

N.	date u.t.	L ⁰			A _d	A _d ¹	A _H	A _H ¹	n	T	Q
3702	12.406-9-60	14	73	99	61	207	33	131	24		
		14	71	100	61	127	32	90	20		
		9	70	109	64	39	29	25	19		
	13.406-9-60					372	99	236	63	-	G 3
		14	73	95	42	223	64	123	35		
		14	71	97	42	149	54	92	30		
		9	70	109	44	35	29	19	16		
	14.402-9-60					497	147	224	91	-	D 3
		14	73	77	22	191	90	93	41		
		14	71	90	22	127	32	65	16		
		9	70	109	23	26	13	13	6		
	15.527-9-60					334	125	171	63	-	D 4
		14	73	355	13	175	49	99	24		
		14	71	5	12	99	29	50	14		
	16.499-9-60					274	77	139	39	-	C 2
		14	73	319	30	143	90	75	42		
		14	71	321	29	111	26	59	13		
	17.499-9-60					254	106	133	55	-	C 3
		14	73	311	49	127	29	73	16		
		14	71	312	44	102	41	57	23		
						229	70	130	39	-	C 3

Explanations

N = Rome Group Number
 λ° = Heliographic latitude
 L^0 = Heliographic longitude
 ω° = Position angle of the spot
 ρ = Spot distance from the center in centymes of the solar radius
T = Group type
G = Number of the observed groups
n = Number of the observed spots
Q = Quality of the solar image: 1 - Very poor; 2 - fair; 3 - good;
4 - Very good; 5 - excellent

A_d = Apparent total area (in millionths of the solar disk)
A_d¹ = Apparent umbra area (" " " " " ")
A_H = Corrected total area (in millionths of the solar hemisphere)
A_H¹ = Corrected umbra area (" " " " " ")

NOTICE

The visual observation of the sunspot number (table I and II, column n), interrupted from the 1st of september 1959 was resumed from november 1960.

OSSERVATORIO ASTRONOMICO DI ROMA HIGH ALTITUDE OBSERVATORY OF THE UNIVERSITY OF COLORADO BOULDER, COLORADO (Direttore prof. Massimo Cimino)

Circolare n. 37

JAN 2 1962

FENOMENI SOLARI

osservati nel mese di Gennaio 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Morelli and M. Torelli.

	date u.t.	G	n	A _d	A _d ¹	A _H	A _H ¹	Q
1961	3.478	4	61	2930	940	2021	616	2
January	6.414	3	-	1899	446	959	305	3
	9.406	2	-	1140	321	753	214	3
	10.412	2	-	732	261	606	209	2
	13.419	1	-	134	67	72	36	3
	14.395	2	-	153	54	90	31	3
	16.365	2	-	159	83	122	63	2
	17.392	2	-	459	172	316	115	3
	19.399	3	-	465	64	297	62	1
	20.447	2	14	409	195	221	106	2
	24.439	1	3	39	19	27	14	2
	30.402	3	29	1233	421	923	275	2
	Mean Value			767	245	525	170	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by A. Morelli and M. Torelli.

N.	date u. t.	φ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3694	22.431-9-60	12	46	302	32	-	-	-	-	-	-	2
	23.431-9-60	12	46	299	56	-	-	-	-	-	-	4
	24.476-9-60	12	46	299	72	6	-	11	-	-	A	4
3695	22.431-9-60	4	29	255	6	-	-	-	-	-	-	
		6	26	165	3	-	-	-	-	-	-	2
	23.431-9-60	4	29	230	23	16	-	9	-	-	-	
		6	26	232	23	197	44	101	23	-	C	4
	24.426-9-60	4	29	261	51	121	45	69	25	-	-	
		6	26	259	51	191	54	100	30	-	-	
						302	99	169	55	-	C	4
	25.433-9-60	4	29	290	63	105	51	72	35	-	-	
		6	26	292	62	159	76	101	49	-	-	
						264	127	173	94	-	C	3
	26.426-9-60	6	26	291	90	169	51	140	42	-	C	4
	27.423-9-60	6	26	304	92	18	-	20	-	-	B	2
3696	24.426-9-60	-5	10	241	23	92	44	43	23	-	C	4
	25.433-9-60	-3	16	270	46	216	127	122	72	-	-	
		-5	10	264	44	270	166	151	92	-	-	
						436	293	273	164	-	D	3
	26.426-9-60	-3	16	276	63	213	41	145	23	-	-	
		-5	10	272	61	420	99	265	62	-	-	
						633	140	410	90	-	D	4
	27.423-9-60	-3	16	292	96	115	54	112	53	-	-	
		-5	10	279	79	557	92	454	75	-	-	
						672	146	566	123	-	G	2
	29.422-9-60	-3	16	294	96	137	44	244	90	-	-	
		-5	10	292	39	334	96	366	94	-	-	
						471	130	610	174	-	G	3

N.	date u. t.	φ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3696	29.427-9-60	-5	10	296	93	143	54	360	136	-	H	2
3697	25.433-9-60	25	7	339	42	51	32	23	17	-	C	3
	26.426-9-60	25	7	322	53	146	35	90	21	-	-	
		27	1	323	52	140	57	92	33	-	-	
						296	92	172	54	-	C	4
	27.423-9-60	25	7	319	77	143	35	112	27	-	-	
		27	1	322	69	-	-	-	-	-	-	
	29.422-9-60	25	7	316	97	64	43	65	49	-	-	
		27	1	319	92	39	25	33	22	-	-	
						102	73	93	70	-	C	3
3698	26.426-9-60	22	293	90	64	35	13	23	4	-	J	4
	27.423-9-60	22	293	70	46	51	35	29	20	-	J	2
	29.422-9-60	22	293	44	31	32	22	17	12	-	J	3
3699	27.423-9-60	7	3	293	91	143	64	173	77	-	-	
		7	27	293	94	445	16	653	23	-	-	
						593	90	926	100	-	E	2
3690	29.422-9-60	-13	299	174	47	43	35	27	20	-	-	
		-17	293	163	43	41	30	24	16	-	-	
						99	65	51	36	-	C	3
	29.427-9-60	-13	299	209	40	133	57	72	31	-	-	
		-17	293	193	39	70	33	33	21	-	-	
						203	95	110	52	-	C	2
	30.432-9-60	-13	299	237	49	325	70	136	40	-	-	
		-17	293	230	44	175	64	97	35	-	-	
						500	134	293	75	-	D	2
	31.426-9-60	-13	299	252	63	236	76	194	49	-	-	
		-17	293	243	73	207	54	165	43	-	-	
						493	130	349	92	-	D	4
	1.422-9-60	-13	299	264	79	393	99	323	31	-	-	
		-17	293	260	70	111	32	79	23	-	-	
						509	131	402	104	-	D	2
	2.495-9-60	-13	299	263	93	369	67	505	91	-	-	
		-17	293	267	35	51	32	43	30	-	-	
						420	99	553	121	-	E	2
	3.419-9-60	-13	293	272	97	156	70	337	153	-	D	3

N.	date.u.t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3691	29.422-9-60	19	263	99	65	102	43	87	31			
		19	262	92	71	13	-	9	-			
						115	43	76	31	-	C	3
29.427-9-60	29.427-9-60	19	271	90	45	167	57	91	32			
		19	266	94	50	111	64	64	37			
		19	262	97	54	111	43	66	23			
						399	169	221	97	-	D	2
30.432-9-60	30.432-9-60	19	271	50	26	131	35	94	19			
		19	266	65	30	419	99	221	52			
		19	262	75	36	121	43	65	26			
						721	132	330	96	-	D	2
31.426-9-60	31.426-9-60	19	271	6	22	233	67	150	24			
		19	266	32	20	191	90	27	41			
		19	262	44	22	191	51	25	23			
						665	193	240	101	-	D	4
1.422-9-60	1.422-9-60	19	271	331	35	197	64	105	34			
		19	266	343	27	255	64	132	23			
		19	262	357	24	229	76	113	39			
						691	204	355	106	-	D	2
2.435-9-60	2.435-9-60	19	271	313	55	130	32	79	19			
		19	266	321	46	455	105	242	64			
		19	262	323	40	102	51	56	23			
						697	133	376	111	-	D	2
3.419-9-60	3.419-9-60	19	273	313	71	95	29	63	20			
		19	267	313	65	324	93	215	54			
		19	263	313	53	105	43	64	29			
						524	160	347	103	-	D	3
4.416-9-60	4.416-9-60	20	270	310	93	221	70	203	63			
		19	263	312	73	92	32	72	25			
						313	102	230	93	-	D	2
3692	29.427-9-60	19	314	322	39	51	32	23	17	-	J	2
		19	314	311	53	54	32	33	19	-	J	2
31.426-9-60	31.426-9-60	17	313	307	76	90	29	61	22			
		19	314	309	72	99	25	64	13			
						169	54	125	40	-	G	4
1.422-9-60	1.422-9-60	17	313	307	90	127	33	146	44			
		13	314	307	97	67	32	63	32			
						194	70	214	76	-	D	2
2.435-9-60	2.435-9-60	17	313	303	93	70	-	176	-	-	-	2

N.	date.u.t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3693	31.426-9-60	-11	295	241	40	159	43	97	26			
		-12	290	233	33	64	22	34	12			
						223	70	121	33	-	C	4
1.422-9-60	1.422-9-60	-11	295	261	53	96	41	53	25			
		-12	290	253	52	64	3	64	2			
						150	44	117	27	-	C	2
2.435-9-60	2.435-9-60	-11	295	271	73	54	19	43	15			
		-12	290	266	69	41	10	29	7			
						95	29	72	22	-	G	2
3694	2.435-9-60	14	173	93	99	51	16	56	17			
		16	174	103	94	19	6	23	9			
						70	22	94	26	-	C	2
3.419-9-60	3.419-9-60	14	173	97	79	95	41	73	34			
		16	174	97	31	45	32	33	27			
						140	73	116	61	-	C	3
4.416-9-60	4.416-9-60	14	173	95	63	113	29	76	13			
		16	174	95	67	96	32	53	21			
						204	61	134	39	-	C	2
7.416-9-60	7.416-9-60	16	174	30	14	102	42	51	21	-	C	3
9.411-9-60	9.411-9-60	16	174	315	45	43	22	27	13	-	C	4
10.409-9-60	10.409-9-60	16	174	300	61	6	-	4	-	-	A	3
3695	3.419-9-60	21	151	92	97	35	22	72	46			
		19	149	94	93	302	92	760	232			
						337	114	932	273	-	E	3
4.416-9-60	4.416-9-60	21	151	92	99	54	16	59	17			
		19	149	94	91	393	146	494	191			
						442	162	543	193	-	G	2
7.416-9-60	7.416-9-60	21	151	79	44	32	13	113	7			
		19	149	97	46	636	113	357	66			
						663	131	475	73	-	G	3
9.411-9-60	9.411-9-60	21	151	21	23	13	-	6	-			
		19	149	19	19	703	121	359	61			
						716	121	365	61	-	G	4
10.409-9-60	10.409-9-60	21	151	344	23	64	13	33	7			
		19	149	336	31	620	115	325	60			
						634	123	353	67	-	G	3
11.416-9-60	11.416-9-60	19	149	313	47	534	105	304	60	-	H	2
12.406-9-60	12.406-9-60	19	149	314	64	366	96	233	56	-	H	3
13.406-9-60	13.406-9-60	19	149	312	73	277	93	226	75	-	H	3

N.	date u.t.	γ°	L^0	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3695	14.402-9-60	13	149	312	90	175	64	201	73	-	H	4
3696	7.416-9-60	-4	172	171	22	51	32	26	16			
		-5	166	161	23	41	32	21	17			
						92	64	47	33	-	G	3
	9.411-9-60	-4	172	267	40	223	64	121	34			
		-5	166	259	34	207	57	110	30			
						430	121	231	64	-	D	4
10.409-9-60		-4	172	273	59	169	44	104	23			
		-5	166	272	52	193	43	63	23			
						277	92	167	56	-	C	3
11.416-9-60		-4	172	233	73	111	41	99	33			
		-5	166	279	70	95	32	67	22			
						206	73	156	55	-	G	2
12.406-9-60		-4	172	235	90	35	16	40	13			
		-5	166	233	93	16	10	14	9			
						51	26	54	27	-	C	3
13.406-9-60		-4	172	233	93	35	13	93	32			
		-5	166	233	94	19	6	23	9			
						54	19	116	41	-	C	3
3697	7.416-9-60	-7	145	136	59	76	19	47	12			
		-7	139	133	63	76	35	49	23			
						152	54	96	35	-	C	3
9.411-9-60		-7	145	135	26	93	35	43	13			
		-7	139	169	29	175	67	91	35			
						253	102	134	53	-	C	4
10.409-9-60		-7	145	231	23	127	43	66	25			
		-7	139	213	23	229	64	113	33			
						356	112	134	53	-	C	3
11.416-9-60		-7	145	262	43	95	35	53	19			
		-7	139	256	37	175	67	94	36			
						270	102	147	55	-	C	2
12.406-9-60		-7	145	272	59	92	45	57	23			
		-7	139	270	53	121	57	71	34			
						213	102	123	62	-	C	3
13.406-9-60		-7	145	230	73	191	54	152	43			
		-7	139	273	71	111	39	79	27			
						302	92	231	70	-	D	3

N.	date u.t.	γ°	L^0	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3697	14.402-9-60	-7	145	234	90	60	29	69	33			
		-7	139	232	94	45	16	41	15			
						105	45	110	49	-	C	4
3699	7.416-9-60	-15	130	133	73	429	134	343	107	-	H	3
		-15	130	165	43	573	143	326	92	-	H	4
	9.411-9-60	-15	130	190	33	605	131	327	70	-	H	3
	10.409-9-60	-15	130	224	39	636	191	346	93	-	H	2
	11.416-9-60	-15	130	243	50	493	127	295	73	-	H	3
	12.406-9-60	-15	130	263	65	461	124	304	92	-	H	3
	13.406-9-60	-15	130	283	79	340	99	279	73	-	H	4
	14.402-9-60	-15	130	283	91	236	43	346	53	-	H	2
	15.527-9-60	-15	130	273	93	175	35	440	93	-	H	3
	16.499-9-60	-15	130	276	93	175	35	440	93	-	H	3
3699	7.416-9-60	-13	111	134	92	44	29	57	36	-	J	3
3700	7.416-9-60	5	133	103	63	90	44	54	30			
		4	129	103	73	73	22	54	16			
						153	66	103	46	-	C	3
9.411-9-60		5	133	119	29	29	16	15	3			
		4	129	113	35	43	22	25	12			
						77	33	40	20	-	C	4
3701	7.416-9-60	14	101	100	97	76	32	157	65	-	J	3
		14	101	100	76	159	35	122	27	-	J	4
	9.411-9-60	14	101	97	57	159	54	97	33	-	J	3
	10.409-9-60	14	101	92	33	93	33	53	21	-	C	2
	12.406-9-60	14	101	53	20	13	-	6	-	-	B	3
3702	9.411-9-60	14	73	101	93	115	32	233	90			
		9	70	104	99	32	16	112	56			
						147	43	400	136	-	G	4
10.409-9-60		14	73	101	99	242	35	265	33			
		9	70	107	91	44	19	54	23			
						236	54	319	61	-	G	3
11.416-9-60		14	73	103	77	312	66	240	52			
		9	70	107	30	64	22	53	19			
						376	93	293	71	-	G	2

Explanations

N = Rome Group Number

 φ° = Heliographic latitude L° = Heliographic longitude ω° = Position angle of the spot S = Spot distance from the center in centymes of the solar radius

T = Group type

G = Number of the observed groups

n = Number of the observed spots

Q = Quality of the solar image: 1 - Very poor; 2 - fair; 3 - good;
4 - Very good; 5 - excellent A_d = Apparent total area (in millionths of the solar disk) A_d^u = Apparent umbra area (" " " " " ") A_H = Corrected total area (in millionths of the solar hemisphere) A_H^u = Corrected umbra area (" " " " " ")

NOTICE

The visual observation of the sunspot number (table I and II, column n), interrupted from the 1st of september 1959 was resumed from november 1960.

-- Litografia "NICOLETTI E. " -- Roma, Via Tirso, 113 -- Tel. 960.048 --

" Febbraio 1961 "

OSSERVATORIO ASTRONOMICO DI ROMA

(Direttore prof. Massimo Cinino)

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

Circolare n. 38

JAN 2 1962

FENOMENI SOLARI

osservati nel mese di Febbraio 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Morelli and
M. Torelli.

	date u.t.	G	n	A_d	A_d^u	A_H	A_H^u	Q
1961	2.416	4	19	932	309	593	200	3
February	3.614	4	-	905	219	529	141	2
	4.419	5	19	780	246	661	212	2
	5.395	5	21	979	269	756	229	2
	6.402	2	13	553	201	477	137	3
	8.402	4	31	1022	347	553	190	2
	9.378	4	31	1091	319	611	191	2
	10.429	3	13	895	239	499	139	2
	11.373	3	15	595	229	344	136	2
	13.422	1	15	445	95	371	90	2
	14.313	1	-	414	111	475	128	3
	15.416	1	-	95	39	196	79	2
	18.416	3	-	119	51	104	119	2
	19.416	2	-	92	29	67	21	1
	25.406	4	-	393	143	220	79	3
	27.494	2	-	233	90	139	50	2
	Mean Value			592	193	411	133	

TABLE II

Heliographic position, classification and area of the sunspot-groups by A. Morelli and M. Torelli.

N.	date u.t.	ϕ°	L°	b°	S	A_d	A_d'	A_H	A_H'	n	T	Q
3703	9.411-9-60	-12	135	166	40	51	35	23	19	-	J	4
	10.409-9-60	-12	135	200	30	35	10	19	5	-	J	3
3704	9.411-9-60	-10	139	174	32	29	10	15	5	-	J	4
	10.409-9-60	-10	139	213	30	16	3	9	2	-	J	3
3705	10.409-9-60	17	63	97	96	29	6	51	11	-	-	3
3706	11.416-9-60	-4	71	123	90	165	95	133	90	-	C	2
	12.406-9-60	-4	76	123	63	216	70	147	46			
		-3	72	126	66	54	29	39	19			
		-4	69	127	70	99	35	53	24			
						359	134	239	99	-	D	3
	13.406-9-60	-4	76	133	43	356	95	197	53			
		-3	72	136	43	70	43	40	27			
		-4	69	133	41	175	43	102	23			
						601	191	339	103	-	D	3
	14.402-9-60	-4	76	161	22	265	90	136	41			
		-3	72	153	23	102	19	53	10			
		-4	69	143	32	95	32	50	17			
						462	131	239	63	-	D	4
	15.527-9-60	-4	76	240	23	194	35	100	13			
		-3	72	213	20	133	-	119	1-			
		-4	69	200	20	90	13	41	65			
						312	43	160	83	-	C	2
	16.439-9-60	-4	76	267	40	239	51	130	23			
		-3	72	263	34	67	16	36	3			
		-4	69	251	23	57	13	30	7			
						263	90	196	43	-	C	3
	17.499-9-60	-4	76	273	61	111	32	70	20			
		-3	72	277	51	29	10	17	6			
						140	90	196	43	-	C	3

N.	date u.t.	ϕ°	L°	b°	S	A_d	A_d'	A_H	A_H'	n	T	Q
3707	13.406-9-60	-13	105	223	44	32	13	13	7			
		-13	101	215	43	70	57	33	32			
						102	70	56	39	-	C	3
	14.402-9-60	-13	105	246	55	73	32	44	19			
		-13	101	241	51	102	35	59	20			
						175	67	103	39	-	C	4
	15.527-9-60	-13	105	260	71	35	16	25	13			
		-13	101	257	65	43	-	31	-			
						93	16	56	13	-	C	2
3708	13.406-9-60	-9	97	203	23	43	25	25	13			
		-11	93	193	31	54	22	23	12			
						102	47	53	25	-	C	3
	14.402-9-60	-9	97	245	37	57	29	31	15			
		-11	93	231	35	10	-	5	-			
						67	29	36	15	-	C	4
3709	13.406-9-60	-19	92	174	50	33	10	22	5			
		-19	77	169	52	43	13	23	7			
						96	23	50	12	-	C	3
	14.402-9-60	-19	92	201	43	22	16	12	9			
		-19	77	193	45	19	10	11	5			
						41	23	23	14	-	C	4
3710	13.406-9-60	-6	21	122	93	70	32	173	90	-	J	3
	14.402-9-60	-6	21	124	90	99	33	113	44	-	J	4
	15.527-9-60	-6	21	127	77	239	43	197	37	-	J	2
	16.439-9-60	-6	21	133	61	207	57	131	36	-	J	3
	17.439-9-60	-6	21	142	42	302	111	167	61	-	J	3
	20.439-9-60	-6	21	253	38	271	64	145	34	-	J	4
	21.435-9-60	-6	21	271	53	302	64	173	34	-	J	4
	22.399-9-60	-6	21	273	69	197	57	136	40	-	J	3
	23.396-9-60	-6	21	293	93	135	43	145	41	-	J	3
	24.402-9-60	-6	21	295	94	95	35	140	51	-	J	4
3711	13.406-9-60	25	39	93	33	54	23	55	23	-	C	3
	14.402-9-60	25	39	96	72	93	57	60	41			
		23	34	96	73	90	43	64	33			
						163	105	124	79	-	C	4

4

N.	date u.t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3711	15.527-9-60	25	39	79	56	70	32	42	19			
		23	34	91	62	64	33	41	24			
						184	70	93	43	-	C	2
	16.499-9-60	25	39	64	40	45	32	24	17			
		23	34	71	43	32	26	18	15			
						77	53	42	32	-	C	3
	17.499-9-60	25	39	38	32	43	26	25	13			
		23	34	-	-	-	-	-	-			
						43	26	25	13	-	C	3
	20.499-9-60	23	34	324	56	302	64	192	33			
		21	31	326	51	95	19	56	11			
						397	83	223	49	-	G	4
	21.495-9-60	23	34	319	71	239	64	169	45			
		21	31	321	65	57	26	39	17			
						296	90	207	62	-	G	4
	22.399-9-60	23	34	317	93	216	67	194	60			
		21	31	319	79	26	10	21	73			
						242	77	215	133	-	G	3
	23.396-9-60	23	34	317	92	127	57	162	73	-	J	3
	24.402-9-60	23	34	315	93	57	19	144	43	-	J	4
3712	15.527-9-60	-19	350	134	93	-	-	-	-	-	-	2
	16.499-9-60	-19	350	133	92	509	191	650	244	-	E	3
	17.499-9-60	-19	350	143	93	927	239	742	215			
		-21	346	140	93	111	57	117	60			
						933	296	959	274	-	E	3
	20.499-9-60	-19	350	179	49	1432	255	921	146			
		-21	346	173	55	350	64	210	33			
						1792	319	1031	194	-	F	4
	21.495-9-60	-19	350	205	45	1363	302	766	169			
		-21	346	196	43	332	70	213	40			
						1750	372	994	209	-	E	4
	22.399-9-60	-19	350	229	49	1146	239	667	137			
		-21	346	219	43	191	43	109	27			
						1237	297	776	164	-	E	3
	23.396-9-60	-19	350	239	53	955	195	536	113			
		-21	346	240	57	43	23	29	15			
						1003	211	615	128	-	G	3
	24.402-9-60	-19	350	253	74	700	191	521	142			
		-21	346	252	70	34	19	45	9			
						764	210	563	151	-	G	4

N.	date u.t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3712	26.396-9-60	-19	350	272	94	332	80	560	117			
		-21	346	263	91	99	35	119	42			
						431	115	679	159	-	G	3
3713	16.499-9-60	16	33	311	53	51	19	31	12	-	C	3
	17.499-9-60	16	33	310	71	16	6	11	5	-	J	3
3714	17.499-9-60	16	326	93	97	99	45	133	92	-	J	3
	20.499-9-60	16	326	93	61	255	67	161	36	-	J	4
	21.495-9-60	16	326	92	42	239	64	131	35	-	J	4
	22.399-9-60	16	326	73	26	216	64	112	33	-	J	3
	23.396-9-60	16	326	20	17	223	90	113	40	-	J	3
	24.402-9-60	16	326	323	27	223	67	116	35	-	J	4
	25.399-9-60	16	326	313	64	134	51	97	33	-	J	3
	26.396-9-60	16	326	311	91	90	35	96	42	-	J	2
	3715	20.499-9-60	-13	313	142	92	313	70	273	61		
		-17	309	139	96	95	45	94	44			
						413	116	372	105	-	D	4
	21.495-9-60	-13	313	149	69	356	70	246	43			
		-17	309	146	74	57	32	43	24			
						413	102	299	72	-	G	4
	22.399-9-60	-13	313	161	59	621	159	394	99			
		-17	309	155	63	51	13	33	3			
						672	172	417	107	-	G	3
	23.396-9-60	-13	313	179	47	700	175	397	99			
		-17	309	171	50	95	26	55	15			
						795	201	452	114	-	G	3
	24.402-9-60	-13	313	207	42	621	159	342	93			
		-17	309	193	45	19	10	11	5			
						640	169	353	93	-	G	4
	26.399-9-60	-13	313	252	59	573	134	355	33	-	H	3
	28.395-9-60	-13	313	269	96	313	90	312	73	-	H	2
	29.395-9-60	-13	313	274	95	223	90	356	127	-	H	1

N.	date u.t.	γ°	L°	W°	δ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3716	20.499-9-60	-11	295	129	94	61	13	99	19			
		-10	293	126	96	90	22	142	40			
						141	35	231	59	-	D	4
	21.495-9-60	-11	295	132	96	95	32	94	31			
		-10	293	130	98	49	19	50	20			
						143	51	144	51	-	C	4
3717	22.399-9-60	-11	295	137	74	134	57	99	43	-	C	3
		-11	295	146	60	99	35	56	22	-	C	3
		-11	295	162	43	32	10	19	15	-	C	4
	20.499-9-60	-1	302	120	98	127	49	134	50			
		-3	299	121	91	51	19	61	23			
						179	67	195	73	-	C	4
3718	21.495-9-60	-1	302	123	75	159	32	120	24			
		-3	299	124	90	51	26	42	21			
						210	58	162	45	-	G	4
	22.399-9-60	-1	302	127	60	159	41	99	26			
		-3	299	129	67	57	32	39	21			
						216	73	139	47	-	G	3
3719	23.396-9-60	-1	302	131	39	195	33	100	21			
		-3	299	135	47	38	26	22	14			
						223	64	122	35	-	G	3
	24.402-9-60	-1	302	154	21	134	57	68	29			
		-3	299	154	27	13	-	7	-			
						147	57	75	29	-	C	4
3719	26.399-9-60	-1	302	273	29	64	39	33	20	-	J	3
	20.499-9-60	7	315	112	74	255	64	199	47			
		9	310	109	91	159	57	136	49			
						414	121	325	96	-	G	4
	21.495-9-60	7	315	112	59	325	90	199	49			
		9	310	109	66	191	57	127	39			
3719	22.399-9-60	7	315	112	39	414	109	225	59			
		9	310	109	49	398	90	227	45			
						312	193	452	104	-	D	3

N.	date u.t.	γ°	L°	W°	δ	A_d	A_d^1	A_H	A_H^1	n	T	Q	
3718	23.396-9-60	7	315	110	17	414	102	210	52				
		9	310	109	26	390	191	461	99				
						1304	293	671	151	-	E	3	
	24.402-9-60	7	315	290	6	302	90	151	40				
		9	310	105	5	573	153	297	76				
						975	233	439	116	-	D	4	
	26.399-9-60	7	315	296	47	239	54	135	31				
		9	310	300	41	313	61	174	33				
						557	115	309	64	-	D	3	
	28.395-9-60	7	315	301	93	43	26	32	17				
		9	310	301	79	197	57	159	46				
						245	93	190	63	-	G	2	
	29.395-9-60	9	310	302	91	143	41	173	50	-	J	1	
	3719	20.499-9-60	23	297	93	92	175	39	223	49			
			26	292	99	94	67	13	99	19			
			27	296	96	96	70	16	125	28			
						312	67	446	96	-	D	4	
		21.495-9-60	23	297	92	91	111	35	95	30			
26			292	93	95	67	19	63	19				
27			296	97	90	175	51	201	59				
					353	105	359	108	-	D	4		
22.399-9-60		23	297	99	67	95	32	64	21				
		26	292	97	74	32	13	24	9				
		27	296	96	91	99	33	76	33				
					216	93	164	63	-	C	3		
23.396-9-60		23	297	90	51	80	32	46	19				
		26	292	79	62	32	10	20	6				
		27	296	92	63	90	45	54	30				
					192	97	120	55	-	C	3		
24.402-9-60		23	297	65	25	43	32	25	17				
		26	292	69	47	32	16	19	9				
		27	296	74	53	39	22	23	13				
					119	70	66	39	-	C	4		
26.395-9-60		23	297	10	30	95	19	50	10				
		27	296	29	31	134	10	71	5				
						229	29	121	16	-	C	3	

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

Circolare N. 39

JAN 2 1962

FENOMENI SOLARI

osservati nel mese di Marzo 1961

TABLE I

Daily Total areas of the sunspot groups, by A. Morelli, A. Rainone
and M. Torelli.

N.	date u.t.	φ°	L°	ω°	S	A_d	A_d^*	A_H	A_H^*	n	T	Q
3736	18.395-10-60	20	322	93-0	61	1591	318	919	184			
		19	317	96	63	430	111	277	72			
						2021	429	1196	256	-	F	3
	19.399-10-60	20	322	85	39	121	45	66	24			
		19	319	83	45	118	382	659	214			
		19	317	87	47	688	159	379	90			
	21.395-10-60	20	322	1	25	111	35	58	18			
		19	319	15	25	1400	318	723	164			
		19	317	21	22	890	191	457	98			
	22.392-10-60	20	322	333	39	80	35	43	19			
		19	317	344	37	1909	414	1027	223			
						1989	449	1070	242	-	F	3
	23.392-10-60	20	322	322	58	57	32	35	20			
		19	317	327	51	1877	382	1092	222			
						1934	414	1127	242	-	F	3
	27.443-10-60	20	322	317	98	318	64	800	160	-	-	3

Explanations

N. = Rome Group Number

 φ° = Heliographic latitude L° = Heliographic longitude ω° = Position angle of the spot S = Spot distance from the center in centymes of the solar radius

T = Group type

G = Number of the observed groups

n = Number of the observed spots

Q = Quality of the solar image: 1 - Very poor; 2 - fair; 3 - good
4 - Very good; 5 - excellent A_d = Apparent total area (in millionths of the solar disk) A_d^* = Apparent umbra area (" " " " " ") A_H = Corrected total area (in millionths of the solar hemisphere) A_H^* = Corrected umbra area (" " " " " ")

NOTICE

The visual observation of the sunspot number (table I and II, column n), interrupted from the 1st of september 1959, was resumed from november 1960.

Litografia "NICOLETTI E." - Roma, Via Tirso, 113 - Tel. 860.048 -

" MARZO 1961 "

	date u.t.	G	n	A_d	A_d^*	A_H	A_H^*	Q
1961	1.409	1	-	159	64	96	38	2
March	2.395	3	8	243	108	150	68	2
	3.385	4	7	277	121	233	103	2
	4.416	5	15	243	141	348	196	2
	5.385	2	-	204	76	136	52	1
	6.381	3	18	309	128	167	69	2
	7.381	2	20	347	150	176	77	2
	8.388	4	22	175	48	211	58	1
	10.409	1	7	216	64	173	51	2
	11.392	1	10	286	89	184	57	2
	12.416	1	5	302	60	167	44	3
	14.461	4	13	445	163	295	117	1
	15.468	4	16	535	172	343	116	3
	17.388	6	14	484	230	310	143	2
	20.513	3	5	306	112	442	147	3
	22.381	4	21	1139	302	915	244	3
	23.381	4	29	1385	324	893	214	3
	24.392	4	46	1474	377	872	230	3
	25.371	4	28	1569	405	962	264	3
	26.392	5	30	1430	398	1339	409	3
	27.392	3	15	1218	379	883	299	3
	28.413	4	37	1591	513	1187	415	3
	29.392	6	43	1711	665	1211	472	2
	30.371	4	45	1973	627	1480	460	4
	Mean Value			751	239	549	181	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by A. Morelli and M. Torelli.

N.	date u.t.	φ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3720	21.495-9-60	-12	284	132	95	67	22	109	36	-	-	4
	22.399-9-60	-12	284	135	97	70	16	71	16	-	C	3
	23.396-9-60	-12	284	142	73	64	13	47	9	-	C	3
	24.402-9-60	-12	284	153	54	-	-	-	-	-	-	4
	26.388-9-60	-12	284	-	-	-	-	-	-	-	-	-
	27.388-9-60	-11	279	190	38	57	19	30	10	-	-	-
						57	19	30	10	-	C	3
	28.395-9-60	-12	284	284	51	70	35	41	20	-	-	-
		-11	279	256	43	134	16	76	9	-	-	-
						204	51	117	29	-	C	2
3721	29.395-9-60	-12	284	273	69	143	76	93	52	-	-	-
		-11	279	269	63	99	57	64	37	-	-	-
						242	133	162	69	-	C	1
	30.499-9-60	-12	284	278	84	80	32	73	29	-	J	3
	28.395-9-60	17	313	312	90	35	29	29	23	-	J	2
3722	2.391-10-60	-19	130	129	93	90	39	200	98	-	H	3
	3.392-10-60	-19	130	139	92	39	10	56	14	-	-	-
		-15	127	136	94	159	57	203	73	-	-	-
						197	67	259	97	-	G	4
	4.395-10-60	-18	130	144	91	35	6	130	5	-	-	-
		-15	127	142	92	223	57	194	50	-	-	-
		-16	124	140	92	19	10	17	19	-	-	-
						277	73	241	63	-	D	2
	5.392-10-60	-19	130	151	72	51	13	37	9	-	-	-
		-15	127	146	72	254	70	194	50	-	-	-
3723		-16	124	147	72	13	6	9	5	-	-	-
						319	99	230	64	-	D	4
	6.398-10-60	-19	130	162	59	25	13	16	9	-	-	-
		-15	127	157	53	271	51	186	31	-	-	-
		-16	124	154	59	102	19	63	12	-	-	-
						393	83	245	51	-	D	4
	7.513-10-60	-19	130	181	44	29	22	16	12	-	-	-
		-15	127	175	41	445	61	244	33	-	-	-
		-16	124	174	47	169	32	90	19	-	-	-
						633	115	350	63	-	D	2

N.	date u.t.	φ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3722	9.392-10-60	-15	127	207	37	319	64	171	34	-	-	-
		-16	124	200	33	271	76	146	41	-	-	-
						599	140	317	75	-	D	3
	9.395-10-60	-15	127	139	41	261	64	143	35	-	-	-
		-16	124	133	41	694	143	375	79	-	-	-
						945	207	519	113	-	E	4
	10.392-10-60	-15	127	253	56	271	67	163	40	-	-	-
		-16	124	253	54	605	127	359	76	-	-	-
						976	194	522	116	-	E	3
	11.489-10-60	-15	127	269	71	286	67	203	47	-	-	-
3723		-16	124	267	71	318	70	226	50	-	-	-
						604	137	429	97	-	D	3
	12.392-10-60	-15	127	275	83	194	41	174	37	-	-	-
		-16	124	273	83	143	32	128	29	-	-	-
						337	73	302	66	-	D	2
	13.392-10-60	-15	127	278	94	118	32	173	47	-	-	-
		-16	124	277	93	148	19	65	26	-	-	-
						166	51	238	73	-	D	3
	4.395-10-60	6	167	119	23	22	13	11	7	-	-	-
		5	164	119	28	38	19	20	10	-	-	-
3724						60	32	31	17	-	C	2
	5.392-10-60	6	167	250	12	143	64	72	32	-	-	-
		5	164	155	4	35	13	13	6	-	-	-
		5	161	135	9	236	80	118	40	-	-	-
						414	157	203	78	-	D	4
	6.398-10-60	6	167	295	25	166	57	85	30	-	-	-
		5	164	290	22	64	19	33	10	-	-	-
		5	161	283	14	334	10	169	48	-	-	-
						564	86	287	98	-	D	4
	7.513-10-60	6	167	297	49	239	57	137	33	-	-	-
3725		5	161	292	39	223	64	128	37	-	-	-
						462	121	265	70	-	G	2
	8.392-10-60	6	167	300	66	191	64	127	42	-	-	-
		5	161	296	58	172	67	114	44	-	-	-
						363	131	241	86	-	G	3
	9.395-10-60	6	167	301	82	115	41	100	36	-	-	-
		5	161	298	78	48	29	38	23	-	-	-
						163	70	138	59	-	G	4
	10.392-10-60	6	167	302	94	92	32	135	47	-	J	3

N.	date u.t.	γ°	L°	ω°	ρ	A_d	A_d	A_H	A_H	n	T	Q
3724	5.392-10-60	-17	107	139	88	54	10	57	10			
		-19	102	139	91	48	13	58	15			
						102	23	115	25	-	C	4
	6.398-10-60	-17	107	144	78	108	48	86	33			
		-19	102	144	84	45	22	41	21			
						153	70	127	59	-	C	4
	7.513-10-60	-17	107	153	63	64	22	41	14			
		-19	102	151	68	159	70	109	48			
						223	92	150	62	-	C	2
	8.392-10-60	-17	107	167	50	89	32	51	18			
		-19	102	163	57	166	57	101	35			
						255	89	152	53	-	C	3
	9.395-10-60	-17	107	188	41	131	10	72	5			
		-19	102	183	45	115	48	64	27			
						246	58	136	32	-	C	4
	10.392-10-60	-17	107	223	40	83	29	45	16			
		-19	102	212	42	83	32	46	18			
						166	61	91	34	-	C	3
	11.489-10-60	-17	107	250	52	48	6	28	4			
		-19	102	240	51	95	25	56	15			
						143	31	84	19	-	C	3
	12.392-10-60	-19	102	255	61	29	16	18	10	-	J	2
3725	5.392-10-60	3	96	114	93	64	32	87	43	-	J	4
	6.398-10-60	3	99	116	82	64	38	56	33			
		3	96	116	84	38	10	35	9			
						102	48	91	42	-	C	4
	7.513-10-60	3	99	118	63	41	16	27	10	-	J	2
	8.392-10-60	3	99	121	48	35	29	20	16	-	J	3
	9.395-10-60	3	99	125	25	22	13	12	7	-	J	4
	10.392-10-60	3	99	180	5	13	6	6	3	-	J	3
3726	5.392-10-60	10	92	107	90	38	22	44	26	-	C	4
	6.398-10-60	9	103	108	78	32	13	25	10			
		9	97	107	81	19	6	16	5			
		10	92	109	87	13	3	13	3			
						64	22	54	18	-	C	4

N.	date u.t.	γ°	L°	ω°	φ	A_d	A_d	A_H	A_H	n	T	Q
3726	7.513-10-60	9	103	103	58	144	6	27	14			
		11	100	106	63	95	48	61	31			
		9	97	109	67	22	17	15	17			
						161	54	103	35	-	C	2
	8.392-10-60	9	103	107	39	138	16	21	19			
		11	100	102	41	19	6	10	3			
		9	97	105	47	48	16	27	19			
						105	38	53	21	-	C	3
	9.395-10-60	9	103	95	18	60	48	40	24			
		11	100	95	26	48	8	25	13			
		9	97	102	50	57	3	30	12			
						185	57	95	29	-	C	4
	10.392-10-60	9	103	150	9	135	26	18	13			
		11	100	10	8	48	10	24	5			
		9	97	70	10	54	13	27	16			
					137	49	69	24	-	C	3	
3727	7.513-10-60	9	133	103	12	99	38	50	19			
		8	130	109	17	22	6	11	3			
		7	127	115	19	111	51	57	26			
						232	95	113	48	-	C	2
	8.392-10-60	9	133	115	11	143	57	72	29			
		8	130	145	5	25	13	13	6			
		7	127	130	3	216	95	108	48			
						384	165	193	83	-	D	3
	9.395-10-60	9	133	104	13	175	57	93	30			
		8	130	105	23	129	16	15	8			
		7	127	102	23	121	127	165	165			
						525	200	273	103	-	D	4
	10.392-10-60	9	133	102	54	255	95	151	57			
		8	130	100	51	26	6	15	14			
		7	127	101	45	350	64	196	136			
					631	165	362	97	-	D	3	
11.489-10-60	9	133	103	75	159	57	120	43				
	8	130	103	68	122	10	15	17				
	7	127	101	65	201	57	132	38				
					382	124	267	68	-	D	3	
12.392-10-60	9	133	103	88	118	48	124	50				
	7	127	101	80	134	38	111	32				
					252	86	235	82	-	G	3	

N.	date u. t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3728	9.395-10-60	18	33	98	98	61	25	152	64	-	J	4
	10.392-10-60	18	33	98	92	86	29	107	37	-	J	3
	11.489-10-60	18	33	98	61	111	48	95	41	-	J	3
	12.392-10-60	18	33	96	68	99	125	67	17	-	J	2
	13.392-10-60	18	33	90	51	57	32	33	19	-	J	3
3729	10.392-10-60	12	91	85	21	25	16	13	8			
		13	89	80	23	10	6	5	2			
		14	86	87	27	19	6	10	3			
						54	28	28	13	-	C	3
	11.489-10-60	12	91	347	13	115	38	58	19			
		13	89	0	13	92	32	47	16			
		14	86	21	12	108	57	54	29			
						315	127	159	64	-	C	3
	12.392-10-60	12	91	313	30	159	38	83	20			
		13	89	321	28	102	32	53	17			
		14	86	329	24	382	102	197	52			
						643	172	333	89	-	D	2
	13.392-10-60	12	91	308	52	70	35	41	20			
		13	89	310	50	108	48	62	28			
		14	86	317	43	525	121	291	67			
						703	204	394	115	-	D	3
	15.489-10-60	12	91	304	87	95	38	97	39			
		13	89	304	83	35	13	31	11			
		14	86	308	78	398	83	318	66			
						528	134	446	116	-	D	3
	17.392-10-60	14	86	309	98	159	57	400	144	-	-	3
3730	10.392-10-60	5	141	296	66	38	26	25	17			
		7	139	299	62	64	22	41	10			
3731	11.489-10-60					102	48	66	27	-	C	3
		-8	23	128	92	22	13	28	16	-	J	3
		-8	23	131	81	32	19	27	16	-	J	2
3732	11.489-10-60	-8	23	135	66	32	19	21	13	-	J	3
		-19	16	138	97	102	48	209	98	-	H	3
		-19	16	140	90	175	48	201	55	-	H	2
3733	12.392-10-60	-16	18	146	73	89	41	65	30			
		-19	18	144	77	80	48	62	37			
						169	89	127	67	-	C	3
3734	15.489-10-60	-16	18	168	45	45	25	25	14	-	C	3
		-16	18	231	40	32	22	17	12	-	C	3

N.	date u. t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3733	11.489-10-60	-13	31	137	86	10	3	9	3	-	J	3
	12.392-10-60	-13	31	142	73	137	48	100	35			
		-15	28	141	79	80	54	65	44			
						217	102	165	79	-	C	2
	13.392-10-60	-13	31	149	59	239	57	148	35			
		-15	28	147	63	73	41	47	27			
						312	98	195	62	-	C	3
	15.489-10-60	-13	31	197	32	541	143	236	76			
		-15	28	192	36	67	32	36	17			
						608	175	322	93	-	G	3
17.392-10-60	-13	31	253	50	589	159	340	92				
	-15	28	257	47	35	22	20	13				
					624	181	360	105	-	G	3	
18.395-10-60	-13	31	270	64	541	111	352	72	-	H	3	
19.399-10-60	-13	31	277	79	366	89	299	73	-	H	4	
21.395-10-60	-13	31	282	98	175	48	440	120	-	H	3	
3734	15.489-10-60	-7	31	200	23	80	25	41	13	-	C	3
3735	15.489-10-60	-12	334	131	91	51	25	61	31			
		-11	330	130	93	261	57	355	73			
						312	62	416	109	-	G	3
	17.392-10-60	-12	334	143	64	41	29	27	19			
		-11	330	142	67	366	95	246	64			
						407	124	273	83	-	G	3
	18.395-10-60	-12	334	155	47	38	29	22	16			
		-11	330	152	50	280	89	162	51			
						318	118	184	67	-	G	3
	19.399-10-60	-12	334	181	33	32	19	17	10			
-11		330	173	36	334	80	179	43				
					366	99	196	53	-	G	4	
21.395-10-60	-11	330	246	38	302	95	163	52	-	J	3	
22.392-10-60	-11	330	265	53	289	127	169	75	-	J	3	
23.392-10-60	-11	330	273	71	223	64	158	45	-	J	3	
3736	15.489-10-60	20	322	96	97	462	95	949	196			
		19	317	97	98	159	19	400	128			
						621	114	1349	324	-	F	3
	17.392-10-60	20	322	97	77	1152	207	903	162			
		19	317	98	80	420	64	350	53			
					1572	271	1253	215	-	F	3	

OSSERVATORIO ASTRONOMICO DI ROMA

(Direttore: prof. Massimo Cimino)

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

Circolare n 40

JAN 2 1962

FENOMENI SOLARI

osservati nel mese di Aprile 1961

TABLE I

Daily Total areas of the sunspot groups, by A. Morelli,
A. Rainone and M. Torelli.

	date u.t.	G	n	A _d	A _d	A _H	A _H	Q
1961	1.409	2	35	1086	289	574	155	4
April	3.367	3	-	968	289	676	218	3
	4.398	5	38	980	351	636	231	3
	5.409	5	58	1244	411	806	260	3
	6.350	5	55	1436	449	961	305	3
	7.406	5	33	1069	340	805	285	2
	8.371	3	34	869	337	631	254	3
	9.367	2	-	700	293	464	194	2
	13.433	3	5	454	154	378	130	1
	16.392	3	20	739	230	498	190	1
	18.492	5	29	1050	358	695	238	2
	19.409	5	25	1034	262	662	170	3
	20.405	5	11	843	233	520	149	3
	25.395	2	8	741	271	835	306	3
	27.461	3	39	1130	324	961	310	2
	28.496	4	46	1352	329	1008	294	1
	Mean Value			981	308	694	231	

N.	date u.t.	φ°	L ^o	ω°	ρ	A _d	A _d	A _H	A _H	n	T	Q
3748	14.416-11-60	21	37	318	67	102	32	69	21			
		25	29	335	56	2355	668	1421	403			
						2457	700	1490	424	33	F	3
	15.416-11-60	21	37	314	80	111	38	93	32			
		25	29	321	73	127	51	93	37			
		25	22	326	68	1973	414	1345	282			
						2211	503	1531	351	33	F	3
	18.492-11-60	25	22	312	97	382	111	795	229	-	E	2

Explanations

N = Rome Group Number

φ° = Heliographic latitude

L^o = Heliographic longitude

ω° = Position angle of the spot

ρ = Spot distance from the center in centymes. of the solar radius

T = Group type

G = Number of the observed groups

n = Number of the observed spots

Q = Quality of the solar image: 1 - Very poor; 2 - fair; 3 - good;
4 - Very good; 5 - excellent

A_d = Apparent total area (in millionths of the solar disk)

A_d = Apparent umbra area (" " " " " ")

A_H = Corrected total area (in millionths of the solar hemisphere)

A_H = Corrected umbra area (" " " " " ")

NOTICE

The visual observation of the sunspot number (table I and II, column n), interrupted from the 1st of september 1959 was resumed from november 1960.

- Litografia "NICOLETTI E." - Roma, Via Tirso, 113 - Tel. 860.048 -

" Aprile 1961 "

TABLE II

Heliographic position, classification and area of the sunspot-groups
by A. Morelli and M. Torelli

N.	date u. t.	γ°	L°	ω°	β	A_d	A_d	A_H	A_H	n	T	Q
3744	7.416-11-60	12	100	335	21	67	38	34	20	3	J	3
	8.422-11-60	12	100	312	39	35	22	19	12	1	J	3
	9.489-11-60	12	100	304	62	19	6	12	4	-	J	1
3745	7.416-11-60	16	82	59	26	185	32	96	16	1	J	3
	8.422-11-60	16	82	6	21	153	32	78	16	5	J	3
	9.489-11-60	16	82	325	38	95	38	52	21	-	J	1
3746	7.416-11-60	-12	72	152	41	70	32	19	17			
		-12	70	151	45	89	29	50	16			
		-13	66	149	50	89	32	51	18			
						248	93	120	51	15	D	3
	8.422-11-60	-12	72	180	28	121	70	63	36			
		-12	70	174	30	26	6	13	3			
		-13	66	168	34	166	95	88	51			
						313	171	164	90	16	D	3
	9.489-11-60	-12	72	229	29	38	13	20	7			
		-12	70	219	28	41	10	22	5			
		-13	66	211	27	197	89	102	46			
						276	112	144	58	-	D	1
3747	7.416-11-60	-12	33	132	88	95	38	101	40	2	J	3
	8.422-11-60	-12	33	135	74	83	35	62	26	4	J	3
	9.489-11-60	-12	33	137	57	143	48	87	29	-	J	1
3748	7.416-11-60	22	40	89	81	89	35	76	30			
		21	37	92	83	175	48	157	43			
		25	29	87	91	859	286	1037	346			
						1123	369	1270	419	22	F	3
	8.422-11-60	22	40	85	64	143	64	93	41			
		21	37	86	70	175	35	122	24			
		25	29	84	77	1177	334	923	262			
						1495	433	1138	327	41	F	3
	9.489-11-60	22	40	68	48	350	127	200	73			
		21	37	73	56	102	26	61	15			
		25	29	72	64	1591	366	1036	238			
						2043	519	1297	326	-	F	1
3737	17.392-10-60	17	51	316	67	45	29	30	19			
		18	47	316	65	16	10	10	6			
		19	45	318	63	57	35	37	23			
					118	74	77	48	-	C	3	
	18.395-10-60	17	51	313	83	64	32	57	29			
		18	47	315	78	57	25	46	20			
		19	45	315	77	48	25	37	20			
					169	82	140	69	-	C	3	
	19.399-10-60	17	51	312	94	32	16	47	23			
		18	47	315	90	25	13	29	15			
					57	29	76	38	-	C	4	
3738	21.395-10-60	26	39	322	98	80	32	200	80			
		27	35	324	96	64	25	164	64			
					144	57	364	144	-	D	3	
3739	27.443-10-60	22	185	93	78	318	64	254	51			
		21	182	96	82	375	80	328	70			
					693	144	582	121	-	E	3	
3740	27.443-10-60	13	170	105	91	134	48	161	58	-	J	3
3741	27.443-10-60	20	162	97	96	51	25	91	45	-	J	3
3742	7.416-11-60	-2	162	289	95	61	32	97	51			
		0	159	292	92	64	26	81	32			
					125	58	178	83	7	D	3	
3743	7.416-11-60	9	109	312	31	175	57	92	30	7	C	3
	8.422-11-60	9	109	305	51	159	35	93	20	4	J	3
	9.489-11-60	9	109	299	71	178	64	127	45	-	J	1

N.	date u.t.	φ°	L°	ω°	$\mathcal{S}$	A_d	A'_d	A_H	A'_H	n	T	Q
3756	25.402-11-60	-4	172	114	70	175	64	122	45	7	C	3
	26.388-11-60	-4	172	115	49	67	35	37	20			
		-4	170	1116	51	191	64	111	27			
						258	99	148	57	11	C	2
	29.402-11-60	-4	172	255	18	32	13	16	6	-	C	3

Explanations

- N = Rome Group Number
 φ° = Heliographic latitude
 L° = Heliographic longitude
 ω° = Position angle of the spot
 $\mathcal{S}$ = Spot distance from the center in centymes of the solar radius
 T = Group type
 G = Number of the observed groups
 n = Number of the observed spots
 Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good
 4 - Very good; 5 - excellent
 A_d = Apparent total area (in millionths of the solar disk)
 A'_d = Apparent umbra area (" " " " " ")
 A_H = Corrected total area (in millionths of the solar hemisphere)
 A'_H = Corrected umbra area (" " " " " ")

NOTICE

The visual observation of the sunspot number (table I and II, column n), interrupted from the 1st of september 1959 was resumed from november 1960.

- Litografia "NICOLETTI E." - Roma, Via del Pigneto, 113 - Tel. 275.607 -
 " MAGGIO 1961 "

HIGH ALTITUDE OBSERVATORY
 OF THE
 UNIVERSITY OF COLORADO
 BOULDER, COLORADO

Circolare N. 41

FENOMENI SOLARI

JAN 2 1962

osservati nel mese di Maggio 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Morelli, A. Rainone and M. Torelli.

	date u.t.	G	n	A_d	A'_d	A_H	A'_H	Q
1961 May	1.447	3	62	1847	550	960	288	3
	2.385	3	42	1745	434	990	243	3
	4.367	3	18	767	277	689	241	3
	5.335	3	14	191	70	281	107	1
	6.367	1	-	64	26	160	64	2
	7.406	2	9	184	73	224	89	1
	8.416	2	10	337	134	244	96	2
	11.458	1	-	596	112	301	84	2
	12.367	2	25	703	115	355	57	3
	13.331	2	14	411	159	278	92	2
	14.388	2	10	427	124	312	93	4
	15.395	2	5	410	102	305	77	4
	17.461	2	4	311	105	246	97	2
	18.468	3	-	484	169	251	88	3
	20.381	6	26	801	266	492	162	3
	21.450	6	-	914	313	705	252	3
	22.381	6	24	871	258	733	223	3
	23.381	4	24	783	242	777	242	3
	24.381	3	16	787	254	496	174	3
	25.375	3	22	757	201	498	155	2
	26.388	2	23	557	191	287	98	3
	28.447	2	10	353	127	191	69	3
	31.333	2	4	216	54	203	49	3
Mean Value				636	192	434	136	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by A. Morelli and M. Torelli.

N.	date u.t.	φ°	L°	ω°	S	A_d	A'_d	A_H	A'_H	n	T	Q
3749	9.422-11-60	-6	28	123	78	216	64	173	51	14	C	3
	9.489-11-60	-7	32	126	56	334	80	202	48			
		-9	25	127	63	197	95	127	61			
						531	175	329	109	-	D	1
	14.416-11-60	-7	32	273	59	398	127	246	79			
		-9	25	266	49	143	57	82	33			
						541	184	328	112	14	G	3
	15.416-11-60	-7	32	278	74	280	95	208	71			
		-9	25	270	65	51	29	36	19			
						331	124	244	90	9	G	3
3750	14.416-11-60	19	321	33	66	366	70	244	47			
		21	313	84	76	700	239	539	184			
						1066	309	783	231	9	E	3
	15.416-11-60	19	321	75	50	334	111	193	64			
		21	313	80	62	890	239	569	152			
						1224	350	761	216	7	E	3
	18.492-11-60	19	321	332	37	366	89	197	48			
		21	313	355	31	923	175	485	92			
						1239	264	693	140	-	E	2
	20.416-11-60	19	321	318	68	318	102	217	69			
		21	313	325	53	764	143	450	84			
						1082	245	667	153	-	E	3
3751	15.416-11-60	27	359	353	44	80	35	44	19	2	C	3
3752	15.416-11-60	7	269	103	98	70	38	176	96	1	J	3
	18.492-11-60	7	269	94	59	255	57	153	35	-	J	2
	20.416-11-60	7	269	90	22	248	57	127	29	-	J	3
	24.402-11-60	7	269	296	66	261	57	174	33	2	J	2
	25.402-11-60	7	269	295	81	191	57	163	49	2	J	3
	26.388-11-60	7	269	293	93	127	41	173	56	-	J	2
3753	18.492-11-60	7	327	300	36	19	6	27	3			
		8	322	306	29	57	29	30	15			
						76	35	57	28	-	C	2
	20.416-11-60	7	327	298	73	350	89	256	65			
		8	322	300	68	248	102	169	69			
						598	191	425	134	-	D	3
3754	24.402-11-60	29	207	51	44	89	41	50	23	1	J	2
	25.402-11-60	29	207	31	48	51	19	29	11	2	J	3
3755	25.402-11-60	10	161	96	81	35	26	30	22	1	J	3
	26.388-11-60	10	161	92	67	153	51	103	34			
		13	155	93	73	111	48	82	35			
						264	99	135	69	11	C	2
	29.402-11-60	10	161	10	15	191	48	97	24			
		13	155	47	22	350	118	179	60			
						541	166	276	84	-	D	3
	30.482-11-60	10	161	319	29	108	48	57	25			
		13	155	348	24	261	127	134	66			
		15	150	358	24	168	39	87	19			
						537	214	278	110	-	D	1
	1.398-12-60	10	161	306	45	48	26	27	14			
		13	155	319	39	445	103	242	59			
		15	150	329	35	271	70	144	37			
						764	204	413	110	17	D	2
	2.402-12-60	13	155	308	60	271	102	169	64			
		15	150	312	51	286	83	167	48			
						557	185	336	112	13	D	2
	3.391-12-60	13	155	305	76	226	64	172	49			
		8	154	298	73	201	45	147	33			
		15	150	307	68	127	35	87	24			
						554	144	406	106	19	D	3
	4.385-12-60	13	155	302	87	143	64	145	65			
		8	154	294	87	197	70	200	71			
		15	150	305	83	185	95	165	86			
						525	229	510	222	20	E	2
	5.378-12-60	13	155	299	96	143	48	256	85			
		8	154	293	95	96	32	137	51			
		15	150	302	93	57	32	78	43			
						286	112	471	179	17	D	3

OSSERVATORIO ASTRONOMICO DI ROMA

(Direttore prof. Massimo Cimino)

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

Circolare N. 42

JAN 2 1962

FENOMENI SOLARI

osservati nel mese di Giugno 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Morelli, A. Rainone
And M. Torelli.

	date u.t.	G	n	A_d	A_d^1	A_H	A_H^1	Q
1961	2.395	2	20	213	77	192	68	2
June	5.392	4	19	592	210	323	113	2
	9.490	4	-	693	194	753	223	3
	12.503	4	33	2045	443	2094	497	4
	13.392	3	37	2206	523	1632	407	3
	14.506	3	-	2437	655	1435	417	1
	16.375	5	67	2919	600	1665	350	2
	17.432	6	79	2711	670	1573	399	1
	19.402	3	59	2737	770	1617	464	2
	19.406	9	106	2636	704	1733	470	3
	20.392	3	53	2609	954	1319	694	3
	21.375	7	-	2521	924	1334	603	3
	22.373	6	77	2613	793	1639	526	4
	23.373	4	60	2020	461	1391	311	2
	24.333	3	40	1607	424	1416	344	3
	25.409	3	37	927	413	1003	454	1
	27.335	3	18	337	179	254	133	2
	28.402	3	22	436	216	301	150	2
	29.346	4	75	725	290	449	136	2
	30.395	3	36	1267	473	1143	392	3
	Mean Value			1713	494	1216	361	

N.	date u.t.	φ°	L°	ω°	S	A_d	A_d^1	A_H	A_H^1	n	T	Q
3322	26.392-3-61	5	49	19	28	70	41	36	22	5	C	3
	27.392-3-61	5	49	326	22	57	35	23	19	2	C	3
	28.413-3-61	8	52	230	42	127	51	70	28			
		5	49	236	33	102	35	55	19			
						229	86	125	47	7	C	3
	29.392-3-61	8	52	272	59	102	43	63	30			
		5	49	272	52	111	64	65	37			
						213	112	123	67	3	D	2
	30.371-3-61	8	52	263	73	313	102	233	75	12	C	4

Explanations

N = Rome Group Number

 φ° = Heliographic latitude L° = Heliographic longitude ω° = Position angle of the spot S = Spot distance from the center in centymes of the solar radius

T = Group type

G = Number of the observed groups

n = Number of the observed spots

Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good

4 - Very good; 5 - excellent

 A_d = Apparent total area (in millionths of the solar disk) A_d^1 = Apparent umbra area (" " " " ") A_H = Corrected total area (in millionths of the solar hemisphere) A_H^1 = Corrected umbra area (" " " " ")

TABLE II

Heliographic position, classification and area of the sunspot-groups
by A. Morelli and M. Torelli.

N.	date u.t.	φ°	L°	ω°	β	A_d	A'_d	A_H	A'_H	n	T	Q
3757	29.402-11-60	14	132	91	56	25	10	15	6	-	J	3
	30.492-11-60	10	134	71	29	90	38	42	20			
		14	132	68	32	64	32	33	17			
						144	70	75	37	-	C	1
	1.338-12-60	10	134	20	17	64	35	32	13			
		14	132	30	22	45	22	23	11			
	2.402-12-60					109	57	55	29	6	C	2
		10	134	320	29	90	32	42	17			
		14	132	333	27	45	19	23	10			
						125	51	65	27	6	C	2
3758	29.402-11-60	-7	107	115	93	393	127	357	114	-	H	3
	30.492-11-60	-7	107	119	67	477	159	321	107	-	F	1
	1.399-12-60	-7	107	121	49	539	153	338	93	8	H	2
	2.402-12-60	-7	107	133	28	636	159	332	93	15	H	2
	3.391-12-60	-7	107	190	16	539	134	299	68	13	H	3
	4.395-12-60	-7	107	252	25	557	127	293	66	12	H	2
	5.379-12-60	-7	107	267	44	541	121	301	67	7	H	3
3759	29.402-11-60	-6	97	112	90	64	32	73	37	-	J	3
3760	1.399-12-60	16	104	76	57	73	29	45	17	3	C	2
	2.402-12-60	16	104	60	33	99	19	43	10	6	C	2
	3.391-12-60	16	104	36	28	16	6	9	3	3	C	3
3761	2.402-12-60	13	57	95	92	35	13	37	13	3	C	2
3762	3.391-12-60	-15	30	122	97	95	57	196	118	-	-	3
	4.395-12-60	-15	30	122	99	280	95	307	105	3	H	2
	5.379-12-60	-15	30	123	78	477	102	392	81	5	H	3
	14.402-12-60	-15	30	265	95	48	19	76	31	-	J	3

N.	date u.t.	φ°	L°	ω°	β	A_d	A'_d	A_H	A'_H	n	T	Q
3763	4.395-12-60	21	53	73	67	22	6	15	4	2	J	2
3764	5.379-12-60	7	50	91	54	51	32	30	19			
		6	47	92	57	32	16	19	10			
						33	49	49	29	5	C	3
3765	5.379-12-60	9	36	93	73	22	10	16	7	1	J	3
3766	5.379-12-60	25	21	76	90	134	54	153	62			
		27	12	75	95	95	51	153	91			
						229	105	306	43	8	D	3
	14.402-12-60	27	12	316	83	64	32	67	34	-	J	3
3767	14.402-12-60	25	345	332	53	32	10	19	6			
		25	342	335	51	45	26	26	15			
						77	36	45	21	-	C	3
3768	14.402-12-60	10	333	338	30	95	45	50	23			
		16	329	350	29	38	29	20	15			
						133	74	70	33	-	G	3
3769	14.402-12-60	21	327	5	34	38	19	20	10			
		19	320	20	31	111	48	59	25			
						149	67	79	35	-	C	3
3770	14.402-12-60	6	334	309	21	57	35	29	18	-	J	3
3771	14.402-12-60	-9	347	260	43	35	26	19	14	-	J	3
3772	14.402-12-60	12	340	243	33	541	159	303	99	-	H	3
	13.392-12-60	-12	340	266	94	191	57	230	34	1	H	2
3773	14.402-12-60	-4	315	120	14	43	29	25	14	-	J	3
		-3	320	273	75	35	19	26	14			
		-4	315	273	63	143	57	102	39			
						173	76	134	53	6	G	2
3774	13.392-12-60	-13	236	235	32	32	26	17	13			
		-14	231	225	23	43	33	25	20			
						30	64	42	33	7	C	2

N.	date u. t.	γ°	L°	ω°	S	A_d	A'_d	A_H	A'_H	n	T	Q
3775	19.392-12-60	11	243	70	44	239	64	133	35			
		12	243	74	53	89	39	53	23			
						328	102	186	58	13	0	2
	21.496-12-60	11	243	310	38	159	80	86	43			
		12	243	321	31	134	57	70	30			
						293	137	156	73	-	0	3
	22.398-12-60	11	243	300	53	102	45	60	26			
		12	243	310	47	95	32	54	18			
						197	77	114	44	9	0	2
	23.395-12-60	11	248	293	73	64	33	47	28	2	J	3
3776	21.496-12-60	-12	245	221	41	134	33	73	21			
		-22	233	210	37	256	111	137	60			
						390	149	210	91	-	D	3
	22.398-12-60	-21	245	241	54	57	32	34	19			
		-22	233	232	47	159	70	90	40			
						216	102	124	59	S	D	2
	23.395-12-60	-21	245	250	70	57	32	40	22			
		-22	233	243	62	43	19	30	12			
						105	51	70	34	5	G	3
3777	21.496-12-60	15	155	73	98	-	-	-	-	-	-	3
		15	159	98	91	57	32	69	39			
		15	155	103	98	223	70	235	74			
						280	102	304	112	2	G	2
	23.395-12-60	15	159	74	66	33	26	25	17			
		15	155	77	68	255	64	174	43			
						293	90	199	60	4	G	3
	26.416-12-60	15	159	26	32	35	26	19	13			
		15	155	38	33	261	76	133	40			
						296	102	156	53	-	G	3
	27.398-12-60	15	159	345	31	43	19	25	10			
		15	155	355	23	226	43	113	25			
						274	67	143	35	4	C	2
	30.395-12-60	15	155	302	71	102	35	72	25	-	J	3
	31.416-12-60	15	155	292	83	51	35	46	31	2	J	2

N.	date u. t.	γ°	L°	ω°	S	A_d	A'_d	A_H	A'_H	n	T	Q
3778	26.416-12-60	14	96	73	95	64	35	102	56	-	-	3
		14	99	76	81	166	51	141	43			
		13	96	77	85	255	57	242	54			
		17	94	73	88	64	29	67	30			
	27.399-12-60	13	92	78	89	207	32	227	35			
		16	89	73	91	334	99	403	107			
		12	83	77	93	95	38	130	52			
						1121	296	1210	321	-	F	2
	30.395-12-60	14	99	46	38	461	30	249	43			
		13	92	58	42	111	38	61	21			
		16	89	60	51	1400	239	314	139			
		12	83	68	54	102	32	60	19			
	31.416-12-60					2074	339	1134	222	-	F	3
		14	99	3	30	445	143	233	75			
		13	99	30	34	1082	223	575	113			
		16	89	29	39	477	159	259	69			
	3.478-1-61					2004	525	1067	262	39	F	2
		14	99	292	71	366	99	260	63			
		14	94	297	63	636	175	410	113			
		16	89	307	59	573	159	355	99			
	6.414-1-61	13	79	300	53	430	111	253	66			
						2005	534	1278	341	42	F	2
		16	89	289	95	175	57	230	92	-	H	3
3779	25.416-12-60	-9	111	103	82	127	45	111	39	-	H	3
		-9	111	105	66	134	45	99	30	4	H	2
		-9	111	185	10	143	57	72	29	-	J	3
		-9	111	250	24	134	57	69	30	4	J	2
	30.395-12-60	12	142	303	55	57	26	34	15	-	J	3
		12	142	290	72	48	32	34	23	2	J	2
3780	31.416-12-60	-13	69	110	52	32	16	19	9	-	J	2
3781	31.416-12-60	-14	32	97	93	29	19	39	26	1	J	2
3782	3.414-1-61	-14	32	110	48	33	29	22	16	4	J	2
3783	31.416-12-60	9	132	295	54	95	57	57	34			
		7	123	295	49	67	41	38	24			
						162	98	95	53	9	C	2
		8	132	277	97	80	35	164	72			
	3.414-1-61	7	123	273	93	64	19	87	26			
						144	54	251	98	3	D	2

N.	date u.t.	ϕ	L^0	ω^0	δ	A_d	A_d^1	A_H	A_H^1	n	T	Q	
3784	3.478-1-61	23	23	50	70	332	143	267	100				
		22	19	54	72	70	35	50	25				
		22	14	55	73	191	45	153	36				
					643	223	470	161	12	D	2		
	6.414-1-61	23	23	354	43	990	223	494	123				
		22	19	0	41	95	43	52	26				
		22	14	10	43	207	102	115	56				
					1192	373	661	205	-	E	3		
	8.406-1-61	23	23	317	62	764	143	497	91				
		22	14	324	53	90	32	47	19				
						944	175	534	110	-	E	3	
	10.412-1-61	23	23	297	97	445	143	452	145		H	2	
	3785	6.414-1-61	-21	11	151	33	32	16	17	8	-	J	3
8.406-1-61		-12	309	104	72	175	111	126	80				
		-13	307	103	76	121	35	93	24				
						296	146	219	104	-	D	3	
10.412-1-61		-12	309	110	35	207	70	110	37				
		-13	307	109	41	80	43	44	26				
						287	113	154	63	-	C	2	
13.419-1-61		-12	309	243	37	134	67	72	36	-	J	3	
14.395-1-61		-12	309	252	56	127	41	77	25	-	J	3	
16.365-1-61	-12	309	253	92	95	51	93	44	-	C	2		
3787	14.395-1-61	-11	233	233	19	26	13	13	6	-	J	3	
	16.365-1-61	-11	233	260	57	64	32	39	19	-	C	2	
	17.392-1-61	-11	233	253	73	216	57	153	42				
		-11	233	255	76	121	43	93	37				
						337	105	251	79	-	D	3	
	19.399-1-61	-11	233	254	96	32	19	57	34	-	J	1	
	3788	17.392-1-61	-6	216	81	35	64	32	34	17			
			-5	212	80	40	57	35	31	19			
							121	67	65	36	-	G	3
19.399-1-61		-6	216	270	12	191	10	96	5				
		-5	212	235	4	173	6	89	3				
						369	16	135	8	-	C	1	
20.447-1-61		-6	216	264	36	207	80	111	43				
		-5	212	266	26	121	67	63	35				
						323	147	174	78	11	C	2	

N.	date u. t.	γ°	L^0	ω°	φ	A_d	A'_d	A_H	A'_H	n	T	Q
3789	19.399-1-61	-6	164	86	71	64	29	45	20	-	J	1
	20.447-1-61	-6	164	83	54	90	49	47	23	3	J	2
3790	24.439-1-61	9	99	60	71	38	19	27	14	-	J	2
3791	30.402-1-61	5	107	270	95	239	70	227	66			
		6	101	273	79	195	95	147	76			
						424	165	374	142	3	G	2
3792	30.402-2-61	8	58	15	29	859	256	449	133	16	H	2
	2.416-2-61	8	58	281	60	407	111	255	70	5	H	3
	3.614-2-61	9	53	273	79	243	57	203	47	-	H	2
	4.419-2-61	8	53	269	59	223	57	244	63	3	H	2
	5.395-2-61	8	53	265	96	102	35	192	63	3	H	2
3793	30.402-1-61	22	16	45	93	-	-	-	-	5	C	2
	2.416-2-61	22	16	3	49	325	102	186	53	7	H	3
	3.614-2-61	22	16	335	49	302	70	173	40	-	H	2
	4.419-2-61	22	16	313	55	127	64	76	33	4	C	2
	5.395-2-61	22	16	300	65	111	48	72	31	5	C	2
3794	2.416-2-61	-16	344	94	60	57	32	38	21	2	J	3
	3.614-2-61	-16	344	102	45	45	32	25	18			
		-16	340	109	50	51	19	29	11			
						96	51	54	29	-	C	2
	4.419-2-61	-16	244	110	23	35	26	13	13			
		-16	340	105	36	32	16	17	9			
						67	42	35	22	3	C	2
	5.395-2-61	-16	344	152	16	35	19	20	11	1	J	2
3795	2.416-2-61	-9	333	94	79	143	64	114	51	4	J	3
	3.614-2-61	-9	333	84	59	159	41	93	25	-	J	2
	4.419-2-61	-9	333	92	42	216	35	119	19	1	J	2
	5.395-2-61	-9	333	92	21	216	64	111	33	4	J	2
	6.402-2-61	-9	333	205	4	197	64	109	32	3	J	3
	9.402-2-61	-9	333	250	46	153	64	96	30	5	H	2
	9.379-2-61	-9	333	249	64	143	57	93	37	4	H	2
	10.429-2-61	-9	333	249	91	95	43	51	41	3	H	2
	11.379-2-61	-9	333	247	92	32	19	41	24	-	J	2

N.	date u.t.	φ°	L°	ω°	δ	A_d	A'_d	A_H	A'_H	n	T	Q
3796	4.419-2-61	4	291	63	94	127	43	137	70	8	J	2
	5.335-2-61	4	291	66	83	414	102	371	91	5	H	2
	6.402-2-61	4	291	63	72	229	90	263	57			
		3	291	66	90	127	57	106	43			
						356	137	369	105	10	E	3
	8.402-2-61	4	291	42	32	599	143	311	76			
		3	291	51	44	95	35	53	19			
						634	179	364	95	13	G	2
	9.373-2-61	4	291	22	19	636	121	324	62			
		3	291	23	26	191	95	99	49			
						327	216	423	111	20	G	2
	10.429-2-61	4	291	236	27	541	95	231	50			
		3	291	321	20	90	32	41	16			
						621	127	322	66	-	G	2
	11.373-2-61	4	291	273	44	366	121	204	67	8	H	2
	13.422-2-61	4	291	263	90	445	95	371	80	15	E	2
	14.313-2-61	4	291	259	90	414	111	475	123	-	H	3
	15.416-2-61	4	291	253	97	95	33	196	79	-	-	2
3797	8.402-2-61	-12	295	33	22	30	43	41	24			
		-10	292	100	21	41	16	21	9			
3798						121	64	62	32	9	D	2
	8.402-2-61	-10	264	90	63	64	41	41	27	4	C	2
		-9	263	90	41	43	22	26	12			
	9.373-2-61	-10	264	81	49	35	10	20	5			
								46	17	4	C	2
	10.429-2-61	-9	263	90	19	99	32	45	16			
		-10	264	81	25	80	32	41	16			
						169	64	36	32	10	G	2
	11.373-2-61	-9	263	130	5	102	57	51	29			
		-10	264	130	4	95	32	43	16			
						197	99	99	45	6	G	2
	9.373-2-61	9	357	263	92	33	13	49	16	3	C	2
	18.416-2-61	-4	136	63	62	35	13	22	31	-	J	2

N.	date u.t.	φ°	L°	ω°	δ	A_d	A'_d	A_H	A'_H	n	T	Q
3301	13.416-2-61	-12	105	31	91	45	19	54	23	-	J	2
	19.416-2-61	-12	105	30	80	51	16	42	13	-	J	1
	25.406-2-61	-12	105	239	39	41	19	22	10	-	C	3
	27.494-2-61	-12	105	243	77	67	32	52	25	-	C	2
3302	13.416-2-61	6	123	56	73	33	19	23	14	-	J	2
	19.416-2-61	6	123	49	53	41	13	25	3	-	J	1
3303	25.406-2-61	-14	114	236	56	30	32	43	19	-	C	3
3304	25.406-2-61	-12	70	95	19	30	35	41	13	-	C	3
3305	25.406-2-61	9	59	36	42	197	57	109	32	-	J	3
	27.494-2-61	9	59	313	23	166	43	36	25	-	J	2
	1.409-3-61	9	59	277	56	159	64	96	33	-	J	2
	2.395-3-61	9	59	271	63	134	57	36	37	1	J	2
	3.395-3-61	9	59	266	37	102	54	103	55	1	J	2
	4.416-3-61	9	59	262	96	67	35	119	63	1	J	2
3306	2.395-3-61	-10	52	242	53	64	29	39	13	5	C	2
3307	2.395-3-61	20	10	353	47	45	22	25	13	2	C	2
	3.395-3-61	20	10	324	55	43	19	29	11	-	C	2
	4.416-3-61	20	10	301	53	45	22	27	14	7	C	2
3308	3.395-3-61	4	67	253	91	32	13	21	3	1	J	2
3309	3.395-3-61	-7	66	244	30	95	35	30	29	5	C	2
	4.416-3-61	-7	66	243	97	51	32	105	65	3	J	2
3310	4.416-3-61	-10	306	76	66	35	23	32	17	2	C	2
	5.335-3-61	-10	306	76	52	153	57	39	34	-	C	1
	6.331-3-61	-10	306	76	30	57	16	30	3			
		-12	303	31	34	64	26	34	14			
						121	42	64	22	7	CC	2
7.331-3-61		-10	306	93	6	39	35	45	13			
		-12	303	103	14	29	19	14	10			
						113	54	59	23	9	C	2

N.	date u.t.	γ°	L°	ω°	φ	A_d	A'_d	A_H	A'_H	n	T	Q
3811	4.416-3-61	-17	280	84	94	45	26	65	37	2	C	2
	5.385-3-61	-17	280	83	84	51	19	47	18	-	C	1
	6.391-3-61	-17	280	83	70	29	13	20	9	1	J	2
3812	6.391-3-61	4	312	23	27	33	38	43	20			
		3	308	32	29	76	35	40	18			
						159	73	83	38	-	D	2
3812	7.391-3-61	4	312	330	21	95	45	49	23			
		3	308	351	18	134	51	63	26			
						229	96	117	49	13	D	2
3813	9.389-3-61	-7	219	71	91	175	49	211	58	8	H	1
	10.409-3-61	-7	219	69	78	216	64	173	51	7	J	2
	11.392-3-61	-7	219	67	63	236	99	184	57	10	J	2
	12.416-3-61	-7	219	65	42	302	90	167	44	5	J	3
	14.461-3-61	-7	219	290	5	243	70	124	35	5	J	1
	15.468-3-61	-7	219	250	26	239	64	124	33	4	J	3
	17.399-3-61	-7	219	247	66	197	90	131	53	1	J	2
3814	14.461-3-61	20	239	293	59	70	32	43	20	1	J	1
	15.468-3-61	20	239	285	70	99	32	62	22	6	C	3
	17.398-3-61	20	239	274	90	35	19	40	22	2	J	2
3815	14.461-3-61	21	177	28	77	70	32	55	25	6	C	1
	15.468-3-61	21	177	22	63	99	19	57	12	4	C	3
3816	14.461-3-61	5	152	53	92	57	29	73	37	1	J	1
	15.468-3-61	5	152	54	81	118	57	100	49	2	J	3
	17.398-3-61	5	152	44	18	80	57	45	33	2	J	2
	20.513-3-61	5	152	290	32	51	27	26	13	2	J	3
	22.391-3-61	5	152	261	67	38	16	21	11	2	J	3
3817	17.398-3-61	2	164	35	30	26	13	13	7	2	J	2
3818	17.398-3-61	-5	160	58	32	38	16	20	8	2	C	2

N.	date u.t.	γ°	L°	ω°	φ	A_d	A'_d	A_H	A'_H	n	T	Q
3819	17.399-3-61	-24	159	106	45	57	29	32	16			
		-25	153	103	50	51	16	29	9			
						108	45	61	25	5	G	2
3820	20.513-3-61	9	123	22	37	32	16	17	9	2	J	3
	22.391-3-61	8	123	302	31	229	99	121	47	12	C	3
	23.391-3-61	9	123	278	46	274	99	154	50	11	C	3
	24.392-3-61	9	123	267	65	121	45	90	29			
		10	119	271	61	99	35	56	22			
3821	25.371-3-61	8	123	262	91	99	35	76	30			
		10	119	264	77	57	29	45	22			
						146	64	121	52	7	C	3
	26.392-3-61	9	121	261	92	102	35	130	45	4	C	3
3822	20.513-3-61	9	64	56	96	223	70	398	125	1	H	3
	22.391-3-61	8	64	48	79	694	127	547	102	3	H	3
	23.391-3-61	8	64	44	62	859	127	548	91	10	H	3
	24.392-3-61	9	64	35	44	923	159	514	39	13	H	3
	25.371-3-61	9	64	9	29	971	175	507	91	6	H	3
	26.392-3-61	9	64	322	27	780	159	405	33	5	H	3
	27.392-3-61	9	64	294	88	732	175	396	95	3	H	3
	28.413-3-61	9	64	271	56	636	143	384	86	3	H	3
	29.392-3-61	8	64	266	71	509	127	361	90	4	H	2
	30.371-3-61	9	64	260	93	414	121	436	127	2	H	4
3822	22.391-3-61	5	49	54	91	131	39	157	46			
		6	49	53	91	57	32	69	39			
						193	70	226	94	4	G	3
	23.391-3-61	5	49	52	79	131	54	106	44			
		6	49	51	90	64	32	53	27			
3822	24.392-3-61	5	49	48	63	150	49	96	31			
		6	49	46	64	49	26	31	17			
						193	74	127	43	4	G	3
	25.371-3-61	5	49	40	45	153	49	96	27			
		6	49	38	47	57	32	32	18			
3822						210	79	113	45	5	G	3

Explanations

- N = Rome Group Number
 S° = Heliographic latitude
 L° = Heliographic longitude
 ω° = Position angle of the spot
 S = Spot distance from the center in centymens of the solar radius
 T = Group type
 G = Number of the observed groups
 n = Number of the observed spots
 Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good
4 - Very good; 5 - excellent
 A_d = Apparent total area (in millionths of the solar disk)
 A'_d = Apparent umbra area (" " " " " ")
 A_H = Corrected total area (in millionths of the solar hemisphere)
 A'_H = Corrected umbra area (" " " " " ")

- Litografia "NICOLETTI & TERNZI" - Roma, Via: Del Pigneto 162 F. - Tel. 275.607 -

" AGOSTO 1961 "

OSSERVATORIO ASTRONOMICO DI ROMA

(Direttore prof. Massimo Cinino)

Circolare n. 43

JAN 2 1962

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

FENOMENI SOLARI

osservati nel mese di Luglio 1961

TABLE I

Daily total areas of the sunspot - groups, by A. Morelli, M. Torelli and A. Boccitto.

	date u. t.	G	n	A_d	A'_d	A_H	A'_H	Q
1961	1.406	3	49	1494	416	1136	327	2
July	2.402	4	25	1900	586	1565	481	3
	3.385	4	25	1915	634	1734	584	3
	4.392	4	50	1469	526	1424	502	4
	5.395	2	12	904	271	471	140	4
	7.381	4	46	1299	367	945	271	2
	8.375	3	25	1195	262	735	187	4
	9.375	5	43	1339	350	1091	289	4
	10.436	5	40	2654	770	2400	724	3
	11.418	5	-	3464	991	2593	667	3
	13.429	4	45	3440	755	1896	409	4
	14.399	4	46	3506	922	1900	499	1
	15.436	5	53	3021	911	1707	477	4
	16.388	3	41	1241	376	1066	309	1
	19.350	6	47	1312	472	2059	790	2
	21.395	4	41	1314	350	1026	262	3
	22.398	4	53	1107	248	909	216	2
	23.353	4	-	1295	372	709	206	4
	24.416	3	51	1065	290	569	161	2
	26.375	2	39	865	181	478	110	3
	27.395	2	29	901	271	748	247	3
	29.462	2	16	589	134	531	121	2
	30.450	2	-	296	44	390	61	1
	31.426	3	8	159	57	296	99	2
	Mean Value			1567	432	1174	338	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by A. Morelli and M. Torelli.

N.	date u.t.	φ°	L°	b°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3323	23.331-3-61	5	122	270	44	57	22	32	12	4	C	3
	24.392-3-61	6	123	260	63	70	35	43	24			
		5	122	261	62	73	29	47	13			
						143	64	95	42	14	C	3
	25.371-3-61	6	123	257	95	153	51	145	43			
		5	122	257	78	89	35	71	23			
						242	96	216	76	10	D	3
	26.392-3-61	6	123	254	95	207	64	331	102			
		5	122	255	91	80	32	96	33			
						237	96	427	140	9	D	3
3324	26.392-3-61	-15	352	80	96	191	67	341	119	7	D	3
	27.392-3-61	-15	352	78	82	207	64	181	56			
		-19	344	91	89	95	43	105	52			
		-20	333	93	93	127	57	173	73			
						429	169	459	136	10	D	3
	28.413-3-61	-15	352	79	67	223	64	150	43			
		-19	344	92	75	80	26	60	19			
		-20	333	93	92	191	80	167	70			
		-23		94	97	121	57	123	53			
						615	227	500	190	25	E	3
	29.392-3-61	-15	352	83	50	255	102	147	59			
		-19	344	96	61	64	13	40	3			
		-20	333	96	69	313	143	217	93			
		-23	333	93	73	127	70	102	56			
						764	323	506	221	25	E	2
	30.371-3-61	-15	352	92	23	350	143	132	75			
		-19	344	92	42	64	16	35	9			
		-20	333	92	50	350	95	202	55			
		-23	333	91	60	95	33	60	24			
						959	292	479	163	24	E	4
	1.409-4-61	-15	352	221	26	153	41	79	21			
		-14	352	213	22	166	57	95	29			
		-15	347	135	13	64	19	32	10			
		-20	333	147	21	366	70	137	36			
						749	137	333	96	23	D	4

N.	date u.t.	φ°	L°	b°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3324	3.367-4-61	-15	352	231	61	194	51	122	32			
		-20	333	212	43	434	121	263	67			
						673	172	490	99		G	3
	4.333-4-61	-15	352	235	76	33	29	29	22			
		-20	333	223	60	333	103	243	63			
						426	137	272	90	4	G	3
	5.409-4-61	-20	333	223	77	261	94	205	50	2	H	3
	6.350-4-61	-20	333	223	93	166	64	174	67	2	J	3
	7.406-4-61	-20	333	223	93	70	33	176	96	1	J	2
3325	23.413-3-61	-17	320	90	95	111	57	173	92	2	J	3
	29.392-3-61	-17	320	92	93	127	57	114	51			
		-15	310	93	97							
						187	57	114	51	4	G	2
	30.371-3-61	-17	320	92	73	143	43	105	35			
		-13	310	92	95	239	64	227	60			
						332	112	332	95	7	G	4
	1.409-4-61	-17	320	93	37	143	33	77	21			
		-13	310	99	53	194	64	114	33			
						337	102	191	59	12	G	4
	3.367-4-61	-17	320	130	19	30	33	41	19			
		-13	310	121	21	121	41	62	21			
						201	79	103	40		G	3
	4.333-4-61	-17	320	215	35	19		10				
		-13	310	195	23	177	64	101	33			
						216	64	111	33	15	G	3
	5.409-4-61	-17	320	224	54	32	13	19	3			
		-13	310	221	41	194	64	106	35			
						225	77	135	43	19	G	3
	6.350-4-61	-17	320	229	70	153	32	107	23			
		-13	310	223	53	175	33	107	23			
						323	70	214	45	21	D	3
	7.406-4-61	-13	315	232	90	111	33	93	32	7	C	2
3326	29.392-3-61	-12	316	72	90	57	22	66	26	1	J	2
3327	29.392-3-61	7	323	49	82	41	19	36	17	1	J	2
3328	3.367-4-61	-5	239	67	97	99	33	133	79		J	3
	4.333-4-61	-5	239	67	93	134	51	141	54	1	J	3
	5.409-4-61	-5	239	67	74	229	57	170	43	11	J	3

N.	date u.t.	γ°	L°	ω°	ρ	A_d	A_d	A_H	A_H	n	T	Q
3323	6.250-4-61	- 5	239	62	59	255	64	153	39	1	J	3
	7.406-4-61	- 5	239	62	37	229	64	123	34	1	J	2
	8.371-4-61	- 5	239	52	16	210	89	106	45	2	J	3
	9.367-4-61	- 5	239	263	7	197	95	99	43	-	J	2
	13.433-4-61	- 5	239	247	37	95	43	97	43	1	J	1
3329	4.398-4-61	13	275	29	51	70	35	41	20	3	C	3
	5.409-4-61	13	232	353	36	95	32	51	17			
		13	275	9	39	153	54	33	29			
						243	86	134	46	16	D	3
	6.350-4-61	13	232	315	36	121	35	65	19			
		13	275	335	33	313	111	169	59			
						439	146	234	73	26	D	3
	7.406-4-61	13	232	236	49	115	51	66	29			
		13	275	300	43	445	127	247	71			
						560	173	313	100	22	D	2
	8.371-4-61	13	232	276	64	102	64	66	41			
		13	275	234	54	430	127	255	76			
3330	4.398-4-61	- 7	320	240	33	134	64	71	34	10	C	3
		- 6	323	242	53	127	76	73	47			
	5.409-4-61	- 7	320	242	53	153	51	94	31			
						230	127	172	73	20	D	3
	6.350-4-61	- 6	323	242	75	153	57	115	43			
		- 7	320	242	69	95	43	66	33			
						243	105	131	76	5	D	3
	7.406-4-61	- 6	323	242	37	99	22	100	23	2	C	2
	8.371-4-61	- 6	323	242	95	127	57	204	92	7	D	3
	13.433-4-61	14	141	42	69	57	26	40	13	2	J	1
		14	141	340	32	131	64	69	34			
3331	16.392-4-61	15	136	352	34	121	51	64	27			
						252	115	133	61	13	D	1

N.	date u.t.	γ°	L°	ω°	ρ	A_d	A_d	A_H	A_H	n	T	Q
3331	13.492-4-61	14	141	233	55	239	102	143	61			
		15	136	292	50	102	26	59	15			
						341	123	202	76	14	D	2
	19.409-4-61	14	141	273	70	197	51	133	36			
		15	136	273	63	32	6	20	5			
3332	20.405-4-61					229	57	153	41	10	D	3
	20.405-4-61	14	141	270	31	57	29	49	24	3	C	3
	13.433-4-61	3	130	60	73	302	30	241	64	2	H	1
		3	130	33	24	430	30	221	41	6	H	1
3333	13.492-4-61	3	130	273	30	261	70	137	37	6	J	2
	19.409-4-61	3	130	261	49	239	57	137	33	4	J	3
	20.405-4-61	3	130	253	67	191	51	129	34	1	J	3
	16.392-4-61	7	65	53	93	57	35	144	33	1	J	1
		7	65	53	73	236	70	229	56	1	H	2
3334	13.492-4-61	7	65	43	63	366	70	236	45	1	H	3
	19.409-4-61	7	65	40	46	477	39	269	50	1	H	3
	20.405-4-61	7	65	263	63	334	127	213	37	1	H	3
	27.461-4-61	7	65	253	95	121	51	197	32	3	H	2
	23.496-4-61	7	65	257	99	57	29	203	90	1	H	1
3335	13.492-4-61	9	121	303	23	35	19	13	10	2	C	2
		10	125	230	45	29	10	16	5			
	19.409-4-61	9	121	232	41	35	16	19	9			
						64	26	35	14	4	G	3
	20.405-4-61	10	125	270	63	19	10	12	6			
3335	13.492-4-61	9	121	272	53	32	22	20	16			
						51	32	32	22	2	G	3
	13.492-4-61	-14	63	73	73	41	26	30	19			
		-16	62	31	31	57	32	49	27			
	19.409-4-61	-14	53	77	33	29	13	30	13			
						127	71	109	59	6	D	2
	19.409-4-61	-14	63	73	57	33	10	23	6			
		-16	62	30	66	41	16	23	11			
	13.492-4-61	-14	53	76	77	57	26	45	20			
						136	52	96	37	6	D	3

N.	date u. t.	γ°	L°	ω°	ρ	A_d	A_d^0	A_H	A_H^0	n	T	Q
3335	27.495-4-61	-16	62	261	42	26	13	15	7			
		-14	53	77	59	41	19	26	12			
						27	32	41	19	4	G	3
3336	25.395-4-61	-7	320	73	91	191	64	230	77			
		-12	315	73	90	216	30	397	143			
						407	144	617	219	7	D	3
	27.461-4-61	-7	320	63	60	239	35	140	60			
		-12	315	75	67	700	143	471	96			
						953	233	620	153	35	E	2
23.496-4-61		-7	320	65	49	334	30	190	45			
		-12	315	90	50	732	127	423	74			
						988	207	613	119	22	E	1
1.447-5-61		-7	320	240	22	277	64	106	32			
		-12	315	215	21	414	35	212	40			
						621	159	315	22	23	D	3
2.395-5-61		-7	320	242	43	201	64	111	35			
		-12	315	231	41	166	35	91	19			
						367	90	202	54	9	D	3
4.367-5-61		-7	320	242	92	22	6	19	6			
		-12	315	237	78	32	22	25	13			
						54	23	44	24	2	G	3
5.395-5-61		-7	320	-	-	-	-	-	-	6	C	1
3337	27.461-4-61	-11	295	52	97	70	35	144	72	1	J	2
		-11	295	50	93	127	43	134	60	2	J	1
		-11	295	23	42	64	32	36	13	3	J	3
2.395-5-61		-11	295	2	30	57	32	30	17	3	J	3
4.367-5-61		-11	295	293	41	45	29	24	16	2	J	3
5.395-5-61		-11	295	-	-	-	-	-	-	1	J	1
3339	23.496-4-61	4	313	56	43	192	45	69	26	11	C	1
1.447-5-61		5	324	270	33	503	159	273	94			
		4	313	273	23	271	95	141	50			
		4	314	235	21	363	105	197	54			
2.395-5-61						1162	353	606	132	37	E	3
		5	324	262	55	605	131	362	72			
		4	313	263	46	332	102	215	57			
4.367-5-61		4	314	236	39	334	90	131	43			
						1321	303	753	172	31	E	3
4.367-5-61		5	324	254	37	334	30	330	31			
		4	313	255	34	127	64	117	60			
		4	314	255	73	277	76	165	61			
						663	320	621	201	14	E	3

N.	date u. t.	γ°	L°	ω°	ρ	A_d	A_d^0	A_H	A_H^0	n	T	Q
3338	5.395-5-61	5	324	254	95	127	57	204	92			
		4	313	253	91	64	13	77	15			
						191	70	231	107	7	D	1
3339	6.367-5-61	5	161	63	93	64	26	160	64	-	J	2
7.406-5-61		5	161	59	90	39	35	102	40			
		4	157	63	92	95	33	122	49			
						184	73	224	99	6	G	1
8.416-5-61		5	161	53	63	127	51	97	35			
		4	157	62	72	146	57	106	41			
						273	103	193	76	9	G	2
11.453-5-61		5	161	30	22	121	35	62	13			
		4	157	47	24	465	127	239	66			
						596	162	301	94	-	D	2
12.367-5-61		5	161	343	12	471	64	237	22			
		4	157	10	13	197	45	100	22			
						663	109	337	54	21	D	3
13.331-5-61		5	161	273	24	393	95	205	49			
		4	157	236	21	143	64	73	33			
						541	159	273	92	14	D	2
14.393-5-61		5	161	262	43	271	57	154	33			
		4	157	263	43	57	35	32	19			
						323	92	136	52	9	C	4
15.395-5-61		5	161	260	65	243	57	163	33	4	J	4
17.461-5-61		5	161	256	92	95	33	122	49	2	J	2
3340	7.406-5-61	13	165	-	-	-	-	-	-	3	C	1
	8.416-5-61	13	165	49	73	64	26	51	20	2	C	2
3341	12.367-5-61	13	153	4	23	35	6	13	3	4	C	3
3342	13.331-5-61	9	65	-	-	-	-	-	-	-	J	2
	14.393-5-61	9	65	53	92	99	32	126	41	1	J	4
	15.395-5-61	9	65	57	92	162	45	142	39	1	J	4
	17.461-5-61	9	65	49	49	216	67	124	38	2	J	2
	18.463-5-61	9	65	30	30	293	39	153	47	-	J	3
	20.331-5-61	9	65	293	27	239	99	124	46	3	J	3
	21.450-5-61	9	65	273	45	229	64	123	36	-	J	3
	22.331-5-61	9	65	263	61	175	33	110	24	1	J	3
	23.331-5-61	9	65	265	73	131	33	104	31	1	J	3
	24.331-5-61	9	65	263	39	102	57	112	63	1	J	3
	25.375-5-61	9	65	263	97	64	32	131	65	-	J	2

Explanations

- N = Rome Group Number
 λ° = Heliographic latitude
 L° = Heliographic longitude
 ω° = Position angle of the spot
 S = Spot distance from the center in centymens of the solar radius
T = Group type
G = Number of the observed groups
n = Number of the observed spots
Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good
4 - Very good; 5 - excellent
 A_d = Apparent total area (in millionths of the solar disk)
 A'_d = Apparent umbra area (" " " " " ")
 A_H = Corrected total area (in millionths of the solar hemisphere)
 A'_H = Corrected umbra area (" " " " " ")

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" AGOSTO 1961 "

OSSERVATORIO ASTRONOMICO DI ROMA

(Direttore prof. Massimo Cinino)

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

Circolare N. 44

JAN 2 1962

FENOMENI SOLARI

osservati nel mese di Agosto 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Rainone and M. Torelli.

	date u.t.	G	n	A_d	A'_d	A_H	A'_H	Q
1961	1.395	2	18	245	143	151	89	3
August	2.422	2	10	143	77	109	59	2
	3.385	2	10	96	25	95	29	1
	4.500	-	-	-	-	-	-	-
	5.500	-	-	-	-	-	-	-
	6.500	-	-	-	-	-	-	-
	7.500	-	-	-	-	-	-	-
	8.471	1	-	216	57	433	112	3
	9.436	3	-	639	242	617	206	3
	10.440	4	26	944	333	858	273	3
	11.436	5	44	1236	492	947	369	3
	12.381	6	38	1454	488	950	346	3
	13.360	8	-	1219	373	909	292	4
	14.375	7	-	1094	407	701	295	4
	15.406	7	35	1091	343	753	251	4
	16.335	6	35	1091	401	682	287	4
	17.399	5	19	974	309	587	195	3
	18.371	3	19	770	168	455	100	4
	19.335	3	16	585	152	338	99	3
	21.392	3	-	277	79	261	82	2
	22.496	2	-	41	29	33	26	1
	23.461	3	5	76	32	52	23	2
	24.423	2	-	210	75	115	41	1
	26.331	2	20	741	239	380	123	3
	28.395	1	26	890	302	552	137	3
	29.379	2	24	902	255	745	189	4
	30.458	2	36	1384	350	1635	407	5
	31.364	2	40	1782	327	1945	392	5
	Mean Value			646	203	509	159	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by M. Torelli.

N.	date u. t.	φ°	L°	ω°	S	A_d	A_d^1	A_H	A_H^1	n	T	Q
3947	20.391-5-61	16	346	53	91	45	13	54	15	3	C	3
	21.450-5-61	16	346	50	82	67	32	58	28	-	C	3
	22.391-5-61	16	346	48	61	80	35	58	31	5	C	3
	23.391-5-61	16	346	39	56	64	35	38	21			
		17	343	39	59	216	64	134	39			
	24.391-5-61					230	99	172	60	18	C	3
		16	346	21	40	191	57	104	31			
		17	343	27	44	239	76	133	43			
	25.375-5-61					430	133	237	74	14	D	3
		16	346	350	32	95	32	50	17			
		17	343	2	34	255	32	135	17			
						350	64	185	34	15	C	2
3948	26.399-5-61	16	346	310	37	57	13	31	7			
		17	343	320	32	159	32	94	17			
						216	45	115	24	12	C	3
	21.450-5-61	2	331	68	92	102	48	130	61	-	J	3
	22.391-5-61	2	331	68	73	162	51	119	37	1	J	3
	23.391-5-61	2	331	67	68	197	48	141	33	1	J	3
	24.391-5-61	2	331	66	50	255	64	147	37	1	J	3
	25.375-5-61	2	331	62	29	243	67	130	35			
		5	328	57	40	95	38	52	21			
						343	105	182	56	7	G	2
	26.399-5-61	2	331	25	9	207	99	104	45			
		5	328	30	15	134	57	68	29			
3949	28.447-5-61					341	145	172	74	11	C	3
		2	331	265	40	191	64	104	35			
		5	328	270	38	143	57	77	31			
						334	121	181	66	8	C	3
	31.399-5-61	5	328	262	88	159	35	168	37	3	G	3

N.	date, u. t.	φ°	L°	ω°	S	A_d	A_d^1	A_H	A_H^1	n	T	Q
3949	28.447-5-61	-7	328	235	37	19	6	10	3	2	C	3
3950	31.398-5-61	-11	234	92	58	57	19	35	12	1	J	3
3951	2.395-6-61	7	281	263	62	32	13	20	8	4	C	2
3952	2.395-6-61	-6	195	82	83	73	29	66	26			
		-6	181	83	86	108	35	106	34			
						181	64	172	60	16	C	2
	5.392-6-61	-6	181	95	37	239	99	128	48	8	J	2
3953	9.490-6-61	-6	181	251	58	83	19	51	12	-	C	3
	5.392-6-61	-2	190	89	21	159	57	81	29	3	J	2
	9.490-6-61	-2	190	258	71	185	35	131	25	-	C	3
3954	5.392-6-61	11	195	20	23	51	26	26	13	5	C	2
3955	5.392-6-61	2	167	75	58	143	38	88	23	3	J	2
	9.490-6-61	2	167	264	35	255	76	136	41	-	C	3
	12.503-6-61	2	167	262	91	127	48	154	58	7	C	4
3956	9.490-6-61	-3	73	90	98	175	64	440	160	-	H	3
3957	12.503-6-61	4	70	77	63	748	175	482	113			
		1	65	80	70	636	64	445	45			
						1384	239	927	158	19	E	4
	13.392-6-61	4	70	75	44	939	191	523	106			
3958	14.506-6-61	1	65	78	51	557	127	324	74			
						1496	318	947	180	27	E	3
	14.506-6-61	4	70	75	22	1527	350	783	179	-	E	1
	16.375-6-61	4	70	270	22	1050	223	538	114	31	E	2
3959	17.482-6-61	4	70	268	47	827	127	469	72	24	H	1
	18.402-6-61	4	70	267	63	700	191	451	123	6	H	2
	19.406-6-61	4	70	263	81	573	127	488	109	15	H	3
	20.392-6-61	4	70	267	92	350	159	447	203	2	H	3
3960	21.375-6-61	4	70	267	98	191	70	480	176	-	H	3

N.	date u. t.	β°	L°	ω°	φ	A_d	A_d'	A_H	A_H'	n	T	Q
3377	10.436-7-61	10	17	83	98	197	67	492	163	2	H	3
	11.413-7-611	10	17	84	92	318	80	406	102	-	H	3
	13.429-7-61	10	17	84	67	716	127	492	96	-	H	4
	14.399-7-61	10	17	75	49	684	197	390	112	6	H	1
	15.436-7-61	10	17	71	28	393	133	207	70	10	H	4
	19.389-7-61	10	17	292	41	302	121	166	66	11	H	1
	19.350-7-61	10	17	287	59	313	64	197	39	7	H	2
	21.335-7-61	10	17	287	99	165	64	131	70	6	J	3
	22.393-7-61	10	17	288	97	80	48	164	92	-	J	2

EXPLANATIONS

N = Rome Group Number

 λ_0° = Heliographic latitude

L^0 = Heliographic longitude

 $\omega^0 =$ Positions angle of the spot

ξ = Spot distance from the center in centymes of the solar radius

T. = Group type

G = Number of the observed groups

n = Number of the observed spots

Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good

4 - Very good: 5 - excellent

A_t = Apparent total area (in millionths of the solar disk)

A_2 = Apparent umbra area (" " " " " ")

A_c = Corrected total area (in millionths of the solar hemisphere)

$$A_{i,j} = \text{Corrected umbra area (" " " " ")}$$
[illegible]

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" SETTEMBRE "

Osservatorio Astronomico di Roma

(Direttore prof. Massimo Cimino)

Circolare N. 45

FENOMENI SOLARI

osservati nel mese di Settembre 1961

TABLE I

Daily Total areas of the sunspot - groups, by A.Boccitto, A.Rainone
and M. Torelli.

	date u. t.	G	n	A _d	A _d ¹	A _H	A _H ¹	Q	
1961	1.395	2	32	2037	407	1366	288	5	
September	2.391	1	34	2492	414	1392	230	5	
	3.436	1	-	-	-	-	-	1	
	4.406	1	-	2036	525	1021	263	2	
	7.423	1	16	1050	302	726	209	3	
	8.456	1	16	663	165	599	148	4	
	9.399	3	15	907	325	1937	710	5	
	10.416	2	19	1231	359	1596	470	3	
	11.416	2	42	1709	439	1497	380	2	
	12.402	2	42	2153	642	1478	433	4	
	13.367	2	46	2576	550	1509	321	1	
	14.393	4	96	3136	1057	1076	563	4	
	15.409	4	53	2752	918	1467	445	4	
	16.371	5	93	2703	767	1609	470	4	
	17.447	4	53	1959	433	1211	232	4	
	18.392	3	39	1340	360	932	259	4	
	19.391	4	18	1146	258	945	188	3	
	20.416	4	14	994	229	699	166	3	
	21.420	3	17	743	233	738	196	2	
	22.375	2	-	400	131	209	69	2	
	23.395	2	-	610	191	322	105	2	
	24.437	3	-	703	230	399	130	2	
	25.392	4	-	970	417	698	326	4	
	26.393	4	-	934	312	634	240	4	
	27.436	5	36	693	270	655	245	4	
	28.423	5	42	942	309	799	274	3	
	29.395	3	40	770	245	479	151	4	
	30.416	2	30	9811	267	492	149		
		Mean Value			1416	394	996	284	

Mean Value	1416	394	996	284
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TABLE II

Heliographic position, classification and area of the sunspot-groups
by M. Torelli.

N.	date u.t.	φ°	L°	ω°	S	A_d	A_d'	A_H	A_H'	n	T	Q
3358	12.503-6-61	-9	34	90	96	368	89	654	159			
		-11	29	92	99	111	32	280	30			
	13.392-6-61	-9	34	92	98	430	121	452	127			
		-11	28	93	92	223	57	284	73			
	14.506-6-61	-9	34	96	74	636	191	473	142			
		-11	29	99	82	223	95	195	83			
	16.375-6-61	-9	34	106	31	1146	191	603	100			
		-11	29	102	40	382	64	209	35			
	17.482-6-61	-9	34	133	22	1082	289	555	147			
		-11	28	124	30	255	33	133	20			
	18.402-6-61	-9	34	200	19	1050	255	534	129			
		-11	28	180	17	223	64	113	32			
	19.406-6-61	-9	34	234	34	843	197	443	105			
		-11	28	220	28	166	35	86	13			
	20.392-6-61	-9	34	245	55	700	239	419	143	12	H	3
		-9	34	249	70	414	102	290	71	-	H	3
	22.378-6-61	-9	34	256	85	131	64	124	60	6	J	4
		-9	34	255	94	95	51	140	75	3	J	2
3359	12.503-6-61	-19	44	101	91	57	35	69	42	2	J	4
	13.392-6-61	-19	44	103	81	57	32	49	27	2	J	3
	14.506-6-61	-19	44	112	67	51	19	34	13	-	J	1
		-19	44	112	67	51	19	34	13	-	J	1

N.	date u.t.	φ°	L°	ω°	S	A_d	A_d'	A_H	A_H'	n	T	Q
3359	16.375-6-61	-19	44	139	40	38	26	21	14	1	J	2
	17.482-6-61	-19	44	180	33	38	19	20	10	2	J	1
	18.402-6-61	-19	44	208	41	29	13	16	7	11	J	2
3360	16.375-6-61	-11	69	206	28	64	32	33	17	5	C	2
	17.482-6-61	-11	69	239	49	111	57	64	33			
		-12	64	231	43	64	38	35	21			
	18.402-6-61					175	95	99	54		G	1
		-11	69	246	63	153	57	104	39			
	-12	64	241	60	83	38	52	24				
	19.406-6-61					236	95	156	63	9	G	2
		-11	69	243	82	124	38	108	33			
	-12	64	243	76	83	68	64	24				
	20.392-6-61					207	76	172	57	11	G	3
		-11	69	250	90	127	64	146	73	3	G	3
	3361	16.375-6-61	-6	355	89	89	239	64	262	70	1	H
17.482-6-61		-6	355	93	73	239	64	175	47	1	J	1
18.402-6-61		-6	355	96	58	356	95	219	59	1	H	2
19.406-6-61		-6	355	102	39	366	80	199	43	7	H	3
20.392-6-61		-6	355	129	20	414	111	211	57	3	H	3
21.375-6-61		-6	355	200	17	382	121	194	61	-	H	3
22.378-6-61		-6	355	240	34	350	95	186	51	4	H	4
23.378-6-61		-6	355	249	54	286	80	170	447	11	H	22
24.333-6-61		-6	355	252	72	223	80	161	57	1	H	3
25.409-6-61	-6	355	256	83	159	95	143	98	3	H	1	
3362	17.482-6-61	21	334	60	92	95	38	122	49	2	J	1
	18.402-6-61	21	334	58	83	143	57	128	51			
		22	330	-	-	-	-	-	-			
	19.406-6-61					143	57	128	51	7	G	2
		21	334	52	73	131	57	95	42			
		22	330	52	76	83	16	64	12			
					214	73	159	54	10	G	3	

N.	date u. t.	φ°	L°	ω°	$\mathcal{L}$	A_d	A'_d	A_H	A'_H	n	T	Q
3862	20.392-6-61	22	330	49	60	111	48	70	30	4	C	3
	21.375-6-61	22	330	36	46	93	26	47	14	-	C	3
	22.378-6-61	22	330	10	31	57	32	30	17	4	C	4
3863	19.402-6-61	14	317	69	95	-	-	-	-	1	J	2
	19.406-6-61	14	317	66	95	57	32	54	30	3	J	3
	20.392-6-61	14	317	69	70	313	127	223	89	11	C	3
	21.375-6-61	10	322	66	50	350	111	202	64			
		14	317	62	53	286	95	176	59			
						636	206	379	123	-	D	3
	22.378-6-61	10	322	59	23	334	95	174	50			
		14	317	57	33	366	127	193	69			
						700	222	372	119	27	D	4
	23.378-6-61	10	322	5	11	286	64	144	32			
		14	317	22	22	334	95	171	49			
3864						620	159	315	81	20	D	2
	24.333-6-61	10	322	295	23	127	64	65	33			
		14	317	330	22	366	89	193	46			
						493	153	253	79	17	G	3
	25.409-6-61	10	322	230	43	127	64	71	35			
		14	317	293	36	255	95	136	51			
						392	159	207	86	13	G	1
	27.395-6-61	14	317	282	71	143	80	102	56	7	C	2
	28.402-6-61	14	317	282	83	102	57	91	51	5	C	2
	29.346-6-61	14	317	277	93	-	-	-	-	4	C	2
3865	19.402-6-61	10	322	72	90	-	-	-	-	2	C	2
	19.406-6-61	10	322	70	92	33	26	33	22	5	J	3
	19.406-6-61	12	9	14	21	134	43	68	24	14	CC	3
3866	20.392-6-61	13	15	315	23	271	95	141	50			
		12	9	325	20	313	111	162	49			
						589	206	303	99	13	D	3
	21.375-6-61	13	15	293	47	350	127	198	72			
		12	9	292	35	414	143	221	76			
						764	270	419	143	-	D	3

N.	date u. t.	φ°	L°	ω°	$\mathcal{L}$	A_d	A'_d	A_H	A'_H	n	T	Q
3865	22.378-6-61	13	15	282	64	539	143	333	93			
		12	9	283	54	621	159	369	95			
						1210	302	752	133	33	E	4
3866	23.378-6-61	13	15	278	82	541	127	473	111			
		12	9	273	75	573	95	433	72			
3867	24.333-6-61	13	15	278	92	477	111	609	142			
		12	9	278	95	414	80	393	66			
						991	191	1002	203	22	F	3
3868	25.409-6-61	13	15	279	93	131	64	323	160			
		12	9	277	92	255	95	325	122			
						396	159	653	282	16	E	1
3869	19.406-6-61	-7	340	31	73	33	10	31	9	4	C	3
	20.392-6-61	-7	340	-	-	-	-	-	-	-	-	3
	21.375-6-61	-7	340	121	23	51	29	26	15	-	C	3
	22.378-6-61	-7	340	195	16	70	32	35	16	3	C	4
3869	27.395-6-61	7	256	75	23	99	51	51	27	5	C	2
	28.402-6-61	7	256	40	7	191	95	96	43	12	C	2
	29.346-6-61	7	256	230	10	393	233	200	120	47	D	2
	30.395-6-61	7	256	277	46	990	334	501	133	32	D	3
	1.406-7-61	7	256	277	63	1146	302	733	195	44	E	2
	2.402-7-61	7	256	275	90	1305	414	1097	345	19	F	3
	3.392-7-61	7	256	275	90	955	350	1096	402	12	F	3
	4.392-7-61	7	256	270	96	461	159	824	234	25	E	4
	27.395-6-61	-14	209	103	93	95	43	101	50	5	C	2
	28.402-6-61	-14	209	103	78	143	64	114	51	6	C	2
3869	29.346-6-61	-14	209	110	67	80	43	54	32	11	C	2
	30.395-6-61	-14	209	127	47	73	35	41	20	3	J	3
	1.406-7-61	-14	209	151	33	45	19	24	10	1	J	2
	2.402-7-61	-14	209	192	30	32	13	17	7	1	J	3
	23.346-6-61	-5	198	96	74	45	32	33	24	3	C	2

N.	date u.t.	λ°	L°	b°	$\mathcal{E}$	A_d	A'_d	A_H	A'_H	n	T	Q
3870	30.395-6-61	13	149	77	98	207	51	520	128	1	H	3
	1.406-7-61	13	149	78	92	293	95	374	122	3	H	2
	2.402-7-61	13	149	78	80	493	127	411	106	2	H	3
	3.392-7-61	13	149	75	67	636	143	429	96	4	H	3
	4.392-7-61	13	149	70	48	620	166	354	94			
		13	147	70	53	67	32	39	19			
						697	198	393	113	19	G	4
	5.395-7-61	13	149	60	30	700	175	367	92	9	H	4
	7.375-7-61	13	149	310	22	955	207	489	106	23	H	2
	8.375-7-61	13	149	292	42	859	166	473	91	15	H	4
	9.375-7-61	13	149	288	62	700	143	446	91	10	H	4
	10.436-7-61	13	149	289	79	541	143	441	117	3	H	3
	11.418-7-61	13	149	288	89	449	127	492	140	-	H	3
3871	2.402-7-61	21	246	296	71	70	32	50	23	3	C	3
	3.392-7-61	21	246	292	92	102	32	89	28	3	C	3
	4.392-7-61	21	246	290	92	57	26	73	32	3	J	4
3872	3.392-7-61	12	171	66	37	127	64	68	34			
		11	168	70	40	95	45	52	24			
						222	109	120	53	6	G	3
	4.392-7-61	12	171	30	18	197	95	100	49			
		11	168	40	21	67	48	34	24			
						264	143	134	73	13	G	4
	5.395-7-61	12	171	320	20	153	64	78	32			
		11	168	340	12	51	32	26	16			
						204	96	104	48	4	G	4
	7.375-7-61	12	171	288	57	64	32	39	19			
		11	168	-	-	-	-	-	-			
						64	32	39	19	6	C	2
	8.375-7-61	12	171	283	73	38	19	28	14			
		11	168	281	70	32	13	22	9			
9.375-7-61						70	32	50	23	4	C	4
		12	171	283	88	32	16	34	17	2	C	4

N.	date u.t.	λ°	L°	b°	$\mathcal{E}$	A_d	A'_d	A_H	A'_H	n	T	Q
3873	7.375-7-61	20	206	292	90	127	64	142	73	7	C	2
3874	7.375-7-61	3	72	90	90	153	64	175	73	5	J	2
	8.375-7-61	3	72	91	90	256	64	212	53	6	H	4
	9.375-7-61	3	72	91	64	248	95	162	62	5	J	4
	10.436-7-61	3	72	97	43	166	51	92	23	4	J	3
	11.418-7-61	3	72	103	22	216	64	111	33	-	J	3
	13.429-7-61	3	72	271	25	207	61	107	31	-	J	4
	14.399-7-61	3	72	270	45	223	70	125	39	1	J	1
	15.436-7-61	3	72	277	66	281	41	121	27	1	J	4
3875	9.375-7-61	15	48	73	90	73	32	94	37	6	C	4
	10.436-7-61	15	48	76	79	95	32	73	37	2	J	3
	11.418-7-61	15	48	73	63	111	32	72	20	-	J	3
3876	9.375-7-61	- 8	49	102	92	286	64	365	31	20	-	4
	10.436-7-61	- 8	49	103	77	1655	477	1297	374	31	H	3
	11.418-7-61	- 7	58	113	54	502	143	180	85			
		- 8	49	112	63	2068	446	1332	287			
						2370	588	15122	372	-	F	3
	13.429-7-61	- 7	58	180	13	477	121	243	61			
		- 8	49	148	25	1973	414	1019	214			
						2450	535	1262	275	-	F	4
	14.399-7-61	- 7	58	230	25	493	111	255	58			
		- 8	49	190	19	1973	477	1054	243			
						2466	588	1309	301	33	F	1
	15.436-7-61	- 7	58	256	47	334	64	189	36			
		- 8	49	240	34	1750	477	930	254			
						2084	541	1119	290	31	F	4
	16.388-7-61	- 7	58	266	91	191	48	230	59			
		- 8	49	263	83	748	207	670	185			
						839	255	900	243	25	F	1
	19.350-7-61	- 7	58	267	98	127	35	320	89			
		- 8	49	264	94	445	207	653	303			
						572	242	973	391	19	F	2

N.	date u. t.	φ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3905	17-447-9-61	- 14	309	272	78	35	13	23	10			
		-11	304	273	59	233	73	143	45			
		-11	295	266	63	243	95	160	61			
						521	181	336	116	23	G	4
	18-392-9-61	-11	304	277	82	194	70	170	61			
		-11	295	272	70	102	54	71	33			
						296	124	241	99	14	G	4
	19-331-9-61	-11	304	232	92	124	32	158	41	4	C	3
	20-416-9-61	-11	304	234	99	-	-	-	-	-	-	3

EXPLANATIONS

N = Rome Group Number
 λ° = Heliographic latitude
 L° = Heliographic longitude
 w° = Position angle of the spot
 s = Spot distance from the center in centymes of the solar radius
T = Group type
G = Number of the observed groups
n = Number of the observed spots
Q = Quality of the solar image: 1 Very poor; 2 - Fair; 3 - good
 4 - Very good; 5 - excellent
A_d = Apparent total area (in millionths of the solar disk)
A'_d = Apparent umbra area (" " " " ")
A_H = Corrected total area (in millionths of the solar hemisphere)
A'_H = Corrected umbra area (" " " " ")

- Litografia "NICOLETTI & TERENCE" - Roma, Via del Pigneto 162 - Tel. 275.607 -

"OTTOBRE 1961"

OSSERVATORIO ASTRONOMICO DI ROMA
(Direttore prof. Massimo Cimino)

Circolare n. 46

HIGH ALTITUDE OBSERVATORY
OF THE
UNIVERSITY OF COLORADO
BOULDER, COLORADO

FENOMENI SOLARI

JAN 2 1962

osservati nel mese di Ottobre 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Boccitto, A. Da Milano, R. Flanini and M. Torelli.

	date u. t.	G	n	A _d	A _d ¹	A _H	A _H ¹	Q
1961	2.451	3	29	661	184	337	98	3
October	3.500	4	20	493	112	272	61	3
	5.368	2	28	510	132	316	82	2
	6.392	2	22	503	134	375	103	3
	8.436	3	5	166	42	236	55	3
	9.400	2	23	350	153	212	92	3
	10.420	3	25	605	191	551	164	3
	11.333	3	47	971	217	793	178	3
	12.403	4	25	1123	322	743	199	4
	13.417	3	29	1178	255	697	143	4
	14.371	4	23	1197	265	722	152	4
	15.436	4	24	1140	239	697	149	3
	16.392	4	13	901	185	548	119	4
	17.379	5	11	806	169	637	132	3
	19.493	5	21	700	117	473	85	1
	20.393	4	31	445	95	339	83	1
	22.500	1	2	111	32	295	113	2
	23.375	0	0	0	0	0	0	0
	24.443	1	15	30	26	41	13	2
	25.424	3	3	150	16	90	9	2
	26.375	0	4	64	0	38	0	3
	27.396	0	0	0	0	0	0	0
	28.452	1	13	106	16	57	9	2
	29.424	1	6	77	32	49	21	3
	30.417	1	2	32	13	27	11	3
	Mean Value			495	113	343	83	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by M. Torelli.

N.	date u. t.	φ°	L°	ω°	β	A_d	A'_d	A_H	A'_H	n	T	Q
3378	13.429-7-61	-11	70	223	33	67	32	35	17	-	C	4
	14.399-7-61	-11	70	242	43	57	29	33	16			
		-13	66	232	45	76	33	43	21			
						133	67	76	37	6	C	1
	15.436-7-61	-11	70	251	63	51	32	33	20	2	J	4
3379	15.436-7-61	-10	333	109	89	207	64	227	70	9	C	4
3380	13.388-7-61	2	235	97	92	-	-	-	-	5	C	1
	19.350-7-61	2	239	93	79	60	19	49	16			
		2	235	97	83	44	10	40	3			
						104	29	89	24	9	C	2
	21.335-7-61	2	239	105	41	33	43	45	26			
		2	235	101	49	43	16	27	9			
						131	64	72	35	11	C	3
	22.338-7-61	2	239	119	19	-	-	-	-	3	C	2
	23.353-7-61	2	239	200	9	113	36	59	43	-	C	4
	24.416-7-61	2	239	264	26	111	-	53	-	13	C	2
3381	19.350-7-61	10	262	88	93	313	137	300	336	3	H	2
	21.335-7-61	10	262	89	73	375	149	699	119	21	H	3
	22.333-7-61	10	262	89	61	936	175	622	110	30	H	2
	23.353-7-61	10	262	90	42	1013	131	561	100	-	H	4
	24.416-7-61	10	262	89	20	827	223	422	114	30	H	2
	26.375-7-61	10	262	291	26	795	143	412	74	23	H	3
	27.395-7-61	10	262	296	43	652	223	372	127	23	H	3
	29.462-7-61	10	262	234	33	525	102	471	91	12	H	2
	30.450-7-61	10	262	234	93	236	44	390	61	-	H	11
	31.426-7-61	10	262	236	99	67	22	237	799	-	J	2

N.	date u. t.	φ°	L°	ω°	β	A_d	A'_d	A_H	A'_H	n	T	Q
3392	19.350-7-61	-5	323	120	40	-	-	-	-	3	-	2
	21.335-7-61	-5	323	229	26	143	73	74	33	6	J	3
	22.333-7-61	-5	323	253	46	41	25	23	14	6	J	2
	23.353-7-61	-5	323	259	66	33	19	25	13	-	J	4
3393	19.350-7-61	-16	233	119	33	-	-	-	-	1	-	2
3394	23.353-7-61	11	316	236	50	111	36	64	50	-	C	4
	24.416-7-61	11	316	233	70	127	67	99	47	3	C	2
	26.375-7-61	11	316	233	35	70	33	66	36	11	C	3
	27.395-7-61	11	316	237	93	149	43	376	120	6	D	3
3395	29.462-7-61	12	149	33	35	64	32	60	30	4	J	2
	30.450-7-61	12	149	34	71	-	-	-	-	-	J	1
	31.426-7-61	12	149	30	53	33	-	23	-	3	J	2
	1.395-8-61	12	149	76	35	64	32	34	17	6	C	3
	2.423-8-61	12	149	40	10	25	10	13	5	2	J	3
3396	31.426-7-61	24	204	317	49	54	35	31	20	5	C	2
	1.395-8-61	24	204	310	63	131	111	117	72	12	C	3
	2.423-8-61	24	204	303	79	113	67	96	54	3	J	3
	3.335-8-61	24	204	304	90	64	25	73	29	3	-	1
3397	3.335-8-61	-14	179	252	70	32	-	22	-	7	-	1
3398	3.471-8-61	13	2	94	95	121	35	193	56			
		12	357	96	93	95	22	240	56			
						216	57	433	112	-	D	3
	9.436-8-61	13	2	93	36	233	103	234	106			
		12	357	96	90	255	51	292	59			
						493	159	526	164	-	D	3
10.440-8-61		13	2	93	72	175	57	126	41			
		12	357	97	79	312	67	254	54			
		14	356	91	30	95	44	90	37			
						592	163	460	132	13	D	3

N.	date u.t.	γ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q	
3888	11.436-8-61	13	2	92	54	121	57	72	34				
		12	357	96	62	518	95	203	61				
		14	356	91	64	48	32	31	21				
	12.381-8-61					487	154	306	116	19	D	3	
		13	2	83	36	127	64	68	34				
		12	357	90	43	302	102	167	56				
	13.360-8-61	14	356	83	447	-	-	-	-				
						429	166	235	90	14	D	3	
		12	357	81	21	270	80	133	41	-	G	4	
	14.375-8-61	12	357	10	10	175	76	89	38	-	G	4	
	15.406-8-61	12	357	308	28	143	83	75	43	9	G	4	
	16.385-8-61	12	357	299	46	121	95	68	54	6	G	4	
	17.399-8-61	12	357	299	68	80	48	54	32	3	G	3	
	3889	9.436-8-61	16	67	347	19	70	51	36	26			
			13	66	349	22	57	32	29	16			
						127	83	65	42	-	C	3	
10.440-8-61		16	67	319	36	118	70	63	37				
		13	66	312	37	92	60	50	32				
						210	130	113	69	11	C	3	
11.436-8-61		16	67	310	54	238	111	142	66				
		13	66	303	55	111	57	67	34				
						349	163	209	100	14	CC	3	
12.381-8-61		16	67	304	70	281	64	127	44				
		13	66	300	70	70	25	43	13				
						351	99	176	62	12	C	3	
13.360-8-61		16	67	303	82	70	35	61	31				
		13	66	300	82	64	29	56	25				
						134	64	117	56	-	C	4	
14.375-8-61	13	66	304	94	89	64	131	-93	C	-	C	4	
3890	9.436-8-61	-7	354	113	93	19	-	26	-	-	A	3	
	10.440-8-61	-7	354	117	93	25	-	23	-	1	A	3	
	11.436-8-61	-7	354	122	69	23	6	19	4	2	C	3	
	12.381-8-61	-7	354	-	-	-	-	-	-	-	-	3	
	13.360-8-61	-7	354	-	-	-	-	-	-	-	-	4	
	14.375-8-61	-7	354	190	24	67	54	34	28	-	D	4	

N.	date u.t.	γ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3890	15.406-8-61	-7	354	233	31	70	60	37	32	7	D	4
	16.395-8-61	-7	354	255	47	105	67	59	38	8	D	4
3891	10.440-8-61	6	333	101	97	127	35	262	72	1	H	3
	11.436-8-61	6	333	103	89	236	86	314	94	3	H	3
	12.381-8-61	6	333	102	76	493	134	379	103	4	H	3
	13.360-8-61	6	333	104	60	599	121	363	76	-	H	4
	14.375-8-61	6	333	108	33	636	127	344	69	-	H	4
	15.406-8-61	6	333	112	14	700	111	353	56	11	H	4
	16.395-8-61	6	333	270	6	636	143	319	72	13	H	4
	17.399-8-61	6	333	287	30	605	127	317	67	8	H	3
	18.371-8-61	6	333	293	60	589	111	340	64	14	H	4
	19.395-8-61	6	333	289	70	429	95	300	67	10	H	3
3892	21.392-8-61	6	333	294	94	121	44	177	65	-	J	2
	11.436-8-61	-3	333	113	90	86	48	99	55	6	J	3
	12.381-8-61	-3	333	114	78	143	67	114	53	8	J	3
	13.360-8-61	-3	333	120	60	111	57	70	36	-	J	4
	14.375-8-61	-3	333	131	39	44	35	24	19	-	J	4
3893	12.381-8-61	-10	85	270	91	33	32	46	38	-	C	3
	13.360-8-61	-10	85	273	98	29	6	72	16	-	C	4
3894	13.360-8-61	0	306	103	91	33	29	46	34	-	J	4
	14.375-8-61	0	306	113	79	32	22	26	13	-	J	4
	15.406-8-61	0	306	117	60	22	16	14	10	3	J	4
3895	13.360-8-61	0	297	107	97	48	16	93	33	-	J	4
	14.375-8-61	0	297	111	98	51	29	54	30	-	J	4
	15.406-8-61	0	297	113	73	64	41	47	30	2	J	4
	16.395-8-61	0	297	113	53	51	16	31	10	3	J	4
3896	15.406-8-61	-16	277	123	94	-	-	-	-	2	G	4
	16.395-8-61	-16	277	131	84	35	13	32	12	2	G	4
	17.399-8-61	-16	277	139	70	41	32	29	22	2	G	3
	18.371-8-61	-16	277	150	53	13	-	8	-	1	J	4

N.	date u.t.	φ	λ	ω	ϑ	A_d	A'_d	A_H	A'_H	n	T	Q
3397	15.406-9-61	7	265	102	93	92	32	232	30	1	J	4
	16.395-9-61	7	265	103	91	143	67	173	31	3	J	4
	17.399-9-61	7	265	105	78	197	70	159	56	3	J	3
	18.371-9-61	7	265	107	62	199	57	107	36	4	J	4
	19.335-9-61	7	265	109	42	143	57	79	32	5	J	3
	21.392-9-61	7	265	200	2	143	35	72	17	-	C	2
3398	17.399-9-61	-4	290	130	49	51	32	29	19	3	C	3
3399	19.335-9-61	13	249	90	67	13	-	9	-	1	A	3
3900	21.392-9-61	17	206	97	34	13	-	12	-	-	A	2
	22.496-9-61	17	206	-	-	-	-	-	-	-	-	1
	23.461-9-61	17	206	-	-	-	-	-	-	-	-	2
	24.423-9-61	17	206	33	34	175	43	93	25	-	C	1
	26.331-9-61	17	206	340	20	694	207	349	106	18	D	3
	28.395-9-61	17	206	313	59	390	372	552	137	26	E	3
	29.378-9-61	17	206	309	74	902	255	745	139	21	E	4
	30.453-9-61	17	206	309	93	539	175	620	134	16	E	5
	31.364-9-61	17	206	309	96	350	121	625	216	9	E	5
3901	22.496-9-61	-16	197	132	34	41	29	33	26	-	J	1
	23.461-9-61	-16	197	141	71	33	32	25	23	3	J	2
	24.423-9-61	-16	197	153	60	35	25	22	19	-	J	1
	26.331-9-61	-16	197	195	40	57	32	31	17	2	J	3
3902	23.461-9-61	9	190	104	72	33	-	27	-	22	G	2
3903	29.373-9-61	12	79	101	99	-	-	-	-	3	-	4
	30.453-9-61	12	79	103	92	795	175	1015	223	20	H	5
	31.364-9-61	12	79	102	31	1432	206	1220	176	32	H	5
	1.395-9-61	12	79	104	65	2005	332	1319	251	32	H	5
	2.331-9-61	12	79	100	44	2432	414	1332	230	34	F	5
	3.436-9-61	12	79	90	22	-	-	-	-	-	F	1
	4.406-9-61	12	79	10	3	2036	525	1021	263	-	F	2
	7.423-9-61	12	79	304	69	1050	7302	726	209	16	F	3

N.	date u. t.	γ°	L°	ω°	φ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3903	8.436-9-61	12	79	304	83	663	165	599	149	16	E	4
	9.399-9-61	12	79	303	94	302	90	443	116	9	E	5
3904	1.395-9-61	-12	199	277	94	32	25	47	37	-	C	5
3905	9.399-9-61	-11	299	127	97	430	185	873	330	15	E	5
	10.416-9-61	-11	304	132	97	318	102	323	103			
		-11	299	131	90	159	35	133	40			
		-11	295	130	92	302	95	396	122			
						779	232	392	265	15	E	3
	11.416-9-61	-11	304	136	73	332	117	279	86			
		-11	299	134	77	143	35	112	27			
		-11	295	133	91	525	134	443	114			
						1050	236	339	227	31	E	2
	12.402-9-61	-11	304	146	57	445	159	271	97			
		-11	299	143	61	239	36	151	54			
		-11	295	140	68	541	197	369	134			
13.367-9-61						1224	442	791	235	36	E	4
		-11	304	162	40	461	127	232	69			
		-11	299	156	46	319	139	179	45			
		-11	295	149	51	663	111	338	65			
14.398-9-61						1447	313	819	179	38	E	2
		-14	309	210	33	207	111	112	60			
		-11	304	197	31	461	127	243	37			
		-11	299	196	32	191	680	1301	442			
		-11	295	170	37	445	143	240	77			
15.409-9-61						1304	461	696	246	52	E	4
		-14	309	211	46	313	133	179	75			
		-11	304	230	37	302	70	163	33			
		-11	299	240	32	102	32	54	17			
		-11	295	243	30	573	1423	300	75			
16.371-9-61						1295	373	696	205	23	F	4
		-14	309	253	59	175	67	103	41			
		-11	304	260	51	404	127	235	74			
		-11	299	257	46	111	54	63	30			
		-11	295	244	39	471	127	256	69			
						1161	375	662	214	49	F	

N.	date u.t.	γ^a	L^0	ω^0	β	a_d	A_d	A_H	A_H^n	n	T.	Q.
3921	12.403-10-61	-8	309	240	30	127	58	67	30			
		-6	303	233	25	127	41	66	21			
	13.417-10-61	-8	309	268	48	191	99	133	51	5	D	4
		-6	303	265	40	175	32	96	17			
	14.371-10-61	-8	309	276	67	223	48	150	32			
		-6	303	275	57	111	26	69	16			
	15.436-10-61	-8	309	282	83	191	64	172	57			
		-6	303	282	75	57	-	43	-	11	D	4
	16.382-10-61	-8	309	285	93	95	64	215	57	12	C	3
		-6	303	285	85	95	26	120	35	2	C	4
	17.378-10-61	-8	309	287	99	64	16	226	56	1	J	3
		-6	303	287	91	64	16	226	56	1	J	3

EXPLANATIONS

N = Rome Group Number
 λ° = Heliographic latitude
 L° = Heliographic longitude
 ω° = Position angle of the spot
 s = Spot distance from the center in centymes of the solar radius
T = Group type
G = Number of the observed groups
n = Number of the observed spots
Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good
4 - Very good; 5 - excellent

 A_d = Apparent total area (in millionths of the solar disk)
 A_u = Apparent umbra area (" " " " " ")
 A_H = Corrected total area (in millionths of the solar hemisphere)
 A_H = Corrected umbra area (" " " " " ")

- LITOGRAFIA "NICOLETTI & TERENCE" - Roma, Via del Pigneto, 162 - Tel. 275.607 -
" Novembre 1961 "

Circolare N. 47

FENOMENI SOLARI

osservati nel mese di Novembre 1961

TABLE I

Daily Total areas of the sunspot - groups, by A.Boccitto, R.Flamin
ni and M. Torelli.

	date	u. t.	G	n	A _d	A _d ¹	A _H ¹	A _H ¹	Q
1961	11-14	1438	0	0	0	0	0	0	-
November	11-15	2396	0	0	0	0	0	0	-
	11-16	3392	0	0	0	0	0	0	-
	11-17	5542	1	8	191	86	105	48	2
	11-18	6445	1	21	332	86	236	54	3
	11-19	7426	3	23	711	182	492	127	3
	11-20	8429	3	40	700	166	598	125	3
	11-21	9399	6	42	801	112	1006	159	2
	11-22	10465	6	22	684	255	491	159	4
	11-23	11468	3	22	1035	334	623	204	2
	11-24	13490	4	17	878	205	573	134	2
	11-25	17424	1	4	255	48	155	29	2
	11-26	18426	1	3	159	38	119	28	2
	11-27	19479	1	4	111	32	122	35	2
	11-28	20409	1	2	64	16	114	28	2
	11-29	21420	1	20	191	112	178	104	4
	11-30	25375	3	7	144	42	226	77	2
	12-01	28465	4	10	499	116	317	72	2
	12-02	30410	6	43	971	232	462	123	4
		Mean Value			403	109	306	80	

TABLE II

Heliographic position, classification and area of the sunspot-groups
by M. Torelli, R. Flamini and V. Croce.

N.	date u.t.	λ°	L°	b°	f	A_d	A'_d	A_H	A'_H	n	T	Q
3906	9.399-9-61	13	286	102	99	175	60	621	214	-	F	5
	10.416-9-61	13	286	104	94	382	95	580	140			
		14	282	101	97	70	32	144	65			
						452	127	704	205	4	H	3
	11.416-9-61	13	286	103	86	557	121	546	118			
		14	282	101	89	102	32	112	35			
						659	153	668	153	11	H	2
	12.402-9-61	13	286	104	73	795	165	582	121			
		14	282	102	77	134	35	105	27			
						929	200	697	143	6	H	4
	13.367-9-61	13	286	102	57	986	191	600	116			
		14	282	100	61	143	41	90	26			
						1129	232	690	142	8	H	2
	14.338-9-61	13	286	98	37	1162	270	625	145			
		14	282	96	41	66	35	37	19			
						1228	305	662	164	13	H	4
	15.409-9-61	13	286	75	17	986	172	500	87			
		14	282	79	21	48	23	24	15			
						1034	200	524	102	7	H	4
	16.371-9-61	13	286	350	13	1193	229	602	115	29	H	4
	17.447-9-61	13	286	321	33	1177	185	623	98	25	H	4
	18.392-9-61	13	286	312	53	859	175	506	103	24	H	4
	19.381-9-61	13	286	310	71	700	127	497	90	8	H	3
	20.416-9-61	13	286	309	86	493	95	483	94	6	H	3
	21.420-9-61	13	286	310	95	318	67	509	107	3	H	2
3907	14.388-9-61	10	334	300	47	102	48	58	27			
		11	331	306	44	25	16	14	9			
						127	64	72	36	9	C	4

N.	date u.t.	λ°	L°	b°	f	A_d	A'_d	A_H	A'_H	n	T	Q
3907	15.409-9-61	10	334	300	66	86	32	57	21			
		11	331	301	61	64	35	40	22			
						150	67	97	43	7	C	4
	16.371-9-61	10	334	302	80	29	13	24	11			
		11	331	303	77	48	26	37	20			
						77	39	61	31	6	C	4
3908	14.388-9-61	20	322	337	31	143	80	75	42			
		20	316	349	27	80	48	41	25			
		20	313	358	24	111	51	57	26			
		20	310	7	22	143	48	73	24			
						477	227	246	117	22	D	4
	15.409-9-61	20	322	320	51	33	26	22	15			
		20	316	327	44	41	29	23	16			
		20	313	329	40	118	70	64	38			
		20	310	322	36	76	48	41	26			
						273	173	150	95	16	D	4
	16.371-9-61	20	322	317	68	32	16	22	11			
		20	313	321	58	64	32	39	19			
		20	310	322	63	70	44	45	29			
						166	92	106	59	10	D	4
	17.447-9-61	20	322	317	82	51	16	44	14			
		20	310	318	70	35	-	24	-			
						86	16	68	14	4	G	4
3909	16.371-9-61	18	206	99	95	111	32	178	51	4	J	4
	17.447-9-61	18	206	99	88	175	51	184	54	1	J	4
	18.392-9-61	18	206	97	73	185	51	135	37	1	J	4
	19.381-9-61	18	206	92	58	258	67	158	41	1	J	3
	20.416-9-61	18	206	82	38	302	83	163	45	1	J	3
	21.420-9-61	18	206	59	22	334	121	171	62	3	J	2
	22.375-9-61	18	206	0	22	365	121	183	62	-	J	2
	23.395-9-61	18	206	340	36	445	111	239	60	-	J	3
	24.437-9-61	19	206	319	55	191	80	114	48	-	J	2
	25.382-9-61	18	206	317	71	207	64	147	45	-	J	4

N.	date u. t.	γ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3909	26.388-9-61	18	206	314	84	169	38	147	35	-	J	4
	27.437-9-61	18	206	313	94	108	35	158	51	2	J	4
	28.423-9-61	18	206	314	99	48	16	169	56	-	J	3
3910	19.331-9-61	3	244	280	13	61	32	32	16	5	C	3
	20.416-9-61	4	249	281	30	64	32	33	17			
		3	244	288	37	35	19	19	10			
							51	52	27	7	C	3
	21.420-9-61	4	249	292	58	67	32	41	20			
3911		3	244	290	50	29	13	17	7			
						96	45	58	27	6	C	2
	22.375-9-61	4	249	295	75	35	10	26	7	-	J	2
	23.385-9-61	7	189	269	1	38	16	19	8			
		8	183	120	6	127	64	64	32			
						165	80	83	40	-	C	3
	24.437-9-61	7	189	293	22	238	64	122	33			
		8	183	298	17	239	73	121	37			
						477	137	243	70	-	D	2
	25.382-9-61	7	189	297	45	286	121	160	68			
3912		8	183	298	37	302	127	163	68			
						588	248	323	136	-	D	4
	26.388-9-61	7	189	299	67	191	54	129	36			
		8	183	300	58	255	86	156	53			
						446	140	235	89	-	D	4
	27.437-9-61	7	189	299	82	102	141	189	36			
		8	183	300	77	64	38	50	30			
3913						166	79	139	66	8	0	4
	28.423-9-61	7	189	301	93	102	35	138	48	2	0	3
	24.437-9-61	3	118	117	84	35	13	32	12	-	C	2
	25.382-9-61	3	118	121	70	48	25	33	18			
		3	111	120	78	32	16	25	13			
						80	41	58	31	-	C	4
	26.388-9-61	3	118	122	51	64	48	37	28			
3914		3	111	121	60	22	6	14	4			
						86	54	61	32	-		4

N.	date u. t.	γ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3912	27.437-9-61	3	118	130	27	44	10	23	5	7	C	4
	28.423-9-61	3	118	130	3	111	64	56	32	15	C	3
	29.385-9-61	3	118	271	20	70	35	36	18	12	C	4
3913	25.382-9-61	11	87	118	98	95	64	170	114	-	H	4
	26.388-9-61	11	87	108	98	143	80	151	84	-	H	4
	27.437-9-61	11	87	107	73	248	111	182	61	13	J	4
	28.423-9-61	11	87	107	56	238	111	144	67	10	J	3
	29.385-9-61	11	87	104	37	207	64	111	34	4	J	4
	30.416-9-61	11	87	90	15	159	48	80	24	5	J	4
	2.451-10-61	11	87	314	32	79	9	42	5	3	J	3
3914	3.500-10-61	11	87	309	54	48	9	28	5	3	J	3
	27.437-9-61	14	69	104	91	127	35	153	42	5	C	4
	28.423-9-61	14	69	104	80	270	51	226	42			
		14	63	105	84	73	32	67	29			
						343	83	292	71	15	D	3
	29.385-9-61	14	69	103	63	270	76	174	49			
		14	63	105	71	223	70	158	50			
3915						493	146	332	99	14	D	4
	30.416-9-61	14	69	100	43	261	76	144	42			
		13	67	102	48	159	48	91	27			
		14	63	104	52	302	95	177	56			
						722	219	412	125	25	D	4
	2.451-10-61	14	69	12	12	175	48	88	24			
		13	67	35	11	143	48	72	24			
3916		14	63	70	12	207	79	104	40			
						525	175	264	88	23	D	3
	3.500-10-61	14	69	324	29	159	48	83	25			
		13	67	322	27	127	10	66	5			
						286	58	149	30	10	D	3
	5.388-10-61	14	69	310	65	240	60	157	52			
		13	67	308	60	111	32	70	20			
3917						351	112	227	72	11	D	2
	6.392-10-61	14	69	309	81	159	48	136	40			
		13	67	307	78	143	32	110	24			
						302	60	246	64	12	D	3
3918	8.436-10-61	14	68	308	97	80	16	164	33	-	D	3

N.	date u. t.	γ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3915	2.451-10-61	7	90	297	33	57	-	31	-	3	B	3
	3.500-10-61	7	90	300	58	48	19	29	12	1	J	3
3916	3.500-10-61	-14	48	185	38	73	10	40	5			
		-13	44	177	36	38	16	26	9			
	5.368-10-61	-14	48	248	46	95	10	54	5			
		-13	44	244	41	64	10	35	5			
3917	6.392-10-61	-14	48	263	62	111	16	71	10			
		-13	44	265	56	95	38	58	29			
	8.436-10-61	-14	48	278	89	48	16	52	17	2	J	3
		-13	44	279	84	111	16	71	10			
3918	8.436-10-61	10	5	310	23	39	10	20	5	3	C	3
		4	341	270	7	111	57	56	29			
	9.400-10-61	5	337	255	3	80	32	40	16			
		4	341	290	32	96	38	51	20			
3919	10.420-10-61	5	337	293	27	143	48	74	25			
		4	341	296	53	48	-	28	-			
	11.333-10-61	5	337	299	46	111	26	63	14			
		10	290	112	73	159	64	116	47	12	C	3
3920	10.420-10-61	10	290	108	53	159	57	94	34			
		11	287	109	58	32	-	20	-			
	11.333-10-61	10	290	103	33	175	48	92	25			
		11	287	107	39	191	32	103	17			
3921	12.403-10-61	10	290	85	12	111	48	56	24			
		11	287	92	19	143	48	73	24			
	13.417-10-61	10	290	331	14	80	16	40	8			
		11	287	8	10	64	32	32	16			

N.	date u. t.	γ°	L°	ω°	ρ	A_d	A'_d	A_H	A'_H	n	T	Q
3919	14.371-10-61	10	290	312	32	48	16	25	8			
		11	287	320	27	32	16	17	8			
	15.436-10-61	10	290	310	55	48	16	29	10			
		11	287	312	50	32	-	18	-			
3920	16.382-10-61	10	290	308	72	32	16	23	11	1	J	4
		10	290	307	86	26	10	25	9	1	J	3
	10.420-10-61	17	247	100	96	175	48	312	85	2	C	3
		17	247	100	89	382	111	419	122			
3921	11.333-10-61	18	241	99	94	64	-	93	-			
		17	247	99	77	541	127	424	100			
	12.403-10-61	18	241	98	84	48	-	44	-			
		17	247	98	60	636	127	398	80			
3922	13.417-10-61	18	241	97	70	32	-	22	-			
		17	247	96	60	636	127	398	80			
	14.371-10-61	17	247	88	43	700	143	338	79			
		22	248	77	46	19	-	11	-			
3923	15.436-10-61	18	241	89	52	28	16	22	9			
		17	247	88	43	700	143	338	79			
	16.382-10-61	18	241	89	52	28	16	22	9			
		17	247	88	43	700	143	338	79			
3924	17.378-10-61	18	241	89	52	28	16	22	9			
		17	247	88	43	700	143	338	79			
	18.493-10-61	18	241	89	52	28	16	22	9			
		17	247	88	43	700	143	338	79			
3925	19.493-10-61	18	241	89	52	28	16	22	9			
		17	247	88	43	700	143	338	79			
	20.500-10-61	18	241	89	52	28	16	22	9			
		17	247	88	43	700	143	338	79			

OSSERVATORIO ASTRONOMICO DI ROMA
(Direttore prof. Massimo Cimino)

Circolare N.48

FENOMENI SOLARI

osservati nel mese di Dicembre 1961

TABLE I

Daily Total areas of the sunspot - groups, by A. Boccitto, R. Flamini and V. Croce.

	date u.t.	G	n	A _d	A' _d	A _H	A' _H	Q
1961	1.426	5	62	668	202	364	109	4
December	2.417	5	57	844	202	467	112	3
	6.447	2	19	637	111	383	64	4
	8.375	3	11	462	143	413	129	2
	9.420	3	10	267	106	361	137	1
	13.396	0	0	0	0	0	0	-
	14.531	1	1	26	10	21	8	3
	15.395	1	1	10	-	6	-	3
	16.396	0	0	0	0	0	0	-
	17.479	0	0	0	0	0	0	-
	18.436	0	0	0	0	0	0	-
	20.493	2	2	106	45	299	122	2
	21.424	1	16	429	165	713	269	3
	22.426	3	28	765	249	702	222	3
	24.472	4	43	-	-	-	-	1
	29.443	3	25	939	258	549	151	3
	Mean Value			343	99	265	88	

EXPLANATIONS

- N = Rome Group Number
 ϕ^0 = Heliographic latitude
 λ^0 = Heliographic longitude
 ω^0 = Positions angle of the spot
 ρ = Spot distance from the center in centymes of the solar radius
T = Group type
G = Number of the observed groups
n = Number of the observed spots
Q = Quality of the solar image: 1 - Very poor; 2 - Fair; 3 - good
4 - Very good; 5 - excellent

- A_d = Apparent total area (in millionths of the solar disk)
A'_d = Apparent umbra area (" " " " " ")
A_H = Corrected total area (in millionths of the solar hemisphere)
A'_H = Corrected umbra area (" " " " " ")

- LITOGRAFIA "NICOLETTI & TERNENZI" - Roma, via del Pigneto, 162 - Tel. 275.607 -

" DICEMBRE 1961 "

TABLE II

Heliographic position, classification and area of the sunspot - groups
by A. Boccitto, R. Flamini and V. Croce.

N.	date u.t.	φ°	L°	ω°	δ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3922	12.403-10-61	-10	298	210	29	26	-	13	-	2	A	4
3923	14.871-10-61	12	197	106	95	26	-	40	-	1	A	4
	15.436-10-61	12	197	106	86	36	-	37	-	3	A	3
3924	16.382-10-61	16	268	320	45	26	-	15	-	2	AA	4
	17.378-10-61	16	269	314	62	64	-	41	-	4	A	3
3925	17.378-10-61	19	148	95	98	-	-	-	-	1	-	3
	19.493-10-61	19	148	99	82	-	-	-	-	1	-	1
3926	19.493-10-61	9	203	5	35	64	16	34	8			
		10	200	8	63	95	16	61	10			
						159	32	95	18	13	D	1
	20.388-10-61	9	203	309	21	-	-	-	-	16	-	1
3927	19.493-10-61	16	137	101	91	-	-	-	-	1	-	1
3928	19.493-10-61	-17	146	140	87	-	-	-	-	3	-	1
3929	19.493-10-61	-9	127	128	92	-	-	-	-	1	-	1
	20.388-10-61	-9	127	132	80	-	-	-	-	8	-	1
3930	20.388-10-61	15	264	309	93	-	-	-	-	5	-	1
3931	24.433-10-61	-6	140	213	21	80	26	41	13	15	C	2
	25.424-10-61	-6	140	255	33	80	16	42	8	4	C	2
3932	25.424-10-61	49	148	327	44	38	-	21	-	2	A	2
	26.375-10-61	19	148	320	60	32	-	20	-	2	A	3

N.	date u.t.	φ°	L°	ω°	δ	A_d	A_d^1	A_H	A_H^1	n	T	Q
3933	25.424-10-61	18	134	348	28	32	-	17	-	2	A	2
	26.375-10-61	18	134	325	44	32	-	18	-	2	A	3
3934	28.452-10-61	9	111	307	44	58	16	31	9			
		10	108	310	39	48	-	28	-			
						106	16	57	9	13	C	2
	29.424-10-61	9	111	303	64	64	32	41	21			
		10	108	305	58	13	-	8	-			
						77	32	49	21	6	C	3
	30.417-10-61	9	111	302	80	32	13	27	11	2	C	3
3935	5.542-11-61	10	6	307	45	80	48	46	27			
		10	0	310	38	111	38	60	21			
						191	86	105	48	8	D	2
	6.445-11-61	10	6	305	63	159	48	102	31			
		10	9	307	56	223	38	134	23			
						332	96	236	54	21	D	3
	7.426-11-61	10	6	304	80	191	64	159	53			
		10	0	305	74	255	48	189	35			
						446	112	349	68	9	D	3
	8.429-11-61	10	6	302	92	159	19	203	24			
		10	0	302	87	127	19	129	19			
						236	38	332	43	12	D	3
	9.399-11-61	10	6	305	99	95	19	339	68			
		10	0	305	96	64	-	114	-			
						159	19	453	68	3	C	2
3936	17.426-11-61	6	352	298	60	64	19	40	12			
		7	347	300	56	26	13	15	8			
						111	31	90	32	55	20	8
	18.429-11-61	6	352	297	79	95	32	78	26			
		7	347	299	72	64	32	48	23			
						159	64	124	49	16	D	3
	9.399-11-61	6	352	299	91	80	-	96	-			
		7	347	299	87	64	-	65	-			
						144	-	161	-	12	B	2
	10.465-11-61	7	347	298	97	16	-	33	-	-	-	4

N.	date u. t.	γ°	L°	ω°	φ	A_d	A'_d	A_H	A'_H	n	T	Q
3937	7.426-11-61	-6	313	200	17	143	33	73	19			
		-5	309	180	17	32	-	16	-			
						175	38	89	19	6	C	3
	8.429-11-61	-6	313	256	27	191	48	99	25			
		-5	309	250	23	64	16	33	8			
						255	64	132	33	12	D	3
	9.399-11-61	-6	313	275	45	143	51	80	29			
		-5	309	273	40	80	10	43	5			
						223	61	123	34	10	D	2
	10.465-11-61	-6	313	279	65	127	32	84	21	2	J	4
		-6	313	283	80	80	32	66	27	2	J	2
3938	9.399-11-61	22	323	325	65	10	-	6	-			
		22	321	327	62	26	-	16	-			
						36	-	22	-	5	B	2
	10.465-11-61	22	321	318	78	10	-	8	-	1	A	4
3939	9.399-11-61	17	279	58	30	80	-	42	-			
		18	274	63	31	64	-	33	-			
						144	-	75	-	11	B	2
	10.465-11-61	17	279	1	27	159	80	83	41			
		18	274	18	25	143	89	74	46			
						302	169	157	87	13	D	4
	11.468-11-61	17	279	331	41	332	95	209	52			
		18	274	340	35	350	127	197	68			
						732	222	396	120	15	D	2
	13.490-11-61	17	279	312	76	236	80	220	61			
		18	274	315	67	191	48	129	32			
						477	123	349	93	10	D	3
3940	9.399-11-61	6	215	110	96	95	32	171	57	1	J	2
	10.465-11-61	6	215	108	88	191	48	187	47	4	H	4
	11.468-11-61	6	215	107	72	223	80	161	57	5	H	2
	13.490-11-61	6	215	99	30	236	64	150	33	1	H	3
	17.424-11-61	6	215	299	57	255	48	155	29	4	H	2
	18.426-11-61	6	215	297	74	159	33	113	23	3	H	2
	19.479-11-61	6	215	294	89	111	332	122	35	4	H	2
	20.409-11-61	6	215	297	96	64	16	114	23	2	H	2

N.	date u. t.	γ°	L°	ω°	φ	A_d	A'_d	A_H	A'_H	n	T	Q
3941	10.465-11-61	19	245	80	52	33	6	22	4	2	J	4
3942	13.490-11-61	17	262	320	53	32	13	19	8			
		17	259	321	49	41	-	24	-			
						73	13	43	8	4	C	3
3943	13.490-11-61	8	187	102	73	26	-	19	-			
		9	183	102	77	16	-	12	-			
						42	-	31	-	2	B	3
3944	21.420-11-61	11	189	301	86	80	48	78	47			
		12	185	302	83	111	64	100	57			
						191	112	178	104	20	D	4
3945	25.375-11-61	3	61	99	27	26	-	13	-	2	A	3
	28.465-11-61	3	61	294	42	22	-	12	-	3	A	3
3946	25.375-11-61	6	11	106	92	33	10	49	12			
		6	1	103	97	80	32	164	65			
						113	42	213	77	5	G	3
	28.465-11-61	6	11	93	43	95	26	53	14			
		6	1	93	59	318	80	197	49			
						413	106	250	63	2	G	3
	30.410-11-61	6	11	10	10	111	22	56	11			
		6	1	83	13	414	95	210	49			
						525	117	236	60	15	G	4
	1.423-12-61	6	11	305	27	70	26	36	13			
		6	1	339	11	223	64	112	32			
						293	90	148	45	12	G	4
	2.417-12-61	6	11	296	49	16	-	9	-			
		6	1	307	32	207	48	109	25			
						223	48	113	25	6	C	3
	6.447-12-61	6	1	292	96	16	-	28	-	11	A	4
3947	23.465-11-61	-10	339	118	86	48	10	47	9			
		-9	330	117	91	6	-	8	-			
						54	10	55	9	5	C	3
	30.410-11-61	-10	339	123	55	95	38	57	23	5	C	4
		-10	339	136	35	33	16	20	8	8	J	4
		-10	339	169	19	64	26	32	13	6	C	3

N.	date u. t.	γ°	L°	ω°	δ	A_d	A'_d	A_H	A'_H	n	T	Q
3948	30.410-11-61	9	12	20	17	16	-	8	-			
		10	5	53	17	175	64	89	32			
						191	64	97	32	12	D	4
	1.423-12-61	9	12	312	23	26	10	13	5			
		10	5	333	20	175	49	99	24			
						201	58	102	29	22	D	4
	2.417-12-61	9	12	303	49	16	-	9	-			
		10	5	315	40	223	32	122	17			
						239	32	131	17	15	C	3
3949	30.410-11-61	11	332	91	64	54	13	35	8	9	C	4
	1.423-12-61	11	332	83	47	51	9	29	5	9	C	4
	2.417-12-61	11	332	65	23	111	16	59	8	11	C	3
3950	30.410-11-61	13	308	95	89	6	-	3	-	2	A	4
	1.423-12-61	13	312	88	73	19	13	14	9			
		13	309	89	78	64	16	51	13			
						83	29	65	22	11	D	4
	2.417-12-61	13	312	83	56	111	48	67	29			
		13	309	86	63	96	32	61	20			
						207	80	128	49	19	D	3
	6.447-12-61	15	318	317	50	541	95	312	55			
		18	303	328	33	80	16	43	9			
						621	111	355	64	18	D	4
	9.375-12-61	15	318	301	81	334	95	235	81	6	H	2
	9.420-12-61	15	318	301	91	191	80	230	96	6	H	11
3951	8.375-12-61	11	323	295	88	48	16	50	17	2	J	2
	9.420-12-61	11	323	296	97	19	-	39	-	1	A	1
3952	8.375-12-61	9	324	291	86	30	32	78	31	3	J	2
	9.420-12-61	9	324	294	5	57	26	92	41	3	J	1
3953	14.531-12-61	9	133	111	80	26	10	21	8	1	J	3
	15.395-12-61	9	133	115	66	10	-	6	-	1	A	3

N.	date u. t.	γ°	L°	ω°	δ	A_d	A'_d	A_H	A'_H	n	T	Q
3954	20.493-12-61	11	67	75	67	26	13	17	9	1	J	2
3955	20.493-12-61	-7	25	101	99	80	32	282	113	1	J	2
	21.423-12-61	-7	25	1063	93	318	127	433	173			
		-6	12	104	98	111	38	290	96			
						429	165	713	269	16	G	3
	22.433-12-61	-7	25	105	82	332	159	334	139			
		-6	12	102	92	223	48	284	61			
						605	207	618	200	17	G	3
	24.472-12-61	-7	25	101	45	509	127	285	71			
		-6	12	99	61	191	64	120	40			
						700	191	405	111	13	G	1
	29.443-12-61	-7	25	273	64	318	95	207	62			
		-6	21	271	54	48	-	28	-			
						366	95	235	62	6	C	3
3956	22.433-12-61	16	93	333	38	64	16	34	9	4	C	3
3957	22.433-12-61	11	75	32	25	48	10	25	5			
		12	72	39	23	48	16	25	8			
						96	26	50	13	7	D	3
	24.472-12-61	11	75	309	46	-	-	-	-			
		12	72	316	39	-	-	-	-			
						-	-	-	-	17	D	1