

ROYAL OBSERVATORY, GREENWICH.

MEASURES OF POSITIONS AND AREAS

OF

SUN SPOTS AND FACULAE

ON

PHOTOGRAPHS

TAKEN WITH THE

PHOTOHELIOGRAPHS

AT GREENWICH, IN INDIA, AND IN MAURITIUS,

WITH THE DEDUCED

HELIOGRAPHIC LONGITUDES AND LATITUDES

1900.

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

MEASURES of POSITIONS and AREAS of SUN SPOTS and FACULÆ on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, at DEHRA DÛN in INDIA, and at the ROYAL ALFRED OBSERVATORY, MAURITIUS, in the Year 1900.

NOTE.—The Greenwich Civil Time at which the Photograph was taken is expressed by the Day of the Year and decimals of a day, reckoning from Midnight, January 1st ^{oh}. For convenience of reference, the Month and Day of the Month (Civil Reckoning) are added.

The letter I. signifies that the photograph was taken in India; the letter M. that the photograph was taken in Mauritius; the time given is Greenwich Civil Time. The position-angles are reckoned from the North Pole of the Sun's Axis in the direction N., E., S., W., N.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 0 ^d .306 I.	CL, M	4900	0.881	261.6	98.4	- 8.9	I	II	2598 ^f	1900. 8.259 I.	CL, M		0.919	78.8	226.4	+ 8.6			352	
Jan. 1		Centre			(36.7)	(- 3.3)	(I)	(II)	(259)	Jan. 9		Centre			(291.9)	(- 4.1)	(0)	(0)	(352)	
1.253 I.	CL, M	4900	0.947	308.2	88.4	+ 34.4			59	9.513 I.	CL, M		0.770	75.3	226.7	+ 8.5			132	
Jan. 2		Centre	0.967	261.6	99.6	- 9.0	0	20	} 254 ^c (313)	Jan. 10		Centre			(275.4)	(- 4.2)	(0)	(0)	(132)	
			0.939	261.7	94.1	- 9.0	0	9												
2.211 I.										10.284 I.	CL, M		0.854	108.9	207.2	- 18.3			177	
Jan. 3		Centre			(11.5)	(- 3.5)	(0)	(0)	(0)	Jan. 11		Centre		0.894	98.1	201.8	- 9.2			44
															(265.3)	(- 4.3)	(0)	(0)	(221)	
3.258 I.										11.185 I.	CL, M	4901a	0.893	77.4	191.6	+ 9.2	12	49	} 259 ^c	
Jan. 4		Centre			(357.7)	(- 3.6)	(0)	(0)	(0)			4901	0.911	76.4	189.4	+ 10.4	7	19		
												4901	0.918	78.1	188.2	+ 9.1	0	25		
												4901	0.924	77.3	187.4	+ 9.9	0	16		
4.220 M.										Jan. 12		Centre	0.904	103.2	188.7	- 13.8			184	
Jan. 5		Centre			(345.1)	(- 3.7)	(0)	(0)	(0)						(253.4)	(- 4.4)	(19)	(109)	(443)	
5.493 I.										12 ^d .306 I.	CL, M	4902a	0.305	32.3	229.1	+ 10.4	8	57	} 409 ^c	
Jan. 6		Centre			(328.4)	(- 3.8)	(0)	(0)	(0)			4902	0.323	34.3	228.0	+ 11.0	0	1		
												4902	0.335	37.8	226.6	+ 10.9	4	21		
												4901a	0.748	73.4	192.2	+ 9.2	20	148		
												4901	0.788	72.8	188.8	+ 10.6	0	14		
												4901	0.787	75.3	188.5	+ 8.6	9	73		
												4901	0.808	75.3	186.5	+ 9.1	0	4		
												4901	0.810	74.3	186.5	+ 9.9	0	13		
7 ^d .510 I.										Jan. 13		Centre			(238.6)	(- 4.5)	(41)	(331)	(409)	
Jan. 8		Centre			(301.8)	(- 4.0)	(0)	(0)	(0)											

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters n, s, p, f, c, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4900, 1899 December 29-1900 January 2. A few small unstable spots in a short stream.
 Group 4901, 1900 January 12-19. A large irregular spot, a, followed by a short unstable stream.
 Group 4902, January 13-16. A fairly large spot, a, that diminishes rapidly in size, and is seen alone in January 16.

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

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter, for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 13 ^d .484	CL, M	4902a	0.295	331.6	231.3	+10.4	5	32		1900. 19 ^d .458										
		4902	0.267	335.0	229.6	+9.4	0	5		M.										
		4901a	0.550	65.1	192.9	+9.4	18	100		Jan. 20	Centre				(144.5)	(-5.2)	(0)	(0)	(0)	
		4901	0.605	68.5	188.5	+9.0	1	13												
Jan. 14		Centre	0.626	67.8	187.2	+9.9	0	9		Jan. 21	No photograph.									
					(223.1)	(-4.6)	(24)	(159)	(0)											
14.281	CL, M	4902a	0.420	309.7	231.7	+11.1	3	15		21.468										
		4902	0.402	309.9	230.8	+10.4	0	1		M.										
I.		4902	0.368	316.7	227.4	+11.0	0	3		Jan. 22	Centre				(117.9)	(-5.4)	(0)	(0)	(0)	
		4901	0.385	53.0	194.6	+8.9	0	3												
		4901a	0.413	54.1	192.9	+9.5	19	107		22.223										
		4901	0.432	55.6	191.5	+9.7	0	4		M.										
		4901	0.445	56.4	190.6	+9.9	0	2		Jan. 23	Centre				(108.1)	(-5.5)	(0)	(0)	(0)	
		4901	0.473	57.0	188.9	+10.6	0	8												
Jan. 15		Centre	0.475	59.9	188.1	+9.5	2	7												
					(212.6)	(-4.7)	(24)	(150)	(0)	23.215	CL, M	4903	0.909	42.8	43.1	+38.4	0	26	201 ^{sp}	
15.307	CL, M	4902a	0.597	296.1	232.0	+11.2	0	5			I.	4904a	0.798	98.9	41.9	-10.5	3	15		
I.		4901a	0.272	22.6	192.9	+9.7	13	62		Jan. 24		4904	0.831	98.8	38.6	-10.4	1	6		
Jan. 16		Centre			(199.0)	(-4.8)	(13)	(67)	(0)			Centre	4904	0.834	99.6	38.3	-11.1	0	4	
															(95.0)	(-5.6)	(4)	(51)	(201)	
16.466	CL, M	4901	0.288	323.8	193.8	+8.6	0	3		24.497	CL, M	4904a	0.584	100.4	42.4	-10.6	0	35		
		4901	0.299	328.3	193.0	+9.8	4	32		Jan. 25		4904	0.625	100.4	39.4	-10.9	0	9		
		Centre	0.283	331.7	191.7	+9.5	0	5				Centre			(78.0)	(-5.6)	(0)	(44)	(0)	
Jan. 17					(183.9)	(-4.9)	(4)	(40)	(0)											
17.476	CL, M		0.873	286.1	229.1	+11.4			86	25.221	CL, M	4901a	0.442	103.6	42.8	-11.1	7	37		
		4901a	0.450	303.7	192.7	+9.8	3	18		I.		4904	0.481	100.1	40.0	-9.9	0	3		
Jan. 18		Centre	0.919	98.3	103.5	-9.6			276	Jan. 26		4904	0.494	102.3	39.3	-11.0	0	5		
					(170.5)	(-5.0)	(3)	(18)	(362)			Centre	4904	0.519	101.9	37.6	-11.0	0	4	
															(68.6)	(-5.7)	(7)	(49)	(0)	
18.202	CL, M		0.932	283.3	227.9	+10.4			183	26.368	CL, M	4904a	0.187	120.4	44.1	-11.1	4	14		
I.		4901a	0.585	295.2	193.3	+10.1	0	6		M.		4904	0.206	123.6	43.4	-12.3	0	4		
Jan. 19		Centre	0.863	97.6	101.1	-9.1			312	Jan. 27		4904	0.266	110.4	38.9	-10.9	0	9		
					(160.9)	(-5.1)	(0)	(6)	(495)			Centre				(53.5)	(-5.8)	(4)	(27)	(0)

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters *n, s, p, c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4903, January 24. A small spot.
Group 4904, January 24-29. A spot, *a*, followed by a few small companions. *a* has broken up by January 27.

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

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.			
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).			
1900. 27 ^d .332	CL, M		0.893	261.2	104.3	-10.6			238	1900. Feb. 2		No photograph.										
		4904	0.078	220.8	43.7	-9.2	0	3														
		4904	0.082	196.3	42.4	-10.4	0	3														
		4904	0.097	161.8	38.9	-11.1	0	19														
	I.	4904	0.075	175.1	37.0	-10.2	0	7		33 ^d .191	CL, M		0.978	260.4	42.3	-10.7			108			
		4905 ^a	0.841	81.1	34.5	+4.2	24	110		Feb. 3		Centre	0.437	294.3	347.0	+4.6	29	149	(108)			
		4905	0.852	81.8	34.3	+3.9	0	10							(323.6)	(-6.3)	(29)	(149)	(108)			
Jan. 28		Centre			(40.7)	(-5.9)	(24)	(152)	(748)													
28.208	CL, M		0.962	260.9	104.0	-10.4			254	34.425	CL, M	4905	0.733	286.4	352.4	+7.4	0	2				
		4906	0.934	310.8	88.5	-34.7	0	3	253 ^p			I.	4905 ^a	0.658	284.6	346.9	+4.6	28	159	245 ^c		
		4904	0.225	249.4	41.6	-10.3	0	2					4907 ^a	0.954	76.4	236.9	+10.9	3	51			
	I.	4904	0.204	240.8	39.7	-11.6	2	14					4907	0.968	77.8	233.6	+10.1	0	19			
		4905	0.714	77.9	34.5	+4.4	27	128		Feb. 4		Centre	4907 ^b	0.975	79.3	231.7	+8.9	5	109			
		4905	0.730	81.1	34.3	+2.4	0	2					4908 ^a	0.997	77.8	223.5	+11.6	0	261	1358 ^c		
		4905	0.754	79.5	34.1	+3.9	0	2					Centre			(307.4)	(-6.4)	(36)	(601)	(1603)		
		4905	0.758	80.4	34.1	+3.3	0	2														
Jan. 29		Centre			(29.3)	(-5.9)	(29)	(153)	(814)				35.179	CL, M	4905 ^a	0.780	281.0	347.4	+4.4	26	138	
29.266	CL, M		0.997	307.6	94.9	+36.6			508			I.	4907 ^a	0.894	74.2	236.4	+11.0	5	51			
		4905 ^a	0.522	70.9	34.5	+4.6	21	103					4907	0.909	75.5	234.2	+10.3	6	22			
		4905	0.537	73.4	34.4	+3.7	2	11					4907 ^b	0.922	77.1	232.1	+9.2	16	116			
		4905	0.540	71.9	34.4	+4.5	6	15					4907	0.927	75.7	231.6	+10.7	5	21			
		4905	0.557	72.8	34.3	+4.4	0	6		Feb. 5		Centre	4908 ^a	0.967	74.2	224.5	+13.5	37	173	1333 ^c		
Jan. 30		Centre			(15.3)	(-6.0)	(29)	(135)	(724)				4908	0.969	77.0	223.6	+10.9	4	23	(1333)		
													Centre			(297.4)	(-6.4)	(99)	(544)			
30.373	CL, M	4905 ^a	0.307	54.3	34.6	+4.4	18	84		36.461	CL, M	4905 ^a	0.924	277.8	347.0	+4.6	18	135	419 ^c			
		4905 ^a	0.319	59.2	34.4	+3.5	25	122				4909	0.559	98.9	246.5	-10.4	4	16				
		4905	0.352	58.7	34.3	+4.7	0	5				4909	0.573	97.5	245.5	-9.6	0	8				
		4905	0.365	60.9	34.2	+4.4	0	1				4909	0.618	96.2	242.2	-8.9	0	2				
		4905	0.391	62.6	34.0	+4.6	1	4				4907 ^a	0.739	68.6	236.2	+11.0	8	74				
		4905	0.399	61.3	34.0	+5.3	0	3				4907 ^b	0.762	72.1	233.4	+9.1	10	56				
Jan. 31		Centre			(0.7)	(-6.1)	(44)	(219)	(0)				4907	0.774	70.9	232.7	+10.3	4	34			
31.314	CL, M		0.817	261.3	43.5	-10.7			144			I.	4907	0.778	73.0	231.8	+8.9	0	2			
		4905 ^a	0.184	11.3	34.6	+4.2	22	145					4908	0.820	70.1	228.6	+12.3	7	33			
		4905	0.168	22.8	34.4	+2.7	1	8					4908 ^a	0.852	70.8	225.1	+12.6	16	145	1032 ^c		
		4905	0.184	19.9	34.4	+3.7	1	2		Feb. 6		Centre	4908	0.862	73.2	223.5	+10.9	0	4	(1451)		
		4905	0.233	21.0	34.3	+6.3	1	4								(280.5)	(-6.5)	(67)	(509)			
		4905	0.186	28.1	34.3	+3.2	0	4														
Feb. 1		Centre			(34.8.4)	(-6.2)	(25)	(163)	(144)	Feb. 7			No photograph.									

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- Group 4905, January 28-February 6. A large spot, *a*, measured in two portions on January 31, with small companions.
- Group 4906, January 29. A very small spot.
- Group 4907, February 4-12. A broken group, in which two spots, *a* and *b*, may be identified. *b* is the larger; *a* is not seen after February 8.
- Group 4908, February 4-12. A broken group, following group 4907. The largest spot, *a*, steadily diminishes in size and is not seen on February 12.
- Group 4909, February 6-13. A few regular spots, diminishing rapidly in size. The group is not seen on February 10, but is very large on the next day.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 38 ^d .497	CL, M	4909	0.107	130.0	248.9	-10.5	0	10		1900. 42 ^d .233	CL, M	4911	0.917	266.6	271.2	-5.9	0	11	359f
		4909	0.117	117.7	247.7	-9.7	0	10				4909	0.725	262.2	251.2	-10.3	3	8	407c
		4910	0.210	107.3	242.0	-10.0	0	27				4907b	0.581	297.0	236.0	+9.5	3	19	
		4907	0.409	45.7	236.5	+10.3	0	4		I.		4908	0.530	310.1	229.1	+13.7	0	8	
		4907a	0.425	45.3	235.8	+11.1	3	120				4908	0.495	312.6	226.4	+13.2	1	4	
		4907	0.434	44.5	235.7	+11.7	0	4		Feb. 12	Centre			(204.5)	(-6.8)	(7)	(50)	(766)	
		4907b	0.424	50.6	234.4	+9.3	5	31											
		4907	0.438	50.4	233.7	+10.0	0	5											
		4908	0.523	53.4	228.4	+12.2	0	21		43.284	CL, M		0.970	265.7	267.0	-5.8	0		334
		4908	0.544	52.3	227.5	+13.4	0	5					0.762	290.9	237.1	+11.1	0		623
		4908	0.544	53.5	227.2	+12.9	0	5				4909	0.873	262.3	252.0	-10.0	0	7	
		4908	0.536	57.6	226.4	+10.8	0	18		I.		4909	0.860	262.2	250.5	-10.2	0	6	441c
		4908a	0.553	55.6	226.0	+12.3	8	77		Feb. 13	Centre			(190.8)	(-6.8)	(0)	(13)	(1398)	
		Centre			(253.7)	(-6.6)	(16)	(337)	(0)										
Feb. 8																			
39.178	CL, M	4909	0.112	229.8	249.7	-10.7	0	8		44.265	CL, M		0.939	261.5	248.3	-10.4	0		249
		4909	0.088	231.3	248.7	-9.8	2	7					0.833	290.3	230.8	+12.7	0		902
		4910	0.077	141.0	241.9	-10.0	0	12				4912	0.831	282.2	232.4	+6.2	0	6	
		4907	0.377	22.2	236.3	+13.8	0	3		I.		4912	0.811	282.9	230.2	+6.2	0	3	
		4907	0.340	26.2	235.9	+11.2	2	8		Feb. 14	Centre			(177.8)	(-6.9)	(0)	(9)	(1151)	
		4907b	0.332	31.6	234.6	+9.9	12	49											
		4908a	0.442	41.8	227.2	+12.9	6	88											
		4908	0.434	46.7	226.0	+11.0	1	3		45.306	I.								
		Centre			(244.7)	(-6.6)	(23)	(178)	(0)	Feb. 15	Centre				(164.1)	(-6.9)	(0)	(0)	(0)
40.285	CL, M	4907b	0.305	342.9	235.5	+10.2	11	68		46.195	CL, M		0.973	284.3	226.7	+12.1	0		648
		4908	0.326	6.9	228.0	+12.1	2	13		I.			0.907	267.8	217.6	-5.0	0		76
		4908	0.340	7.8	227.6	+12.9	0	10					0.899	249.4	216.8	-21.5	0		75
		4908a	0.345	10.7	226.5	+13.0	2	48		Feb. 16	Centre			(152.3)	(-7.0)	(0)	(0)	(799)	
		4908	0.313	18.1	224.6	+10.6	0	4											
		Centre			(230.3)	(-6.7)	(15)	(143)	(0)										
Feb. 10																			
41.194	CL, M	4911	0.767	268.2	268.4	-5.7	0	6		47.293	I.								
		4911	0.737	267.9	265.8	-6.1	0	2		Feb. 17	Centre			(137.9)	(-7.0)	(0)	(0)	(0)	
		4909	0.532	262.5	250.4	-9.7	8	64											
		4909	0.514	260.7	249.1	-10.5	0	9											
		4909	0.493	262.9	247.8	-9.3	0	6											
		4909	0.486	260.5	247.2	-10.4	4	14		48.509	I.								
		4909	0.473	261.3	246.4	-10.0	0	5		Feb. 18	Centre			(121.9)	(-7.0)	(0)	(0)	(0)	
		4907b	0.415	313.0	236.1	+10.0	3	20											
		4908a	0.368	334.6	227.5	+12.7	2	35		49.240	I.								
		Centre			(218.2)	(-6.7)	(17)	(161)	(212)	Feb. 19	Centre				(112.2)	(-7.1)	(0)	(0)	(0)

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4910, February 8-9. A single spot, following group 4909.
 Group 4911, February 11-12. Two small spots on February 11, one on February 12.
 Group 4912, February 14. Two small spots.

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

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 50 ^d .220 I.				°	°	°				1900. 59 ^d .192 ¹ I.				°	°	°				
Feb. 20		Centre			(99.4)	(-7.1)	(0)	(0)	(0)	Mar. 1		Centre			(341.4)	(-7.3)	(0)	(0)	(0)	
51.259 I.										60.392 I.	CL, M		0.944	101.1	253.9	-12.8			121	
Feb. 21		Centre			(85.7)	(-7.1)	(0)	(0)	(0)	Mar. 2		Centre			(325.4)	(-7.3)	(0)	(0)	(121)	
52.256 I.	CL, M		0.972	78.1	357.9	+ 9.8			230	61.209 M.	CL, M	4913	0.242	41.0	305.5	+ 3.3	0	8		
Feb. 22		Centre			(72.5)	(-7.1)	(0)	(0)	(230)	Mar. 3		Centre		46.0	302.6	+ 4.4	0	9		
53.265 M.	CL, M		0.910	77.7	353.1	-14.1			213	62.211 I.	CL, M	4913	0.205	331.8	306.9	+ 3.1	2	8		
Feb. 23		Centre			(59.3)	(-7.1)	(0)	(0)	(213)	Mar. 4		Centre		4913	0.211	341.7	305.1	+ 4.3	0	5
54.221 M.										63.198 I.	CL, M	4913	0.204	353.6	302.7	+ 4.4	4	19		
Feb. 24		Centre			(46.7)	(-7.2)	(0)	(0)	(0)	Mar. 5		Centre		4914	0.109	23.6	298.9	- 1.6	0	4
55.259 I.										64.206 I.	CL, M	4914	0.929	76.7	235.2	+ 9.5	0	4		
Feb. 25		Centre			(33.0)	(-7.2)	(0)	(0)	(0)	Mar. 6		Centre			(301.4)	(-7.3)	(6)	(36)	(636)	
56.231 I.										64.206 I.	CL, M	4914	0.921	288.1	339.1	+ 13.5			30	
Feb. 26		Centre			(20.2)	(-7.2)	(0)	(0)	(0)	Mar. 5		Centre		4913	0.311	308.6	302.4	+ 4.1	1	10
57.356 I.										64.206 I.	CL, M	4914	0.877	72.1	230.1	+ 11.9	0	4		
Feb. 27		Centre			(5.4)	(-7.2)	(0)	(0)	(0)	Mar. 6		Centre			(288.4)	(-7.3)	(1)	(10)	(502)	
Feb. 28		No photograph.								64.206 I.	CL, M	4914	0.921	288.1	339.1	+ 13.5			30	
										64.206 I.	CL, M	4914	0.462	282.5	301.8	- 0.8	0	1		
										64.206 I.	CL, M	4914	0.440	279.4	300.7	- 2.4	0	2		
										64.206 I.	CL, M	4914	0.411	286.2	298.2	- 0.2	4	6		
										64.206 I.	CL, M	4915 ^a	0.270	251.2	290.2	- 12.0	8	30		
										64.206 I.	CL, M	4915	0.254	248.7	289.1	- 12.4	13	49		
										64.206 I.	CL, M	4915	0.238	243.7	287.7	- 13.1	0	7		
										64.206 I.	CL, M	4915	0.224	250.4	287.5	- 11.4	0	11		
										64.206 I.	CL, M	4915 ^b	0.198	246.0	285.7	- 11.9	9	26		
										64.206 I.	CL, M	4915	0.204	239.3	285.4	- 13.1	2	9		
										64.206 I.	CL, M	4915	0.804	64.3	226.5	+ 15.6			153	
										64.206 I.	CL, M	4915	0.804	64.3	226.5	+ 15.6			(183)	

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculæ relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculæ are expressed in millionths of the Sun's visible Hemisphere.

Group 4913, March 3-5. A few small spots.

Group 4914, March 4-6. A few small unstable spots. The group is not seen on March 5.

Group 4915, March 6-11. Two large spots, *a* and *b*, with smaller companions till March 8. After this date the two large spots are seen alone, and are regular in shape.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).		
1900. 65 ^d .261	CL, M	4915a	0.494	259.5	290.9	-11.6	78	293		1900. 72 ^d .178	CL, M		0.936	279.9	238.0	+ 6.6			189		
		4915	0.460	256.5	288.5	-12.7	2	10		I.			0.898	289.4	230.6	+ 13.8			176		
		4915	0.461	254.5	288.4	-13.6	0	4		Mar. 14	Centre		0.883	297.1	226.6	+ 19.8	(170.1)	(-7.2)	(0)	(0)	80
		4915	0.451	259.9	288.1	-11.1	0	10													
		4915	0.431	254.8	286.5	-13.1	0	2													
Mar. 7		4915b	0.408	255.1	285.0	-12.7	46	192													
		Centre			(261.3)	(-7.3)	(126)	(511)	(0)	73.194	CL, M		0.961	286.2	228.0	-13.4					222
										Mar. 15	Centre				(156.7)	(-7.1)	(0)	(0)	(222)		
66.186	CL, M		0.833	279.9	304.2	+ 4.2		194													
			0.780	273.7	299.9	- 1.7		138													
		4915a	0.668	261.1	291.1	-11.3	89	377		74.619	Centre				(137.9)	(-7.1)	(0)	(0)	(0)		
		4915	0.644	261.2	289.3	-11.1	1	10		Mar. 16											
		4915	0.642	259.8	289.1	-12.0	2	6	573c												
		4915	0.626	261.5	287.9	-10.9	0	3													
		4915	0.618	258.4	287.2	-12.8	0	4		75.187	I.										
Mar. 8		4915b	0.582	258.0	284.6	-12.8	88	350		Mar. 17	Centre				(130.4)	(-7.1)	(0)	(0)	(0)		
		Centre			(249.0)	(-7.2)	(180)	(750)	(905)												
										76.507	Centre				(113.0)	(-7.1)	(0)	(0)	(0)		
67.463	CL, M	4915a	0.851	261.5	291.0	-11.0	49	389		Mar. 18											
		4915b	0.780	259.2	283.8	-13.0	37	300	758c												
Mar. 9		Centre			(232.2)	(-7.2)	(86)	(689)	(758)												
										77.467	Centre				(100.3)	(-7.0)	(0)	(0)	(0)		
68.521	CL, M	4915a	0.950	259.8	291.0	-12.0	59	378		Mar. 19											
		4915b	0.909	258.5	284.3	-13.4	31	246	476c												
Mar. 10		Centre			(218.3)	(-7.2)	(90)	(624)	(476)	78.419	Centre				(87.8)	(-7.0)	(0)	(0)	(0)		
										Mar. 20											
69.205	CL, M	4915a	0.986	259.8	290.6	-11.2	63	277		79.622	Centre				(72.0)	(-7.0)	(0)	(0)	(0)		
I.		4915b	0.963	259.1	284.6	-12.4	30	150	769c	Mar. 21											
Mar. 11		Centre			(209.3)	(-7.2)	(93)	(427)	(769)												
										80.221	M.										
70.502		Centre			(192.2)	(-7.2)	(0)	(0)	(0)	Mar. 22	Centre				(64.1)	(-6.9)	(0)	(0)	(0)		
71.250	CL, M		0.851	281.2	241.1	-13.3		147		81.232	CL, M	0.920	94.5	343.4	- 6.9				262		
I.			0.886	292.0	240.7	+15.7		75		Mar. 23	Centre				(50.7)	(-6.9)	(0)	(0)	(262)		
Mar. 13		Centre			(182.3)	(-7.2)	(0)	(0)	(222)												

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

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each (and for Day).		
1900. 82 ^d .146 I. Mar. 24	CL, M	Centre	0.830	93.5	342.4	-6.7	(38.7)	(-6.9)	(0)	(0)	(197)	1900. 90 ^d .469 Apr. 1	TS, M	Centre	0.102	208.3	291.7	-11.6	25	136	(0)
83.321 I. Mar. 25	CL, M	Centre	0.441	53.0	2.4	+9.0	(23.2)	(-6.8)	(0)	(4)	(0)	91.197 I. Apr. 2	CL, M	Centre	0.918	265.5	346.2	-6.6	27	155	161
84.173 I. Mar. 26	CL, M	Centre	0.298 0.982	30.2 100.3	3.2 292.0	+8.2 -11.4	(11.9)	(-6.8)	68 (68)	330 (332)	421c (421)	92.322 M. Apr. 3	CL, M	Centre	0.525 0.488 0.466 0.452 0.452	258.9 260.6 258.2 256.6 249.8	296.0 293.7 292.1 291.1 290.4	-11.2 -10.1 -11.0 -11.7 -14.7	0 0 22 2 0	4 1 129 8 2	(0)
85.241 I. Mar. 27	CL, M	Centre	0.910	99.4	291.8	-11.3	(357.8)	(-6.7)	(38)	(204)	(363)										
86.360 I. Mar. 28	CL, M	Centre	0.779 0.972	99.3 83.8	293.2 267.5	-11.4 +4.4	(343.1)	(-6.7)	38 (38)	222 (222)	394c 80 (474)	93.473 Apr. 4	TS, M	Centre	0.965 0.682	275.0 260.9	323.3 292.3	+3.2 -10.8	21	109	49
87.445 Mar. 29	CL, M	Centre	0.601 0.580 0.601 0.915	297.8 299.3 100.1 96.8	1.4 359.5 291.9 262.2	+10.7 +10.8 -11.3 -8.9	(328.8)	(-6.6)	3 0 46	9 3 233	294c 78 (372)	94.245 I. Apr. 5	CL, M	Centre	0.823 0.813 0.799	262.0 260.9 261.4	294.8 293.8 292.4	-10.2 -11.0 -10.6	0 0 16	11 3 115	576c (576)
88.507 Mar. 30	CL, M	Centre	0.764 0.762 0.743 0.398	289.2 288.2 290.4 104.1	1.8 1.8 359.7 291.7	+10.1 +9.3 +10.3 -11.6	(314.8)	(-6.6)	2 10 2	9 38 8	233c (233)	95.291 I. Apr. 6	CL, M	Centre	0.917	260.8	292.3	-10.9	18	79	639c (639)
89.487 Mar. 31	TS, CL	Centre	0.188	116.5	292.1	-11.2	(301.9)	(-6.5)	25 (25)	220 (220)	(0)	97.485 I. Apr. 8	CL, M	Centre	0.896	78.3	134.2	+7.7	7	51	483c (483)

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Group 4916, March 25-26. A very small spot.
 Group 4917, March 26-April 7. A large composite spot, a, that becomes irregular by April 4, occasionally with small companions.
 Group 4918, March 29-30. Two small spots on March 29. A third and larger spot is seen on March 30.
 Group 4919, April 8-15. A single spot that diminishes in size, and has broken up by April 12.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.								
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).								
1900. 98 ^d .219 M. Apr. 9	CL, M	4919	0.815	75.4	133.9	+ 8.3	13	48	563 ^f	1900. 106 ^d .175 I. Apr. 17	TS, CL	Centre	0.952	76.4	11.2	+ 11.2	(81.6)	(-5.3)	(0)	(0)	(94)						
99.515 Apr. 10	TS, M	4919	0.616	68.1	134.3	+ 8.5	5	23	(169.5)	(-5.9)	(5)	(23)	(0)	107.481 Apr. 18	TS, M	Centre	0.923	283.9	132.1	-14.9	(64.3)	(-5.3)	(0)	(0)	316 (316)		
100.494 I. Apr. 11	CL, M	4919	0.446	57.7	134.3	+ 8.4	4	15	(156.6)	(-5.8)	(4)	(15)	(0)	108.251 I. Apr. 19	TS, CL	4920 Centre	0.978 0.996	281.5 85.0	130.8	+ 10.1	330.1	+ 4.5	0	47	100s (47) (441)		
101.450 Apr. 12	TS, M	4919	0.302	34.1	134.2	+ 8.8	4	16	(144.0)	(-5.7)	(6)	(24)	(0)	109.446 Apr. 20	TS, M	4920 Centre	0.919	83.5	332.4	+ 3.9	(38.4)	(-5.2)	9	41	746 ^f (9) (41) (746)		
102.458 Apr. 13	TS, M	4919	0.257	345.3	134.4	+ 8.8	6	11	(130.6)	(-5.6)	(6)	(15)	(0)	110.457 Apr. 21	TS, M	4920 Centre	0.965 0.910 0.806	285.2 259.5 81.7	97.9	+ 13.3	91.1	-12.3	332.2	+ 3.6	11	32	74 83 548 ^f (11) (32) (705)
103.168 I. Apr. 14	TS, M	4919	0.333	317.1	134.5	+ 8.7	2	8	(121.3)	(-5.6)	(2)	(13)	(0)	111.204 M. Apr. 22	TS, C	4920 Centre	0.692	79.1	332.4	+ 3.9	(15.1)	(-4.9)	8	18	(8) (18) (0)		
104.160 I. Apr. 15	CL, M	4919	0.505	298.0	134.9	+ 8.8	0	3	(108.2)	(-5.5)	(0)	(3)	(0)	112.461 Apr. 23	TS, M	4920 Centre	0.458 0.899	72.3 102.1	332.7	+ 3.7	294.3	-13.0	4	20	4 (4) (20) (277)		
105.519 Apr. 16	Centre				(90.2)	(-5.4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	113.449 Apr. 24	TS, M	4921 4921 4921 4921 4920 Centre	0.133 0.146 0.127 0.166 0.262	188.0 184.8 182.5 168.3 57.0	346.6 346.2 345.8 343.5 332.8	-12.3 -13.0 -12.0 -14.0 + 3.6	0 0 0 6 5	6 2 2 23 16	(0) (0) (0) (11) (49)	(0)			

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Group 4920, April 19-26. A small regular spot, with two small companions on April 25.
Group 4921, April 24-29. A few unstable irregular spots.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 114 ^d .255	TS, CL	4921	0.253	237.8	347.4	-12.3	5	19		1900. 118 ^d .227	TS, CL	4921	0.921	238.6	350.1	-12.1	0	6	3468f	
		4921	0.253	234.3	346.9	-13.0	0	4				4923	0.794	266.3	335.4	-5.5	0	3	58f	
		4921	0.232	236.1	346.1	-11.9	3	13				4926a	0.256	58.2	270.4	+3.6	16	35		
		4921	0.207	224.3	343.3	-13.0	5	17				4926	0.308	63.4	266.9	+3.9	0	8		
		4921	0.220	219.4	343.0	-14.3	4	16				4926	0.328	60.8	266.3	+5.2	0	2		
		4920	0.151	11.2	333.1	+3.9	5	15				4926	0.322	64.6	266.0	+3.9	0	2		
		4920	0.146	18.7	332.1	+3.3	0	3				4926	0.339	65.6	264.9	+4.0	0	1		
		4920	0.199	37.3	327.9	+4.5	0	2				4927	0.651	94.7	242.3	-6.3	3	8		
Apr. 25	Centre				(334.8)	(-4.6)	(22)	(89)	(0)			4927	0.669	96.2	241.0	-7.3	4	23	315c	
												4927	0.676	94.0	240.4	-5.8	0	14		
												4924	0.701	93.8	238.4	-5.6	5	36		
												4924	0.706	95.1	238.0	-6.6	15	73		
												4924	0.738	95.2	235.4	-6.7	0	3		
												4924	0.744	96.3	234.9	-7.5	0	3	52c	
												4924	0.759	97.3	233.6	-8.3	0	5		
												4924	0.760	99.0	233.5	-9.6	0	8		
												4925a	0.810	97.8	228.8	-8.8	22	104		
												4925b	0.847	98.1	225.0	-9.1	10	100	436c	
												Centre		(282.9)	(-4.2)	(75)	(434)	(1207)		
Apr. 26	Centre				(319.2)	(-4.5)	(8)	(66)	(153)			119.272	TS, M	0.975	256.5	346.0	-14.1		512	
														0.896	277.1	331.4	+4.5		317	
														4926a	0.158	337.6	272.0	+4.3	28	128
														4926	0.165	356.8	269.0	+5.4	0	2
														4926	0.132	6.0	267.7	+3.4	0	4
														4926	0.162	15.5	266.0	+4.9	4	11
														4926	0.145	17.5	266.0	+3.8	0	6
														4927a	0.417	96.2	244.0	-6.3	26	88
														4927	0.434	96.6	242.9	-6.6	10	34
														4927	0.478	96.0	240.0	-6.5	0	8
														4927	0.491	96.6	239.2	-6.8	0	10
														4924a	0.510	94.9	237.9	-6.0	55	271
														4924	0.542	96.9	235.8	-7.2	0	12
														4924	0.573	97.1	233.7	-7.4	0	4
														4925a	0.640	98.6	228.9	-8.7	23	145
														4925	0.686	98.8	225.3	-9.1	2	16
														Centre		(268.5)	(-4.1)	(148)	(739)	(1105)
Apr. 27	Centre				(309.3)	(-4.4)	(15)	(74)	(479)			120.160	TS, M	0.977	272.6	334.2	+1.7		44	
														0.959	277.7	329.5	+6.2		364	
														4926	0.332	294.9	274.3	+4.2	0	3
														4926a	0.316	295.4	273.4	+4.0	22	116
117.250	TS, CL	4921	0.807	258.1	348.9	-12.2	7	20	150c											
		4921	0.751	255.1	343.4	-14.0	0	2	46c											
		4923	0.637	265.8	334.7	-6.0	3	8												
		4924	0.840	95.3	238.0	-6.8	0	8												
		4924	0.852	94.1	236.8	-5.8	0	9	127c											
		4925a	0.921	97.8	228.0	-8.9	26	125	517c											
		4925b	0.943	98.0	224.4	-9.0	15	93												
Apr. 28	Centre				(295.2)	(-4.3)	(51)	(265)	(840)											

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Group 4922, April 26-27. A few very small unstable spots.

Group 4923, April 27-29. One very small spot.

Group 4924, April 27-May 6. An irregular large spot, *a*, on April 30, May 1 and 2. It has broken up on May 3, and by May 5 the spots have diminished in size, and are extended in a long stream, and the division between this group and Group 4927 becomes somewhat arbitrary.

Group 4925, April 27-May 6. A large spot, *a*, which has broken up by May 4, followed by a second large spot, *b*, on April 28 and 29, and subsequently accompanied by a few small spots. This group follows Group 4924.

Group 4926, April 29-May 5. A large spot, *a*, which rapidly diminishes after May 3; on May 2 there is a considerable spot preceding *a*.

Group 4927, April 29-May 8. A large spot, *a*, with a forward movement in longitude. This group precedes Group 4924.

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

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).		
1900. 126 ^d .248 M.	TS, C	4927a 4927 4927	0.945 0.932 0.899	263.0 264.1 266.3	247.3 245.1 240.5	- 7.8 - 6.7 - 4.8	13 0 0	67 3 5	194 ^f (194)	1900. 134 ^d .150	TS, M	0.921 4928 4928	282.6 248.8 240.1	282.6 248.8 240.1	137.6 83.4 80.9	- 10.6 - 7.0 - 7.7	0 0 0	10 6	132 6 222		
May 7		Centre			(176.3)	(- 3.4)	(13)	(75)	(194)	May 15		Centre	0.981	105.4	(71.7)	(- 2.5)	(0)	(16)	(354)		
127.177 I. May 8	TS, M	4927a Centre	0.990	262.3	246.0	- 8.1	0	38	1271 ^c (1271)	135.452 May 16	TS, M	0.909	105.5	349.7	- 15.0	(54.5)	(- 2.3)	(0)	(0)	325 (325)	
128.138 I. May 9	TS, M	Centre	0.972	262.3	227.8	- 8.2			474 (474)	136.471 May 17	TS, M	0.929	83.7	333.4	+ 5.1	(41.1)	(- 2.2)	(0)	(0)	173 (173)	
129.150 I. May 10		Centre			(137.9)	(- 3.0)	(0)	(0)	(0)	137.218 I. May 18	TS, M	0.886	83.1	30.6	+ 5.2	(31.2)	(- 2.1)	(0)	(0)	188 (188)	
130.212 I. May 11	TS, M	Centre	0.941	100.1	53.8	- 10.5			328 (328)	138.192 I. May 19	TS, M	0.981	280.1	96.4	+ 9.5	(18.3)	(- 2.0)	(0)	(0)	119 (119)	
131.209 I. May 12	TS, M	Centre	0.837	101.2	54.1	- 10.9			123 (123)	139.127 I. May 20	TS, M	0.899 0.933	260.1 106.3	69.7 62.4	- 9.8 - 15.9	(5.9)	(- 1.9)	(0)	(0)	196 178 (374)	
132.293 I. May 13	TS, M	Centre	0.951	175.1	80.5	- 73.7			166 (166)	140.520 I. May 21	TS, M	4929a Centre	0.969	85.3	272.2	+ 4.1	(347.5)	(- 1.8)	17 (17)	104 (104)	403 ^c (403)
133.645 I. May 14	TS, M	4928 4928 Centre	0.114 0.103	229.8 213.8	83.5 81.8	- 6.8 - 7.5	4 0	16 5	(4) (21)	141.221 I. May 22	TS, M	4929a Centre	0.937 0.931	281.2 84.9	46.9 270.1	+ 9.9 + 4.2	(338.3)	(- 1.6)	49 (49)	233 (233)	92 1678 ^c (1770)
May 14		Centre			(78.5)	(- 2.6)	(4)	(21)	(0)	142.227 I. May 23	TS, M	4929a Centre	0.814 0.977	84.4 98.2	270.9 247.3	+ 3.7 - 8.4	(324.9)	(- 1.5)	42 (42)	227 (227)	987 ^f 401 (1388)

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Group 4928, May 14-15. Two small spots.
Group 4929, May 21-June 1. A large spot, a, which has broken up by May 27, after which the group rapidly diminishes in size.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 143 ^d .158	TS, M	4929a	0.667	82.7	271.2	+ 3.8	32	207	531 ^f	1900. 148 ^d .516	TS, M	4929a	0.540	279.7	273.8	+ 4.6	12	30	531 ^f	
I.		4929	0.701	79.9	268.8	+ 6.1	0	2				4929	0.528	280.2	273.0	+ 4.7	2	12		
May 24	Centre	4929	0.750	83.2	264.5	+ 4.2	0	2				4930	0.133	172.9	240.8	- 8.4	0	3		
			0.938	101.3	243.2	- 11.1			1040			4930	0.125	161.9	239.5	- 7.6	0	1		
					(312.6)	(-1.4)	(32)	(211)	(1571)			4930	0.161	158.0	238.2	- 9.4	0	5		
												4930	0.125	146.1	237.7	- 6.7	0	3		
										May 29	Centre				(241.7)	(-0.8)	(14)	(54)	(0)	
144.176	TS, M	4929a	0.470	78.9	271.8	+ 4.1	33	154	366											
I.			0.868	101.6	239.5	- 10.7														
May 25	Centre				(299.2)	(-1.3)	(33)	(154)	(366)											
										149.123	TS, M	4929a	0.645	277.5	273.4	+ 4.3	8	27		
												4930	0.249	240.2	246.2	- 7.8	0	16		
												4930	0.236	233.7	244.7	- 8.7	4	9		
												4930	0.208	236.2	243.7	- 7.3	0	3		
145.199	TS, M		0.986	261.8	5.8	- 8.3			43			4930	0.207	227.1	242.5	- 8.8	0	5		
I.			0.946	251.9	355.9	- 17.5			34			Centre			(233.7)	(-0.7)	(12)	(60)	(0)	
May 26	Centre	4929a	0.248	68.2	272.3	+ 4.2	24	124	(77)											
					(285.6)	(-1.2)	(24)	(124)	(77)											
										151.125	TS, M	4929a	0.805	275.6	273.6	+ 4.2	6	16	579 ^p	
146.486	TS, M	4929a	0.126	318.1	273.4	+ 4.3	8	34				4930	0.492	252.5	248.6	- 9.0	4	11		
		4929	0.104	319.3	272.5	+ 3.4	4	9				4930	0.452	253.7	246.3	- 7.8	3	20		
		4929	0.138	337.9	271.7	+ 6.2	0	1				4930	0.421	253.1	244.3	- 7.5	0	6		
		4929	0.130	335.2	271.7	+ 5.6	0	2				Centre			(220.4)	(-0.6)	(13)	(53)	(579)	
		4929	0.120	337.7	271.2	+ 5.2	0	1												
		4929	0.146	348.0	270.3	+ 7.1	0	1												
		4929	0.112	344.9	270.3	+ 5.1	0	2												
		4930	0.460	105.6	242.1	- 8.1	2	8												
		4930	0.468	106.0	241.7	- 8.4	5	14												
		4930	0.523	106.1	238.1	- 9.2	2	9												
May 27	Centre				(268.6)	(-1.1)	(21)	(81)	(0)											
										June 1	Centre				(205.4)	(-0.5)	(16)	(62)	(837)	
										June 2	No photograph.									
										153.658	TS, M	4930	0.981	262.4	252.2	- 7.5	18	95	327 ^f	
												Centre			(173.7)	(-0.2)	(18)	(95)	(327)	
										154.481	Centre				(162.8)	(-0.1)	(0)	(0)	(0)	
May 28	Centre				(255.9)	(-0.9)	(21)	(87)	(0)	June 4										

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Group 4930, May 27-June 3. A cluster of small spots. The leader has attained a considerable size by June 1.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1900. 155 ^a .665 June 5		Centre		°	°	(147.1)(+0.1)	(0)	(0)	(0)	1900. 165 ^d .168 I June 15	TS, M	4931 4931 Centre	0.826 0.854	86.5 87.0	325.8 322.9 (21.3)	+ 3.6 + 3.2 (+ 1.2)	6 0 (6)	17 7 (24)	107 ^c (107)
156.636 June 6		Centre				(134.3)(+0.2)	(0)	(0)	(0)	166.266 I. June 16	TS, M	4931a 4931 4931 4931b Centre	0.652 0.669 0.697 0.700	86.3 85.9 86.9 85.4	326.3 325.0 322.8 322.6 (6.8)	+ 3.5 + 3.8 + 3.2 + 4.2 (+ 1.4)	36 4 0 12 (52)	108 12 6 66 (192)	(0)
157.241 I. June 7		Centre				(126.3)(+0.3)	(0)	(0)	(0)	167.624 TS, M June 17	4931a 4931 4931 4931 4931b Centre	0.341 0.357 0.368 0.404 0.417 0.911	84.6 87.1 85.5 89.4 84.0 83.8	329.1 328.1 327.4 325.2 324.4 283.5 (34.8.9)	+ 3.3 + 2.4 + 3.1 + 1.6 + 3.9 + 6.3 (+ 1.5)	35 0 0 0 13 (48)	170 3 5 3 80 (261)	141 (141)	
158.634 June 8		Centre				(107.8)(+0.4)	(0)	(0)	(0)	168.227 TS, M I. June 18	4931a 4931 4931 4931 4931 4931 4931b Centre	0.224 0.241 0.255 0.285 0.294 0.311 0.313 0.891	81.2 86.1 83.8 80.9 90.0 86.3 81.7 85.0	328.0 326.9 326.2 324.5 323.8 322.8 322.8 278.0 (34.0.8)	+ 3.5 + 2.5 + 3.1 + 4.2 + 1.6 + 2.7 + 4.2 + 5.2 (+ 1.6)	39 2 0 0 3 5 12 (61)	185 9 21 8 11 16 59 (309)	461 (461)	
159.161 I. June 9		Centre				(100.9)(+0.5)	(0)	(0)	(0)	169.643 TS, C June 19	4931a 4931 4931 4931 4931 4931 4932a Centre	0.116 0.094 0.077 0.050 0.029 0.033 0.914	287.8 278.9 293.8 306.5 321.2 338.3 256.8 (322.1)	+ 3.7 + 2.5 + 3.5 + 3.4 + 3.0 + 3.5 - 7.4 (+ 1.7)	35 9 0 0 0 0 9 (53)	115 32 4 10 2 6 33 (202)	(0)		
160.461 June 10		Centre				(83.6)(+0.7)	(0)	(0)	(0)	162.128 TS, M I. June 12	0.962	88.3	347.7 (61.6)	+ 1.9 (+ 0.9)	148 (148)				
161.483 June 11		Centre				(70.1)(+0.8)	(0)	(0)	(0)	163.275 I. June 13			(46.4)	(+ 1.0)	(0)	(0)			
162.128 I. June 12	TS, M	Centre	0.962	88.3	347.7	+ 1.9	(0)	(0)	(148)	164.202 TS, M I. June 14	0.885 0.950 0.948	83.5 106.1 87.2	333.1 324.4 323.8 (35.1)	+ 6.3 - 15.0 + 3.0 (+ 1.1)	16 29 67 (112)				

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Group 4931, June 15-24. Principally two spots, *a* foremost, *b* hindmost, with several small spots intervening; *a* is the more prominent and the larger of the two; *b* is not seen on June 19.
Group 4932, June 19-26. A single spot, *a*, with a small companion on June 24.

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

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 170 ^a .198	TS, M	4931a	0.238	278.9	329.0	+ 3.9	26.	118.		1900. 176 ^a .187	TS, C	4932a	0.401	245.6	256.9	- 7.2	4	12		
		4931	0.212	276.2	326.9	+ 3.1	6.	60.		I.										
		4931	0.194	283.2	325.7	+ 4.3	0.	2.		June 26	Centre				(235.4)	(+ 2.5)	(4)	(12)	(0)	
		4931	0.188	271.1	325.6	+ 2.0	0.	2.												
I.		4931	0.191	282.6	325.5	+ 4.2	0.	5.												
		4931b	0.165	278.0	324.2	+ 3.1	10.	59.		177.198										
		4932a	0.862	99.4	256.0	- 7.3	24.	96.	576 ^f	I.	TS, C	Centre				(222.1)	(+ 2.6)	(0)	(0)	(0)
June 20		Centre			(314.8)	(+ 1.8)	(66)	(342)	(576)	June 27										
171.188	TS, C	4931a	0.453	275.4	328.4	+ 4.2	38.	96.		178.534										
		4931	0.441	272.0	327.7	+ 2.6	5.	11.		June 28	Centre				(204.5)	(+ 2.8)	(0)	(0)	(0)	
		4931	0.425	274.2	326.6	+ 3.5	13.	25.												
		4931	0.411	272.9	325.8	+ 2.9	0.	3.												
I.		4931b	0.383	273.4	324.0	+ 3.1	18.	86.		179.483	TS, C	4933a	0.855	260.0	249.6	- 7.0	280.	443	138c.	
		4932a	0.721	101.9	256.5	- 7.2	16.	49.	(0)	June 29	Centre				(191.8)	(+ 2.9)	(280)	(443)	(138)	
June 21		Centre			(301.6)	(+ 1.9)	(90)	(270)												
172.214	TS, C	4931a	0.643	274.9	327.9	+ 4.3	36.	131.		180.159	TS, C	4933	0.977	262.0	259.9	- 7.2	5	16		
		4931	0.632	273.3	327.1	+ 3.7	0.	3.		I.		4933a	0.932	261.4	250.8	- 6.9	372.	682	251c	
		4931	0.619	275.2	326.2	+ 4.9	6.	11.		June 30	Centre				(182.9)	(+ 3.0)	(377)	(698)	(251)	
		4931	0.608	274.3	325.4	+ 4.3	0.	7.												
		4931b	0.588	273.6	324.0	+ 3.9	21.	104.												
		4932a	0.543	106.6	256.6	- 7.1	20.	47.		181.184	TS, C									
June 22		Centre			(288.1)	(+ 2.1)	(83)	(303)	(0)	I.	TS, C	4933	0.955	310.8	239.2	+ 39.7			45	
										July 1		4933	0.993	264.0	252.0	- 5.6	111	222	699c	
												4933	0.982	261.4	247.7	- 7.8	103	212		
												Centre			(169.4)	(+ 3.1)	(214)	(434)	(744)	
173.467	TS, C	4931a	0.836	274.3	328.1	+ 4.8	13.	33.		182.197	TS, C									
		4931	0.800	269.5	324.3	+ 0.9	0.	14.		I.		0.969	88.4	80.3	+ 2.4			520		
		4932a	0.294	121.9	257.0	- 6.8	4.	19.		July 2	Centre				(155.9)	(+ 3.2)	(0)	(0)	(520)	
June 23		Centre			(271.5)	(+ 2.2)	(17)	(66)	(0)											
174.209	TS, M	4931a	0.917	273.1	328.0	+ 3.7	31.	88.		183.454	TS, C	4934	0.923	280.3	206.6	+ 10.7	13	38		
		4931	0.892	271.4	324.6	+ 2.3	0.	20.	545 ^c	July 3		4934	0.907	279.7	204.3	+ 10.2	4	20	36c	
		4932	0.209	171.6	259.8	- 9.6	0.	1.				4934	0.892	278.5	202.4	+ 9.1	0	3		
		4932a	0.188	152.9	256.7	- 7.3	6.	15.				Centre			(139.3)	(+ 3.3)	(17)	(61)	(36)	
June 24		Centre			(261.6)	(+ 2.3)	(37)	(124)	(545)											
175.683	TS, C	4932a	0.305	237.7	257.2	- 7.0	0.	9.		184.246	TS, C	4934	0.978	280.0	206.9	+ 10.5	32	86	164 ^f	
June 25		Centre			(242.2)	(+ 2.4)	(0)	(9)	(0)	I.										
										July 4	Centre				(128.8)	(+ 3.4)	(32)	(86)	(211)	

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Group 4933, June 29-July 1. A very large spot, a, that has broken into two portions just before disappearing behind the Sun's limb.
 Group 4934, July 3-4. Two spots with a small companion on July 3; on July 4 the group is seen close to the Sun's limb.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMIRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMIRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1900. 185 ^d .631 July 5		Centre		°	°	(110.5)(+3.5)	(0)	(0)	(0)	1900. 196 ^d .488 July 16	TS, C	4935a 4935 4935 Centre	0.873 0.915 0.923	100.4 99.1 100.0	267.3 261.7 260.7 (326.9)	- 6.8 - 6.4 - 7.4 (+ 4.6)	22 6 0 (28)	74 18 3 (95)	900c (900)
186.462 July 6		Centre				(99.5)(+3.6)	(0)	0	(0)	197.470 July 17	TS, C	4935a 4935 4935 4935 4935 4935 Centre	0.737 0.744 0.762 0.772 0.783 0.800	103.3 104.7 103.3 104.6 102.5 101.2	267.8 267.4 265.7 265.0 263.7 261.9 (313.8)	- 6.5 - 7.7 - 7.0 - 8.1 - 6.7 - 6.0 (+ 4.7)	23 0 0 0 0 8 (31)	67 2 7 15 6 26 (123)	714f (714)
188.489 July 8		Centre				(72.6)(+3.8)	(0)	(0)	(0)	198.480 July 18	TS, C	4935a 4935 4935 4935 4935 Centre	0.567 0.620 0.618 0.646 0.661	108.9 111.0 107.3 105.9 111.0	268.0 264.8 264.2 261.9 261.9 (300.5)	- 6.5 - 8.9 - 6.7 - 6.5 - 9.9 (+ 4.8)	38 0 0 3 0 (41)	141 2 2 9 6 (160)	236f (236)
189.228 M. July 9		Centre				(62.9)(+3.9)	(0)	(0)	(0)	199.470 July 19	TS, C	4935a 4935 4935 4935 4935 4935 Centre	0.926 0.373 0.386 0.420 0.434 0.465 0.508	256.9 120.1 119.8 117.5 115.6 114.0 120.2	353.5 268.5 267.8 265.5 264.3 262.2 261.0 (287.4)	- 10.2 - 6.2 - 6.4 - 6.6 - 6.3 - 6.5 - 10.4 (+ 4.9)	26 7 0 0 0 5 0 (33)	98 39 1 2 5 1 (146)	191 (191)
190.429 July 10		Centre				(47.0)(+4.0)	(0)	(0)	(0)	200.460 July 20	TS, C	4935a 4935 4935 4936 Centre	0.215 0.238 0.233 0.902	152.2 151.3 148.7 80.5	268.4 267.6 267.2 209.6 (274.2)	- 6.0 - 7.0 - 6.5 + 10.7 (+ 5.0)	25 0 9 4 (38)	99 7 25 14 (145)	97f (97)
191.463 July 11	TS, C	Centre	0.902	87.5	328.9 + 4.0 (33.3)(+4.1)	(0)	(0)	251 (251)		201.246 I. July 21	TS, C	4935a 4935 4936 Centre	0.205 0.212 0.810	203.6 197.1 80.4	268.6 267.5 209.6 (263.9)	- 5.6 - 6.5 + 11.4 (+ 5.1)	23 6 5 (34)	70 12 17 (99)	(0)
192.472 July 12	TS, C	Centre	0.917	271.5	86.4 + 3.1 (20.0)(+4.2)	(0)	(0)	227 (227)											
193.531 July 13		Centre			(6.0)(+4.3)	(0)	(0)	(0)											
194.479 July 14		Centre			(353.4)(+4.4)	(0)	(0)	(0)											
195.451 July 15	TS, C	4935a Centre	0.966	98.8	266.5 - 7.3 (34.0.5)(+4.5)	18 (18)	83 (83)	(0)											

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Group 4935, July 15-25. A large spot, *a*, followed by small companions; *a* is composite at first, but becomes regular.
Group 4936, July 20-23. A small spot, near the eastern limb of the Sun.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).		
1900. 202 ^d .251	TS, C	4935a	0.367	240.1	269.2	- 5.6	12	36		1900. 211 ^d .485	TS, C		0.864	98.3	69.6	- 4.2			225		
M.		4935	0.372	233.4	268.1	- 7.9	2	6		I.		Centre	0.927	119.6	66.1	- 24.6	(128.4)	(+5.8)	(0)	(0)	(825)
July 22		4935	0.361	235.6	268.0	+ 6.9	4	6		July 31											
		4936	0.646	80.4	210.5	+ 10.1	3	9													
		Centre			(250.6)	(+5.1)	(21)	(57)	(0)												
										212.290											
										I.		Centre			(117.8)	(+5.9)	(0)	(0)	(0)	(0)	(0)
203.252	TS, C	4935a	0.557	252.0	269.3	- 5.5	11	27		Aug. 1											
M.		4935	0.527	250.7	267.2	- 5.5	4	8													
July 23		4936	0.458	77.2	210.4	+ 10.5	5	10		213.478		Centre			(102.1)	(+6.0)	(0)	(0)	(0)	(0)	
		Centre			(237.3)	(+5.2)	(20)	(45)	(0)	Aug. 2											
										214.176											
204.467	TS, C	4935a	0.762	257.6	269.4	- 5.9	4	37		I.		Centre			(92.9)	(+6.0)	(0)	(0)	(0)	(0)	
July 24		Centre			(221.2)	(+5.3)	(4)	(37)	(0)	Aug. 3											
										215.483											
205.487	TS, C	4935a	0.887	260.7	269.2	- 5.6	0	26	553f	Aug. 4		Centre			(75.5)	(+6.1)	(0)	(0)	(0)	(0)	
July 25		Centre			(207.8)	(+5.4)	(0)	(26)	(553)												
										216.359											
206.484		Centre			(194.6)	(+5.5)	(0)	(0)	(0)	I.		Centre			(64.0)	(+6.2)	(0)	(0)	(0)	(0)	
July 26										Aug. 5											
										217.227											
207.530		Centre			(180.7)	(+5.6)	(0)	(0)	(0)	I.		Centre			(52.5)	(+6.3)	(0)	(0)	(0)	(0)	
July 27										Aug. 6										(0)	
										208.320											
208.320		Centre			(170.3)	(+5.6)	(0)	(0)	(0)	I.											
July 28										218.533	TS, C	4937	0.933	87.2	326.2	+ 4.9	0	17	54c		
										Aug. 7		Centre			(35.3)	(+6.3)	(0)	(17)	(54)		
209.467		Centre			(155.1)	(+5.7)	(0)	(0)	(0)												
July 29										219.306	TS, C	4937	0.846	87.5	327.2	+ 5.6	6	17	140f		
										I.		Centre			(25.1)	(+6.4)	(6)	(17)	(140)		
210.493		Centre			(141.6)	(+5.8)	(0)	(0)	(0)	Aug. 8											

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Group 4937, August 7-12. A few small scattered spots.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBERA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBERA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1900. 220 ^d .242 M. Aug. 9	TS, C	4937 Centre	0.719	90.0	326.6 (12.6)	+ 4.5 (+ 6.4)	5 (5)	14 (14)		1900. 228 ^d .464 Aug. 17		Centre			264.0 (264.0)	+ 6.8 (+ 6.8)	(0)	(0)	(0)
221.220 M. Aug. 10	TS, C	4937 Centre	0.529 0.592	91.1 91.1	327.7 323.4 (359.7)	+ 5.0 + 4.6 + 6.5	4 3 (7)	7 7 (14)		229.457 Aug. 18		Centre			250.8 (250.8)	+ 6.9 (+ 6.9)	(0)	(0)	(0)
222.472 Aug. 11	TS, C	4937 Centre	0.253 0.275 0.312 0.325 0.709 0.775 0.812	97.3 97.0 96.3 94.9 95.2 94.6 93.8	328.7 327.4 325.2 324.3 293.4 292.8 289.3 (343.2)	+ 4.5 + 4.4 + 4.3 + 4.6 + 0.3 + 0.6 + 0.8 (+ 6.5)	0 0 1 0 11 6 10 (28)	9 25 13 1 29 15 41 (133)		230.402 Aug. 19		Centre			238.3 (238.3)	+ 6.9 (+ 6.9)	(0)	(0)	(0)
223.474 Aug. 12	TS, C	4937 Centre	0.053 0.096 0.104 0.611 0.666 0.892	139.7 107.5 114.2 98.0 96.0 99.7	327.9 324.7 324.5 292.8 288.6 268.1 (329.9)	+ 4.3 + 4.9 + 4.2 + 0.4 + 1.0 - 5.6 (+ 6.6)	5 0 0 8 8 8 (21)	25 5 6 33 33 266 (102)		231.137 I. Aug. 20	TS, C	0.901	267.1	292.5 (228.6)	+ 0.5 (+ 6.9)	(0)	(0)	103 (103)	
224.472 Aug. 13	TS, C	4938 Centre	0.402 0.465	104.7 101.3	294.0 289.9 (316.8)	+ 0.3 + 0.7 (+ 6.6)	4 6 (10)	16 19 (35)		232.493 Aug. 21		Centre			210.7 (210.7)	+ 7.0 (+ 7.0)	(0)	(0)	(0)
225.453 Aug. 14		Centre			(303.7)	(+ 6.7)	(0)	(0)		233.496 Aug. 22	TS, C	0.936	253.6	264.3 (197.5)	- 12.7 (+ 7.0)	(0)	(0)	337 (337)	
226.491 Aug. 15		Centre			(290.0)	(+ 6.7)	(0)	(0)		234.642 Aug. 23		Centre			182.3 (182.3)	+ 7.0 (+ 7.0)	(0)	(0)	(0)
227.464 Aug. 16		Centre			(277.2)	(+ 6.8)	(0)	(0)		235.652 Aug. 24		Centre			169.0 (169.0)	+ 7.1 (+ 7.1)	(0)	(0)	(0)
										236.226 M. Aug. 25		Centre			161.4 (161.4)	+ 7.1 (+ 7.1)	(0)	(0)	(0)
										237.511 Aug. 26		Centre			144.3 (144.3)	+ 7.1 (+ 7.1)	(0)	(0)	(0)
										238.321 I. Aug. 27		Centre			133.7 (133.7)	+ 7.1 (+ 7.1)	(0)	(0)	(0)

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Group 4938, August 11-13. Two or three spots.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Area for each Group (and for Day).	Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).		Area of WHOLE for each Spot (and for Day).
1900. 239 ^d .232 I. Aug. 28		Centre		°	°	°	(121.6)(+7.1)	(o)	(o)	(o)	1900. 248 ^d .630	TS, C	4940 4941 4941 4941 4941	0.082 0.747 0.756 0.767 0.802	282.8 104.3 104.7 104.4 101.9	° 2.2 311.1 310.4 309.5 305.8	+ 8.2 - 5.7 - 6.2 - 5.7 - 5.1	18 7 0 0 32	36 18 14 6 69	
240.363 I. Aug. 29		Centre					(106.7)(+7.2)	(o)	(o)	(o)	Sept. 6	Centre				(357.6)(+7.2)	(57)	(143)	(o)	
241.226 M. Aug. 30		Centre					(95.3)(+7.2)	(o)	(o)	(o)	249.517	TS, C	4940 4940 4941 4941 4941 4941	0.291 0.220 0.597 0.595 0.660 0.669	275.0 268.9 110.1 108.6 106.5 105.2	2.9 358.6 311.7 311.6 306.6 305.7	+ 8.4 + 6.8 - 5.9 - 5.0 - 5.2 - 4.6	13 0 0 0 5 13	38 5 4 4 16 29	
242.486 Aug. 31		Centre					(78.7)(+7.2)	(o)	(o)	(o)	Sept. 7	Centre				(345.9)(+7.2)	(31)	(96)	(o)	
243.228 I. Sept. 1		Centre					(68.9)(+7.2)	(o)	(o)	(o)	250.430	TS, C	4940 4941	0.485 0.517	274.0 112.2	2.8 305.1	+ 8.3 - 4.8	3 13	9 33	
244.230 I. Sept. 2		Centre					(55.6)(+7.2)	(o)	(o)	(o)	I. Sept. 8	Centre		0.966	85.0	258.2	+ 6.7	(16)	(42)	(508)
245.513	TS, C	4939 4940 4940 Centre	0.955 0.628 0.657	245.2 85.3 85.4	106.8 359.6 357.4	-21.1 + 8.6 + 8.5	(38.7)(+7.2)	(8)	8 8 2	165c	252.507	TS, C	4941 Centre	0.317 0.892	129.3 86.2	305.7 256.5	- 4.6 + 6.6	10 (10)	28 (28)	326 (326)
246.247 I. Sept. 4	TS, C	4939 4940 4940 Centre	0.995 0.477 0.541	246.5 86.0 87.3	109.6 0.4 356.1	-22.4 + 8.2 + 7.5	(29.0)(+7.2)	(6)	107 19 13	193f	253.467	TS, C	4941 Centre	0.916 0.282	276.3 230.5	0.4 306.1	+ 8.7 - 3.3	10 (10)	19 (19)	293 (293)
247.454	TS, C	4940 4941 4941 4941 Centre	0.197 0.900 0.908 0.931	83.9 99.7 101.0 98.6	1.7 310.3 309.5 305.7	+ 8.3 - 5.5 - 6.9 - 5.3	(13.1)(+7.2)	(51)	24 11 11 19	226c	254.473 Sept. 12	Centre				(280.4)(+7.2)	(o)	(o)	(o)	
Sept. 5		Centre							58	(226)	255.456 Sept. 13	TS, C	Centre	0.747	254.1	313.6 (267.4)	- 6.8 (+7.2)	(o)	(o)	125 (125)

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Group 4939, September 3-4. A small spot near the west limb; it has largely increased by September 4.
 Group 4940, September 3-8. One or two spots; on September 8 a very small spot only.
 Group 4941, September 5-11. Several scattered spots on September 5, 6 and 7; subsequently a composite spot measured in one portion.

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

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 256 ^d .619 Sept. 14	TS, C	Centre	0.872	260.1	311.4 (252.0)	- 5.0 (+ 7.2)	(o)	(o)	217 (217)	1900. 267 ^d .610 Sept. 25		Centre				(106.9)	(+ 6.9)	(o)	(o)	(o)
257.543 Sept. 15	TS, C	Centre	0.953	261.9	311.0 (239.8)	- 5.5 (+ 7.2)	(o)	(o)	310 (310)	268.437 Sept. 26		Centre				(96.0)	(+ 6.9)	(o)	(o)	(o)
258.466 Sept. 16		Centre			(227.6)	(+ 7.2)	(o)	(o)	(o)	269.231 I. Sept. 27		Centre				(85.6)	(+ 6.8)	(o)	(o)	(o)
259.502 Sept. 17	TS, C	Centre	0.895	260.3	276.2 (214.0)	- 5.4 (+ 7.1)	(o)	(o)	133 (133)	270.428 Sept. 28		Centre				(69.7)	(+ 6.8)	(o)	(o)	(o)
260.348 I. Sept. 18		Centre			(202.8)	(+ 7.1)	(o)	(o)	(o)	271.510 Sept. 29		Centre				(55.5)	(+ 6.7)	(o)	(o)	(o)
261.619 Sept. 19	TS, C	Centre	0.942	275.7	256.8 (186.0)	+ 7.8 (+ 7.1)	(o)	(o)	242 (242)	272.180 I. Sept. 30		Centre				(46.6)	(+ 6.7)	(o)	(o)	(o)
262.446 Sept. 20	TS, C	Centre	0.961	118.0	106.7 (175.1)	- 24.3 (+ 7.1)	(o)	(o)	167 (167)	273.451 I. Oct. 1	TS, C	Centre	0.958	239.0	97.1	- 27.2				95
263.442 Sept. 21	TS, C	Centre	0.926	121.0	100.8 (162.0)	- 25.3 (+ 7.0)	(o)	(o)	385 (385)			Centre				(29.9)	(+ 6.6)	(o)	(o)	(95)
264.530 Sept. 22	TS, C	Centre	0.822	126.5	101.2 (147.6)	- 24.5 (+ 7.0)	(o)	(o)	82 (82)	274.533 I. Oct. 2	TS, C	Centre	0.924	98.4	309.2	- 5.2				227
265.509 Sept. 23		Centre			(134.7)	(+ 7.0)	(o)	(o)	(o)	275.472 Oct. 3	TS, C	Centre	0.780	103.1	313.7 (3.3)	- 6.0 (+ 6.5)				56 (56)
266.170 I. Sept. 24		Centre			(126.0)	(+ 6.9)	(o)	(o)	(o)	276.245 I. Oct. 4		Centre				(353.1)	(+ 6.5)	(o)	(o)	(o)

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculæ relative to the Spots with which they are associated are indicated by the letters *n, s, p, f, c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculæ are expressed in millionths of the Sun's visible Hemisphere.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).		
1900. 277 ^d .449 Oct. 5		Centre		°	°	(337.2)	(+6.4)	(0)	(0)	(0)	1900. 284 ^d .179 Oct. 12	TS, C	4942 4942 4942 Centre	0.975 0.922 0.913	263.4 262.5 262.1	° ° °	324.6 314.5 313.2 (248.3)	- 5.0 - 4.5 - 4.7 (+6.0)	0 8 0 (8)	34 25 11 (70)	447 ^c (447)
278.497 Oct. 6		Centre				(323.3)	(+6.4)	(0)	(0)	(0)	285.182 Oct. 13	TS, C	Centre	0.986	263.8	314.6	- 5.1 (+5.9)	(0)	(0)	96 (96)	
279.472 Oct. 7	TS, C	4942 Centre	0.910 0.192	262.7 203.3	15.1 314.8 (310.5)	- 4.0 - 4.1 (+6.3)		5 (5)	10 (10)	167 (167)	286.453 Oct. 14		Centre			(218.3)	(+5.8)	(0)	(0)	(0)	
280.466 Oct. 8	TS, C	4942 4942 Centre	0.391 0.332	242.8 238.6	317.6 313.7 (297.3)	- 4.5 - 4.0 (+6.2)	19 (31)	44 (70)		(0)	287.465 Oct. 15		Centre			(205.1)	(+5.8)	(0)	(0)	(0)	
281.464 Oct. 9	TS, C	4942 4942 4942 Centre	0.609 0.543 0.508	254.5 252.6 251.1	320.1 315.4 312.9 (284.2)	- 4.3 - 4.0 - 4.0 (+6.2)	18 0 11 (29)	51 4 27 (82)		(0)	288.262 Oct. 16	TS, C	4943 ^a Centre	0.984	95.9	115.6 (194.5)	- 4.8 (+5.7)	42 (42)	95 (95)	(0)	
282.183 Oct. 10	TS, C	4942 4942 4942 4942 4942 Centre	0.744 0.712 0.676 0.662 0.640	258.0 257.9 255.7 256.1 255.7	321.4 318.8 315.7 314.7 313.0 (274.7)	- 4.7 - 4.2 - 5.0 - 4.5 - 4.3 (+6.1)	18 0 3 0 9 (30)	57 12 18 9 21 (117)		(0)	289.512 Oct. 17	TS, C	4943 ^a 4944 4944 4944 4944 Centre	0.893 0.940 0.951 0.958 0.970	98.7 98.4 99.3 97.1 96.3	115.8 109.1 107.2 105.5 102.8 (178.0)	- 5.2 - 5.9 - 7.0 - 5.2 - 4.7 (+5.6)	26 17 0 20 46 (109)	103 67 22 80 138 (410)	311 ^c (311)	
283.462 Oct. 11	TS, C	4942 4942 4942 4942 Centre	0.919 0.894 0.850 0.833	262.0 261.9 261.1 261.0	323.6 320.2 314.9 313.2 (257.8)	- 4.9 - 4.5 - 4.3 - 4.1 (+6.0)	29 15 18 8 (70)	73 46 48 21 (188)	116 ^c	(116)	290.199 Oct. 18	TS, C	4943 ^a 4944 4944 4944 4944 4944 Centre	0.811 0.874 0.888 0.894 0.914 0.915 0.940	100.4 99.8 100.7 98.2 100.4 97.6 98.8	116.0 109.3 107.7 106.6 104.3 103.7 100.1 (169.0)	- 5.1 - 5.8 - 6.9 - 4.8 - 7.2 - 4.7 - 6.3 (+5.5)	28 13 9 24 0 40 6 (120)	93 56 38 72 11 188 25 (483)	733 ^c (733)	

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4942, October 7-12. On October 7 a small spot; on October 8 two spots; by the next day fresh spots have appeared preceding those seen on the first two days, and the group extends to considerable length.
 Group 4943, October 16-27. A large regular spot, *a*, with a forward movement in longitude. It has greatly decreased in size by October 24.
 Group 4944, October 17-28. An irregular group following group 4943; by October 21 a large composite spot, *a*, has been formed, which is henceforth seen either alone or with one or two small companions.

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

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

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 291 ^d .210	TS, C	4943a	0.659	104.4	115.9	- 5.3	29	102		1900. 295 ^d .172	TS, C	4943a	0.293	234.8	117.1	- 4.7	14	114	
		4943	0.678	103.2	114.3	- 4.9	0	3				4944a	0.231	211.0	110.1	- 6.3	27	157	
		4944	0.743	103.7	109.2	- 6.5	16	54				4944	0.212	202.7	108.0	- 6.2	7	17	
		4944	0.754	103.2	108.2	- 6.3	10	25		I.		4944	0.215	201.1	107.7	- 6.5	3	11	
	I.	4944	0.764	101.8	107.1	- 5.4	13	30				4944	0.165	185.6	104.2	- 4.3	3	13	
		4944	0.766	100.3	106.7	- 4.3	5	17		Oct. 23	Centre			(103.3)	(+ 5.1)	(54)	(312)	(0)	
		4944	0.776	99.8	105.7	- 4.1	0	5											
		4944	0.776	99.8	105.7	- 4.1	0	5											
		4944	0.801	103.8	104.1	- 7.7	0	4	94 ^f										
		4944	0.798	99.7	103.7	- 4.4	9	36											
		4944	0.810	102.1	102.9	- 6.6	0	4											
		4944	0.812	100.8	102.5	- 5.5	0	4		296.186	TS, C	4943a	0.489	250.5	117.3	- 5.0	9	30	
		4944	0.837	102.3	100.3	- 7.2	8	28				4944a	0.398	240.8	110.3	- 6.5	30	143	
Oct. 19		Centre			(155.6)	(+ 5.4)	(90)	(312)	(94)		I.	4944	0.372	237.3	108.2	- 6.8	3	11	
										Oct. 24	Centre	4944	0.311	237.4	105.1	- 4.8	2	7	
														(89.9)	(+ 5.0)	(44)	(191)	(0)	
292.155	TS, C	4943a	0.481	110.5	116.4	- 5.0	25	125		297.184	TS, C	4943a	0.673	256.6	117.9	- 5.3	11	29	
		4944	0.583	109.1	109.7	- 6.6	34	107				4944a	0.594	251.4	111.3	- 6.9	33	157	
		4944	0.589	106.6	108.8	- 5.3	27	119		I.		4944	0.565	249.5	109.0	- 7.2	6	19	
		4944	0.592	104.6	108.3	- 4.2	14	41				4944	0.513	247.7	105.3	- 6.9	5	10	
	I.	4944	0.630	106.2	105.9	- 5.9	0	3		Oct. 25	Centre			(76.9)	(+ 4.9)	(55)	(215)	(0)	
		4944	0.654	103.4	103.7	- 4.6	0	29											
		4944	0.670	104.8	102.7	- 5.8	0	3											
Oct. 20		Centre			100.6	- 7.1	8	18											
					(143.2)	(+ 5.3)	(108)	(445)	(0)	298.284	TS, C	4943a	0.835	260.7	118.1	- 5.1	10	23	48c
										I.	4944a	0.774	257.4	111.7	- 6.6	50	199	41c	
											4944a	0.765	255.5	110.6	- 7.8	3	8		
293.508	TS, C	4943a	0.225	139.9	117.0	- 4.7	30	108		Oct. 26	Centre			(62.4)	(+ 4.8)	(63)	(230)	(89)	
		4944a	0.326	126.1	110.0	- 5.9	49	185											
		4944	0.348	119.5	107.7	- 4.8	5	15											
		4944	0.410	116.4	103.7	- 5.6	6	15		299.212	TS, C	4943a	0.933	262.3	118.1	- 5.4	0	18	
Oct. 21		Centre			(125.3)	(+ 5.3)	(90)	(323)	(0)	Oct. 27	Centre	4944a	0.891	259.7	111.9	- 6.9	59	260	162f
														(50.1)	(+ 4.7)	(59)	(278)	(162)	
294.197	TS, C	4943a	0.170	183.0	116.7	- 4.4	24	100		300.518	TS, C	4944a	0.989	262.0	113.5	- 7.2	53	136	228f
		4944a	0.227	151.1	109.9	- 6.3	29	146		Oct. 28	Centre			(32.9)	(+ 4.6)	(53)	(136)	(228)	
		4944	0.246	144.1	107.9	- 6.3	2	6											
	I.	4944	0.228	139.8	107.7	- 4.9	4	9											
		4944	0.273	126.9	103.6	- 4.4	7	17		301.214	TS, C	4945	0.783	100.2	333.2	- 5.1	0	9	
Oct. 22		Centre			101.9	- 7.5	5	10				4945	0.804	100.2	331.2	- 5.5	0	9	
					(116.2)	(+ 5.2)	(71)	(288)	(0)	Oct. 29	Centre			97.0	319.6	- 4.4			315
														(23.7)	(+ 4.5)	(0)	(18)	(315)	

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Group 4945, October 29-30. Two small spots.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 302 ^d ·235	TS, C	4945	0·616	104·3	333·5	— 5·2	1	5		1900. 311 ^d ·426										
		4945	0·643	103·7	331·5	— 5·3	3	7		Nov. 8		Centre			(249·0)	(+ 3·4)	(0)	(0)	(0)	
I. Oct. 30		Centre	0·815	97·3	316·3	— 3·3	(4)	(12)	56 (56)	312·522		Centre			(234·6)	(+ 3·3)	(0)	(0)	(0)	
303·432 Oct. 31		Centre			(354·4)	(+ 4·3)	(0)	(0)	(0)	313·496		Centre			(221·8)	(+ 3·2)	(0)	(0)	(0)	
304·474 Nov. 1		Centre			(340·8)	(+ 4·2)	(0)	(0)	(0)	314·472		Centre			(208·9)	(+ 3·1)	(0)	(0)	(0)	
305·239 I. Nov. 2		Centre			(330·6)	(+ 4·1)	(0)	(0)	(0)	315·182 I. Nov. 12		Centre			(199·5)	(+ 3·0)	(0)	(0)	(0)	
306·202 I. Nov. 3		Centre			(317·9)	(+ 4·0)	(0)	(0)	(0)	316·324 I. Nov. 13	TS, C	4946	0·933	99·0	116·4	— 7·3	0	12	371c	
307·171 I. Nov. 4		Centre			(305·1)	(+ 3·9)	(0)	(0)	(0)			Centre			(184·4)	(+ 2·9)	(0)	(12)	(371)	
308·226 I. Nov. 5		Centre			(291·2)	(+ 3·8)	(0)	(0)	(0)	317·290 I. Nov. 14	TS, C	4946	0·830	100·4	116·6	— 7·0	4	10	241f	
		Centre										Centre			(171·7)	(+ 2·8)	(4)	(10)	(241)	
309·191 I. Nov. 6	TS, C	Centre	0·843	261·8	335·1	— 4·9			249	318·529 Nov. 15		Centre			(155·4)	(+ 2·6)	(0)	(0)	(0)	
		Centre			(278·5)	(+ 3·7)	(0)	(0)	(249)	319·200 I. Nov. 16		Centre			(146·6)	(+ 2·5)	(0)	(0)	(0)	
310·193 I. Nov. 7	TS, C	Centre	0·927	263·6	332·5	— 4·6			428	320·168 I. Nov. 17		Centre			(133·8)	(+ 2·4)	(0)	(0)	(0)	

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4946, November 13-14. A small spot.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).		
1900. 321 ^d .222 I. Nov. 18	TS, C	4947 4947 Centre	0'134 0'187	17.7 37.8	117.5 113.2 (119.9)	+ 9.6 + 10.7 (+ 2.3)	5 2 (7)	16 11 (27)	(o)	1900. 329 ^d .269 I. Nov. 26		Centre		o	o	(13.8)	(+ 1.3)	(o)	(o)	(o)	
322.218 I. Nov. 19	TS, C	4947 4947 4947 Centre	0.201 0.252 0.184	312.6 301.1 324.4	115.3 119.3 112.9 (106.7)	+ 10.0 + 9.6 + 10.8 (+ 2.2)	2 17 5 (24)	10 66 16 (92)	(o)	330.284 I. Nov. 27		Centre		o	o	(0.4)	(+ 1.2)	(o)	(o)	(o)	
323.212 I. Nov. 20	TS, C	4947 4947 4947 Centre	0.461 0.401 0.365	287.0 290.6 294.9	120.1 116.0 113.3 (93.7)	+ 9.6 + 10.0 + 10.8 (+ 2.1)	12 6 5 (23)	36 21 11 (68)	(o)	331.228 I. Nov. 28		Centre		o	o	(348.0)	(+ 1.1)	(o)	(o)	(o)	
324.191 I. Nov. 21	TS, C	4947 4947 Centre	0.650 0.569	281.9 285.3	120.7 114.5 (80.8)	+ 9.1 + 10.2 (+ 1.9)	20 7 (27)	78 16 (94)	(o)	332.187 I. Nov. 29		Centre		o	o	(335.3)	(+ 0.9)	(o)	(o)	(o)	
325.194 I. Nov. 22	TS, C	4947 4947 Centre	0.813 0.736	279.8 282.0	121.5 114.3 (67.5)	+ 9.0 + 10.0 (+ 1.8)	7 0 (7)	22 3 (25)	(o)	333.356 I. Nov. 30		Centre		o	o	(309.1)	(+ 0.7)	(o)	(o)	(o)	
326.446 Nov. 23	TS, C	4947 Centre	0.941 0.895	279.4 258.8	121.0 113.6 (51.0)	+ 9.4 - 9.2 (+ 1.7)	0 (o)	20 (20)	274 ^f 279 (553)	335.171 I. Dec. 2	TS, C	Centre	0.770	261.4	344.8	- 6.3	(296.0)	(+ 0.5)	(o)	(o)	33 (33)
327.191 I. Nov. 24	TS, C	Centre	0.929	93.4	333.3	- 2.6 (+ 1.6)	(o)	(o)	200 (200)	336.302 I. Dec. 3		Centre		o	o	(281.1)	(+ 0.4)	(o)	(o)	(o)	
328.216 I. Nov. 25	TS, C	Centre	0.881	93.8	326.2	- 2.7 (+ 1.4)	(o)	(o)	112 (112)	337.316 I. Dec. 4	TS, C	Centre	0.875	267.1	328.5	- 2.4	(267.7)	(+ 0.3)	(o)	(o)	44 (44)

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Group 4947, November 18-23. A long group of small spots; the leader is the largest and the most permanent.

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 338 ^d .287 I. Dec. 5	TS, C	Centre	0.960	268.5	328.5	- 1.4	(255.0)	(+ 0.2)	(0)	(0)	(169)	1900. 347 ^d .430 Dec. 14	Centre			(134.5)	(- 1.0)	(0)	(0)	(0)
339.278 I. Dec. 6		Centre			(241.9)	(0.0)	(0)	(0)	(0)	(0)		348.431 Dec. 15	Centre			(121.3)	(- 1.2)	(0)	(0)	(0)
340.204 I. Dec. 7		Centre			(229.7)	(- 0.1)	(0)	(0)	(0)	(0)		349.464 Dec. 16	Centre			(107.8)	(- 1.3)	(0)	(0)	(0)
341.217 I. Dec. 8		Centre			(216.3)	(- 0.2)	(0)	(0)	(0)	(0)		350.460 Dec. 17	Centre			(94.6)	(- 1.4)	(0)	(0)	(0)
342.206 I. Dec. 9	TS, C	Centre	0.974	80.4	127.5	+ 9.3	(203.4)	(- 0.3)	(0)	(0)	(324)	351.445 Dec. 18	Centre			(81.6)	(- 1.5)	(0)	(0)	(0)
343.451 Dec. 10		Centre			(186.9)	(- 0.5)	(0)	(0)	(0)	(0)		352.434 Dec. 19	Centre			(68.6)	(- 1.6)	(0)	(0)	(0)
344.184 I. Dec. 11	TS, C	Centre	0.842	105.8	121.0	- 13.6	(177.3)	(- 0.6)	(0)	(0)	(49)	353.364 I. Dec. 20	Centre			(56.4)	(- 1.8)	(0)	(0)	(0)
345.288 I. Dec. 12		Centre			(162.7)	(- 0.8)	(0)	(0)	(0)	(0)		354.450 Dec. 21	Centre			(42.1)	(- 1.9)	(0)	(0)	(0)
346.210 I. Dec. 13		Centre			(150.6)	(- 0.9)	(0)	(0)	(0)	(0)		355.305 M. Dec. 22	Centre			(30.8)	(- 2.0)	(0)	(0)	(0)
												356.359 I. Dec. 23	Centre			(17.0)	(- 2.1)	(0)	(0)	(0)

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

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

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

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.			
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).			
1900. 357 ^d .204 M ₁ Dec. 24		Centre		°	°	°	(5.8)	(-2.2)	(o)	(o)	(o)	1900. 361 ^d .191 I Dec. 28	Centre		°	°	°	(313.3)	(-2.7)	(o)	(o)	(o)
358 ^d .384 I Dec. 25		Centre			(350.2)	(-2.4)	(o)	(o)	(o)	362.460 Dec. 29	Centre				(296.5)	(-2.9)	(o)	(o)	(o)			
359 ^d .504 Dec. 26		Centre			(335.5)	(-2.5)	(o)	(o)	(o)	363.211 M. Dec. 30	Centre				(286.7)	(-3.0)	(o)	(o)	(o)			
360 ^d .164 I Dec. 27		Centre			(326.8)	(-2.6)	(o)	(o)	(o)	364.217 M. Dec. 31	Centre				(273.4)	(-3.1)	(o)	(o)	(o)			

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