
		1440	0°64'7"	246°8'	247°8'	-10°0'	0	12				1444a	0°74'2"	249°2'	228°2'	-11°0'	41	267	
		1444	0°39'7"	219°7'	225°8'	-12°1'	5	35				1444	0°70'2"	246°2'	224°3'	-11°9'	1	138	
		1444	0°38'9"	215°0'	224°0'	-12°8'	0	24				1444b	0°64'6"	246°0'	220°1'	-10°4'	72	407	
		1444	0°34'0"	211°4'	221°2'	-11°0'	14	89				1445	0°63'3"	253°2'	220°8'	-5°8'	10	117	
		1444	0°35'9"	206°6'	220°2'	-12°8'	1	7				1445	0°58'8"	253°1'	217°6'	-4°8'	6	64	
												1445	0°55'0"	256°1'	215°6'	-2°5'	7	59	

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.

Group 1440, July 26-31. Several small spots arranged in three close clusters on July 26. On July 27 only two spots remain, and only one on July 31.

Group 1441, July 26-Aug. 5. Three very small spots on July 26. Other spots appear on July 27, and the group increases in size consisting on July 31 of two large spots, *a* and *b*, and a few small spots between them. The small spots have disappeared by Aug. 1, and *b* has broken up into two spots by Aug. 3. Only *a* remains on Aug. 5.

Group 1442, July 27. Two small spots measured together.

Group 1443, July 31-Aug. 5. Several small spots on July 31. The group increases in size, and on Aug. 1 consists of two large spots, *a* and *b*, with some small spots between them.

Group 1444, July 31-Aug. 5. A few small spots irregularly distributed on July 31. The group changes rapidly, increasing in size from day to day. On Aug. 4 the group consists of two large spots with a few small spots between them.

Group 1445, Aug. 1-10. Three spots, *a, b*, and *c*, in a straight line. *b* has disappeared by Aug. 2 and *c* by Aug. 7. A small spot is seen close to *a* on Aug. 4.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 213 ^d 9 ^h 32	SP, JH	1445	0.557	252.2	215.4	- 4.7	0	49		1884. 216 ^d 9 ^h 85	SP, M	1445	0.945	265.2	213.3	- 2.5	10	149	119.3 e
		1441a	0.581	265.9	218.7	+ 2.5	42	165	190 c			1441a	0.968	271.0	218.4	+ 2.6	8	122	258 e
		1441b	0.427	267.8	208.6	+ 4.6	9	66	117 c			1446a	0.270	277.8	158.6	+ 8.1	14	117	
		1447	0.467	296.6	209.2	+ 17.5	0	28		Aug. 5		1446c	0.191	296.9	152.9	+ 11.1	7	66	
		1447	0.446	297.6	207.8	+ 17.4	1	30				1448a	0.766	79.0	92.8	+ 12.4	3	51	435 f
		1446a	0.442	80.6	157.3	+ 9.6	14	56									(68)	(1059)	(1886)
		1446c	0.526	79.0	151.8	+ 10.9	20	66	105 c										
Aug. 2							(223)	(1512)	(1513)	218.025	SP, JH		0.972	286.8					233
													0.918	281.8					192
215.077	SP, M		0.772	237.9					415			1449	0.810	254.8	181.1	- 8.4	2	15	154 c
		1444a	0.885	253.7	228.0	- 11.4	45	192				1449	0.770	253.6	177.2	- 8.4	4	24	88 c
		1444	0.857	251.4	224.3	- 12.5	0	41				1446a	0.489	274.7	158.4	+ 8.1	17	169	127 c
		1444b	0.801	251.7	218.7	- 10.7	105	438	346 c			1446c	0.417	282.3	153.5	+ 10.9	6	27	52 c
		1445	0.801	257.4	219.9	- 6.3	26	175				1448a	0.605	78.6	92.0	+ 11.9	1	20	
		1445	0.732	258.9	214.1	- 3.9	23	116				1448b	0.615	74.1	91.6	+ 14.7	0	11	
		1441a	0.771	268.9	218.5	+ 3.1	33	165				1450	0.846	80.1	71.0	+ 11.7	4	34	
		1441	0.651	271.4	208.9	+ 5.6	4	21				1450	0.877	78.5	67.4	+ 13.1	0	21	135 c
		1441	0.642	269.2	208.1	+ 4.2	5	28				1451	0.962	98.4	56.1	- 6.3	6	98	479 c
		1446a	0.180	77.2	158.0	+ 8.3	27	157		Aug. 6							(40)	(419)	(1460)
		1446c	0.288	73.9	151.9	+ 10.4	11	65											
		1448a	0.958	79.1	94.2	+ 12.2	0	15											
			0.935	82.7						218.959	SP, JH	1446a	0.665	274.1	158.7	+ 7.5	14	137	
Aug. 3							(279)	(1413)	237 (998)			1448b	0.423	68.9	92.9	+ 14.6	0	1	
215.760	W, H	1444a	0.949	255.9	228.7	- 11.3	38	318				1448c	0.434	73.8	91.7	+ 12.8	0	9	
		1444	0.918	253.9	223.3	- 12.1	8	50				1452	0.505	90.1	86.6	+ 5.5	0	10	
		1444b	0.889	254.0	219.4	- 11.1	46	405		Aug. 7		1450	0.702	79.9	72.2	+ 11.7	0	10	
		1445	0.888	259.4	220.3	- 6.5	22	274				1451	0.888	100.7	55.7	- 6.5	8	82	599 c
		1445	0.862	259.6	217.3	- 5.7	0	7									(22)	(249)	(599)
		1445	0.857	257.3	216.3	- 7.5	0	16	286 c	219.952	SP, JH	1446a	0.815	274.5	158.5	+ 7.4	20	138	204 c
		1445	0.834	261.7	214.6	- 3.4	25	307				1448b	0.236	51.1	92.8	+ 14.8	0	4	
		1445	0.832	259.5	214.1	- 5.2	0	8				1448c	0.236	59.9	91.7	+ 13.0	0	7	
		1441a	0.865	269.1	218.8	+ 2.4	32	196				1452	0.233	93.1	90.2	+ 5.5	4	26	
		1441	0.763	272.0	208.9	+ 5.5	4	12				1452	0.248	84.7	89.3	+ 7.5	0	5	
		1441	0.761	269.3	208.6	+ 3.5	5	20				1452	0.280	92.4	87.5	+ 5.5	4	28	
		1446a	0.037	25.0	158.2	+ 8.1	26	157				1452	0.301	86.1	86.2	+ 7.3	0	6	
		1446	0.065	28.5	157.3	+ 9.5	1	7				1451	0.756	104.9	56.5	- 6.9	17	79	
		1446c	0.145	56.5	152.1	+ 10.7	12	54				1451	0.815	104.1	51.0	- 7.6	2	67	632 c
		1448a	0.912	79.0	92.8	+ 12.6	0	42	542 f	Aug. 8		1453	0.975	97.7	27.6	- 6.0	11	98	269 c
Aug. 4							(219)	(1873)	(828)								(58)	(458)	(1105)
216.985	SP, M	1444	0.985	255.8	221.1	- 12.8	0	18		220.936	SP, JH		0.914	256.6					135
		1444	0.969	257.1	216.9	- 10.9	8	140				1446a	0.922	274.8	158.2	+ 7.0	19	127	162 c
		1445	0.979	262.0	220.2	- 6.5	18	396				1448b	0.143	341.0	93.4	+ 14.3	0	4	
												1448c	0.103	351.7	91.6	+ 12.4	0	12	

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

The photograph on Aug. 5 is badly defined.

Group 1447, Aug. 2. Four small spots measured in two clusters.

Group 1448, Aug. 3-11. A somewhat faint spot, *a*. A small spot, *b*, appears near it on Aug. 6. *a* has disappeared by Aug. 7, and a third spot, *c*, appears. Two small spots are also seen in the neighbourhood on Aug. 10, and two on Aug. 11, but they cannot be certainly identified in either case with spots seen previously.

Group 1449, Aug. 6. Two small spots.

Group 1450, Aug. 6-7. Two spots.

Aug. 10 the group is composed of a number of small faint spots irregularly distributed over a considerable area.

Group 1452, Aug. 7-15. A small spot on Aug. 7. The group increases in size on the succeeding days, and consists of a great number of small spots irregularly distributed over a large area. The group undergoes great and frequent changes.

Group 1453, Aug. 8-20. A regular spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 22 ^d 9 ^h 37	SP, JH			°	°	°				1884. 23 ^d 1 ^h 48 ^g 3	W, SP			°	°	°			
			0° 856	259° 4								1456b	0° 566	73° 9	271° 8	+ 14° 9	0	11	
		1453	0° 545	248° 8	28° 8	— 5° 5	12	81	318			1459	0° 809	120° 4	258° 3	— 19° 5	7	70	
		1454	0° 557	238° 6	27° 0	— 10° 9	0	18	93 c			1460a	0° 804	115° 1	257° 0	— 15° 4	0	10	
		1454	0° 503	232° 4	22° 1	— 11° 6	6	31				1460b	0° 814	115° 4	256° 2	— 16° 0	0	9	
		1454	0° 474	232° 9	20° 7	— 10° 3	0	4				1461a	0° 830	113° 4	254° 0	— 15° 0	0	30	553 c
		1455	0° 583	110° 3	325° 0	— 6° 0	0	4				1462	0° 870	116° 7	250° 8	— 19° 0	0	8	
		1455a	0° 592	104° 9	323° 4	— 3° 1	11	121	129 c			1463a	0° 990	100° 0	225° 5	— 8° 8	21	107	
			0° 879	104° 9					319			1463b	0° 991	97° 5	224° 7	— 6° 4	0	113	542 c
			0° 896	49° 7					98				0° 932	72° 2					88
			0° 967	78° 4					260	Aug. 20							(49)	(551)	(1476)
Aug. 16							(29)	(259)	(1217)										
22 ^g 0 ^h 45	SP, JH		0° 935	259° 6					377	23 ^d 2 ^h 87 ^g 8	W, JH		0° 892	285° 3					81
		1453	0° 727	255° 4	28° 3	— 5° 6	10	92				1455a	0° 540	253° 6	323° 9	— 2° 8	15	89	
		1454	0° 735	247° 7	27° 2	— 11° 2	0	11		I.		1457	0° 405	213° 5	306° 0	— 12° 8	0	11	
		1454	0° 715	246° 8	25° 4	— 11° 3	0	6				1458	0° 297	102° 1	276° 0	+ 3° 1	15	112	
		1454	0° 677	244° 1	21° 8	— 11° 8	1	21				1458	0° 331	98° 2	273° 7	+ 3° 9	0	11	
		1455a	0° 385	114° 8	323° 1	— 2° 8	23	120				1458	0° 365	98° 7	271° 7	+ 3° 4	26	79	
		1456a	0° 929	79° 5	274° 5	+ 12° 3	0	14	68 c			1458	0° 374	94° 5	270° 9	+ 4° 8	0	4	
		1456b	0° 945	76° 4	271° 7	+ 15° 1	6	23	196 c			1459	0° 680	130° 8	259° 6	— 20° 5	17	75	
Aug. 17							(40)	(287)	(641)			1460a	0° 664	123° 1	257° 7	— 15° 6	8	16	
												1460b	0° 693	122° 8	255° 5	— 16° 5	0	5	
												1461	0° 712	119° 0	252° 8	— 14° 9	4	15	
												1461a	0° 724	119° 7	252° 2	— 15° 7	16	56	
												1461	0° 720	117° 9	251° 9	— 14° 4	0	1	
												1463a	0° 937	102° 8	225° 2	— 9° 4	22	95	
												1463b	0° 938	100° 0	224° 5	— 6° 8	12	140	1490 c
													0° 830	118° 0					88
													0° 861	71° 8					183
													0° 912	67° 3					89
													0° 926	59° 6					43
													0° 936	74° 3					65
Aug. 18							(35)	(252)	(1205)	Aug. 21							(135)	(709)	(2136)
23 ^d 1 ^h 8 ^g 3	W, SP		0° 972	257° 7					293	23 ^d 3 ^h 9 ^g 32	W, JH		0° 871	235° 5					107
		1453	0° 990	263° 3	26° 7	— 5° 6	0	14					0° 800	260° 0					69
		1455a	0° 353	241° 4	323° 9	— 3° 1	12	108				1455a	0° 723	258° 9	324° 1	— 3° 1	5	35	
		1457	0° 334	178° 3	305° 3	— 12° 4	7	18				1458	0° 054	156° 0	277° 7	+ 4° 2	54	271	
		1458	0° 469	103° 8	278° 9	— 0° 1	2	15				1458	0° 104	119° 5	273° 8	+ 4° 0	8	63	
		1458	0° 522	96° 2	274° 7	+ 2° 8	0	29				1458	0° 147	110° 0	271° 1	+ 4° 1	11	76	
		1458	0° 527	99° 4	274° 7	+ 1° 1	0	1				1459	0° 549	146° 4	260° 2	— 20° 5	10	67	
		1458	0° 560	93° 0	271° 9	+ 4° 2	0	8				1460a	0° 509	138° 1	258° 4	— 15° 7	5	16	

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1456, Aug. 17–20. Two small spots, *a* and *b*. Another small spot is seen near *b* and measured with it on Aug. 18. Group 1457, Aug. 20–21. A small spot.
Group 1458, Aug. 20–27. A number of small faint spots on Aug. 20. They become much larger and darker on the succeeding days, and form a long straight stream of spots following each other very closely. The stream begins to break up after Aug. 25. The individual spots undergo frequent changes.
Group 1459, Aug. 20–27. A regular spot.
Group 1460, Aug. 20–23. Two small spots, *a* and *b*. They have moved apart by Aug. 21; *b* has disappeared by Aug. 22. A third spot, *c*, appears on Aug. 23.
Group 1461, Aug. 20–23. A regular spot, *a*. Some small spots are seen near it Aug. 21–23. Group 1462, Aug. 20. A small spot.
Group 1463, Aug. 20–27. A regular spot, *a*, with a larger spot, *b*, of irregular shape near it. *b* has broken up into a number of small spots by Aug. 23.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 245 ^d 89 ^s	W, JH		0° 927	258° 8	0	0			130	1884. 248 ^d 75 ^s 1	H, SP	1479	0° 903	108° 2	21° 8	—13° 0	1	11	
			0° 823	254° 2					241			1479	0° 922	109° 9	19° 5	—15° 1	1	18	
		1472	0° 951	246° 2	188° 4	—20° 0	0	10	209 c	I.		1480	0° 932	75° 8	13° 5	+15° 9	0	5	494 c
		1469a	0° 635	243° 3	155° 9	—10° 7	0	11				1480	0° 942	77° 5	11° 9	+14° 2	0	10	
		1471	0° 428	182° 1	121° 7	—18° 0	0	7					0° 957	116° 9					90
		1471	0° 411	180° 7	121° 1	—17° 0	0	46		Sept. 6			0° 961	76° 9					263
		1471	0° 435	180° 0	120° 8	—18° 5	0	5											(1458)
			0° 837	103° 0					277										
			0° 862	122° 5					51										
			0° 873	115° 4					58										
			0° 933	110° 6					93										
			0° 940	101° 4					225										
Sept. 3							(0)	(79)	(1284)	250° 154	W, JH		0° 972	262° 6					75
													0° 932	280° 6					289
												1477a	0° 922	251° 5	129° 0	—14° 0	34	191	
												1477	0° 904	249° 6	126° 0	—15° 0	5	25	
												1477	0° 883	251° 2	123° 7	—12° 9	0	5	696 c
												1477b	0° 873	249° 1	122° 0	—14° 3	22	100	
												1476	0° 687	114° 6	25° 5	—11° 1	12	52	
												1481a	0° 763	128° 6	24° 7	—23° 0	33	78	
												1481	0° 796	125° 4	20° 5	—22° 4	3	13	
												1481	0° 806	126° 4	20° 1	—23° 5	7	23	133 c
												1479	0° 757	116° 8	20° 7	—14° 9	0	12	341 c
												1480	0° 750	76° 0	16° 1	+15° 3	0	5	
												1480	0° 789	76° 9	12° 5	+14° 7	0	27	
												1480	0° 813	77° 8	10° 1	+14° 1	0	6	227 c
													0° 880	78° 4					155
													0° 924	121° 9					133
													0° 928	102° 9					150
													0° 946	64° 2					39
Sept. 4							(6)	(62)	(1795)										
247° 926	W, JH		0° 895	249° 2					137	Sept. 7									
		1474	0° 199	338° 5	98° 5	+17° 8	0	14											
		1474	0° 188	345° 5	96° 9	+17° 7	0	3											
		1475	0° 890	104° 9	33° 5	—9° 7	0	7											
		1476	0° 949	104° 2	24° 7	—11° 0	0	45	695 f										
Sept. 5							(0)	(69)	(832)	250° 889	H, JH	1477a	0° 984	253° 7	132° 2	—14° 6	58	246	
												1477	0° 952	253° 2	124° 4	—13° 6	0	22	
												1477b	0° 943	252° 0	122° 5	—14° 3	6	50	1163 c
												1476	0° 568	122° 5	25° 9	—11° 5	7	18	27 c
												1481a	0° 671	136° 8	25° 2	—23° 0	12	104	
												1481	0° 720	133° 3	20° 2	—23° 7	6	84	
												1479	0° 614	122° 2	22° 9	—13° 0	0	3	
												1479	0° 636	123° 3	21° 9	—14° 4	0	7	
												1480	0° 672	76° 6	12° 7	+14° 3	0	15	
												1480	0° 703	77° 4	10° 2	+13° 9	0	4	
												1482a	0° 970	86° 2	338° 8	+5° 5	29	221	481 c
												1482b	0° 991	84° 5	332° 3	+6° 4	6	165	
													0° 718	138° 4					35
													0° 836	109° 2					50
248° 751	H, SP		0° 963	278° 7					161										
			0° 940	253° 3					247										
			0° 852	252° 2					57										
		1477	0° 721	242° 4	124° 2	—14° 0	4	14											
		1474	0° 312	307° 3	98° 3	+18° 0	2	39											
		1474	0° 285	313° 4	95° 7	+18° 4	0	14											
		1478	0° 204	15° 3	80° 0	+18° 6	0	9											
		1478	0° 214	18° 8	79° 0	+18° 9	0	1											
		1475	0° 805	104° 4	31° 6	—7° 0	0	4	146 n										
		1476	0° 879	107° 5	24° 6	—11° 6	10	30											

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.

Group 1472, Sept. 3. A small spot.

Group 1473, Sept. 4. A small spot.

Group 1474, Sept. 5-6. Two small spots.

Group 1475, Sept. 5-6. A small spot. The small spot seen on Sept. 6 is apparently not identical with that seen on Sept. 5, though in its immediate neighbourhood.

Group 1476, Sept. 5-11. A small regular spot.

Group 1477, Sept. 6-9. A few very small spots on Sept. 6. On Sept. 7 the group consists of two large regular spots, *a* and *b*, with several small spots between them.

Group 1478, Sept. 6. Two very small spots.

Group 1479, Sept. 6-11. Several small faint spots close together. The group undergoes several changes.

Group 1480, Sept. 6-17. A few small spots on Sept. 6. Other spots appear on Sept. 7 and 8, and on Sept. 9 the group is a compact cluster of spots. The group continues to increase in size, the first and last spots increasing with the greatest rapidity, so that on Sept. 11 the group consists of two large spots, *a* and *b*, with a stream of small spots between them. The intermediate spots have all disappeared by Sept. 16, but some small spots are seen on that day following *b*.

Group 1481, Sept. 7-15. A regular spot, *a*, followed by two or three smaller spots. The following spots have disappeared by Sept. 11; a small spot is seen preceding *a* on that day.

Group 1482, Sept. 8-20. Two large regular spots, *a* and *b*; small spots are occasionally seen between them. The group begins to diminish in size after passing the central meridian on Sept. 13. *b* diminishing the more rapidly and disappearing entirely before Sept. 19.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—*continued*.

Greenwich Mean Solar 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 Mean Solar 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).			
1884. 250 ^d .889 Sept. 8	H, JH		0° 93' 1 0° 98' 4	106° 1 98° 6	°	°			131 61 (1948)	1884. 253 ^d .962	W, SP		0° 86' 4 0° 39' 2 0° 58' 7 0° 53' 3 0° 37' 5 0° 41' 2 0° 14' 8 0° 11' 2 0° 12' 8 0° 14' 5 0° 04' 7 0° 13' 3 0° 57' 9 0° 67' 3 0° 73' 8 0° 77' 2 0° 80' 6 0° 94' 3 0° 99' 1	°	°	27° 6 29° 6 24° 8 23° 1 21° 2 19° 7 16° 2 13° 1 10° 0 13° 1 10° 0 13° 1 33° 9 332° 0 332° 0	—11° 6 —25° 4 —23° 4 —13° 0 —16° 1 +14° 0 +13° 3 +14° 4 +14° 4 +9° 6 +8° 1 +5° 4 +6° 7	3 0 16 0 0 50 6 0 25 6 34 18	10 3 96 7 7 265 64 55 141 20 32 219 148	437	
251° 727 I.	W, H		0° 84' 6 1477 ^b 0° 98' 6 1476 0° 435 1481 ^a 0° 578 1481 0° 598 1481 0° 628 1479 0° 525 1480 0° 529 1483 ^a 0° 535 1483 0° 595 1482 ^a 0° 906 1482 ^b 0° 947 0° 866 0° 954	279° 5 254° 7 136° 0 149° 1 145° 4 142° 8 134° 8 74° 7 83° 9 84° 9 87° 1 85° 6 108° 1 99° 8	121° 8 25° 9 25° 1 22° 8 22° 7 23° 4 21° 2 12° 2 11° 3 7° 1 338° 6 332° 2	—13° 7 —11° 3 —22° 8 —22° 7 —23° 4 —15° 0 +14° 1 +9° 3 +8° 8 +5° 7 +6° 5	28 6 14 0 8 0 15 4 11 21 14	148 23 104 2 52 1 88 76 62 241 200	667 485 <i>c</i> 328 <i>c</i> 84 249 (1813)	Sept. 11	W, JH		0° 917 0° 883 0° 804 1481 ^a 0° 615 1480 ^a 0° 341 1480 0° 268 1480 ^b 0° 200 1483 ^a 0° 197 1483 ^b 0° 074 1482 ^a 0° 384 1482 0° 411 1482 0° 467 1482 ^b 0° 498 1484 0° 966 0° 814 0° 887 0° 925 0° 963	256° 7 239° 5 255° 6 215° 1 290° 9 295° 1 311° 5 281° 6 279° 8 93° 5 90° 0 88° 9 89° 5 86° 2 111° 6 140° 6 104° 8 78° 6	°	°	24° 5 21° 0 16° 3 10° 8 13° 1 6° 1 33° 4 33° 6 33° 4 332° 0 286° 6	—23° 5 +13° 8 +13° 5 +14° 7 +9° 3 +7° 9 +5° 4 +6° 6 +6° 9 +6° 5 +5° 5	13 76 33 52 3 0 36 0 0 34 29	111 368 197 236 9 6 216 1 14 141 197	416 197 90
252° 963	W, SP		0° 932 0° 917 0° 864 1476 0° 323 1481 ^a 0° 507 1481 0° 529 1479 0° 350 1479 0° 397 1480 0° 263 1483 ^a 0° 258 1483 0° 277 1483 0° 349 1482 ^a 0° 748 1482 ^b 0° 819 0° 901 0° 911 0° 934	276° 6 253° 3 250° 1 178° 1 175° 7 165° 7 166° 5 164° 7 62° 3 81° 0 82° 6 85° 2 89° 0 87° 0 99° 5 80° 2 123° 2	26° 9 25° 1 25° 1 22° 7 21° 3 13° 7 12° 6 11° 4 7° 0 12° 6 11° 4 7° 0 33° 9 332° 3	—11° 6 —23° 1 —23° 6 —12° 7 —15° 3 +14° 0 +9° 3 +9° 0 +8° 5 +5° 6 +5° 6	3 15 1 0 0 30 8 0 3 34 35	11 124 18 9 15 338 33 15 44 203 198	767 113 202 216 <i>c</i> 243 <i>c</i> 213 47 100 (129) (1008) (1901)	Sept. 12	W, JH		0° 926 0° 898	242° 6 256° 8	°	°					176 113

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

Group 1483, Sept. 9-13. A small regular spot, *a*, followed by a close cluster, of smaller spots, which have coalesced by Sept. 12 to form one spot, *b*.
Group 1484, Sept. 12-23. A large regular spot, which has divided into two spots, *a* and *b*, by Sept. 15; *a* has disappeared by Sept. 18.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 265 ^d .945	W, JH		0°822	309°8	0	0			85	1884. 267 ^d .065	W, SP	1489b	0°575	273°9	236°6	+ 8°0	7	18	
		1484b	0°945	271°1	287°1	+ 3°3	10	115	1288 c			1486a	0°430	290°9	225°9	+15°1	35	220	
		1485	0°746	279°5	264°7	+11°7	14	95				1486b	0°404	297°9	223°3	+17°3	14	91	
		1485	0°706	283°2	261°2	+14°2	0	12				1486	0°365	293°2	221°6	+14°7	0	11	
		1485	0°693	280°5	260°2	+12°3	16	122	122 c			1491a	0°231	189°9	203°7	— 6°2	29	183	
		1485	0°629	288°1	254°6	+16°6	0	24				1491	0°237	180°9	201°6	— 6°7	0	18	
		1485	0°602	286°7	252°8	+15°5	5	11				1491	0°258	168°3	198°4	— 7°7	6	34	
		1485	0°543	288°8	248°5	+16°5	0	8				1491	0°260	160°5	196°4	— 7°3	0	133	
		1489a	0°435	265°3	241°8	+ 4°2	0	58				1492	0°399	174°8	199°2	—16°5	3	11	
		1489	0°392	266°0	239°2	+ 4°8	0	12				1493	0°378	117°4	181°8	— 3°5	0	8	
		1489	0°379	275°4	238°5	+ 8°4	0	13				1495	0°938	105°7	134°2	—12°1	35	232	481 c
		1489	0°363	270°4	237°5	+ 6°6	4	16					0°899	80°4					138
		1489b	0°354	275°7	237°0	+ 8°5	6	14		Sept. 24							(160)	(1119)	(1685)
		1489	0°342	267°5	236°2	+ 5°6	1	3											
		1486	0°279	320°9	226°9	+19°2	0	2											
		1486a	0°213	311°0	225°7	+14°9	39	218											100
		1486b	0°215	326°0	223°4	+17°1	16	111		267°959	W, JH	1485	0°829	241°6	266°3	+10°4	0	93	
		1486	0°164	327°8	221°4	+14°9	0	20				1485	0°936	279°8	259°7	+11°6	0	24	710 c
		1494	0°190	96°0	205°3	+ 5°6	0	19				1489	0°730	275°1	236°7	+ 8°4	0	40	
		1491a	0°329	135°6	202°8	— 6°8	17	82				1486a	0°594	285°9	225°7	+15°0	23	187	
		1491	0°349	131°3	201°0	— 6°6	17	37				1486b	0°565	290°3	223°1	+17°1	16	105	
		1491	0°338	125°1	200°2	— 4°6	0	3				1486	0°537	287°7	221°5	+15°2	10	62	
		1491	0°383	129°8	199°0	— 7°5	1	4				1491a	0°340	227°9	204°3	— 6°5	57	305	
		1491	0°415	126°0	196°5	— 7°6	9	75				1491	0°293	213°2	198°9	— 7°3	34	268	
		1491	0°461	127°0	194°4	— 9°6	0	14				1492	0°426	203°7	199°8	—16°1	2	8	
		1492	0°486	142°2	198°2	—16°0	14	29				1496	0°427	90°4	164°3	+ 6°1	0	6	
		1493	0°553	107°3	184°4	— 3°6	0	6				1496	0°458	88°9	162°3	+ 6°7	0	6	
		1493	0°589	105°5	181°7	— 3°4	3	8				1495	0°857	109°2	133°8	—12°6	50	276	
		1495	0°995	103°2	134°0	—12°3	62	354					0°844	80°3					67
			0°820	101°6					102				0°927	110°0					474
			0°846	113°7					76	Sept. 25							(192)	(1380)	(1351)
			0°943	112°2					259										
Sept. 23							(234)	(1485)	(1932)										
267°065	W, SP		0°971	280°2					366										552
		1485	0°899	279°1	266°0	+11°2	18	63		I.		1489	0°949	277°6	238°4	+ 9°3	0	14	214
		1485	0°850	279°2	260°1	+11°5	5	26				1486a	0°863	283°7	226°4	+15°3	31	184	949 s
		1485	0°845	281°8	259°5	+13°7	0	3				1486b	0°837	286°2	223°2	+16°9	18	66	157 c
		1485	0°837	280°0	258°6	+12°1	2	18				1491a	0°665	251°7	205°6	— 6°8	40	292	
		1485	0°782	283°8	253°1	+15°1	0	11	700 c			1491	0°588	247°0	199°2	— 7°5	0	101	
		1489a	0°654	268°5	242°2	+ 4°3	2	19				1491	0°570	248°2	198°4	— 6°5	28	100	
		1489	0°629	268°4	240°3	+ 4°4	2	7				1495	0°616	121°4	133°8	—13°0	39	228	
		1489	0°588	274°6	237°6	+ 8°3	2	13				1497	0°750	114°9	122°1	—13°6	13	78	
												1497	0°792	115°2	118°5	—15°1	7	59	331 c

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.

Group 1494, Sept. 23. Two small spots measured together.
Group 1495, Sept. 23–Oct. 5. A large regular spot.
Group 1496, Sept. 25. Two very small spots.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 269 ^d .729	JH SP,	1497 1498	0°78'7 0°58' 0°860 0°909 0°927 0°950	112°3 107°0 111°9 71°4 81°5 97°1	118°2 —12°9 95°7 —14°1	11 9	49 28	434 c 324 182 576 60		1884. 274 ^d .912	W, SP	1497 1498 1498a 1498 1498 1498 1498 1498 1500 1500 1500 1499 1501a	0°48'1 0°356 0°331 0°372 0°371 0°318 0°389 0°398 0°394 0°398 0°481 0°519 0°516 0°973	219°9 188°9 185°5 175°7 171°5 169°8 167°5 163°8 157°5 121°7 118°4 115°4 81°3 76°7	116°5 101°2 —14°2 99°7 —15°0 —11°7 —15°8 —15°9 —14°9 78°1 —5°9 72°8 69°8 66°8 20°3	—15°4 —14°2 —12°7 —15°2 —15°0 —11°7 —15°8 —15°9 —14°9 —5°9 —7°3 —7°1 +10°0 +14°4	0 0 19 6 0 0 1 2 0 0 0 5 107	30 13 129 22 9 5 6 23 10 2 30 14 5 464	
I.										I.									
Sept. 27						(196)	(1199)	(3779)											
273°001	SP, JH		0°927 0°903 0°878 1491 1491 1491 1495 1497a 1497 1497 1497 1497 1498 1498 1498 1498 1498 1499	238°5 253°2 259°9 260°4 258°5 261°5 207°6 192°6 184°8 182°3 178°5 170°2 169°5 129°3 129°2 126°5 128°2 120°3 124°7 83°5 114°7	201°8 —8°2 199°2 198°1 133°8 127°6 124°8 123°9 122°6 119°5 98°9 98°2 95°0 93°2 92°4 90°6 67°5 +9°1	—8°2 —9°7 —6°6 —13°7 —13°4 —13°0 —14°0 —12°8 —14°1 —12°7 —13°1 —13°5 —14°0 —11°4 —15°5 +9°1	0 18 0 45 47 5 5 14 3 5 1 3 5 1 0 11 0 201	431 180 92 216 245 38 25 8 11 23 14 13 13 17 13 52 25 160 c 201	367 c 29 c 69 c 160 c (1774)	Oct. 2									
										275°959	W, SP	1495 1497a 1497 1498a 1498 1500 1500 1499 1499 1501a 1501 1501b	0°920 0°913 0°808 0°758 0°696 0°430 0°426 0°316 0°386 0°245 0°321 0°894 0°919 0°957 0°837 0°882 0°895	251°2 236°1 246°8 245°9 242°3 222°3 208°9 140°3 135°2 80°7 76°6 76°9 76°9 77°3 93°0 87°8 110°9	133°9 —14°4 129°2 123°2 123°2 101°2 96°2 72°3 68°1 +8°6 +10°4 20°1 +14°6 10°1 +14°0	43 47 0 41 4 1 0 7 10 81 18 93	224 256 8 236 29 51 3 26 33 457 54 484	112 c 178 c (2350)	
Sept. 30						(157)	(1416)	(1774)											
274°912	W, SP		0°964 0°940 0°939 0°881 0°880 0°851 1495 1497a 1497 1497 1497	235°6 274°2 261°4 288°3 248°4 293°6 239°8 236°7 231°9 226°7 223°7	133°9 —14°1 129°0 124°0 119°6 117°7	—14°1 —13°7 —13°8 —13°8 —14°0	46 47 2 1 4	218 271 12 26 24	67 161 286 63 139 104	Oct. 3									
I.										276°935	W, JH	1495 1497a 1498a 1498 1499	0°913 0°878 0°593 0°582 0°028	250°9 250°8 238°6 235°9 352°6	134°1 129°5 102°3 100°8 71°4	—14°7 —13°4 —12°5 —13°4 +8°0	32 70 26 0 4	246 253 186 19 16	140 c

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

Group 1497, Sept. 27-Oct. 5. Several small spots irregularly distributed on Sept. 27. A large regular spot, *a*, has formed in advance of the group by Sept. 30, and the small spots form a long straight train following it. The small spots have all disappeared by Oct. 4.

Group 1498, Sept 27-Oct. 7. A small spot on Sept. 27. A number of other small spots are seen on Sept. 30. The group increases yet further in size, and on Oct. 2 and succeeding days consists of a large regular spot, a , followed by a straggling stream of small spots.

Group 1409, Sept. 30-Oct. 5. A small spot on Sept 30 and Oct. 2. On Oct. 3 and the succeeding days the group consists of a few small spots irregularly scattered over a wide area.

Group 1501, Oct. 2-15. A large regular spot, *a*, followed by another large spot of irregular outline, *b*. Some small spots are seen between *a* and *b*. *b* has broken up by Oct. 6 into a number of spots, which undergo frequent changes during the succeeding days.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		
1884. 276 ^d .935	W, JH	1499	0°095	43°4	67°4	+10°3	0	13		1884. 278 ^d .774	W, JH		0°850	265°2					150	
		1499	0°123	48°1	65°9	+11°1	2	9		I.		1498a	0°773	245°3				277		
		1499	0°130	60°7	64°6	+10°0	0	4				1498	0°839	249°2	102°7	-13°4	42	176	367 c	
		1502a	0°685	114°1	31°7	-11°3	2	16				1502b	0°378	142°9	33°5	-11°4	0	26		
		1501a	0°782	76°1	19°6	+14°9	96	480				1502a	0°420	135°0	29°3	-11°2	12	50		
		1501	0°815	76°3	16°4	+14°9	5	16				1501a	0°479	70°3	19°2	+14°9	76	434		
		1501b	0°868	78°0	10°6	+13°6	33	383				1501	0°539	76°4	14°6	+12°6	0	34		
		1501	0°876	75°9	9°6	+15°4	17	79	828 c			1501	0°582	72°5	11°9	+15°2	0	37		
Oct. 4							(287)	(1720)	(968)			1501	0°578	78°8	11°7	+11°6	0	5		
277 ^d .641	W, JH		0°893	341°5					109			1501	0°591	75°2	11°0	+13°8	49	287		
I.			0°893	239°1					100			1501	0°622	72°7	9°0	+15°6	8	49		
			0°850	248°0					556			1503	0°855	104°9	350°3	-9°3	3	10	353np	
		1495	0°964	252°7	133°9	-14°8	36	246					0°926	87°8					343	
		1497a	0°939	253°0	129°1	-13°5	41	236	390 c				0°936	106°5					597	
		1498a	0°705	244°3	102°4	-13°0	44	203					0°951	80°2					356	
		1498	0°688	242°7	100°7	-13°4	2	17					0°984	93°0					131	
		1498	0°667	244°7	99°7	-11°5	0	3		Oct. 6							(199)	(1146)	(4746)	
		1498	0°670	242°1	99°2	-13°2	0	2												
		1498	0°661	239°1	97°6	-14°6	1	3												
		1498	0°577	231°7	89°8	-15°3	1	12												
		1499	0°171	279°2	71°7	+7°9	4	17		280°022	W, SP		0°933	279°0					286	
		1499	0°105	318°6	65°9	+10°9	0	2					0°923	290°2					151	
		1502	0°491	118°9	36°3	-8°0	0	1				1498a	0°965	253°8	102°7	-13°8	19	205	702 s	
		1502b	0°550	121°9	33°6	-11°3	3	25				1504	0°736	230°8	68°5	-22°8	3	20		
		1502a	0°594	119°1	30°1	-11°3	3	55				1504	0°723	229°2	66°8	-23°2	0	10		
		1501	0°627	67°3	24°3	+19°1	0	6				1502b	0°313	190°2	33°6	-11°7	10	42		
		1501a	0°673	74°9	19°8	+14°9	69	438				1501a	0°243	51°2	19°2	+14°9	90	476		
		1501	0°700	73°5	17°8	+16°1	0	28				1501	0°304	74°1	13°2	+10°7	0	82		
		1501	0°711	76°2	16°6	+14°3	3	14				1501	0°350	65°0	11°4	+14°3	66	338		
		1501	0°737	77°6	14°3	+13°5	0	37				1503	0°670	111°7	351°4	-9°5	5	21	212 c	
		1501b	0°777	77°2	10°8	+14°0	83	450	780 c			1505a	0°802	115°8	341°8	-16°3	0	18	370 c	
		1503	0°960	101°5	349°8	-9°1	3	15	1021 c	Oct. 7			0°872	91°9					82	
			0°853	62°3					25								(193)	(1212)	(1803)	
			0°925	122°0					111											
			0°940	45°9					95											
			0°947	60°5					85											
			0°953	151°2					85											
			0°986	85°2					309											
Oct. 5							(293)	(1810)	(3666)											
278 ^d .774	W, JH		0°986	289°2					430				0°973	250°9					299	
I.			0°955	247°9					998				0°883	254°3					156	
			0°862	277°4					744				1504	0°859	237°4	70°2	-23°8	3	22	
													1504	0°838	234°6	66°8	-25°0	4	21	138 c
													1502b	0°418	221°3	34°4	-12°3	0	9	
													1501a	0°146	353°7	19°0	+14°6	89	455	
													1501	0°098	33°8	14°9	+10°9	3	19	
													1501	0°149	28°9	13°9	+13°5	38	240	
													1501	0°184	34°9	11°9	+14°9	5	67	

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Group 1502, Oct. 4-8. A small spot, *a*. By Oct. 5 *a* has become a cluster of small spots, and a second cluster, *b*, has appeared a little in advance of it. *a* has disappeared by Oct. 7.
Group 1503, Oct. 5-8. A small spot.
Group 1504, Oct. 7-8. Two small spots.
Group 1505, Oct. 7-9. A small regular spot, *a*. A second is seen on Oct. 8.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 280 ^d .961	SP, M	1501	0°18.4	46°8	10°2	+13°4	42	123		1884. 283 ^d .729	W, JH	1501	0°53.3	283°9	13°4	+12°5	12	63	
		1501	0°23.0	42°7	8°8	+15°8	2	15				1501	0°49.6	286°2	10°7	+13°2	36	313	
		1503	0°51.6	120°9	351°5	—9°8	1	5		I.		1501	0°49.5	295°0	9°4	+17°4	0	21	
		1505	0°65.3	123°7	343°8	—16°1	3	17				1506	0°83.2	77°8	285°0	+13°4	6	23	
		1505a	0°68.8	123°3	341°2	—17°2	12	49				1506	0°83.2	76°4	285°0	+14°6	6	27	
Oct. 8							(202)	(1042)	(593)			1506	0°86.7	76°2	281°1	+14°9	0	4	
												1506	0°89.2	75°8	278°0	+15°4	0	5	586 c
281°981	H, M		0°95.7	258°5					59				0°74.1	75°1				117	
			0°93.5	242°5					144				0°75.6	99°0				124	
			0°91.0	277°6					53				0°75.8	114°7				33	
			0°90.0	265°6					30				0°84.0	88°7				131	
		1501a	0°28.7	302°2	19°1	+14°7	66	483					0°85.2	68°1				118	
		1501	0°20.0	314°8	13°0	+14°1	33	497		Oct. 11			0°95.6	79°7			(124)	(941)	(2707)
		1505a	0°54.7	136°0	341°2	—17°5	2	15											
			0°91.2	93°2					49										
			0°94.7	78°9					116										
			0°97.1	87°0					52										
Oct. 9							(101)	(995)	(503)										
282°793	SP, JH		0°97.7	257°9					285				0°91.7	251°3					390
			0°96.0	276°8					209				0°90.2	264°3					95
I.			0°92.7	243°5					426				0°88.6	285°3					809
		1501a	0°43.8	290°6	18°8	+14°4	55	396					0°81.8	254°0					71
		1501	0°36.8	280°9	15°3	+9°7	1	27				1501a	0°76.3	283°3	18°7	+14°0	52	347	
		1501	0°39.9	302°3	14°6	+18°0	0	10				1501	0°71.5	282°1	14°6	+12°8	13	156	273 c
		1501	0°36.5	290°7	14°3	+13°1	23	189				1501	0°67.3	283°5	11°1	+13°4	27	272	
		1501	0°31.3	294°8	10°8	+13°4	58	194				1506	0°66.8	77°2	287°2	+13°0	1	5	
		1501	0°31.3	309°0	8°6	+17°2	0	14				1506	0°68.9	75°2	285°7	+14°5	6	12	
		1506	0°89.9	78°3	289°4	+13°2	0	2				1506	0°69.2	77°1	285°3	+13°1	4	13	
		1506	0°92.7	78°0	285°4	+13°4	7	31				1506	0°71.4	75°8	283°6	+14°3	0	5	
		1506	0°92.9	76°5	285°0	+14°8	7	15					0°75.4	76°2					123
		1506	0°96.6	76°0	278°0	+15°1	2	18					0°90.3	77°5					1114
			0°88.6	92°3					433				0°90.9	49°5					135
Oct. 10							(153)	(896)	(2501)				0°92.9	122°3					63
									1148 c				0°95.9	107°2			(103)	(810)	(3532)
283°729	W, JH		0°96.5	248°1					217										
I.			0°95.8	259°2					174										
			0°84.2	252°4					383										
			0°83.2	275°4					93										
			0°70.6	245°4					83										
		1501a	0°60.9	285°5	18°6	+14°1	45	374					0°49.4	70°0	284°7	+14°8	2	10	
		1501	0°60.3	289°0	17°8	+16°2	4	23					0°76.7	76°5					234
		1501	0°54.8	286°0	14°2	+13°8	15	88		Oct. 13			0°94.6	81°0			(66)	(707)	(1310)
													0°82.4	92°5					177

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1506, Oct. 10-15. Several small spots irregularly arranged.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).					
286 ^d 958	H, SP		0°776 0°789 0°981 1501 0°949 1506 0°257 1506 0°274 1506 0°315	249°3 213°0 283°8 282°8 55°8 58°2 55°8					100 330 1575 c	290 ^d 898	W, SP		0°917 0°843 1511 0°913 1511 0°893 1512 0°745 1512 0°716 1512 0°716 1508 0°567 1508 0°603 1508 0°592 1509 0°650 1509 0°663 1509 0°684	266°4 256°1 259°8 258°0 251°2 250°6 249°3 114°5 115°0 109°9 108°7 112°0 109°7						210 76 105 c			
		1501a	0°981	283°8	18°7	+14°7	0	218	}	I.													
		1501	0°949	282°8	11°1	+14°0	0	308															
		1506	0°257	55°8	286°3	+13°8	2	11															
		1506	0°274	58°2	285°1	+13°8	3	28															
		1506	0°315	55°8	283°3	+15°6	0	3															
			0°879 0°901	65°2 119°4					253 278 (2536)														
Oct. 14							(5)	(568)															
287°692	W, SP		0°969 0°967 0°872 1501 0°985 1507 0°395 1506 0°134 1506 0°158 1506 0°149 1506 0°157 1508 0°966 1509 0°993 0°846 0°867 0°869 0°881 0°915 0°931	256°5 264°9 253°6 283°3 252°1 17°3 23°5 29°6 42°8 100°3 99°0 79°3 89°3 121°6 98°5 69°7 107°5						150 61 548 668 c													
	I.				10°2 311°3 287°0 285°6 285°0 283°1 215°7 207°3	+14°1 —1°7 +13°0 +14°0 +13°1 +12°3 —8°4 —8°2	0 0 2 1 3 0 24 62	207 6 15 6 5 4 201 229		Oct. 18													
												292°006	H, SP		0°804 0°385 0°369 0°478 0°824	283°1 136°2 132°6 122°3 99°1							
									1076 c 308 84 591 109 318 211														

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.

Group 1507, Oct. 15. Several very small spots in a compact cluster.

Group 1508, Oct. 15-22. A spot of irregular outline. It has broken up into a number of small spots by Oct. 18.

Group 1509, Oct. 15-22. A spot of irregular outline. It has broken up into a number of small spots by Oct. 18.

Group 1510, Oct. 16. Three small spots; two are measured together.

Group 1512, Oct. 18. Three small spots.

Group 1514, Oct. 20-23. A close pair of small spots on Oct. 20. Only one spot is seen on Oct. 21, the group is not seen on Oct. 22, and one spot is seen on Oct. 23.

Group 1515, Oct. 20-23. A small spot not seen on Oct. 22.

Group 1516, Oct. 20-28. Two small spots, *a* and *b*, on Oct. 20. They move apart and increase in size on the succeeding days. Small spots occasionally appear between or near them.

Group 1511, Oct. 18. Two small spots.

Group 1513, Oct. 20-21. A small spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 293 ^d .686	H, W		0°988	258°2	°	°			150	1884. 295 ^d .993	H, SP		0°817	253°7	°	°			167
I.		1513	0°967	291°9					163		1514	0°915	240°4	240°5	-24°4	°	23		
		1514	0°938	282°0	280°3	+13°1	0	12	947 c		1515	0°901	236°7	237°3	-27°0	1	33		354 c
		1515	0°669	217°6	237°4	-27°3	1	7			1519	0°544	254°2	211°3	-4°3	°	7		
		1508	0°275	205°9	217°2	-9°1	7	29			1516	0°493	240°1	205°4	-9°7	°	15		
		1508	0°271	200°2	215°6	-9°5	4	18			1516a	0°458	239°9	203°3	-8°6	25	201		
		1517	0°268	329°8	218°3	+18°5	2	7			1516	0°431	234°7	200°6	-9°7	°	9		
		1517	0°264	336°6	216°5	+19°2	°	6			1516b	0°388	234°2	198°3	-8°4	29	171		
		1509	0°254	172°7	208°3	-9°3	4	20			1521	0°470	157°3	168°7	-20°7	°	9		
		1509	0°305	172°8	208°0	-12°4	4	50			1518a	0°769	114°3	133°5	-15°0	11	83		330 c
		1516a	0°289	145°6	200°7	-8°6	10	29			1518b	0°788	110°9	130°9	-13°0	11	64		
		1516b	0°332	135°3	196°6	-8°5	9	36			1520a	0°876	107°9	121°2	-13°1	25	128		
		1518a	0°980	106°6	133°8	-15°1	8	67			1520b	0°922	109°0	115°3	-15°3	49	160		
		1518b	0°988	103°5	130°7	-12°5	6	58	218 c		1520	0°949	108°9	110°9	-16°2	°	14		511 c
		0°883	114°5						229			0°765	67°7						172
		0°906	79°2						72			0°820	130°5						102
Oct. 21		0°966	70°2						154			0°897	101°7						147
							(55)	(343)	(1933)	Oct. 23		0°926	79°3						160
																	(151)	(917)	(2694)
295°021	H, SP		0°971	284°3					70	297°973	W, JH		0°926	289°2					139
			0°931	245°6					72			0°893	255°3						327
			0°908	283°3					179		1519	0°866	261°9	212°8	-4°6	°	11		207 c
			0°829	234°7					322		1516a	0°783	254°4	203°3	-9°1	66	415		
			0°829	253°2					141		1516b	0°727	253°9	198°4	-8°2	74	350		69 c
		1508	0°481	241°5	217°9	-8°6	3	14			1521a	0°519	212°2	170°9	-21°4	13	82		
		1519	0°371	245°6	212°4	-4°0	°	77			1521	0°496	211°5	169°7	-20°3	1	2		
		1509	0°401	224°4	209°3	-11°7	°	12			1521	0°488	206°1	168°3	-20°5	°	3		
		1516a	0°294	216°6	202°9	-8°6	22	125			1521b	0°473	208°2	167°4	-19°9	7	22		
		1516	0°262	209°4	200°1	-8°1	°	36			1518	0°483	143°2	136°0	-18°2	°	4		
		1516b	0°251	200°4	197°8	-8°5	11	121			1518	0°482	138°3	134°2	-16°6	°	5		
		1518a	0°883	110°3	133°8	-15°2	12	71			1518a	0°475	134°7	133°3	-15°0	13	66		
		1518b	0°900	107°1	130°9	-13°0	14	64	307 c		1518b	0°482	128°5	131°0	-13°1	15	41		43 c
		1520a	0°963	105°8	120°4	-13°7	°	75			1520a	0°576	120°2	123°1	-12°7	53	239		
		1520b	0°980	106°5	116°3	-15°0	°	40	385 c		1520	0°614	119°3	120°4	-13°5	18	64		
		0°889	69°0						201		1520b	0°705	119°1	113°9	-16°4	123	515		
Oct. 22		0°969	99°6				(62)	(635)	(1837)		1522	0°687	106°2	112°2	-7°5	°	5		
											1522	0°711	104°2	110°0	-6°6	2	6		
											1522	0°741	103°9	107°4	-7°0	2	11		
295°993	H, SP		0°966	284°7					88	Oct. 25		0°812	110°6	102°4	-13°7	6	15		52 c
			0°946	269°5					89			0°817	91°5						126
			0°918	255°8					139			0°867	99°1						50
			0°876	279°1					435			0°914	111°4						123
																	(393)	(1856)	(1136)

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1517, Oct. 21. Two very small spots.

Group 1518, Oct. 21-28. Two regular spots, *a* and *b*. Some small spots are seen near them on Oct. 25 and the succeeding days.

Group 1519, Oct. 22-25. Several small spots close together. Only one spot remains after Oct. 22.

Group 1520, Oct. 22-Nov. 2. Two regular spots, *a* and *b*, on Oct. 22. They increase in size on the succeeding days, and other spots appear between and near them.

b has broken up into a number of spots by Oct. 28.

Group 1521, Oct. 23-28. Two small spots close together, which are measured as one on Oct. 23. The two spots, *a* and *b*, have increased in size by Oct. 25, and two very small spots are seen near them. The small spots have disappeared by Oct. 26, and *b* has disappeared by Oct. 28.

Group 1522, Oct. 25-Nov. 2. Three small spots on Oct. 25. Other small spots appear on the succeeding days and follow each other in a straight line. The preceding spot on Oct. 29, *a*, and another spot following it, *b*, increase in size on the succeeding days, whilst the other spots diminish and disappear. *a* and *b* likewise diminish after Nov. 1.

Group 1523, Oct. 25-26. A small spot.

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).		Area for each Group (and for Day).
1884. 299 ^d 038	W, JH		0° 905	241° 7	0	0				1884. 299 ^d 47	W, JH		0° 817	105° 2	0	0				
			0° 818	297° 4						105			0° 933	118° 7					174	
			0° 688	299° 4						191									262	
			0° 918	257° 9	204° 8	— 9° 1	84	402	} 1058 c	97									1405	
		1516a	0° 868	257° 6	198° 4	— 8° 3	49	255			Oct. 27									
		1516b	0° 658	228° 0	171° 4	— 22° 0	11	49												
		1521a	0° 609	227° 9	168° 3	— 19° 9	9	19		300° 790	H, SP		0° 977	238° 3					304	
		1524a	0° 122	332° 1	143° 0	+ 10° 9	5	24		I.			0° 967	249° 5					366	
		1524b	0° 120	346° 3	141° 4	+ 11° 4	1	16					0° 936	266° 8					139	
		1518	0° 368	167° 8	135° 1	— 16° 3	0	15				1516b	0° 865	278° 7					273	
		1518a	0° 355	162° 9	133° 5	— 15° 1	13	59				1521a	0° 866	241° 0	171° 2	— 22° 2	3	17	620 c	
		1518	0° 316	160° 3	133° 5	— 12° 6	0	8				1524a	0° 495	282° 6	145° 8	+ 10° 1	5	13	185 s f	
		1518b	0° 336	154° 6	131° 2	— 13° 0	6	16				1524b	0° 438	289° 4	141° 4	+ 12° 4	0	8		
		1520a	0° 404	138° 4	123° 8	— 13° 0	64	295				1518a	0° 436	221° 2	133° 7	— 14° 8	2	14		
		1520	0° 431	134° 6	121° 4	— 13° 1	10	35				1518b	0° 393	219° 3	131° 3	— 13° 3	3	7		
		1520	0° 449	135° 5	120° 8	— 14° 2	8	16				1518	0° 410	214° 7	130° 4	— 15° 3	0	2		
		1520	0° 462	131° 8	119° 0	— 13° 5	4	27				1520a	0° 324	203° 0	123° 9	— 12° 8	58	419		
		1520b	0° 543	131° 5	114° 7	— 16° 8	111	594				1520	0° 312	191° 4	120° 1	— 13° 3	2	16		
		1522	0° 513	111° 7	111° 1	— 6° 8	0	33				1520	0° 311	183° 7	117° 7	— 13° 5	14	63		
		1522	0° 560	109° 9	107° 8	— 6° 8	3	18				1520	0° 343	177° 2	115° 5	— 15° 4	6	92		
		1523	0° 661	117° 2	102° 6	— 13° 8	4	20				1520	0° 313	174° 9	114° 9	— 13° 6	0	34		
		1525a	0° 919	82° 1	72° 7	+ 9° 2	0	18				1520	0° 378	175° 5	114° 7	— 17° 5	18	152		
		1525b	0° 924	84° 0	72° 0	+ 7° 4	0	14	235 c			1520	0° 401	171° 8	113° 1	— 18° 8	9	78		
Oct. 26			0° 875	103° 9					211			1522	0° 200	150° 9	110° 9	— 5° 4	4	17		
							(382)	(1933)	(1897)			1522	0° 222	147° 2	109° 6	— 6° 2	0	3		
												1522	0° 245	142° 7	107° 9	— 6° 7	9	38		
												1526a	0° 920	81° 9	49° 4	+ 9° 2	11	33		
299° 947	W, JH	1516a	0° 980	259° 7	205° 0	— 9° 2	50	376	} 709 c			1526	0° 930	81° 4	47° 9	+ 9° 6	0	7		
		1516b	0° 947	259° 6	197° 7	— 8° 3	0	203				1526b	0° 946	81° 3	45° 2	+ 9° 7	0	12	242 c	
		1521a	0° 773	236° 0	171° 4	— 22° 3	4	15					0° 884	124° 5				253		
		1521b	0° 740	237° 0	169° 0	— 20° 3	0	13		Oct. 28			0° 946	107° 9				410		
		1524a	0° 314	290° 0	145° 1	+ 10° 6	1	39									(151)	(1117)	(2792)	
		1524b	0° 269	298° 6	141° 6	+ 11° 9	0	37												
		1518a	0° 348	197° 3	133° 8	— 14° 8	6	27		302° 055	W, JH		0° 956	247° 1					102	
		1518b	0° 313	192° 3	131° 6	— 13° 2	3	13				1520a	0° 500	234° 4	124° 4	— 12° 8	98	386		
		1518	0° 323	174° 4	125° 9	— 14° 1	0	2				1520	0° 480	229° 5	121° 9	— 14° 0	0	22		
		1520a	0° 310	167° 4	123° 7	— 13° 0	80	386				1520	0° 447	225° 4	119° 0	— 14° 0	19	137		
		1520	0° 328	157° 2	120° 2	— 13° 0	0	32				1520	0° 451	222° 9	118° 4	— 15° 1	7	38		
		1520b	0° 422	149° 8	114° 9	— 16° 8	50	387				1520	0° 406	224° 5	116° 8	— 12° 6	0	6		
		1522	0° 323	124° 4	112° 2	— 6° 0	0	12				1520	0° 447	214° 8	115° 3	— 17° 2	48	265		
		1522	0° 349	119° 1	110° 0	— 5° 6	0	11				1522a	0° 282	232° 8	112° 9	— 5° 5	0	8		
		1522	0° 393	121° 6	108° 1	— 7° 5	0	7				1522	0° 262	233° 3	112° 0	— 4° 7	0	2		
		1525a	0° 820	82° 0	72° 6	+ 9° 2	1	8	260 c			1522	0° 256	224° 3	110° 2	— 6° 2	0	14		

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

Group 1524, Oct. 26–28. Two small spots, *a* and *b*.

Group 1525, Oct. 26–27. Two small spots, *a* and *b*. *b* has disappeared by Oct. 27.

Group 1526, Oct. 28–Nov. 7. A regular spot, *a*, followed by a fainter spot, *b*. Other small spots are seen near it on several days. *b* has disappeared by Nov. 3.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk--continued.																			
Greenwich Mean Solar 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 Mean Solar 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).	
1884. 302 ^d 055	W, JH	1522b	0°23'9"	214°2'	107°6'	— 7°0'	15	50	} 203 c	1884. 304 ^d 686	H, JH	0°9'78"	280°6'	0°	0°				428
		1526a	0°7'52"	80°9'	51°2'	+ 9°8'	11	136			I.	0°9'38"	252°7'	0°	0°				496
		1526b	0°8'17"	80°9'	45°1'	+ 10°0'	0	87				0°9'03"	289°2'	0°	0°				222
Oct. 29			0°9'68"	74°4'			(198)	(1151)	307 (612)			1520a	0°8'81"	249°5'	124°1'	— 15°9'	4	13	} 811 c
												1520a	0°8'74"	252°6'	123°9'	— 13°0'	72	469	
												1520a	0°8'43"	251°3'	120°1'	— 13°3'	20	89	
												1520a	0°8'10"	247°8'	116°0'	— 15°2'	3	9	} 240 c
												1520a	0°7'98"	248°5'	115°1'	— 14°4'	0	8	
												1520a	0°7'93"	246°8'	114°2'	— 15°5'	15	72	
												1520a	0°8'00"	243°8'	114°0'	— 18°0'	4	9	} 240 c
												1520a	0°8'04"	242°3'	113°9'	— 19°2'	2	8	
												1520a	0°7'77"	250°7'	113°6'	— 12°1'	0	7	
												1522a	0°7'52"	259°2'	112°9'	— 5°4'	19	89	} 240 c
												1522a	0°7'51"	257°4'	112°6'	— 6°7'	0	8	
												1522b	0°7'04"	257°6'	108°7'	— 5°7'	20	106	
												1522a	0°6'96"	255°1'	107°7'	— 7°3'	0	6	} 240 c
												1527a	0°6'24"	274°2'	103°7'	+ 5°8'	3	12	
												1527a	0°6'02"	273°8'	102°2'	+ 5°6'	2	10	
												1528a	0°2'76"	210°0'	73°2'	— 9°7'	0	3	} 240 c
												1528a	0°2'58"	205°6'	71°7'	— 9°3'	1	4	
												1529a	0°4'82"	169°5'	59°7'	— 24°1'	2	3	
												1529a	0°4'87"	166°1'	57°9'	— 24°0'	0	2	} 240 c
												1529a	0°5'01"	165°6'	57°3'	— 24°9'	0	1	
												1526a	0°2'58"	65°6'	51°4'	+ 10°1'	28	125	
												1526a	0°3'36"	68°8'	46°7'	+ 10°9'	0	4	} 841 c
												1526b	0°3'55"	71°1'	45°3'	+ 10°4'	9	17	
												1530a	0°8'02"	80°5'	11°9'	+ 10°1'	1	3	
												0°9'16"	161°8'						119
												0°9'30"	29°4'						108
												0°9'57"	102°4'						818
												0°9'70"	83°5'						170
																			(205) (1077) (4253)
																			550
																			158 c
																			} 1111 c
																			} 405 c
																			} 41 c

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

Group 1527, Nov. 1. Two small spots.

Group 1529, Nov. 1. Three very small spots.

Group 1530, Nov. 1-2. A very small spot. The spot seen on Nov. 2 is probably not the same as that seen on Nov. 1.

Group 1531, Nov. 2. A small spot.

Group 1528, Nov. 1-2. Two very small spots. Only one remains on Nov. 2.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 305 ^d .709 I. Nov. 2	SP, H		0°890 0°919	82°9 105°1	°	°			162 868 (3295)	1884. 310 ^d .908 Nov. 7	SP, JH	1526a	0°985 0°935 0°794	243°4 231°4 109°2	°	°	11 (11)	55 (55)	141 242 ^c 245 (628)
306°921	W, JH		0°982 0°968 0°922	252°8 263°0 274°7					680 460 104	311°999	W, JH		0°994 0°823 0°793 0°939	297°9 289°5 76°7 93°2					305 352 187 117 (961)
		1526a	0°294	295°4	51°3	+11°0	15	106											
		1526	0°274	294°9	50°3	+10°4	3	9											
		1526	0°245	296°5	48°5	+10°1	0	12											
			0°965	93°4					457 (1701)										
Nov. 3										312°680	H, JH		0°916 0°846 0°817 0°780	248°1 286°7 299°8 236°4					134 910 189 54
308°052	W, SP		0°888 0°526	256°4 285°5	51°8	+11°3	18	88	177	I.		1532	0°457 0°896 0°908 0°943 0°946 0°958	120°1 109°2 97°7 85°7 74°8 116°1	296°2	-10°2	0	8	116 342 184 764 681 (3374)
		1526a	0°526	285°5	50°1	+10°3	0	27	625 (802)										
Nov. 4		1526	0°498 0°876	284°0 92°8															
308°945	W, SP		0°920 0°904 0°862	258°3 277°4 236°4					427 116 367	Nov. 9									
		1526a	0°688	282°7	52°1	+11°4	12	80		313°988	SP, JH		0°945 0°931 0°843	295°1 285°0 255°8					180 378 179
			0°804	95°2					430			1533	0°579	254°6	336°5	-6°3	0	13	
			0°892	102°0					175			1532a	0°205	173°0	301°0	-8°6	30	153	
			0°910	110°1					92			1532	0°212	159°2	298°2	-8°3	4	49	
			0°913	124°3					109			1532	0°253	160°9	297°7	-10°7	0	8	
			0°920	86°8					201			1532b	0°231	156°5	297°2	-9°1	4	50	
			0°956	76°5					396			1532	0°222	149°4	296°0	-7°9	0	3	
Nov. 5			0°978	106°1					299			1532	0°244	146°7	294°7	-8°6	0	2	
												1534	0°218	81°2	290°1	+5°0	0	9	
309°826	SP, JH		0°924 0°917 0°895	240°6 253°1 206°7					447 127 157			1534	0°245	87°0	288°4	+3°7	6	20	
		1526a	0°822	281°7	52°6	+11°7	19	96	136 ^c			1535a	0°782	88°2	251°2	+3°4	8	21	
			0°913	77°4					635			1535b	0°806	87°1	248°9	+4°2	0	16	97 ^c
			0°914	84°5					49				0°855	77°1					167
			0°918	105°9					456				0°915	120°5					201
Nov. 6										Nov. 10			0°955	27°4					223
																			223 (1425)

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 Hemisphere.

Group 1532, Nov. 9-16. A small spot on Nov. 9. The group has greatly increased in size by Nov. 10, and then consists of a large regular spot, *a*, followed by a spot, *b*, of irregular outline. Small spots are also seen between and near them. *b* has begun to break up by Nov. 13.

Group 1533, Nov. 10-12. A small spot. A second small spot is seen close to it, and measured with it on Nov. 11.

Group 1534, Nov. 10-11. Three small spots. The two preceding spots form a close pair and are measured together.

Group 1535, Nov. 10-14. Two small spots, *a* and *b*. Several small spots are seen following *a* on Nov. 13.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1884. 31 ^d .771	SP, H		0°970 0°935	283°9 256°5	°	°			774 270	1884. 316 ^d .656	SP, H	1532 1532	0°537 0°515	247°2 250°1	°	°			
I.		1533	0°708	259°0	336°3	— 5°6	9	52	72 c	I.		1532a	0°211	78°6	255°5	+ 5°2	3	18	
		1532a	0°251	219°7	301°5	— 8°1	21	230				1535	0°247	83°8	253°2	+ 4°3	3	6	
		1532	0°250	210°0	299°4	— 9°5	3	20				1535a	0°274	88°5	251°6	+ 3°1	0	3	
		1532b	0°218	201°9	296°9	— 8°6	41	194				1535b	0°332	90°1	248°1	+ 2°6	0	6	
		1534	0°049	47°9	290°1	+ 4°9	0	7				1540	0°636	106°4	229°5	— 8°1	0	5	
		1534a	0°065	80°7	288°5	+ 3°6	4	7				1540a	0°637	107°5	228°2	— 9°2	1	13	
		1535a	0°638	87°7	252°7	+ 3°7	4	10				1536	0°676	98°5	225°5	— 3°6	2	3	
		1535b	0°686	88°0	249°0	+ 3°6	1	4				1536a	0°694	98°1	224°1	— 3°6	1	7	107 c
			0°839	75°8					507			1537a	0°769	68°3	218°8	+ 18°3	3	18	
			0°867	122°6					522			1537b	0°798	68°5	216°0	+ 18°7	0	25	97 c
			0°947	99°1					1012			1538	0°869	101°2	208°1	— 8°3	14	77	910 s f
			0°962	36°4					243			1539	0°905	82°3	202°7	+ 8°2	8	18	522 s f
			0°972	70°8					107				0°937	118°8				379	
Nov. 11							(89)	(572)	(3507)	Nov. 13							(104)	(679)	(3307)
315°773	SP, H		0°952	255°8					276	318°003	H, JH		0°923	267°5					60
I.			0°922	246°3					131			1532a	0°819	258°6	303°5	— 7°8	19	174	
			0°844	282°4					89			1532	0°799	258°3	301°5	— 7°7	0	29	121 c
			0°826	261°9					335			1532	0°762	256°0	297°8	— 8°9	4	75	
		1533	0°840	261°8	335°4	— 5°2	0	2				1532	0°740	258°4	296°3	— 6°7	29	230	101 c
		1532a	0°429	245°5	302°1	— 7°5	38	225				1535a	0°120	292°0	256°0	+ 5°2	0	6	
		1532b	0°361	238°0	296°9	— 8°2	48	378				1537a	0°550	59°5	219°8	+ 18°4	0	12	
		1535a	0°422	85°6	254°1	+ 4°5	6	21				1537b	0°589	60°8	216°8	+ 18°9	0	12	
		1535b	0°490	87°5	249°8	+ 3°7	0	4				1538	0°677	105°0	208°5	— 8°1	0	45	
		1536	0°813	96°8	225°2	— 3°8	4	7				1539	0°731	80°7	202°9	+ 8°6	5	11	
		1536	0°827	96°2	223°7	— 3°5	0	4									(57)	(594)	(282)
		1537a	0°880	71°0	218°2	+ 18°0	0	18	286 c	Nov. 14									
		1537b	0°898	70°3	215°9	+ 18°9	5	10		319°026	W, SP	1532a	0°931	261°2	304°0	— 7°3	15	124	
		1538	0°953	100°0	207°6	— 8°6	14	105	1440 c			1532	0°891	259°9	298°3	— 7°8	0	33	
		1539	0°970	82°8	203°0	+ 7°7	4	17	405 f			1532	0°878	261°2	296°8	— 6°5	0	54	
			0°756	73°1					98			1537a	0°371	41°0	221°4	+ 18°7	0	15	
			0°834	127°5					256			1537c	0°409	49°0	217°4	+ 17°9	0	9	
			0°912	61°3					150			1537b	0°429	47°9	216°6	+ 19°0	5	30	
Nov. 12							(119)	(791)	(3466)			1538	0°496	111°2	208°5	— 8°1	3	13	
316°656	SP, H		0°971	254°4					219	Nov. 15									
I.			0°943	281°1					479	319°734	H, JH		0°911	289°4					341
			0°914	267°1					390				0°890	270°4					327
			0°979	267°8					204				0°781	286°9					170
		1532a	0°601	253°4	302°8	— 7°6	35	212				1532a	0°979	261°9	304°3	— 7°4	36	144	
												1532	0°942	262°1	296°5	— 6°6	0	57	740 s f

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1536, Nov. 12-13. A close pair of very small spots.

Group 1537, Nov. 12-17. Two small spots, *a* and *b*. On Nov. 14 and 15 each spot has become a compact cluster of very small spots. A third spot, *c*, is seen on Nov. 15.

Group 1539, Nov. 12-17. A small spot.

Group 1538, Nov. 12-16. A very close pair of spots.

Group 1540, Nov. 13. Two small spots.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULÆ UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculæ upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 319 ^d .734	H, JH	1537a	0°29.3	17°4	221°5	+18°6	0	5		1884. 323 ^d .791	H, SP	1543	0°9.39	251°8	241°4	-16°3	0	8	
I.		1537b	0°33.6	28°2	217°1	+19°5	2	19		I.		1543	0°9.13	249°7	237°0	-17°6	3	22	} 143 c
		1538	0°36.2	120°5	208°5	-8°3	1	7				1541a	0°25.0	67°2	159°9	+7°5	16	122	
		1539	0°40.9	73°9	203°5	+8°7	3	8				1541b	0°29.0	69°2	157°5	+7°8	9	87	
		1541a	0°9.43	82°5	156°4	+7°9	17	122	714 n.f			1541	0°32.1	68°9	155°7	+8°5	0	15	
			0°83.7	120°1					291			1541	0°36.7	73°7	152°6	+7°8	2	43	
Nov. 16							(59)	(362)	(2583)			1541	0°41.7	69°2	150°1	+10°3	0	22	
320°784	H, SP	1537b	0°9.26	285°0	218°2	+19°7	0	5	224	Nov. 20		1542	0°5.49	106°1	141°3	-7°1	4	27	
I.		1539	0°19.2	53°2	204°0	+8°8	0	7				1542	0°5.79	109°5	139°8	-9°4	2	33	
		1541a	0°8.23	82°2	157°8	+7°7	15	136	543 c			1542	0°6.01	104°1	137°5	-6°8	0	32	
			0°9.64	101°0					830				0°8.65	115°9					1092
Nov. 17							(15)	(148)	(1597)				0°8.98	99°4					277
321°784	JH, SP		0°8.94	287°4					153	I.			0°9.80	252°0					210
I.			0°8.51	254°9					279				0°9.47	239°9					197
			0°8.11	240°8					382				0°9.31	260°5					682
			0°7.99	273°7					177				0°9.19	288°8					646
		1541a	0°6.67	81°0	158°2	+7°7	20	121	231 c			1541a	0°0.97	357°3	160°5	+7°3	19	104	
Nov. 18		1541	0°7.32	81°3	153°0	+7°8	0	16	1016 s.f			1541b	0°11.6	14°8	158°5	+8°2	14	70	
		1542	0°8.49	100°3	142°5	-7°5	0	10	159			1541	0°13.1	31°0	156°3	+8°2	1	13	
			0°8.65	71°2					263			1541	0°14.7	36°5	155°2	+8°6	3	6	
			0°9.63	81°0					159			1541	0°13.4	47°1	154°6	+7°0	3	7	
							(20)	(147)	(2660)			1541	0°19.5	29°9	154°5	+11°5	0	3	
322°967	H, JH	1543	0°8.55	249°5	240°5	-16°3	0	27		Nov. 21		1541	0°16.4	45°3	153°5	+8°4	0	3	
I.		1543	0°8.39	247°3	238°4	-17°7	4	14				1541	0°16.6	53°2	152°5	+7°5	1	15	
		1541a	0°4.32	75°7	159°3	+8°0	20	116				1541	0°20.7	46°0	151°5	+10°0	0	3	
		1541b	0°4.70	77°0	156°8	+7°8	5	31				1541	0°23.0	48°9	150°1	+10°4	0	4	
		1541	0°5.39	77°8	152°2	+8°2	15	52				1542	0°35.7	117°1	141°6	-7°7	14	61	
Nov. 19		1542	0°6.75	103°0	142°9	-7°2	3	12	343			1542	0°39.7	116°0	139°2	-8°3	7	40	
			0°8.62	243°2					760			1542	0°40.6	111°2	138°0	-4°3	1	18	
			0°9.07	110°0					66			1544a	0°6.27	118°7	125°4	-16°0	5	23	
			0°9.28	101°0					66			1544	0°6.60	116°2	122°5	-15°4	0	6	
							(47)	(252)	(1169)				0°9.51	105°5					496
323°791	H, SP		0°9.41	243°1					626	I.			0°9.47	289°8					607
I.			0°9.37	280°0					833			1541a	0°25.1	291°7	161°2	+7°0	15	95	
			0°8.07	257°5					518			1541b	0°23.1	299°0	159°4	+8°1	9	43	
												1541	0°19.3	308°4	156°5	+8°5	0	12	
																			355

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.

Group 1541, Nov. 16-25. A regular spot, *a*. A small spot appears following it on Nov. 18. Other small spots forming an irregular stream appear on succeeding days. A second regular spot, *b*, appears closely following *a* on Nov. 19.

Group 1542, Nov. 18-28. A small spot on Nov. 18. Other spots appear on the succeeding days and form an irregular and somewhat scattered group. The group has become more condensed by Nov. 22, when it consists of a large regular spot, *a*, closely followed by a number of small spots in a straight line. By Nov. 24 these have all coalesced with *a* to form one very large wedge-shaped spot, the point of the wedge following. The point of the wedge has become detached by Nov. 26.

Group 1543, Nov. 19-20. Two small spots.

Group 1544, Nov. 21-26. A small regular spot, *a*, with some small faint spots following it on Nov. 21 and 22. On Nov. 23 four spots are seen. Only *a* is seen after Nov. 23.

MEASURES OF POSITIONS AND AREAS OF SPOTS AND FACULE UPON THE SUN'S DISK

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

[illegible]

The Group 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 Fascula unaccompanied by a Spot. The positions of Fasculae 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.

Group 1547, Nov. 29-Dec. 8. Four spots on Nov. 29, two of which are measured together. On Dec. 1 the group consists of two large regular spots, *a* and *b*. By Dec. 2 *a* has become the leader of a straight stream of small spots. Some small spots appear following *b* on Dec. 2, and a second stream is thus formed. The two streams have coalesced by Dec. 5, and form a large irregular spot, *c*, close to but not touching *b*.
Group 1548, Dec. 2-8. A regular spot.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.																			
Greenwich Mean Solar 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 Mean Solar 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).	
1884. 338 ^d 979	SP, JH	1546a	0°348	279°2	353°1	+ 3°2	54	263		1884. 341 ^d 762	SP, JH	1548	0°217	240°0	307°4	- 6°5	0	10	
		1546	0°305	283°1	350°4	+ 4°0	0	6				1549	0°623	82°5	258°4	+ 4°4	36	186	118 c
		1546	0°261	286°6	347°6	+ 4°3	0	19		I.			0°868	122°0				248	
		1546	0°209	290°9	344°3	+ 4°3	0	5					0°883	98°0				403	
		1548	0°449	104°5	307°3	- 6°5	10	28					0°909	69°5				252	
		1549	0°967	85°5	258°1	+ 4°4	30	126	196 c	Dec. 8									
			0°913	92°5					36										
			0°925	103°8					128										
							(140)	(896)	(543)									(105) (989) (2145)	
Dec. 5																			
339°755	H, JH		0°927	288°7					522				0°977	289°5				315	
			0°916	276°5					241	I.			0°974	259°6				195	
			0°848	298°9					249			1546a	0°945	273°9	354°6	+ 3°5	58	340	1032 f
			0°841	287°0	18°7	+ 14°1	2	7				1550a	0°879	262°0	345°1	- 7°3	7	30	
		1547b	0°786	286°2	13°4	+ 12°6	27	160				1550b	0°858	262°7	342°7	- 6°6	7	24	
		1547c	0°792	289°0	13°5	+ 14°9	17	346	421 c			1551	0°551	248°0	315°4	- 12°3	0	23	
		1546a	0°510	276°3	353°3	+ 3°1	43	258				1552	0°295	127°2	270°2	- 10°7	12	53	
		1546	0°474	278°0	350°8	+ 3°7	0	6				1552	0°334	121°5	267°2	- 10°5	7	32	
		1546	0°419	275°5	347°5	+ 2°2	0	5				1549	0°432	78°6	259°0	+ 4°4	21	161	
		1546	0°382	283°6	344°7	+ 5°0	0	5				1553a	0°932	103°0	215°9	- 12°3	12	48	
		1546	0°354	289°0	342°5	+ 6°5	0	26				1553	0°950	103°0	212°8	- 12°5	0	65	399 c
		1548	0°290	113°1	307°4	- 6°6	3	25					0°739	101°1				314	
		1549	0°908	85°2	258°0	+ 4°3	23	145	446 c	Dec. 9			0°857	110°5				306	
			0°818																

Group 1549, Dec. 5-15. A regular spot. It has divided into two spots, *a* and *b*, by Dec. 13. *b* has disappeared by Dec. 15.
Group 1550, Dec. 9-10. Two spots, *a* and *b*. *b* has disappeared by Dec. 10.
Group 1551, Dec. 9-10. Two faint spots measured together on Dec. 9. Only one remains on Dec. 10.
Group 1552, Dec. 9-15. Two clusters of small spots on Dec. 9. On Dec. 10 the group consists of two regular spots, *a* and *b*, and several small spots between or near them.
b has disappeared by Dec. 14.
Group 1553, Dec. 9-17. A regular spot, *a*, followed by a stream of small spots. The latter have disappeared by Dec. 15.
Group 1554, Dec. 10-11. A cluster of small faint spots on Dec. 10. On Dec. 11 two considerable spots.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

Greenwich Mean Solar 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 Mean Solar 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).							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).
1884. 350 ^h 69 ^m 3	H, JH		0° 97' 4	276° 0	0	0				1884. 353 ^h 00 ^m 5	H, SP	1556a	0° 112	145° 0	144° 7	- 7° 0	30	201		
I.			0° 92' 1	287° 8					227			1559	0° 656	75° 6	108° 7	+ 8° 0	8	51		
			0° 91' 0	243° 1					218			1559	0° 675	75° 2	107° 3	+ 8° 6	0	18		
			0° 87' 9	264° 0					555			1558	0° 745	106° 3	101° 3	- 13° 3	20	128		
		1553a	0° 743	255° 9	225° 9	- 11° 4	2	10	433				0° 937	106° 1				98		
		1557	0° 320	161° 7	172° 7	- 19° 1	7	31		Dec. 19							(70)	(758)	(194)	
		1557	0° 344	157° 6	170° 8	- 20° 0	0	31												
		1557	0° 333	150° 5	168° 9	- 18° 3	0	17												
		1557	0° 372	151° 7	168° 0	- 20° 5	12	63												
		1555	0° 494	56° 0	153° 9	+ 14° 6	0	8		353° 7 11	H, M		0° 926	255° 6					639	
		1556	0° 539	106° 6	147° 3	- 10° 1	0	25		I.			0° 895	242° 8					66	
	1556a	0° 569	100° 8	144° 7	- 7° 4	38	216				1557	0° 653	243° 3	176° 9	- 18° 4	10	71	88		
	1556	0° 585	106° 3	144° 1	- 10° 7	0	6				1557	0° 634	240° 7	174° 9	- 19° 5	4	42			
	1558	0° 976	103° 9	101° 6	- 13° 9	21	158	437 f			1557	0° 560	238° 4	169° 2	- 18° 6	0	47			
			0° 855	99° 7				410			1557	0° 550	235° 2	167° 7	- 19° 8	7	44			
Dec. 17			0° 919	114° 2				383			1560a	0° 403	221° 0	155° 3	- 19° 4	0	5			
			0° 966	82° 6			(80)	(565)	557			1556	0° 181	235° 3	147° 7	- 7° 7	0	65		
											1556	0° 168	220° 5	145° 4	- 9° 1	4	12			
											1556a	0° 132	228° 6	144° 8	- 6° 8	34	235			
									144		1559	0° 514	70° 9	109° 9	+ 8° 1	12	38			
									383		1558	0° 628	109° 5	101° 7	- 13° 6	21	120			
									302		1561a	0° 985	81° 8	59° 7	+ 7° 7	36	640	224 c		
									330			0° 905	108° 3					222		
										Dec. 20						(128)	(1319)	(1239)		
											355° 00 8	SP, JH	1557	0° 833	249° 7	177° 0	- 17° 9	13	87	
											1557	0° 819	248° 3	175° 3	- 18° 8	9	22			
											1557	0° 799	246° 5	172° 9	- 19° 8	1	21			
											1557	0° 756	246° 5	168° 9	- 18° 9	0	8	182 c		
											1557	0° 736	243° 9	166° 6	- 20° 3	9	28	96 c		
											1560a	0° 622	239° 1	156° 5	- 20° 2	0	9			
											1560b	0° 587	236° 7	153° 4	- 20° 4	3	17			
											1556	0° 448	255° 7	147° 9	- 8° 1	1	65			
											1556	0° 408	260° 9	145° 8	- 5°	3	17			
											1556a	0° 397	257° 5	144° 9	- 6° 7	48	225			
											1556	0° 368	258° 9	143° 2	- 5° 9	2	15			
											1559	0° 260	44° 0	111° 5	+ 8° 8	8	28			
											1558	0° 384	120° 4	102° 2	- 13° 0	30	112			
											1561a	0° 887	79° 1	60° 4	+ 8° 7	66	519	881 c		
											1561	0° 953	79° 0	50° 5	+ 9° 8	77	409			
										Dec. 21			0° 813	107° 1			(270)	(1582)	(1230)	
																		71		
																		(1230)		

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1558, Dec. 17-27. A regular spot.

Group 1559, Dec. 18-27. A regular spot. A small spot is seen near it on Dec. 19.

Group 1560, Dec. 20-22. A small spot, *a*, which has disappeared by Dec. 22. A second spot, *b*, appears on Dec. 21.

Group 1561, 1884 Dec. 20-1885 Jan. 1. A very large regular spot, *a*, followed at a considerable distance by three regular but much smaller spots, *b, c*, and *d*. A number of small spots are scattered irregularly over the intermediate space. *a* and *c* have very dark umbrae.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—continued.

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1562, Dec. 25. Two small spots.
Group 1563, 1884 Dec. 25-1885 Jan. 5. A regular spot, *a*. A small spot, *b*, is seen preceding it on Dec. 26 and 27, and another, *c*, on Dec. 29 and 30. A fourth spot, *d*, is seen on Dec. 29.

Measures of Positions and Areas of Spots and Faculae upon the Sun's Disk—concluded.

Greenwich Mean Solar 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 Mean Solar 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).	
1884. 360 ^d .709	H, JH	1564	0.633	100.9	8.1	- 9.0	0	23		1884. 362 ^d .718	SP, JH	1564	0.244	113.6	7.4	- 8.4	0	1	
I.		1563b	0.763	86.3	35.7	+ 1.1	0	14		I.		1564	0.285	114.1	5.2	- 9.5	0	7	
Dec. 27		1563a	0.788	85.9	35.3	+ 1.6	8	103	607 c			1563c	0.412	76.2	35.6	+ 3.0	1	12	
			0.897	100.7					524			1563d	0.407	81.9	35.6	+ 0.7	3	11	
							(110)	(1016)	(2777)			1563a	0.431	80.3	35.4	+ 1.5	14	95	
												0.911	96.1						133
361.680	SP, H		0.962	242.9					402	Dec. 29			0.940	79.7					168
I.			0.958	281.8					599				0.990	93.3					725
			0.951	254.8					722								(109)	(770)	(3017)
		1561a	0.460	294.8	59.0	+ 8.6	108	548					0.961	283.3					
		1561	0.399	302.7	53.9	+ 9.8	5	41					0.923	248.1					172
		1561b	0.349	303.8	51.1	+ 8.5	5	33		363.719	H, JH		0.800	283.9	58.9	+ 9.2	58	445	571
		1561	0.380	311.7	50.9	+ 11.9	0	27		I.		1561a	0.800	283.9	58.9	+ 9.2	58	445	522 c
		1561c	0.338	313.5	48.5	+ 10.7	15	67				1561b	0.722	285.6	51.8	+ 9.1	1	15	37 c
		1561d	0.288	300.8	48.4	+ 5.8	0	11				1561c	0.690	288.1	48.8	+ 10.1	12	94	82 c
		1564	0.442	104.1	8.5	- 8.7	0	8				1563e	0.202	57.3	35.7	+ 3.3	0	10	
		1563a	0.633	84.3	35.2	+ 1.5	11	126	128 c			1563a	0.218	68.4	35.6	+ 1.7	10	97	
			0.773	102.3					141	Dec. 30		1565	0.909	91.7	30.2	- 2.8	6	36	341 n f
			0.783	79.1					152			0.924	105.3						300
Dec. 28			0.899	102.5					336			0.962	74.4						220
							(144)	(861)	(2480)								(87)	(697)	(2245)
362.718	SP, JH		0.973	285.1					225				0.918	281.3	59.0	+ 9.1	44	356	
I.			0.967	279.5					369			1561a	0.865	282.5	52.1	+ 9.2	0	16	
			0.947	240.2					608			1561b	0.860	278.9	52.0	+ 6.0	0	22	
			0.935	255.7					688			1561	0.840	283.7	49.2	+ 9.7	9	87	1010 c
			0.897	283.8					101			1564	0.309	245.4	10.0	- 10.4	5	30	
		1561a	0.644	287.2	58.7	+ 8.7	75	449				1564	0.271	246.7	8.0	- 9.3	0	37	
		1561	0.637	292.4	57.2	+ 11.7	1	7				1563a	0.088	330.4	35.6	+ 1.2	9	95	
		1561	0.585	290.3	54.0	+ 9.3	0	76				0.811	99.2						549
		1561b	0.547	291.1	51.4	+ 8.9	5	35		Dec. 31		0.937	98.1						516
		1561	0.549	297.1	50.2	+ 12.0	1	6									(67)	(643)	(2075)
		1561c	0.519	295.7	48.7	+ 10.4	9	71											

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 Faculae 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 Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 1564, 1884 Dec. 27-1885 Jan. 1. A small faint spot on Dec. 27 and 28; two small faint spots on Dec. 29. Neither is seen on Dec. 30. On Dec. 31 the group consists of three small spots, two of which are measured together. Only one spot remains on Jan. 1.

Group 1565, Dec. 30. A small regular spot.

MEAN AREAS OF UMBRÆ, WHOLE SPOTS, and FACULÆ upon the SUN'S DISK, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, and at DEHRA DÛN, INDIA, for each synodic ROTATION of the SUN, from 1873, July 28.

The Mean Areas have been formed by taking the Means of the Areas for each day of observation throughout each Rotation of the Sun, and throughout each Year, and are expressed in millionths of the Sun's visible Hemisphere.

The rotations adopted in the following table 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 rotations adopted in the volumes of Greenwich Observations, 1877 to 1883, correspond on the other hand to the sidereal rotation of the Sun, the commencement of each being defined by the coincidence of the assumed prime meridian with the ascending node. 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, Greenwich Civil Time.	No. of Days on which Photographs were taken.	Mean of Daily Areas.		
			Umbrae.	Whole Spots.	Faculae.
265	1873 July 28·59	14	148	942	4067
266	August 24·82	14	111	583	4359
267	September 21·09	16	143	767	3539
268	October 18·37	4	85	535	1247
269	November 14·67	6	64	404	1732
270	December 11·99	5	80	583	1456
271	1874 January 8·32	2	199	1172	3251
272	February 4·66	3	50	392	563
273	March 4·00	7	56	379	441
274	March 31·30	14	39	352	146
275	April 27·56	17	67	597	68
276	May 24·79	13	28	243	178
277	June 20·99	20	140	1072	774
278	July 18·19	14	197	1175	2009
279	August 14·42	20	82	566	1125
280	September 10·67	14	112	788	1546
281	October 7·95	13	41	242	972
282	November 4·23	14	67	458	767
283	December 1·55	7	18	141	189
284	December 28·88	5	42	207	1336
285	1875 January 25·21	11	39	177	790
286	February 21·55	11	104	589	607
287	March 20·87	14	67	370	648
288	April 17·16	20	66	452	419
289	May 14·39	16	24	176	358
290	June 10·60	16	90	490	229
291	July 7·80	13	24	147	320
292	August 4·01	12	29	150	586
293	August 31·26	10	6	40	489
294	September 27·51	15	13	75	251
295	October 24·81	11	36	182	253
296	November 21·11	5	78	378	161
297	December 18·42	4	12	72	62
298	1876 January 14·76	12	51	333	226
299	February 11·11	15	54	257	411
300	March 9·44	20	56	242	420
301	April 5·74	17	1	10	286
302	May 2·99	18	14	55	235
303	May 30·21	11	0	4	180
304	June 26·41	15	14	64	281
305	July 23·61	14	7	33	82

Mean Areas of Umbrae, Whole Spots, and Faculae upon the Sun's Disk—continued.						
No. of Rotation.	Date of Commencement of each Rotation, Greenwich Civil Time.		No. of Days on which Photographs were taken.	* Mean of Daily Areas.		
				Umbrae.	Whole Spots.	Faculae.
306	1876	August 19 ^d 84	10	8	29	184
307		September 16 ^o 09	12	31	127	243
308		October 13 ^o 35	7	29	147	235
309		November 9 ^o 67	7	36	130	163
310		December 6 ^o 99	2	45	334	144
311	1877	January 3 ^o 32	6	27	125	312
312		January 30 ^o 66	8	15	71	86
313		February 27 ^o 00	10	18	88	257
314		March 26 ^o 31	12	17	90	314
315		April 22 ^o 58	15	28	116	235
316		May 19 ^o 81	16	22	101	158
317		June 16 ^o 02	19	4	15	128
318		July 13 ^o 22	12	2	7	103
319		August 9 ^o 43	17	11	54	191
320		September 5 ^o 68	14	15	77	164
321		October 2 ^o 95	13	0	0	67
322		October 30 ^o 24	15	68	338	231
323		November 26 ^o 55	8	36	159	66
324		December 23 ^o 87	10	0	3	154
325	1878	January 20 ^o 21	8	6	20	48
326		February 16 ^o 55	8	13	62	129
327		March 15 ^o 88	8	0	0	0
328		April 12 ^o 17	9	0	0	0
329		May 9 ^o 42	10	14	62	203
330		June 5 ^o 63	13	8	49	203
331		July 2 ^o 82	18	0	1	44
332		July 30 ^o 03	15	0	0	23
333		August 26 ^o 27	18	17	77	160
334		September 22 ^o 53	15	0	0	69
335		October 19 ^o 81	10	6	23	41
336		November 16 ^o 12	5	0	0	101
337		December 13 ^o 43	3	0	0	0
338	1879	January 9 ^o 77	1	0	0	0
339		February 6 ^o 11	9	0	0	22
340		March 5 ^o 44	10	0	0	0
341		April 1 ^o 75	10	13	63	111
342		April 29 ^o 01	14	1	5	85
343		May 26 ^o 23	10	0	0	25
344		June 22 ^o 44	11	16	69	278
345		July 19 ^o 64	12	11	29	80
346		August 15 ^o 86	10	17	84	73
347		September 12 ^o 11	14	9	30	212
348		October 9 ^o 39	8	43	181	240
349		November 5 ^o 68	10	33	151	287
350		December 2 ^o 99	6	4	17	618
351		December 30 ^o 32	6	50	200	726
352	1880	January 26 ^o 66	13	64	305	695
353		February 23 ^o 00	15	26	146	475
354		March 21 ^o 32	12	28	114	416
355		April 17 ^o 60	16	69	345	892
356		May 14 ^o 84	15	59	266	533
357		June 11 ^o 04	12	136	575	1111
358		July 8 ^o 24	17	45	238	1198
359		August 4 ^o 45	10	203	1061	1702
360		August 31 ^o 69	14	148	669	1704
361		September 27 ^o 96	10	122	708	1380
362		October 25 ^o 25	9	49	291	1286
363		November 21 ^o 56	6	168	913	1088
364		December 18 ^o 88	7	105	479	635

Mean Areas of Umbrae, Whole Spots, and Faculae upon the Sun's Disk—concluded.						
No. of Rotation.	Date of Commencement of each Rotation, Greenwich Civil Time.	No. of Days on which Photographs were taken.	Mean of Daily Areas.			
			Umbrae.	Whole Spots.	Faculae.	
365	1881 January 15 ^h 21 ^m	5	166	792	1143	
366	February 11 ^h 56 ^m	4	54	266	1783	
367	March 10 ^h 88 ^m	17	147	749	1904	
368	April 7 ^h 18 ^m	11	85	512	1748	
369	May 4 ^h 44 ^m	17	84	386	1554	
370	May 31 ^h 65 ^m	15	114	568	1910	
371	June 27 ^h 85 ^m	17	171	848	2388	
372	July 25 ^h 06 ^m	17	182	859	2080	
373	August 21 ^h 28 ^m	16	243	1165	1862	
374	September 17 ^h 54 ^m	14	119	569	1602	
375	October 14 ^h 82 ^m	12	135	681	1276	
376	November 11 ^h 12 ^m	17	280	1366	1485	
377	December 8 ^h 44 ^m	19	64	336	1375	
378	1882 January 4 ^h 77 ^m	22	68	400	1416	
379	February 1 ^h 11 ^m	26	119	691	1877	
380	February 28 ^h 45 ^m	27	189	952	2031	
381	March 27 ^h 76 ^m	27	317	1941	2907	
382	April 24 ^h 03 ^m	26	343	1688	2736	
383	May 21 ^h 26 ^m	27	107	582	1880	
384	June 17 ^h 46 ^m	24	84	505	2298	
385	July 14 ^h 66 ^m	23	82	495	2542	
386	August 10 ^h 88 ^m	24	182	865	1872	
387	September 7 ^h 12 ^m	25	257	1202	2185	
388	October 4 ^h 40 ^m	27	245	1296	2134	
389	October 31 ^h 69 ^m	27	398	2016	2424	
390	November 28 ^h 00 ^m	28	61	411	1730	
391	December 25 ^h 32 ^m	26	161	974	2192	
392	1883 January 21 ^h 66 ^m	25	123	794	1792	
393	February 18 ^h 00 ^m	26	44	302	1528	
394	March 17 ^h 33 ^m	28	151	1073	1617	
395	April 13 ^h 62 ^m	26	105	755	1483	
396	May 10 ^h 86 ^m	26	99	596	1031	
397	June 7 ^h 07 ^m	27	224	1563	1507	
398	July 4 ^h 27 ^m	20	296	2037	2130	
399	July 31 ^h 47 ^m	25	78	551	1776	
400	August 27 ^h 71 ^m	23	278	1589	1647	
401	September 23 ^h 97 ^m	27	253	1478	2200	
402	October 21 ^h 26 ^m	27	248	1606	2469	
403	November 17 ^h 56 ^m	25	181	1305	2268	
404	December 14 ^h 88 ^m	24	221	1918	3151	
405	1884 January 11 ^h 22 ^m	25	236	1716	2858	
406	February 7 ^h 56 ^m	23	234	1434	3467	
407	March 5 ^h 89 ^m	25	168	1181	2168	
408	April 2 ^h 19 ^m	25	211	1651	2157	
409	April 29 ^h 45 ^m	26	147	1184	1751	
410	May 26 ^h 68 ^m	19	106	795	1602	
411	June 22 ^h 88 ^m	17	83	661	1209	
412	July 20 ^h 08 ^m	21	93	757	1151	
413	August 16 ^h 30 ^m	24	89	646	1534	
414	September 12 ^h 55 ^m	22	235	1477	2010	
415	October 9 ^h 83 ^m	26	115	760	2029	
416	November 6 ^h 13 ^m	26	63	469	1988	
417	December 3 ^h 44 ^m	26	119	852	1932	

Many of the photographs taken during the 272nd and five following rotations, *i.e.*, between 1874 February 4, and 1874 June 20, do not show the Faculae with sufficient distinctness to allow of their measurement; the mean areas of Faculae given for these rotations are therefore too small.

MEAN HELIOGRAPHIC LATITUDE of the SPOTS upon the SUN'S DISK, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, and at DEHRA DÛN, INDIA, for each synodic ROTATION of the SUN, and for each YEAR, from 1874 April 27 to 1884 December 30.

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

The Heliographic Latitude of each spot (taken to the nearest degree) for each day of observation has been multiplied by its area for the day, and the sum of the products for Spots North of the Sun's 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 of whole spots by the number of days of observation for each Rotation of the Sun, and for each Year, and are expressed in millionths of the Sun's visible hemisphere.

All these means have been formed for each rotation from 1874 April 27 to 1884 December 30, and for each Year, from 1874 to 1884.

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, Greenwich Civil Time.	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.		
275	1874 Apr. 27 ⁵⁶	17	117	+ 8 ¹¹	481	— 8 ⁷⁶	— 5 ⁴⁷	8 ⁶³
276	May 24 ⁷⁹	13	159	11 ²⁴	84	8 ⁸⁹	+ 4 ³¹	10 ⁴³
277	June 20 ⁹⁹	20	613	12 ⁰⁶	459	9 ⁰⁵	+ 3 ⁰²	10 ⁷⁷
278	July 18 ¹⁹	14	861	7 ¹⁶	314	18 ¹⁶	+ 0 ⁴⁰	10 ¹⁰
279	Aug. 14 ⁴²	20	140	2 ⁹⁷	426	15 ²⁴	— 10 ⁷²	12 ²¹
280	Sept. 10 ⁶⁷	14	43	11 ¹¹	745	11 ⁹⁷	— 10 ⁷¹	11 ⁹²
281	Oct. 7 ⁹⁵	13	56	9 ⁵⁰	186	12 ⁸⁸	— 7 ⁶⁸	12 ¹⁰
282	Nov. 4 ²³	14	214	9 ⁴³	244	15 ⁶³	— 3 ⁹¹	12 ⁷³
283	Dec. 1 ⁵⁵	7	120	6 ⁶⁰	21	5 ²⁴	+ 4 ⁸⁴	6 ⁴⁰
284	Dec. 28 ⁸⁸	5	128	6 ⁶²	79	13 ⁴⁷	— 1 ⁰⁹	9 ²⁵
285	1875 Jan. 25 ²¹	11	142	17 ⁴⁵	35	12 ⁰⁰	+ 11 ⁶⁶	16 ³⁸
286	Feb. 21 ⁵⁵	11	385	16 ¹⁷	204	9 ⁰²	+ 7 ⁴⁴	13 ⁶⁹
287	Mar. 20 ⁸⁷	14	166	15 ¹⁷	204	14 ³⁴	— 1 ⁰⁹	14 ⁷¹
288	Apr. 17 ¹⁶	20	338	9 ²⁷	115	9 ⁷⁵	+ 4 ⁴⁵	9 ³⁹
289	May 14 ³⁹	16	7	11 ⁰⁰	169	10 ³⁹	— 9 ⁵⁷	10 ⁴¹
290	June 10 ⁶⁰	16	193	6 ⁹¹	296	8 ¹⁴	— 2 ¹⁹	7 ⁶⁵
291	July 7 ⁸⁰	13	147	9 ⁰³	0	..	+ 9 ⁰³	9 ⁰³
292	Aug. 4 ⁰¹	12	149	7 ²⁴	1	10 ⁰⁰	+ 7 ¹¹	7 ²⁶
293	Aug. 31 ²⁶	10	38	13 ³⁵	2	17 ⁰⁰	+ 12 ⁰⁴	13 ⁵¹
294	Sept. 27 ⁵¹	15	18	10 ⁴⁶	56	8 ²⁸	— 3 ⁷⁰	8 ⁸¹
295	Oct. 24 ⁸¹	11	120	11 ⁰⁵	62	7 ⁵⁶	+ 4 ⁷¹	9 ⁸⁶
296	Nov. 21 ¹¹	5	44	12 ¹³	334	8 ⁰⁴	— 5 ⁷¹	8 ⁵¹
297	Dec. 18 ⁴²	4	0	..	72	9 ⁶⁴	— 9 ⁶⁴	9 ⁶⁴
298	1876 Jan. 14 ⁷⁶	12	40	11 ⁹⁵	294	12 ⁴⁷	— 9 ⁵⁵	12 ⁴¹
299	Feb. 11 ¹¹	15	20	8 ⁸⁹	237	12 ⁹⁵	— 11 ²¹	12 ⁶²
300	Mar. 9 ⁴⁴	20	161	14 ⁸⁶	81	8 ⁸⁵	+ 6 ⁹⁰	12 ⁸⁴
301	Apr. 5 ⁷⁴	17	4	12 ⁴⁰	6	6 ¹⁶	+ 1 ²⁸	8 ⁶⁷
302	May 2 ⁹⁹	18	0	..	55	14 ⁰⁵	— 14 ⁰⁵	14 ⁰⁵
303	May 30 ²¹	11	4	1 ⁰⁰	0	..	+ 1 ⁰⁰	1 ⁰⁰
304	June 26 ⁴¹	15	9	3 ³⁸	55	7 ⁴⁹	— 5 ⁹⁰	6 ⁸⁹
305	July 23 ⁶¹	14	6	10 ⁰⁰	27	9 ⁰⁶	— 5 ⁴⁸	9 ²³
306	Aug. 19 ⁸⁴	10	0	..	29	10 ⁹⁶	— 10 ⁹⁶	10 ⁹⁶
307	Sept. 16 ⁰⁹	12	3	11 ⁰⁰	124	6 ⁰⁷	— 5 ⁷³	6 ¹⁷
308	Oct. 13 ³⁵	7	0	..	147	10 ¹¹	— 10 ¹¹	10 ¹¹
309	Nov. 9 ⁶⁷	7	31	1 ⁰⁰	99	11 ³¹	— 8 ³⁴	8 ⁸²
310	Dec. 6 ⁹⁹	2	334	11 ⁰⁰	0	..	+ 11 ⁰⁰	11 ⁰⁰

MEAN HELIOGRAPHIC LATITUDE OF SPOTS FOR EACH ROTATION OF THE SUN,

Mean Heliographic Latitude of the Spots upon the Sun's Disk—continued.									
No. of Rotation.	Date of Commencement of each Rotation, Greenwich Civil Time.	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.			
				°		°	°	°	
311	1877 Jan. 3:32	6	119	+ 10°64	6	— 7°00	+ 9°77	10°46	
312	Jan. 30:66	8	68	9°23	3	8°00	+ 8°56	9°18	
313	Feb. 27:00	10	13	7°00	75	11°18	— 8°43	10°55	
314	Mar. 26:31	12	3	0°35	87	14°29	— 13°74	13°76	
315	Apr. 22:58	15	60	8°95	56	10°58	— 0°52	9°74	
316	May 19:81	16	15	9°00	86	10°09	— 7°24	9°93	
317	June 16:02	19	5	10°36	10	12°85	— 5°74	12°08	
318	July 13:22	12	6	12°00	1	13°00	+ 7°18	12°19	
319	Aug. 9:43	17	54	8°82	0	..	+ 8°82	8°82	
320	Sept. 5:68	14	52	9°00	25	10°81	+ 2°52	9°59	
321	Oct. 2:95	13	0	..	0	..	..	..	
322	Oct. 30:24	15	0	..	338	7°73	— 7°73	7°73	
323	Nov. 26:55	8	0	..	159	10°00	— 10°00	10°00	
324	Dec. 23:87	10	3	8°00	0	..	+ 8°00	8°00	
325	1878 Jan. 20:21	8	16	8°00	4	8°58	+ 4°31	8°13	
326	Feb. 16:55	8	62	5°54	0	..	+ 5°54	5°54	
327	Mar. 15:88	8	0	..	0	..	..	..	
328	Apr. 12:17	9	0	..	0	..	..	..	
329	May 9:42	10	62	8°04	0	..	+ 8°04	8°04	
330	June 5:63	13	48	13°35	1	7°00	+ 12°90	13°21	
331	July 2:82	18	1	15°00	0	..	+ 15°00	15°00	
332	July 30:03	15	0	..	0	..	..	..	
333	Aug. 26:27	18	77	3°90	0	..	+ 3°90	3°90	
334	Sept. 22:53	15	0	..	0	..	..	..	
335	Oct. 19:81	10	23	10°70	0	..	+ 10°70	10°70	
336	Nov. 16:12	5	0	..	0	..	..	..	
337	Dec. 13:43	3	0	..	0	..	..	..	
338	1879 Jan. 9:77	1	0	..	0	..	..	..	
339	Feb. 6:11	9	0	..	0	..	..	..	
340	Mar. 5:44	10	0	..	0	..	..	..	
341	Apr. 1:75	10	0	..	63	20°56	— 20°56	20°56	
342	Apr. 29:01	14	5	14°18	0	..	+ 14°18	14°18	
343	May 26:23	10	0	..	0	..	..	..	
344	June 22:44	11	3	27°31	66	26°14	— 23°88	26°19	
345	July 19:64	12	22	10°00	7	17°00	+ 3°38	11°72	
346	Aug. 15:86	10	84	28°20	0	..	+ 28°20	28°20	
347	Sept. 12:11	14	21	26°42	10	22°98	+ 10°82	25°33	
348	Oct. 9:39	8	22	20°60	159	22°99	— 17°74	22°70	
349	Nov. 5:68	10	11	23°58	140	21°71	— 18°47	21°84	
350	Dec. 2:99	6	0	..	17	20°05	— 20°05	20°05	
351	Dec. 30:32	6	84	21°61	117	15°45	+ 0°09	18°04	
352	1880 Jan. 26:66	13	237	21°37	69	16°21	+ 12°90	20°21	
353	Feb. 23:00	15	75	19°95	71	25°99	+ 2°54	22°01	
354	Mar. 21:32	12	68	18°38	46	18°99	+ 3°28	18°63	
355	Apr. 17:60	16	344	23°89	1	28°00	+ 23°70	23°91	
356	May 14:84	15	264	14°32	2	22°00	+ 14°07	14°37	
357	June 11:04	12	88	23°19	487	22°70	— 15°68	22°77	
358	July 8:24	17	181	19°98	57	31°60	+ 7°56	22°77	
359	Aug. 4:45	10	831	19°42	229	17°38	+ 11°48	19°00	
360	Aug. 31:69	14	304	19°96	366	17°23	— 0°36	18°47	
361	Sept. 27:96	10	259	18°81	450	19°35	— 5°43	19°15	
362	Oct. 25:25	9	129	20°58	163	12°94	+ 1°87	16°31	
363	Nov. 21:56	6	704	20°93	209	14°32	+ 12°86	19°41	
364	Dec. 18:88	7	348	23°11	132	23°94	+ 10°19	23°34	
365	1881 Jan. 15:21	5	644	17°95	148	13°98	+ 11°99	17°21	
366	Feb. 11:56	4	161	17°33	105	19°92	+ 2°66	18°35	

Mean Heliographic Latitude of the Spots upon the Sun's Disk—concluded.

No. of Rotation.	Date of Commencement of each Rotation, Greenwich Civil Time.		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.		
		a			o		o		o
367	1881	Mar. 10 ⁸⁸	17	298	+ 16 ⁵¹	452	— 20 ²⁰	— 5 ⁶³	18 ⁷⁴
368		Apr. 7 ¹⁸	11	242	11 ⁵³	270	17 ⁴⁶	— 3 ⁷⁶	14 ⁶⁵
369		May 4 ⁴⁴	17	151	16 ⁵²	235	19 ³¹	— 5 ³²	18 ²²
370		May 31 ⁶⁵	15	256	19 ⁹⁷	312	12 ⁵²	+ 2 ¹³	15 ⁸⁸
371		June 27 ⁸⁵	17	501	18 ⁰³	347	17 ⁴³	+ 3 ⁵³	17 ⁷⁹
372		July 25 ⁰⁶	17	695	20 ⁸¹	164	16 ⁸⁵	+ 13 ⁶²	20 ⁰⁵
373		Aug. 21 ²⁸	16	917	19 ¹⁸	247	20 ¹⁸	+ 10 ⁸²	19 ³⁹
374		Sept. 17 ⁵⁴	14	521	17 ³²	48	19 ³⁰	+ 14 ²³	17 ⁴⁹
375		Oct. 14 ⁸²	12	519	16 ⁴¹	162	18 ⁶⁵	+ 8 ⁰⁸	16 ⁹⁴
376		Nov. 11 ¹²	17	1044	16 ⁰²	262	19 ⁶⁹	+ 8 ⁸⁶	16 ⁷⁶
377		Dec. 8 ⁴⁴	19	278	23 ⁵⁷	57	25 ⁴⁸	+ 15 ²¹	23 ⁹⁰
378	1882	Jan. 4 ⁷⁷	22	293	16 ¹⁰	107	19 ⁶⁵	+ 6 ⁵¹	17 ⁰⁵
379		Feb. 1 ¹¹	26	343	11 ¹⁴	348	16 ³⁰	— 2 ⁶⁸	13 ⁷⁴
380		Feb. 28 ⁴⁵	27	116	13 ⁶⁵	836	13 ⁰⁴	— 9 ⁸⁰	13 ¹²
381		Mar. 27 ⁷⁶	27	339	14 ⁰⁶	1602	22 ⁰⁵	— 15 ⁷⁵	20 ⁶⁶
382		Apr. 24 ⁰³	26	652	18 ³⁴	1037	22 ⁹⁶	— 7 ⁰²	21 ¹⁸
383		May 21 ²⁶	27	203	18 ¹²	379	16 ⁰⁵	— 4 ¹⁴	16 ⁷⁷
384		June 17 ⁴⁶	24	259	15 ⁶³	246	15 ⁴⁶	+ 0 ⁴⁸	15 ⁵⁵
385		July 14 ⁶⁶	23	328	14 ⁹²	166	13 ⁹⁵	+ 5 ²¹	14 ⁶¹
386		Aug. 10 ⁸⁸	24	651	15 ⁸⁵	214	17 ⁰⁵	+ 7 ⁷⁰	16 ¹⁵
387		Sept. 7 ¹²	25	566	12 ⁸⁴	636	22 ⁰⁸	— 5 ⁶⁴	17 ⁷³
388		Oct. 4 ⁴⁰	27	776	16 ⁶⁴	520	22 ¹⁰	+ 1 ¹¹	18 ⁸³
389		Oct. 31 ⁶⁹	27	1142	18 ³⁹	873	18 ⁹⁰	+ 2 ²²	18 ⁶³
390		Nov. 28 ⁰⁰	28	213	14 ⁸⁹	198	14 ⁴⁸	+ 0 ⁷³	14 ⁶⁹
391		Dec. 25 ³²	26	271	8 ⁰⁸	703	13 ⁸³	— 7 ⁷⁴	12 ²³
392	1883	Jan. 21 ⁶⁶	25	469	8 ³³	324	16 ⁵⁴	— 1 ⁸³	11 ⁶⁸
393		Feb. 18 ⁰⁰	26	143	9 ⁵⁰	159	13 ²⁹	— 2 ⁵³	11 ⁵⁰
394		Mar. 17 ³³	28	363	12 ¹⁷	710	14 ⁴⁷	— 5 ⁴⁶	12 ⁷⁰
395		Apr. 13 ⁶²	26	233	10 ³¹	522	18 ⁰⁷	— 9 ³¹	15 ⁶⁷
396		May 10 ⁸⁶	26	172	12 ⁷⁷	424	13 ⁷¹	— 6 ⁰⁷	13 ⁴⁴
397		June 7 ⁰⁷	27	545	10 ⁴⁴	1017	15 ⁴¹	— 6 ⁴⁰	13 ⁶⁸
398		July 4 ²⁷	20	360	10 ⁹³	1677	15 ⁰⁸	— 10 ⁴⁸	14 ³⁵
399		July 31 ⁴⁷	25	79	13 ³⁵	473	13 ⁷⁰	— 9 ⁸⁴	13 ⁶⁵
400		Aug. 27 ⁷¹	23	410	11 ⁸⁴	1179	17 ¹⁹	— 9 ⁷⁰	15 ⁸¹
401		Sept. 23 ⁹⁷	27	403	11 ⁶⁰	1075	12 ⁸¹	— 6 ¹⁵	12 ⁴⁸
402		Oct. 21 ²⁶	27	416	11 ¹³	1190	11 ⁶⁶	— 5 ⁷⁵	11 ⁵²
403		Nov. 17 ⁵⁶	25	443	14 ⁹⁴	862	11 ⁴⁹	— 2 ⁵²	12 ⁶⁶
404		Dec. 14 ⁸⁸	24	753	12 ¹⁹	1165	10 ⁸⁵	— 1 ⁸⁰	11 ³⁷
405	1884	Jan. 11 ²²	25	934	10 ⁶⁹	782	16 ³⁴	— 1 ⁶²	13 ²⁶
406		Feb. 7 ⁵⁶	23	859	10 ⁰³	575	13 ²⁷	+ 0 ⁶⁹	11 ³³
407		Mar. 5 ⁸⁹	25	381	10 ⁷¹	800	11 ¹⁰	— 4 ⁰⁷	10 ⁹⁸
408		Apr. 2 ¹⁹	25	115	9 ⁴²	1536	11 ⁷⁵	— 10 ²⁸	11 ⁵⁹
409		Apr. 29 ⁴⁵	26	219	10 ³⁷	965	10 ⁹⁷	— 7 ⁰²	10 ⁸⁶
410		May 26 ⁶⁸	19	297	11 ⁸⁸	498	10 ⁹²	— 2 ³⁹	11 ²⁸
411		June 22 ⁸⁸	17	316	11 ²³	345	10 ⁷⁶	— 0 ²⁴	10 ⁹⁸
412		July 20 ⁰⁸	21	318	6 ⁸⁰	439	7 ⁵¹	— 1 ⁵⁰	7 ²¹
413		Aug. 16 ³⁰	24	415	9 ⁶⁴	231	12 ⁹⁷	+ 1 ⁵⁵	10 ⁸³
414		Sept. 12 ⁵⁵	22	1074	13 ⁰⁶	404	11 ⁸⁰	+ 6 ²⁶	12 ⁷¹
415		Oct. 9 ⁸³	26	219	12 ⁸⁹	541	12 ¹²	— 4 ⁹⁰	12 ³⁹
416		Nov. 6 ¹³	26	188	8 ⁰³	281	8 ⁴³	— 1 ⁸⁴	8 ²⁷
417		Dec. 3 ⁴⁴	26	577	8 ¹⁹	275	10 ⁷⁹	+ 2 ⁰⁶	9 ⁰³

MEAN AREAS of UMBRÆ, WHOLE SPOTS, and FACULÆ upon the SUN'S DISK, as measured on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, for each Year from 1873 to 1884.

The Mean Areas are expressed in millionths of the Sun's visible Hemisphere.

Year.	No. of Days on which Photographs were taken.	Mean of Daily Areas.		
		Umbre.	Whole Spots.	Faculæ.
1873	58	120	701	3401
1874	159	85	601	813
1875	161	48	272	451
1876	162	25	122	256
1877	168	19	92	175
1878	146	5	24	90
1879	126	11	49	151
1880	158	85	416	977
1881	181	149	730	1733
1882	343	189	1002	2154
1883	340	175	1155	1856
1884	315	148	1079	2057

Many of the photographs taken during the early part of 1874 do not show the Faculæ with sufficient distinctness to allow of their measurement. The mean of daily areas of Faculæ for the half year beginning 1874 June 20 is 1102.

MEAN HELIOGRAPHIC LATITUDE of SPOTS upon the SUN'S DISK, as measured on the PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, for each YEAR from 1874 to 1884.

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.		
1874	132	275	0	362	0	0	0
1875	161	153	+ 9'06	119	- 12'23	- 3'03	10'86
1876	162	32	11'21	90	9'51	+ 1'99	10'63
1877	168	26	12'63	65	10'96	- 4'68	11'40
1878	146	24	9'17	1	9'56	- 4'20	9'45
1879	126	14	7'19	35	8'14	+ 6'97	7'20
1880	158	257	23'64	159	22'56	- 9'20	22'87
1881	181	500	20'06	229	19'50	+ 4'91	19'85
1882	343	443	18'22	558	18'34	+ 6'72	18'26
1883	340	443	16'04	815	19'31	- 3'67	17'86
1884	315	478	11'04	601	13'95	- 6'59	13'09
			10'72		11'79	- 1'82	11'32

The Means of Daily Areas, &c. for the year 1874 refer to a period of eight months from 1874 April 27 to 1874 December 28.