

# Kodaikanal Observatory.

BULLETIN No. XXI.

## LIST OF PROMINENCES OBSERVED BETWEEN 1909 JULY 1 AND 1909 DECEMBER 31, WITH A SUMMARY FOR THE YEAR.

This list is a continuation of that published in Bulletin No. XIX., and contains all prominences recorded both visually and photographically during the second half of 1909.

The methods of observation and the observers are the same as for the last list.

The following table shows the number of days on which observations were made:—

										Days.
Complete visual observations	..	..	..	..	..	..	..	..	..	77
Partial do do	..	..	..	..	..	..	..	..	..	68
No do do	..	..	..	..	..	..	..	..	..	39
Complete spectroheliograph records	..	..	..	..	..	..	..	..	..	107
Partial do do	..	..	..	..	..	..	..	..	..	41
No do do	..	..	..	..	..	..	..	..	..	36

Date and observer	Hour I.S.T.	Base	Latitude		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°			
July 3. A.Y.S.	9 19 8 47 9 12 8 8 28 9 7 23 8 57 53	.. 2 1 4 2	65 53 30 13 72.5	. 25 24 31 31	E E E E W W W	15 25 20 20 ± 15 15 15 15	Faint. Slants southwards. Limb very unsteady. No prominence plates
July 4. S.S.	9 11 26 25 11 23 22 34	7 3 2 1 1	53.5 2.5 88	. 5 26 29.5 37.5	E E E E E W	30 30 30 30 20 20 10	Ca } Tops connected by a Cn streak. Ca. } } Tops connected in Ca. Observed through cirrus Seeing bad. Ca photograph (foculus) 9h 11m.
July 5. G.N.	8 47 50 34 34 30 47 47 47	.. 2 5 18 19 4	55 52 5.5 11	... 4.5 32.5 75.5 8	E E E E W W W	20 20 40 40, 55 60, 25, 30 15 35 40	Ca. Faint. Ca. Ca. Arches over, and joins limb again at — 4". Ca.



Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North.	South.			
1909.	H.	M.	°	°	°		"	
July 16.	S.S.	11 40	1	...	29 5	E	30	
—contd.		8 8	0 5		42	E	15	Ca.
		8 8	0 5		43	E	15	Ca.
		8 8	0 5		52	E	15	Ca.
		8 8			60 5	W	15	Ca.
		8 8			57 5	W	15	Ca.
		8 8			42	W	25	Ca.
		8 8	4		19	W	20	Ca.
		8 8			10	W	15	Ca Slants towards the next.
		8 8			5	W	10	Ca
		11 46	1	51 5		W	25 ±	Ca prominence 45" high, and extends from lat. + 48° to + 55° W. Seeing bad. Western quadrant not examined. Ca photographs 8 <sup>h</sup> 8 <sup>m</sup> and 8 <sup>h</sup> 19 <sup>m</sup> .
July 17.	...	10 16	.		41	E	30	Ca.
		16 16	6		39	E	15	Ca.
		16 16	1 5		35	W	20	Ca.
		16 16	2	1		W	20	Ca.
								Weather bad No visual observations. Ca photographs (focculus only), 10 <sup>h</sup> 16 <sup>m</sup> .
July 18.	A.Y.S.	8 21		81 5	..	E	15	Ca.
		24 24	1	62		E	20	Ca.
		42 42	14	36		E	40, 30, 20	Slightly changing.
		36 36		18		E	15	
		24 24		2		E	35	Ca Faint at 8 <sup>h</sup> 57 <sup>m</sup> .
		30 30	7		3 5	E	45	
		25 25	3		52	E	35	
		57 57			85		30	Ca. Seen only at 8 <sup>h</sup> 57 <sup>m</sup> .
		22 22			75 5	W	10 ±	
		50 50			38	W	10	
		24 24			24	W	10	Ca Faint.
		24 24			22	W	10	Ca. Faint.
		24 24	2		5	W	30	Ca.
		24 24		1		W	45	Ca. A detached cloudlet. See Note.
		17 17	3	7 5		W	10	
		14 14	1 5	33		W	30	
		14 14		35		W	30	
		12 12	0	41		W	40	} Connected in Ca.
		24 24		46		W	40	Ca.
		9 9		48 5		W	15	Ca.
		7 7		64 5		W	15	Ca photographs, 8 <sup>h</sup> 24 <sup>m</sup> and 8 <sup>h</sup> 57 <sup>m</sup> .
July 19.	S.S.	8 18	.	85	..	E	15	Ca.
		18 18		84 5		E	15	Ca.
		9 0		50 5		E	15	Ca. } Seen only at 9 <sup>h</sup> 0 <sup>m</sup> .
		0 0		44		E	10	Ca.
		8 41	1 5	39		E	30	
		39 39	1	30 5		E	25	
		36 36	1	2		E	25	
		18 18			4	E	25	Ca.
		34 34			10	E	15	A short streak parallel to limb.
		32 32	1		18	E	20	
		30 30	2		28	E	20	} Connected by Ca streaks.
		28 28			38	E	25	
		18 18	0 5		49 5	E	20	Ca. A streak from this slants up to - 43° E.
		9 3	5		40 5	W	60	
		8 18			26	W	35	Ca. Slants southwards.
		18 18	1		20	W	10	Ca.
		9 0	0 5		12 5	W	10	
		8 58	3	5 5		W	30	Narrow at top.
		51 51	2	54 5		W	35	A Ca streak from top meets limb at lat. - 50° W.
		50 50		57 5		W	10	Ca photographs 8 <sup>h</sup> 18 <sup>m</sup> and 9 <sup>h</sup> 0 <sup>m</sup> .
July 20.	G.N.	8 15	...	77	...	E	15	Ca.
		15 15		61		E	20	Ca. Two small jets.
		15 15		46		E	10	Ca.

Date and observer.	Hour L.S.T.	Base.	Latitude.		Limb.	Height.	Remarks
			North.	South.			
1909.	H. M.	°	°	°		"	
July 20. —contd.	G.N.						
	8 59	.	43	...	E	15	
	55	7	14.5		E	45, 80	
	52	0.5		10	E	20	Ca. Top bends to south.
	52	11		30.5	E	50	Connected to limb by three stems, and spreading outwards at top.
	47			42	E	20, 15	Two small jets.
	15			84	E	15	Ca.
	15			85	E	15	Ca.
	9 8	5		38.5	W	80, 80	A Ca streamer extends to lat. —46° W.
	8	1.5	12		W	15	
	8 15	1	7		W	30	Ca.
	9 2		0		W	10	
	9 2	3	12.5		W	20	
	8 15		20		W	15	Ca.
	15		23		W	10	Ca.
	15		31		W	15	Ca.
	15	5	53		W	35	Ca.
	15		82		W	10	Ca.
	15		85		W	20	Ca. Two small jets. Ca photographs 8h 15m and 8h 52m
July 21.	A.Y.S.	...	78		E	20 ±	Very faint.
	10		70.5		E	10	Ca.
	19		68.5		E	10	Ca.
	19	8	40.5		E	30	Ca.
	19		38		E	20	Ca.
	19		35		E	30	Ca.
	19		25		E	20	Ca.
	19	2	21		E	45	Ca.
	43	7	12.5		E	40, 20	80" high in Ca.
	38	1	4.5		E	25	A small Ca streak from this meets limb at + 1° E.
	38			12	E	20	} Tops connected in Ca.
	35			16	E	20	
	32	9		30.5	E	55	Top rather faint Top not continuous at 9h 26m, 45" and 80" high in Ca.
	26			48.5	E	20	
	24	1		84	E	10	
	19			85	W	15	Ca.
	19			79	W	15	Ca.
	19			76	W	15	Ca.
	9 22	7		41.5	W	40	50" high in Ca
	8 19			35	W	10	Ca.
	9 10	4		29	W	50	80" high in Ca.
	8 19			0	W	10	Ca.
	19		54.5		W	20	Ca.
	19		60.5		W	10	Ca.
	19		75		W	10	Ca. Ca photographs 8h 19m and 8h 45m.
July 23.	G.N.						
	13 10	4	...	16	W	30	
	5	1	33		W	60 ±	
	0	4	38		W	90 ±	Prominences observed only from — 55° W to + 85° W. No Ca photographs.
July 28.	A.Y.S.						
	10 5	1	53	...	E	15	} Connected in Ca.
	4	2	49.5		E	40	
	16		45.5		E	10	Ca.
	16		26		E	10	Ca.
	9 59	3	18.5		E	30	18" broad, 30", 10" and 20" high in Ca
	10 27		0.5		E	20	Almost detached Top flows northwards.
	16	4	3		E	20	Ca. Three prominences.
	9 41	1		14.5	E	25 ±	Nothing here at 10h 30m.
	10 16			41	E	10	Ca.
	9 34			57.5	E	10	
	10 16			34.5	W	10	Ca.
	16			34	W	10	Ca.
	16			33	W	10	Ca.
	16			32	W	10	Ca.
	17			19	W	10	

Date and observer.	Hour I S T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
July 28. —contd.	A.Y.S.	10		6	W	10, 20	
			1		W	20	Ca. } Faint streaks.
			4		W	45	
			5		W	30	Ca. }
		3	11.5		W	30	Very faint streaks in Ca.
		3	30.5		W	40	7° broad in Ca.
		1	57.5		W	15	Faint.
			60.5		W	10	
							Limb unsteady. Ca photograph, 10 <sup>h</sup> 16 <sup>m</sup> .
July 29.	G N	9	50.5		E	50	
		2	47.5		E	40	
				10	E	25	Ca. Jets.
		5		14.5	E	25	} Connected by a long Ca streak at top.
		2		26	E	15	
				50.5	E	15	Ca.
				25	W	45	Ca.
		1		9	W	45	
		1	31		W	25	Ca.
							Poor weather. Prominence plate (incomplete), 9 <sup>h</sup> 25 <sup>m</sup> .
July 30	A.Y.S.	9	48.5		E	40	Faint in Ca.
				8	E	10	
				10.5	E	80	± A very faint streak. 3° broad and 50" high in Ca.
		2		27	E	20	
				41.5	E	10	
				75	E	10	
		1		93	W	50	
				21	W	10	
		2		6	W	30	
			3		W	35	
			9		W	10	
		1	14.5		W	10	
		3	19.5		W	30	
			41.5		W	10	
							Passing clouds. Ca photographs (flocculus only), 7 <sup>h</sup> 50 <sup>m</sup> and 8 <sup>h</sup> 4 <sup>m</sup> .
July 31	G N	13	61.5		E	25	
			59.5		E	20	
		5	48		E	45	
			14		E	20	Ca.
		3	3		E	40	} A Ca streak connects the two prominences and extends to lat. +13°.
		1	1		E	40	
				80	W	10	Ca.
				78	W	30	Ca.
		1		31	W	45	
		1		28	W	30	Ca.
				12	W	20	
		8		4	W	30, 20	A Ca streak stretches over the top of the whole prominence, and meets limb at lat. -11°.
		6	23		W	20	Ca.
			30		W	15	Ca.
			48.5		W	10	Ca.
							Ca photographs, 13 <sup>h</sup> 31 <sup>m</sup> and 13 <sup>h</sup> 21 <sup>m</sup> .
August 2.	A.Y.S.	8	64.5		E	50	Ca.
			50.5		E	10	Ca.
			49.5		E	10	Ca.
		3	35.5		E	15	Ca.
			29		E	40	Ca. Detached.
		2		15.5	E	20	5° broad, and 50" and 35" high in Ca.
				39.5	E	10	
		2		60.5	E	15	Ca. A faint arch.
				71	E	20	Faint.
				72	E	20	Faint.
		5		8.5	W	75	Ca.
		16	39.5		W	45	Ca.
		9	55		W	20	Ca.
							Poor weather. Only part of S. E. limb examined. Ca photograph, 8 <sup>h</sup> 14 <sup>m</sup> .

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	n. m.	°	°	°		"	
August 3. G.N.	10 18	2	55.5	..	E	40	Only a small part of this was seen in C. Ca.  A Ca streamer extends to lat + 2° W. See Note. Ca. } Connected at top by a Ca streak. Ca photograph 10 <sup>h</sup> 11 <sup>m</sup> .
	11	3	32		E	20	
	2		26		E	20	
	2	2	22		E	80	
	0		7		E	20	
	9 56	3		12	E	40	
	53	3		38.5	E	20	
	10 18			49.5	E	20	
	13	6		32	W	75	
	10	10	12		W	80	
	10	3	21.5		W	00	
	11	1	33		W	20	
	7	2	36		W	30	
	7	2	39.5		W	30	
August 4. A.Y.S.	11 21	...	58.5	...	E	10	} 70" high at 11 <sup>h</sup> 18 <sup>m</sup> } See Note.  Ca. Slants westwards The prominence extends into the disc. Ca. Slants southwards. 3° broad in Ca.  Seeing poor. Ca photograph (good, flocculus) 8 <sup>h</sup> 21 <sup>m</sup> .
	9	3	30.5		E	55	
	10 0	4	28		E	55 ±	
	9 40		14		E	10	
	48			17	E	10	
	47	3		39	E	20	
	8 21			46.5	W	25	
	21			37	W	20	
	11 43	1		31.5	W	50	
	32		3		W	50	
26	4	28		W	10		
August 5. G.N.	8 18		30	...	E	15	Ca.  Ca. Ca.  } Connected at top by a Ca streak. Ca. Ca. Ca. Parts seen in C. Ca photographs 8 <sup>h</sup> 18 <sup>m</sup> and 8 <sup>h</sup> 5 <sup>m</sup> .
	40	1	72.5		E	20	
	45	5	57		E	30	
	42	10	29		E	50	
	39	3	13.5		E	20	
	18		5		E	15	
	18	6		3	E	15, 25	
	37	3		40	E	40	
	18			53.5	E	10	
	18			58.5	E	10	
	50	3		38.5	W	40	
	50	1.5		34	W	20	
	18			39.5	W	10	
	18	8		16	W	20	
18	18	9.5		W	60		
48	1	45.5		W	15		
August 6. A.Y.S.	8 2	12	55.5	...	E	75	Ca.  30" high in Ca.  Ca. Ca. Top flows westwards. Slants southwards. 50" high in Ca.  Seeing poor. Ca photograph (flocculus) 6 <sup>h</sup> 2 <sup>m</sup> .
	17		30.5		E	10	
	9 36		8		E	15	
	8 51		2		E	10 ±	
	40			10	E	10	
	2			16	E	20	
	3			44.5	E	20	
	2			49.5	W	15	
	31	2		37.5	W	30 ±	
	27			34	W	10	
	27			29	W	20	
	24		20.5		W	20	
	August 7. G.N.	8 32	9	53	...	E	
35			44.5		E	10	
35			14		E	20	
23		1	5		E	25	

Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.	
				North.	South.				
1909.									
August 7. —contd.	G.N.	8 20	2	..	11	E	15		
		20			18	E	30		
		35	5		18.5	E	20	Ca. Only a part was seen in C.	
		35			30	E	15	Ca.	
		35			35.5	E	15	Ca.	
		42	4		45.5	W	40		
		35			41.5	W	15	Ca.	
		35			37.5	W	20	Ca.	
		39	8		5	W	20		
		35		1		W	10	Ca.	
		35		6	24		W	10	Ca.
		37					W	40	
		Ca photographs 8h 35m and 8h 20m.							
August 8.	A.Y.S.	10 10	3	49	...	E	40		
		8	1	15		E	10	2° broad, and 25" high in Ca.	
		10			1	E	20	Ca.	
		6			7.5	E	15		
		9 37	3		22.5	E	45	See Note.	
		10 22			33.5	W	10	Ca.	
		22			33	W	15	Ca.	
		22			70	W	10	Ca.	
		41	8		42.5	W	40		
		22			35	W	10	Ca. Small thin streaks.	
		22			9	W	20	Ca.	
		36	1		5.5	W	10		
		34	2	25		W	25		
		34		29		W	25		
		34		34		W	15	Detached in Ca.	
		19	7	48		W	40		
22		52.5		W	10	Ca.			
12		83			Low	Bright. Seeing poor. Ca photograph 10h 22m (poor).			
August 9.	A.Y.S.	9 57	..	54.5	...	E	10	Ca.	
		10 13		60.5		E		No prominence. C displaced to red.	
		10	3	50		E	45		
		10	1	41.5		E	15		
		8		38.5		E	10		
		9 49	1	34		E	20		
		48	1	29		E	15		
		43		11.5		E	15		
		40		3		E	10		
		40	2		1	E	10		
		38			15	E	15 ±	Faint. 30" high in Ca.	
		36	1		24.5	E	30		
		57	8		31	E	20, 30	Ca.	
		34	0.5		36.5	E	20	Not in Ca.	
		26			51	E	10		
		57	10		44.5	W	10	Ca.	
		57	7		24.5	W	10	Ca.	
57			Equator.	W	20	Ca.			
57		12		W	25	Ca. Faint.			
11 1		20		W	10				
9 57		29		W	30	Ca.			
57		38.5		W	15	Ca.			
10 18	4		46.5	W	50	30" and 45" high in Ca. Seeing poor. Lat. + 50° W to - 87° E not examined. Ca photographs 9h 57m and 8h 0m (good, flocculus).			
August 10.	G.N.	8 25	..	78.5	...	E	10	Ca.	
		25		73		E	15	Ca.	
		25	10	49.5		E	50	Ca. Only a small part was seen in C.	
		7 57		38.5		E	30		
		8 51	13	26.5		E	15, 30		
		25		4		E	15	Ca.	
25	10		14	E	20, 40	Ca.			
25	2		22	E	15	Ca.			

Date and observer.	Hour L.S.T.	Base.	Latitude.		Lamb.	Height	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
August 10, —contd.	G.N.	10	..	33	E	80	
	8 48			47.5	E	10	Ca.
	25			57.5	E	10	Ca.
	25			69	E	10	
	25			79.5	W	15	Ca.
	25	5		56	W	15	Ca.
	25			51.5	W	20	Ca.
	25			49.5	W	10	Ca.
	25			40.5	W	10	Ca.
	25			38.5	W	20	Ca. A streak extending to lat. - 34° W.
	5	1		33	W	15	
	25			8.5	W	25	Ca. A detached streak overhanging 4° of limb.
	25	14		0	W	30, 40	Only a part seen in C.
	25			22	W	15	Ca.
	0	4		47.5	W	30	Archlike
56			59.5	W	10	Ca	
August 11.	A.Y.S.	...	74.5		E	15	Ca
	8 8		55		E	10	Ca.
	27		34		E	10	Ca.
	8	1	20.5		E	10	A low elevation from the base of this extends on both sides to lats + 30° and + 28° E in Ca.
	25						Ca. Detached.
	8		21.5		E	40	Ca. A streak connected to limb at + 13° 5' E.
	8		13.5		E	20	Ca.
	8	3	6.5		E	40	Ca.
	23		2		E	10	Ca.
	8			5	E	20	Ca.
	8	1		11	E	10	Ca.
	8			13	E	20	
	19			18	E	25 ±	Very faint. Not seen at 8h 18m, 4° broad and 55" high in Ca.
	9 0	1		18	E	25	Ca.
	8 8			21	E	15	Ca.
	17			28	E	10	
	17			31	E	10	
	9 7	7		36	E	45	Faint at 8h 12m.
	8 8			44.5	E	10	Ca.
	8 8			72	E	15	Ca.
	8 8			83	E	10	Ca.
	8 8			81	W	15	Ca.
	9 0			71	W	10	
8 59	1		40.5	W	15		
8 8			34.5	W	40	Ca. A streak slanting southwards 80" high in Ca, and brighter in it at 9h 19m than at 8h 18m.	
56	10		23	W	20, 10		
53	3		14.5	W	20	Ca. Faint and streaky	
8	3		1.5	W	30		
50	2	4		W	10	Ca. Faint and streaky.	
8	4	0		W	40		
48		19		W	10	Ca streaks from top arc 40" high.	
46	1	26		W	25		
40	7	48		W	30		
40		53.5		W	10	Ca	
8		54.5		W	10		
31	1	72		W	15	Ca photographs 8h 8m and 9h 19m.	
August 12.	G.N.	...	55.5		E	20	
	8 46	3	13.5		E	15	Ca.
	44		9		E	10	Ca.
	13	1	5		E	20	Ca.
	43		1		E	15	Ca. A streak extending to lat - 9° E.
	13			5	E	10	
	13	1.5		35.5	E	15	Ca.
	40			51.5	E	15	Ca.
	13	6		19	W	80	Ca A streak extending to lat. - 7°.
	13			4	W	45	
	46	2	6		W	10	
	49	6	46.5		W	40	Poor weather Ca photographs 8h 13m (poor) and 1h 23m, (Focculus, good.)



Date and observer.	Hour I.S.T	Base.	Latitude.		Limb.	Height.	Remarks.
			North	South.			
1909.	H. M.	°	°	°		"	
August 14. A.Y.S.	9 47	..	40.5		E	10	
	8 35		25		E	30	Ca.
	10 10	2	9		E	45	See Note
	9 4	5	0.5		E	20	
	8 51			31.5	E	10 ±	
	10 5			32	W	10	
	9 59			1	W	30	} Tops connected in Ca.
	57	1	15		W	30	
	54	1	85		W	30	
	51		53.5		W	15 ±	
	50		71		W	15	
							Sky very bright. Ca photographs (focculus only) 8h 35m, 8h 28m and 8h 49m.
August 16. A.Y.S.	8 40	...	35.5	..	E	20	30" high in Ca.
	30	1.5	30		E	30	} Connected, and 50", 40" and 30" high in Ca.
	36	2	26		E	30 ±	
	36		24		E	10	
	31	1.5	20.5		E	20	
	27	1	14.5		E	40	Top broader.
	22		10		E	30	Ca.
	22	4		24	E	30	} Connected in Ca.
	22	4		28	E	30	
	22			33.5	E	15	Ca.
	9 0	2		39.5	W	35	
	8 22			21	W	10	Ca.
	51	2	9		W	20	See Note.
	48		20		W	15	
	22		40.5		W	20	Ca. } Tops meet.
	9 19		49.5		W	20	Ca. Faint.
	8 22		51.5		W	20	Ca. Faint.
	22		53.5		W	15	Observed through cirrus. Ca photographs 8h 22m and 7h 58m focculus.
August 17. G.N.	8 38	...	78	...	E	10	
	38		77		E	10	
	37		48.5		E	15	
	35		38.5		E	20	
	35	1.5	30.5		E	45	} Joined at top. A Ca streak extends from this to lats. + 34° and + 21°.
	35	2.5	27		E	45	
	32	2	15		E	40	Ca streaks connect this with the last prominence, and also to the next one.
	33	1	12		E	15	Ca, top extends to lat. + 7° E
	31	0.5	4		E	30	} Tops connected by a Ca arch.
	31	0.5		1	E	30	
	30	0.5		1.7	E	30	Ca streaks extend from this to lat. - 11° E.
	27	6		31	E	40, 65	Ca streaks cross the top of the prominence.
	33			73.5	E	10	Ca.
	33			80	E	10	Ca.
	33			82	W	30	Ca.
	33			53.5	W	15	Ca.
	33			53.5	W	10	Ca.
	52	4		38.5	W	30	
	49			13	W	45	In Ca it arches over the limb extending to lat. - 25°.
	33			14	W	20	Ca. Detached.
	47			10	W	15	
	46			2	W	10	
	45	3	25		W	75	See Note.
	33		43.5		W	10	Ca.
	42	8	51.5		W	25	Ca photographs 8h 33m and 8h 6m.
August 18. A.Y.S.	8 20	..	80	...	E	15	
	26		79.5		E	15	
	23		37.5		E	10	
	32		34.5		E	25	Ca. A thin streak meeting the last prominence.
	21	8	23		E	25	
	19	6	10		E	30	There is a low elevation in Ca connecting the base of this with the base of the last.





Date and observer.	Hour L.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North.	South.			
1900.	H.	M.	°	°	°		"	
August 25	...	7 50 50 50 50 50	4    6	40.5    5 53.5	 8 16 8	E E E W W	25 40 10 20 40, 15, 10 20	Ca. Ca. Top bent. Ca. Ca. Ca. No visual observations. Ca photograph (focculus) 7h 50m.
August 26.	A.Y.S.	10 7 8 41 23 8 21 20 8 10 8 9 48 8 8 8 9 57 8 8 8 10 5	.. 1.5  3  8  4	40.5 44.5 37 8   3 64 79.5 81.5	   3.5 15 17 27.5 80 56.5 44.5 39.5	E E E E E E E E E W W W W W W	10 30 20 ± 10 25 10 45 25 10 15 20 10 30 10 20	Faint. 30" high in Ca Only a small streak 20" high at 10h 12m. Ca. C slightly displaced to red at base Ca Ca. Ca. Ca. Observed through passing clouds Ca photograph 8h 8m.
August 27.	G.N.	8 35 35 30 30 30 25 25 25 47 45	1 1 2 3 2 2 2 1.5 1 1	83 82.5 51.5 48.5 7   12	     8 8 18 42.5	E E E E E E E E W W	15 15 30 20 50 60 60 30 30 30 15	Ca. Ca. Ca. Ca. Tops connected in Ca Ca. Ca photographs 8h 30m 8h 40m and 9h 24m.
August 29.	G.N.	9 18 8 22 20 18 17 9 18 8 37 35 9 13 8 30 9 13	1 3.5 1 1 3 3 4 24	83 52.5 24    22 82.5	...   15 24 40.5 30.5 18 19.5	W E E E W W W W W W	20 50 10 15 30 30 25 10, 15 30 85 20	Ca. Ca. Ca. Ca. A number of small jets. See Note. Ca. Ca photographs 9h 13m and 9h 4m.
August 30.	A.Y.S.	10 49 49 50 49 49	3 2 4	50 .5 11	...  5 31.5	E E N W W	40 25 25 ± 45 30	Ca. Ca. 10" only in Ca. Ca. Ca. Only part of the limb examined. Ca photographs (focculus only) 10h 49m and 10h 53m (incomplete).
September 1.	..	10 40 40 40 40 40 40 40 40 40	...  2  4  2	52.5 50.5 48.5 30.5 27 23  30 37.5 54.5 48.5	..    30 37.5 54.5 48.5	E E E E E E E E E E W	15 15 10 30 10 15 50 35 15 45	Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Faint stems at - 28° and - 32°. Ca. Ca.

Date and observer.	Hour I.S.T.		Base.	Latitude.		Lamb.	Height.	Remarks.
				North.	South.			
1909.	H.	M.	°	°	°		"	
September 1. ... —cont'd.	10	40	.	.	23	W	10	Ca.
		40			19	W	15	Ca.
		40			19	W	45	Ca. Top bends, and extends to + 30°.
		40			28	W	45	Ca. Top bends, and extends to + 32°.
		40			31.5	W	20	Ca.
		40			30.5	W	30	Ca. Faint. No visual observations. Ca photographs (focculus only) 10 <sup>h</sup> 40 <sup>m</sup> and 10 <sup>h</sup> 42 <sup>m</sup> .
September 4. S.S.	10	38	2	..	1	E	10	
	9	59	5		22.5	E	25	Ca. An arch.
	10	24			42.5	E	20	
		20			71.5	E	15	
	9	59			50.5	W	10	Ca.
		59			55.5	W	10	Ca.
		59	2		52.5	W	15	Ca.
		59	4		40.5	W	40	Ca. S E. quadrant only was examined visually. Ca photograph (focculus) 9 <sup>h</sup> 59 <sup>m</sup> (Poor).
September 5. G.N.	8	52	.	82	...	E	15	Ca.
		52		79.5		E	10	Ca.
		52		70		E	15	Ca.
		52		68		E	10	Ca.
		52	4	52		E	30	Ca. Part seen in C.
		55		44.5		E	15	Ca.
		52	4	30.5		E	45	Ca.
		52		28		E	15	Ca.
		52		18		E	30	Ca.
		52	1	9		E	30	Ca. Streamers from top extend to } Connected at lats. + 18° and + 2°. } top by Ca streaks.
		35		5		E	15	
		35	2.5	1		E	45	
		52			3	E	10	Ca.
		52	3		5.5	E	40	Ca. An arched streak
		52	1		8.5	E	45	Ca.
		52			10	E	10	Ca.
		52	2		22	E	40	Ca. Top extends to lat. - 27°.
		32	2		20	E	50	
		52			33.5	E	10	Ca.
		52			35.5	E	10	Ca.
		32			37.5	W	10	
		52	3		45	E	30	Ca.
		52			52.5	E	10	Ca.
		52			55.5	E	10	Ca.
		52			59.5	E	15	Ca.
		52			61	E	10	Ca.
		59			62	E	10	
		59			62.5	E	10	
		52			62	W	10	Ca.
		52			61.5	W	10	Ca.
		52			77	W	15	Ca.
		8			64	W	15	Ca.
		55	11		47	W	45	
		55			34.5	W	20	
		52	2		24	W	25	Ca streaks connect the tops of all these promi- nences.
		50	10		11	W	45	
		48			1	W	20	
		52			15	W	30	Ca
		52			24	W	15	Ca.
		52			26	W	15	Ca.
		52	3		33	W	20	Ca.
		44			44.5	W	20	
		44	3		48	W	25	
		44			65	W	40	
		8	2		74	W	20	Ca.
		8			81	W	15	Ca. Ca photographs 8 <sup>h</sup> 52 <sup>m</sup> and 8 <sup>h</sup> 8 <sup>m</sup> .

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	n. m.	°	°	°			
September 6. A.Y.S.	9 14	...	59.5	...	E	10	
	18	...	56.5	...	E	20	
	12	...	40.5	...	E	15 ±	
	10	2	28	...	E	40	
	8	1	15	...	E	10	
	1	...	4	...	E	140	Ca. See Note
	7	...	...	10	E	30	
	4	5	...	32	E	50	
	1	...	...	46.5	E	15	Ca.
	10 10	2	...	51.5	E	35	Not seen at 9h 0m
	9 0	1	...	59	E	10	
	10 7	...	...	78	E	10	
	9 48	15	...	42	W	75, 45	
	4 4	7	...	21.5	W	40	
	1	6	...	10	W	25	
	39	4	...	11	W	15	Ca.
16	2	...	48.5	W	90		
			60	W	25	Ca photographs 9h 1m and 8h 26m.	
September 8. G.N.	10 38	...	22	...	E	35	Ca. Very faint.
	38	...	11	...	E	50	Ca. Top bends, and extends to + 15°. Faint.
	38	7	...	3.5	E	75	Ca. Two streaks joined at top.
	29	1	...	37.5	E	30	See Note.
	38	...	...	45.5	W	10	Ca.
	38	9	...	36	W	50	Ca.
	38	10	...	21	W	20	Only part seen in C.
	38	...	...	5	W	30	Ca. A detached streak.
	4	...	48.5	W	50	Seeing bad. Ca photograph 10h 38m.	
September 9. A.Y.S.	9 4	...	81.5	...	E	10	Ca. Seen only at 9h 4m.
	8 50	...	78	...	E	20 ±	
	40	...	68	...	E	10	Ca.
	40	...	61	...	E	10	Ca.
	40	...	60	...	E	10	Ca.
	45	...	53	...	E	15 ±	
	40	...	38.5	...	E	10	Ca.
	42	...	38.5	...	E	10	
	40	...	28	...	E	10	Ca.
	40	...	25	...	E	15	Ca.
	40	...	18.5	...	E	10	
	87	15	...	3.5	E	60, 15	45" high in Ca
	40	...	...	19	E	10	Ca.
	31	2	...	24	E	15	
	30	...	...	30	E	10	
	30	...	...	31	E	10.	
	0 4	...	...	32.5	E	15	Ca. Seen only at 9h 4m.
	8 20	...	...	40.5	E	20	10" high in Ca. This is continued on disc in the focculus plate.
	27	...	...	50.5	E	10	
	27	...	...	52.5	E	10	
	9 4	...	...	60	E	15	Ca. Seen only at 9h 4m.
	8 40	...	...	64	E	10	Ca.
	40	...	...	68	E	10	Ca.
40	...	...	73.5	E	10	Ca.	
40	...	...	77	E	10	Ca.	
40	...	...	81	E	15	Ca.	
9 4	1	...	48.5	W	15	Ca. Seen only at 9h 4m	
10	1.5	...	27	W	15		
8	3	...	18	W	20	12" broad, and 10" and 20" high in Ca.	
6	...	...	9	W	10		
8 40	...	...	2	W	10	Ca	
40	...	...	3	W	10	Ca.	
9 4	...	...	11	W	15	Ca. Seen only at 9h 4m.	
4	...	...	22	W	15		
0	13	...	50	W	15, 30 ±	A portion of this is rather faint. Certain Ca streaks from top are 90" high.	
8 57'	...	...	58.5	W	10		



Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North	South			
1909.	H.	M.	°	°	°		"	
September 13. S.S. —contd.	11	37	2	..	26	W	40	} Tops connected in Ca. Ca. Ca. Observed through thin cirrus. Ca photograph. 11h 17m.
		34	1	47.5		W	40	
		34	1	50.5		W	40	
		34	1	52.5		W	60	
		34		54.5		W	10	
		17		78.5		W	10	
		17		79.5		W	10	
September 14. G.N.	8	0	4	80	...	E	15	Ca.
		0		60		E	10	Ca.
	9	7		56.5		E	15	Ca.
		7		42.5		E	15	Ca.
	8	40	1	39		E	15	Ca.
	9	7		34.5		E	15	Ca.
		7		28		E	20	Ca.
		7		20		E	40	Ca.
		7		14		E	40	Ca.
		7			15	E	15	Ca.
	8	36	3		34	E	30	Ca.
	9	7	2		46.5	E	30	Ca.
		8			71.5	E	10	
		7			81	W	10	Ca.
		7			78	W	20	Ca.
	8	0			49.5	W	10	Ca.
	9	7			44.5	W	15	Ca.
		7			33.5	W	20	Ca.
	8	0			15	W	120	Ca. Faint wisps extending to lat. - 27°. Lower part only visible at 9h 7m.
	9	7			5	W	30	Ca.
	8	59			2	W	30	See Note.
		5	2	2		W	20	
	9	7	6	26		W	30	Ca. Ca photographs 9h 7m and 8h 0m.
September 15. A.Y.S.	9	6	1	82	..	E	20	
	8	49		76		E	20	Ca.
		49		74.5		E	10	Ca.
		49		70		E	15	Ca.
		24		57.5		E	10	
		49		50.5		E	20	Ca.
	9	1	4	16		E	30	See Note
	8	57	1	Equator.		E	10	
		49			14	E	30	Ca. A very faint thin streak arching over 12° of limb.
		49			30	E	20	Ca. Faint.
		12	5		36	E	30	
		53			64	E	20	
		49			73.5	W	10	Ca.
		49	5		26.5	W	15	Ca.
		45	1		11.5	W	15	
		41	2		5	W	15	Bright. 25" high at 9h 11m.
		40	5	4.5		W	30, 20	Two small arches.
		34		10		W	10	
	9	10	1	27		W	30	
	8	49		39.5		W	10	Ca.
		49		47.5		W	10	Ca.
		29	3	53		W	30	Continued on disc in the focculus plate.
	9	8		68		W	25	10" only in Ca.
	8	49		73.5		W	10	Ca.
		49		76.5		W	10	Ca.
		49		81		W	10	Ca. Ca photographs 8h 49m ; (focculus) 8h 43m.
September 16. S.S.	8	5	..	82	...	E	15	Ca.
		5		78.5		E	15	Ca.
		5		75.5		E	10	Ca.
	9	2		51.5		E	20	
	8	5		46.5		E	15	Ca.
		59	2	22		E	40	
		5	2	18		E	20	Ca.



Date and observer.	Hour L.S.T.	Base	Latitude.		Lamb.	Height.	Remarks.
			North.	South.			
1908.	H. M.	°	°	°		"	
September 16. S.S. —contd.	8 5 57	1	14 8	...	E E	15 15	Ca. Ca prominence is 50" high, and extends from +8° to +11° E.
	5	1	3.5		E	20	Ca.
	55			4.5	E	10	
	9 42	1		12	E	15	Bright.
	8 5			21	E	15	Ca. Slants southwards.
	50			27	E	15	
	45	2		35.5	E	35	} See Note.
	38			40.5	E	35	
	5	3		42	E	25	Ca. Faint
	5			48.5	E	10	Ca.
	5			76	E	15	Ca.
	35	1		78	E	15	
	5	0.5		82.5	E	15	Ca
	5			79.5	W	10	Ca
	5			70.5	W	10	Ca.
	5	0.5		64	W	10	Ca.
	5	0.5		57.5	W	10	Ca.
	5	0.5		54.5	W	10	Ca.
	9 34	0.5		49.5	W	20	
	33	1		35.5	W	10	
	20	1		12	W	50	} Connected by a long and irregular Ca strip extending from -20° W. to +13° W.
	25	1	1.5		W	30	
	28	1.5	5.5		W	30	
	8 20		17		W	15	Ca. Seen only at 8h 20.
	9 10	2	33.5		W	50	
	8 5		45.5		W	15	Ca.
	9 15	5	58		W	45	Continued inside disc for 60" on the Ca flocculus plates.
	8 5	0.5	61		W	10	Ca.
	5	0.5	67		W	10	Ca.
	5	2	73.5		W	25	Ca Three short streaks close to one another.
	9 8		81		W	25	There was only a slanting streak 15" high at 9h 12m.
							Ca photographs 8h 5m and 8h 20m.
September 17. ...	8 34		...	6	E	15	Ca.
	34			18	W	15	Ca.
	34		38.5		W	30	Ca
	34	2	50.5		W	30	Ca. Faint.
	34	5	55		W	20	Ca.
							No visual observations.
							Ca photograph (flocculus) 8h 34m.
September 18. A.Y.S.	8 12	...	88	...	...	10	Ca.
	12	3	79		E	10	Ca. Three small prominences.
	10	2	70.5		E	10	
	9	5	59		E	30	
	12		54.5		E	20	Ca. Faint.
	8		50.5		E	10	
	12		39.5		E	10	Ca.
	7	2	37.5		E	30	
	12		24		E	15	Ca
	5		19		E	10	
	12		8		E	15	Ca.
	4	2	2		E	15	Ca. 15" and 25" high in Ca.
	0	3		9.5	E	60	A streamer from this flows southwards.
	12			11	E	25	Ca.
	32			20	E	15	Ca. Seen only at 8h 32m.
	32			35.5	E	30	Ca do. do.
	7 58			43.5	E	15	
	57	3		47	E	50, 35	
	55			56.5	E	20	Slants eastwards. 40" high at 8h 12m, and 10" at 8h 32m in Ca.
	8 12	2		79.5	E	10	Ca.
	12			88	...	30	Ca.
	12			82.5	W	15	Ca.
	27			78	W	10	
	28			72.5	W	10	
	32			70.5	W	45	Ca. Seen only at 8h 32m.
	12			64	W	10	Ca.
	12			58.5	W	10	Ca.

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1900.	H. M.	°	°	°		'	
September 18. A.Y.S. —contd.	8 12	..	...	48.5	W	10	Ca.
	12			44.5	W	10	Ca.
	23	1		38	W	10	Ca. slightly displaced to red.
	22			28	W	10	
	22			24	W	15	
	12			7	W	25	Ca. A thin streak slanting southwards.
	12			4	W	10	Ca.
	20	1	12		W	20	
	20	5	24.5		W	20, 10	Faint.
	12		33.5		W	15	Ca.
	18	4	38.5		W	25	Top faint. 50" high in Ca.
	12		42.5		W	10	Ca.
	15	8	51.5		W	60	A Ca streak from top flows to + 61°W.
	12		66		W	10	Ca.
	12	8	75		W	10	Bright.
11	2	81		W	10	( ) slightly displaced to red. 15" and 30" high in Ca.	
	12		88		W	10	Ca. Numerous minute jets of 10" and less all round disc. Ca photographs 8h 12m and 8h 32m.
September 19. S.S.	8 51	4	77	...	E	15	Ca.
	51	4	69		E	10	Ca.
	9 11	6	56.5		E	55	
	7	4	35.5		E	35	
	4	1	28		E	40 ±	Faint.
	2		20		E	25	Faint. There was a short bright streak at base. } See Note.
	8 51	0.5	8		E	10	Ca.
	59	2		6	E	60	
	58			11	E	10	
	57	3		15	E	40	
	54	1.5		20	E	30	
	52	1		25	E	30	
	46	3		46	E	30	
	44			52.5	E	10	
	42	2		61	E	15	Double Faint.
41	0.5		63	E	15		
51	0.5		78.5	E	10	Ca	
9 35	2		30	W	25	Ca prominence is 90" high and extends from — 20° to — 34° W.	
	31	1.5		7	W	20	
	29		14		W	20	Ca prominence extends to + 9° W.
	26	2	28		W	65	Slants to + 21° W.
	23		38.5		W	25	
	23	2	42.5		W	60	} Connected in Ca.
	19	7	52		W	50	Ca photographs 8h 51m and 9h 20m.
September 20. G N.	8 28	1	70.5	..	E	15	Ca.
	43	4	54.5		E	70	
	28	5	35		E	40	Ca.
	28	10	28		E	110	Ca.
	28		1		E	20	Ca.
	36	18		19	E	40, 65	
	28			30	E	10	Ca.
	30	8		42.5	E	40	
	28			71.5	E	20	Ca.
	28			78.5	E	10	Ca.
	28			43.5	W	180, 180	Ca. See Note.
	28	2		35.5	W	40	Ca.
	28			30	W	15	Ca.
	52			27	W	10	
	50	2	7		W	15	
48	9	26.5		W	65		
47	2	43.5		W	30		
45	8	52.5		W	45		
							Ca photographs 8h 28m, 8h 40m, and 9h 21m.





Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	"	"	"	"	"	
September 26. G.N. —contd.	8 48	2	..	78.5	W	15	Ca.
	9 2	5		81	W	25	
	0			89	W	30	
	8 48	2		28	W	15	Ca. Extends to lat. — 35°.
	48			14	W	45	
	48			11	W	15	
	45		13		W	15	
	45	5	18.5		W	20	
	42	1	28		W	20	
	42	2	27		W	45	A Ca streamer extends from the top to lat. + 22°.
	48		29		W	10	Ca.
	40		54.5		W	20	A Ca streamer extends } to + 50°. } Connected in Ca.
	40		57.5		W	20	
	40	2	61		W	20	Ca photographs 8h 48m and 9h 28m.
September 27. A.Y.S.	8 4	1	69.5		E	20	Ca.
	45		65.5		E	10	
	44	5	51		E	45	
	39	6	28		E	80, 75	
	35		11		E	10	Faint.
	4		1		E	40	Ca. Slants northwards.
	4		Equator.		E	15	Ca. A detached dot.
	34	2	1		E	15	
	34		5		E	10	
	30	1	11		E	15	
	29	2	18		E	30	Slants southwards.
	25	6	30		E	35	
	24	2	34.5		E	20	
	23		39.5		E	10	
	23		44.5		E	10	
	21		53		E	10	
	20		60		E	10	
	4	1	83		W	45	Ca.
	4	0.5	79.5		W	15	Ca.
	4		72.5		W	20	Ca. Faint.
	0 4	10	38.5		W	45	Two prominences with tops connected.
	2		27		W	15	
	1		25		W	10	
8 58	5	10.5		W	40	Faint. } Connected in Ca.	
54		5		W	25		
52	1	29		W	20		
51	1	30		W	10		
51	1	38.5		W	20		
48		54.5		W	15	Faint. } Connected by Ca streaks, 50" high.	
17	2	64		W	30	Ca photographs 8h 4m and 8h 21m.	
September 28. S.S.	8 4	1	88	...	E	10	Ca.
	4		75.5		E	15	Ca.
	4		78		E	10	Ca.
	9 19	4	49.5		E	50	
	8 4		83		E	15	Ca.
	4		32		E	15	Ca.
	9 14	2	25.5		E	40	Ca prominence was 50" at 8h 4m, and 75" at 8h 14m.
	8 14		10		E	20	Ca. Seen only at 8h 14m.
	9 12	2	5.5		E	15	
	12		Equator.		E	10	Two Ca streaks 30" high slant from it.
	9		5.5		E	35	
	7		9		E	10	
	5	1	12		E	25	Metallic. The whole prominence was visible in D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> , b <sub>3</sub> , b <sub>4</sub> . Slants to — 31° E.
	2	4	19		E	60	
	2	1	27		E	25	
	11 18		53		W	10	
10 40		89.5		W	30	Detached. } Connected.	
40	1.5	35.5		W	40		
40	1.5	31		W	10		
8 4		20		W	15	Ca. Faint.	

Date and observer.	Hour I S.T.	Base.	Latitude.		Limb.	Height	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
September 28. S.S. --cont'd.	10 3	.	...	17 5	W	10	} Connected in Ca.
	8 0	7		1 5	W	50	
	8 4		9		W	15	
	4 4		27		W	10	
	9 36	1 5	39 5		W	45	Ca.
	8 4	0 5	56 5		W	10	Ca.
	4 4	0 5	88		W	10	Ca.
	4 4		75 5		W	10	Ca.
							<i>See Note.</i>
							Seeing poor Ca photographs 8 <sup>h</sup> 4 <sup>m</sup> and 8 <sup>h</sup> 14 <sup>m</sup> .
September 30. A.Y.S.	9 38	11	52		E	30, 15, 40	Ca. 3 faint prominences joined at top.
	54	2		1	E	20	} Connected by Ca streaks.
	54			12	E	15	
	52	2		15	E	15	
	40	3		34	E	10	Very faint 70" high in Ca.
	23			41 5	E	15 ±	
	38			53 5	E	15	Ca.
	38			38 5	W	15	Ca.
	46	1		20	W	10	
	45	1		11 5	W	20	
	41			6	W	20	} <i>See Note 1.</i>
	41	6		2	W	60	
	10 5		52 5		W	Low	Bright. Seeing poor. <i>See Note 2.</i>
October 1. S.S.	9 22	1	55		E	45	
	10	0 5	38 5		E	10	
	17	1	21		E	40	Two Ca streaks flow from it, one of them meeting limb again at + 24° E
	10	3	13 5		E	30	
	12	3		12 5	E	10	<i>See Note.</i>
	59			34 5	E	15	
	59	0 5		38 5	E	30 ±	
	0			58	E	10	
	51	2		43 5	W	10	Faint in Ca.
	17	1		18	W	15	Ca. Faint Continued on disc.
	46	1		1 5	W	15	A Ca streak, 75" high, goes up from its southern end. Seeing bad. Ca (focculus plates) 9 <sup>h</sup> 17 <sup>m</sup> and 8 <sup>h</sup> 58 <sup>m</sup> .
October 2. G.N.	9 28	3	51 5	...	E	20	Ca.
	28		30 5		E	10	Ca.
	4	1	30		E	25	
	0		21		E	30	
	28	18	18		E	45, 105,	Ca Continuous. Bright. Only part seen in C at 9 <sup>h</sup> 0 <sup>m</sup>
	28	5		11 5	E	40	Ca. Arching over the limb.
	28	3		19 5	E	30	Ca.
	8 50	7		32 5	E	15, 30	
	9 28			79	E	15	Ca.
	28			53 5	W	15	Ca.
	28			51 5	W	15	Ca.
	28	4		47 5	W	20	Ca.
	5	1		37 5	W	20	
	7			26 5	W	10	
	28			15	W	30	Ca Slants, and meets the top of the next prominence.
	28			8	W	30	Ca.
28		4		W	25	Ca.	
28		6		W	75	Ca.	
28		10		W	40	Ca.	
28		81		W	50	Ca Ca photographs 9 <sup>h</sup> 28 <sup>m</sup> and 9 <sup>h</sup> 18 <sup>m</sup> .	
October 3. ...	11 3	.	60	..	E	20	Ca.
	3	6	30		E	40	Ca.
	3	2	8		E	20	Ca.
	3	6		34 5	E	20, 60	Ca.
	3	6		49 5	W	45	Ca.

Date and observer.	Hour L.S.T	Base.	Latitude		Limb.	Height.	Remarks.
			North.	South			
1909.	H. M.	°	°	°		"	
October 3. ...	11 3		...	39°5	W	30	Ca.
—contd.	3	7		32°5	W	40	Ca. Thin streaks.
	3	7		24°5	W	30	Ca.
	3	2		15	W	30	Ca.
	3			2	W	15	Ca.
	3	9	8°5		W	50	Ca.
	3		19		W	10	Ca.
	3		29		W	30	Ca. Faint. Top bends westwards.
	3	3	41		W	25	Ca.
	3		54°5		W	10	Ca.
	3		88°5		W	25	Ca.
							No visual observations. Ca photograph 11 <sup>h</sup> 3 <sup>m</sup> . (Incomplete.)
October 4. S.S.	8 52	...	57°5	...	E	10	
	47	1	28°5		E	25	70" high in Ca.
	10 14	2	12		E	45	Ca. Three faint streaks.
	8 42	5	2°5		E	20	See Note.
	10 14	3		4°5	E	30	Ca. Three faint streaks.
	14			11	E	35	Ca. Faint.
	8 38			17	E	10	
	38	1		18	E	10	
	9 26			75°5	E	10	
	10 14			57°5	W	10	Ca.
	9 16	4		44°5	W	45	Double. Slant southwards.
	13	1		25°5	W	15	} Connected and 40" high in Ca.
	13	2		22	W	25	
	8			6	W	15	
	10 14	2	9		W	45	Ca.
	9 6		20		W	55	
	5		24		W	45	Detached.
	2	1°5	41°5		W	40	Faint. Seen in Ca only at 8 <sup>h</sup> 21 <sup>m</sup> .
	8 21		48°5		W	60	Ca. Seen only at 8 <sup>h</sup> 21 <sup>m</sup> . Ca photographs 10 <sup>h</sup> 14 <sup>m</sup> and 8 <sup>h</sup> 21 <sup>m</sup> .
October 5. G.N.	8 18	...	69	...	E	10	Ca.
	18	7	57		E	30	Ca.
	18		46°5		E	15	Ca. Faint.
	18		30		E	40	Ca.
	18	7	23°5		E	105	Ca.
	45	6	15		E	25	
	43	2	10		E	15	
	18		5		E	20	Ca. Faint.
	40		2		E	10	
	40			4	E	10	
	18	8		9	E	30	Ca.
	38	1		28	E	10	
	38	1		26	E	10	
	18			37°5	E	25	Ca.
	18			39°5	E	15	Ca.
	55	1		56°5	E	30	
	54	1		78	W	10	
	53	0 5		68	W	30	
	18	10		54	W	30, 20	Ca.
	52	9		24°5	W	40	
	18			3	W	10	Ca.
	50		5		W	10	
	18	1	20		W	25	Ca.
	18		22		W	25	Ca.
	18		24		W	50	Ca.
	18		31		W	30	Ca.
	18		57°5		W	25	Ca.
	48		66		W	10	Ca photograph 8 <sup>h</sup> 18 <sup>m</sup> .
October 6. A.Y.S.	10 27	..	57°5	...	E	15	
	35		55°5		E	45	Ca. A vertical streak.
	35	9	45		E	20	Ca.
	35	10	23		E	15, 30	Ca. A portion of this 25" high was seen in C.
	26	1	13		E	20	
	35		11		E	10	Ca.
	35		7		E	10	Ca.

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.									
			North.	South.												
1909.	H. M.	°	°	°		"										
October 6. —cont'd.	A.Y.S.	10	25	1	..	2.5	E	10								
										24	1	7.5	E	45	Broader at top. Ca streaks flow eastwards from top.	
										18		9	E	20		
										21	10	25	E	30		
										45	2	37.5	E	15 ±		30" high in Ca.
										46		44.5	E	15		Ca. Seen only at 10 <sup>h</sup> 46 <sup>m</sup> .
										35	1	30	W	10		
										34	8	21	W	35		20" high in Ca
										35	3	7.5	W	15		Ca.
										35		4	W	10		Ca.
										35		2	W	10		Ca.
										31		7	W	15		
										30		35	W	10		
										29	1	60	W	10		
October 7.	S.S.	9	5	...	82	..	E	40	Ca.							
										5		68	E	15	Ca.	
										2	2	43.5	E	20		
										5		29	E	35	Ca.	
										5		26	E	15	Ca. Detached.	
										5		23	E	15	Ca.	
										8 58	1	70	E	60 ±	Slants southwards } In Ca these two together form a slanting arch 45" high	
										58		6.5	E	15	See Note.	
										51	1		23	E	15	} Connected, and 30" high in Ca.
										51	1		27	E	15	
										51	1		28	E	15	
										9 5			39.5	E	10	Ca. Detached.
										30			81	W	10	
										5			70	W	15	Ca.
5			68	W	15	Ca.										
20	4		11	W	30											
5		13		W	50	Ca.										
14		45.5		W	10											
12	4	51.5		W	40											
9		80		W	10											
October 8.	G.N.	8	19	...	62.5	..	E	15	Ca.							
										19		60.5	E	15	Ca.	
										58		22	E	10		
										19		8	E	15	Ca.	
										19	1		15	E	25	Ca.
										52	1.5		38	E	10	
										52			41.5	E	15	
										9 10	14		26	W	60	
										8 19			13	W	20	Ca.
										19		17		W	30	Ca. A curved streak.
										9 5	5	24		W	60, 40	
										8 19		20		W	15	Ca.
										9 2	2	50.5		W	75	
										2	4	54.5		W	30	
8 10		69		W	25	Ca. Ca photographs 8 <sup>h</sup> 19 <sup>m</sup> and 8 <sup>h</sup> 36 <sup>m</sup> .										
October 9.	A.Y.S.	10	13	7	28.5	..	E	40	Ca.							
										13	6	15	E	30	Ca.	
										14	2	10	E	35	} Connected in Ca.	
										14	5	2.5	E	45		
										10			41.5	E	40	} Almost detached. } Connected in Ca.
										8			49.5	E	40	
										13	12		24	W	40, 50, 30	Ca.
										13			18	W	10	Ca.
										13		8		W	15	Ca.
										13	4	51.5		W	240	Ca. Only part of the limb (+10° E to -70° E) examined., Ca photograph 10 <sup>h</sup> 18 <sup>m</sup> .
October 10.	G.N.	9	1	...	43.5	..	E	20								
										0		32	E	30		
										0	8	28.5	E	40		
										8 51	12	6	E	30, 40	Ca. Only part seen in C.	
										51	5		7.5	E	30	Ca.



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height	Remarks.
			North	South			
1909							
October 10 —contd.	G.N.						
	h. m.	°	°	°		'	
	8 55	.		43.5	E	15	
	9 8	3		76.5	E	10	Very short jets
	8 51			40.5	W	10	Ca.
	51	11		30.5	W	20	Ca. Parts seen in C.
	51			7	W	35	Ca
	9 8		9		W	15	
	8 22		25		W	15	Ca.
	5	8	55.5		W	240	Ca.
							Ca photographs 8 <sup>h</sup> 51 <sup>m</sup> and 8 <sup>h</sup> 22 <sup>m</sup> .
October 11.	S.S.						
	9 38	4	41.5	..	E	60	
	55	1	44	..	E	40	Ca. } Connected.
	55	1	13		E	20	Ca.
	55	1		5	E	10	Ca
	55	1		12	E	10	Ca
	53			7	W	10	
	52			4	W	10	
	52			3	W	10	
	50		10		W	15	
							Seeing bad. Ca photograph 9 <sup>h</sup> 55 <sup>m</sup> (poor)
October 12	A.Y.S.						
	9 14	0.5	47	..	E	10	
	12	3	40		E	45 ±	70' high in Ca.
	9	1	31		E	15	
	8		29		E	10	
	0			10	E	15	
	5	2.5		16	E	10	Differently shaped, bright, and 80' high at 10 <sup>h</sup> 12 <sup>m</sup> .
	3	1		19.5	E	10	
	10 11			31	E	10	
	10	2		39.5	E	40	Dim in Ca. Differently shaped at 8 <sup>h</sup> 29 <sup>m</sup> .
	8			40.5	E	10	
	5	1		70	E	15	
	8			82.5	E	15	
	1	1		35	W	15	
	9 57	18		21.5	W	15	} Connected by a Ca streak.
	55	2	8		W	30	
	30	1	53		W	20	Faint
							Ca photographs (focculus) 10 <sup>h</sup> 13 <sup>m</sup> and 8 <sup>h</sup> 19 <sup>m</sup> .
October 13.	G.N.						
	9 21	4	39.5	...	E	70	Ca.
	10		4		E	15	
	11	3.5		11	E	50 ±	Ca.
	21	4		21	E	90	
	42	6		39.5	E	30	
	21	9		36	W	20	A number of short prominences.
	36	2		18	W	15	Surmounted in Ca by a detached spot 75' high
	36			18	W	25	Showed displacement in O to red for about 1.5 Å.
	30	1		11	W	20	
	36			9	W	15	
	21	10	5		W	60	Ca.
	25	1.5	19		W	20	
	23	2	31		W	20	
	18	6	51.5		W	45	
							Ca photograph 9 <sup>h</sup> 21 <sup>m</sup> .
October 14.	S.S.						
	8 21	..	78.5	...	E	40	Ca. Faint.
	21		66.5		E	20	Ca.
	21	0.5	37		E	10	Ca.
	21		20		E	15	Ca.
	21		5		E	60	Ca.
	53			8	E	10	75' high in Ca
	51			9	E	15	
	21			12	E	30	Ca
	49	1.5		17.5	E	10	
	49	1		19.5	E	10	
	49	1		21.5	E	10	
	46	1.5		28	E	25	
	46	1		30.5	E	25	} See Note 1.
	43	1.5		38	E	30	
	43	1.5		45.5	E	30	} Almost connected in Ca.
	9 10	1	2		W	40 ±	See Note 2.

Date and observer.	Hour L.S.T.	Base.	Latitude		Limb.	Height.	Remarks.
			North	South.			
1909.	H. M.	°	°	°		"	
October 14. S.S. —contd.	9 7 3 3 8 21	1 5 0 5 1 1 5	33 48 5 53 5 70 5	.	W W W W	30 60 25 15	} Connected in Ca. Ca Seeing poor Ca photographs 8 <sup>h</sup> 21 <sup>m</sup> (focculus, good) 9 <sup>h</sup> 8 <sup>m</sup> .
October 15. A.Y.S.	15 0 14 58 55 55 11 18 14 50 50 10 49 14 48 10 47 14 46 45	.. 2 1 2 1 1 0 5 2 5	57 5 9 42 45 5 50 14 8 5 11 18 21 36 53	..	E E E E W W W W W W W	10 10 00 15 35 ± 15 10 10 25 20 35 ±	Bright. Very faint, and about 45'' high in Ca. Very faint. Nothing here at 14 <sup>h</sup> 53 <sup>m</sup> . 30'' high in Ca. Faint, and 60'' high in Ca Top broader. Ca photograph (focculus) 10 <sup>h</sup> 25 <sup>m</sup> .
October 16. A.Y.S.	11 0 10 55 9 49 18 18 11 27 21 20	1 1 2 2 2 5 1	76 5 45 5 30 19 29 22 10 2 5 16 5	..	E E E W W W W W	10 10 20 60 20 15 25 25 25 ±	Ca. Seen only at 9 <sup>h</sup> 49 <sup>m</sup> Slants eastwards. Ca. Ca. } See Note Seeing poor. Ca photographs (focculus) 9 <sup>h</sup> 18 <sup>m</sup> and 9 <sup>h</sup> 49 <sup>m</sup> .
October 17. ...	7 57 57 57 57 57	. . . 1	Equator. . 7 3 22 5		E W W W W	40 15 15 15 45	Ca. Faint. Ca. Ca. Ca. Ca. Faint. Slants northwards. No visual observations. Ca photographs (focculus) 7 <sup>h</sup> 57 <sup>m</sup> and 7 <sup>h</sup> 53 <sup>m</sup> .
October 19. A.Y.S.	8 1 9 35 32 8 59 59 58 59 59 59 59 50 1 1	... 2 4 4 1 5	51 5 10 29 37 38 44 5 50 5 56 5 34 27 20 4 10 24 57 5 59 5	...	E E E E E E E W W W W W W W W	15 15 35 ± 15 100 20 20 20 15 30, 45 15 10 100 15 10 15	Ca. Seen only on the focculus plate at 8 <sup>h</sup> 1 <sup>m</sup> . Ca. Slants northwards. Seen only at 8 <sup>h</sup> 1 <sup>m</sup> . 10'' only in Ca. Ca. A detached cloudlet. Ca. } Connected. Ca. Faint. Ca. Ca. Ca. A long curved streak flowing northwards to + 20° W. Ca. Ca. Ca. Only a portion of south-east limb observed Ca photographs 8 <sup>h</sup> 59 <sup>m</sup> (poor and incomplete) and 8 <sup>h</sup> 1 <sup>m</sup> (focculus)
October 21. A.Y.S.	8 46 50 50 46 22 22 20 18 48	... 1 8 2 1 5	84 5 79 69 5 63 5 59 5 54 5 36 7 20	...	E* E E E E E E E E	15 10 10 10 10 40, 15 15 51 20	Ca. Ca. Ca. Ca. Ca. Slightly changed at 8 <sup>h</sup> 52 <sup>m</sup> ; 40'' and 55'' high in Ca. Faint. Bright.

Date and observer.	Hour I S.T.		Base.	Latitude		Limb.	Height.	Remarks.
				North.	South.			
1909.	H	M	°	°	°		"	
October 21. A.Y.S. -contd.	8	16	.		27	E	10	
	9	4			41	E	20	Not seen earlier. 10" high in Ca.
	8	46	5		48.5	E	20	Ca. An arch.
		38			57.5	E	10	
		46			65.5	E	30	Ca.
		36	2		62.5	W	10	
		35	1		49.5	W	10	Bright.
		34	1		25	W	15	
		33	4		11	W	25	Differently shaped at 8 <sup>h</sup> 58 <sup>m</sup> .
		46			6	W	70	Ca. A detached streak.
		46		5		W	40	Ca. A streak slanting southwards.
		46	8	21		W	25	Ca. An arch.
		46		28		W	40	Ca. A very faint detached cloudlet.
		46		36		W	20	Ca.
		30		52.5		W	30	Detached.
		46		54.5		W	15	Ca.
		25		70.5		W	10	Ca photographs 8 <sup>h</sup> 46 <sup>m</sup> and 8 <sup>h</sup> 31 <sup>m</sup> .
October 22. S.S.	8	8	2	52.5	.	E	15	Ca. Changed, and 25" high at 8 <sup>h</sup> 27 <sup>m</sup> .
	10	59	1	49.5		E	20	See Note 1.
	9	29		26		E	10	
		28		19		E	10	
	8	8		10		E	15	Ca.
	9	19	2	6		E	10	Metallic. Visible in D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> , b <sub>3</sub> , and b <sub>4</sub> .
		17			0.5	E	10	
	8	8	1		18	E	10	Ca.
		27	2		24	E	20	} A Ca streak connects their tops, and extends to - 21" N.
		27	3		27	E	15	
		20			63.5	E	10	
		8	0.5		68.5	E	15	Ca.
		8	0.5		81.5	E	15	Ca.
		8	0.5		33.5	W	20	Ca.
		8	3		28.5	W	20	Ca.
		8			13	W	15	Ca.
		8	0.5		9	W	15	Ca.
	11	34		18		W	20	} See Note 2.
	10	56	1	17.5		W	25	
		54		23		W	10	
	8	8		33		W	15	Ca.
		8		37		W	10	Ca.
		8		57.5		W	10	Ca.
		8		72.5		W	10	Ca.
	10	32	1	79		W	15	
								S.W. quadrant not observed.
								Ca photographs 8 <sup>h</sup> 8 <sup>m</sup> and 8 <sup>h</sup> 27 <sup>m</sup> .
October 23. S.S.	8	42	..	65.5	...	E	10	
		37		50.5		E	15	Ca.
		40		51.5		E	20	
		40		47		E	10	
		39		8		E	10	
		37	1	3.5		E	30	Low, bright.
		37		1		E	40	Ca. Two faint streaks bright at top.
		37			9	E	10	Ca.
		34	9		27.5	E	40	A streak from top meets limb again at -- 16".
								Height 40" in Ca.
		37			50.5	E	20	Ca. Small, detached.
	9	5			83.5	W	10	
		2			48.5	W	30	
	8	59	1		20	W	20	Ca prominence extends to -- 24" W.
		56	6	10		W	20	} Connected by Ca streaks.
		54	2	17		W	40	
		54	2	24		W	30	
		54	2	29		W	30	
		50	1	44		W	35	Extends to -- 40" W. in Ca.
		48	2	56.5		W	20	Passing clouds.
								Ca photographs 8 <sup>h</sup> 37 <sup>m</sup> and 8 <sup>h</sup> 0 <sup>m</sup> .

Date and observer	Hour L.S.T	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	'	°	°		"	
October 24. A.Y.S.	8 17	..	85	..	E	Low	Bright.
	9		76		E	25	Ca.
	15		83.5		E	10	
	14	2	51.5		E	30	
	9	2	81		E	20	
	9		25.5		E	10	
	7	1	9		E	20 ±	Surmounted in Ca by detached dots 115" high
	3	10		28	E	45	
	0	1.5		53.5	D	15	
	9			47	W	10	Ca.
	9			39	W	25	Ca.
	9 20	3		26.5	W	25	} Connected in Ca
	28	4		18	W	35	
	26	1.5		12	W	20	
	25		G		W	10	
	8 51	18	27		W	25, 20, 50, 40	
	40		45.5		W	10	
	23	1	53		W	15 ±	Very faint.
	20	1	58.5		W	10	
							Fine with passing cloud. Ca photographs 8 <sup>h</sup> 0 <sup>m</sup> and 8 <sup>h</sup> 49 <sup>m</sup> .
October 25. S.S.	11 28	.	78.5	...	E	10	Ca
	26	0.5	50.5		E	20	Ca
	28	8	38		E	30	Ca.
	8 40	2	29		E	20	
	38	2	3		E	10	
	38	1		17.5	E	15	
	11 26			23	E	15	Ca } Low in C.
	26			26	E	15	Ca }
	8 30	4	34		E	25	
	11 26	0.5	39		W	10	Ca. }
	26	0.5	30		W	15	Ca. }
	9 9	0.5	32		W	25	} Connected by Ca streaks.
	11 26		29		W	10	
	9 9		25		W	25	
	11 26		19		W	40	Ca.
	26		14		W	50	Ca. }
	26		11		W	50	Ca. }
	28		6		W	15	Ca. }
	26	2	10		W	10	Ca.
	9 0	5	35.5		W	30	Three prominences close together.
	8 58		48.5		W	20	
	52	2	57.5		W	25	
	51		66		W	10	
	50		83		W	10	
							Seeing poor. Ca photographs 11 <sup>h</sup> 26 <sup>m</sup> , 8 <sup>h</sup> 43 <sup>m</sup> and 9 <sup>h</sup> 44 <sup>m</sup> .
October 26. A.Y.S.	8 40	..	81.5	...	E	10	
	37	7	51.5		E	20	35" high in Ca.
	29	9	42.5		E	35, 30, 15	Faint. 75" high in Ca.
	22	3	10.5		E	20, 35	A faint streak from top is 30" high.
	20	1	3.5		E	15	A thin Ca streamer from top meets the last prominence
	18	3		21.5	E	10	
	15	3		27.5	E	35	
	30			34	E	15	Ca.
	30			79	E	15	Ca.
	9 0			85.5	E	10	
	8 56			47	W	15	
	56			45	W	10	
	30			37	W	50	Ca. Slants southwards.
	52	3		18.5	W	15	
	50		8.5		W	Low	Bright.
	47		34		W	15 ±	
	46		51		W	20	30" high in Ca.
	45	2	58.5		W	15	
	41		83.5		W	10	
							Ca photographs 8 <sup>h</sup> 30 <sup>m</sup> and 8 <sup>h</sup> 20 <sup>m</sup> .

Date and observer.	Hour I.S.T.	Base.	Latitude.		Lamb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
October 27. S.S.	8 50	.	81.5	..	E	10	Ca prominence is 50" high, and extends to +60° E. Ca streaks connect these, and extend from +11° E to -1° E. Ca. Slants northwards Seen only at 9h 5m. Faint Surmounted by a faint Ca cloud 50" high. C slightly displaced to violet near top. Ca pro- minence extends to -25° E.  A streamer from this extends to -37°5 W.  Connected Extends to -6° W. in Ca  Ca. Faint. Ca. Limb boiling Strong wind Ca photographs 8h 31m, 8h 9m, and 9h 5m.
	46	1	54.5		E	30	
	41	1.5	9		E	30	
	41	0.5	3		E	Low	
	9 5			14	E	40	
	8 38			18	E	20	
	34			28	E	25	
	34	2		34	E	30	
	31	1		40	E	10	
	25	0.5		77	W	10	
	9 12	1		48	W	30	
	5	1		29	W	20	
	5	0.5		27	W	10	
	5	0.5		24	W	30	
	5	1.5		20	W	30	
	0	2	7		W	25	
	8 58	1	6		W	20	
	31		51		W	30	
	31		61.5		W	10	
October 28. A.Y.S.	8 28	...	85	...	E	15	Ca.
	28		77		E	30	Ca. Faint.
	31	2	54.5		E	25	
	29		49		E	15	Very faint.
	25		18.5		E	10	
	23		8		E	30	Ca. Slants eastwards.
	22	3		4.5	E	20	
	20	1		34.5	E	30	
	9 0			62	E	15	
	8 23			49	W	15	Ca.
	56	1		40.5	W	25	A faint streamer from top flows to -45° W.
	50	12		24	W	40, 50	
	46		8		W	35	Slants westwards.
	44		13		W	25	
	40		21.5		W	Low	Bright C slightly displaced to red.
	23	1	41.5		W	10	Ca.
	37	1	44		W	10	
	35	2	58.5		W	10	25" high in Ca.
	23		60.5		W	25	Ca.
	34		73.5		W	10	Unsteady limb. Ca photographs 8h 23m and 9h 4m.
October 29. S.S.	8 38	2	53	..	E	20	
	38		12		E	20	A streak from top extends to +18° E.
	31			8	E	10	
	28	15		17.5	E	40	A group of 3 prominences.
	22			36	E	50	Ca. Faint
	22			41	E	10	See Note.
	22	4		42	W	25	
	9 3	1		21.5	W	40	Ca prominence extends from -15° to -26° W.
	0		3		W	20	
	8 22		5		W	30	Ca. A cloudlet.
	58	1	12		W	50	
	54	2	28		W	15	
	50		49		W	15	
	22	1	75.5		W	20	Ca photographs 8h 22m and 9h 5m.
October 30. A.Y.S.	8 50	...	81	...	E	10	Ca.
	50	2	59.5		E	20	Ca. An arch.
	50		53		E	10	Ca.
	50		53		E	10	Ca.
	50		48		E	10	Ca.
	49		48		E	10	
	48	4	30		E	45	
	46		26.5		E	10	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
October 30 A.Y.S. —contd.	8 42	.	20	...	E	15	
	40	.	14 5		E	25	40" high in Ca.
	39	2	9		E	35	Slants eastwards.
	32	6	1		E	15	
	31	2		7	E	10	This was a jet 60" high at 8 <sup>h</sup> 22 <sup>m</sup> in Ca.
	21	22		24	E	25, 35, 20	Ca streaks from top are 50" high.
	20			35	E	10	
	9 16			33 5	E	15	
	14			69	W	20	
	12	6		43	W	25	
	10			35	W	10	
	10			30	W	10	
	6	6		17	W	40, 25	
	8 50	1		5	W	10	Ca.
	50	6	7		W	20	Ca.
	9 2		12		W	55	A Ca streak from top, 80" high, flows northwards. Changing.
	0	1	17		W	30 ±	Very faint Connected with the last in Ca.
	8 57	2	21		W	15	Connected with the last in Ca.
	50		25		W	70	Ca. A detached cloudlet.
	50		29		W	25	Ca.
	50		34		W	20	Ca.
	55	3	55		W	15	
	52		71 5		W	15	
							Ca photographs 8 <sup>h</sup> 50 <sup>m</sup> , 8 <sup>h</sup> 22 <sup>m</sup> , and 9 <sup>h</sup> 14 <sup>m</sup> .
October 31. A.Y.S.	8 13	..	73 5	...	E	10	Ca.
	32		65 5		E	10	
	31	1	60 5		E	10	
	30		52		E	10	
	30		49		E	10	
	13		39		E	55	Ca. A faint cloudlet connected to limb by a thin stem at + 39°.
	28	3	29 5		E	40	
	25	6	2		E	30, 15	A thin Ca streak from top meets limb at + 5° E.
	20	0 5		8 5	E	15	
	14	4		9	E	45	See Note.
	9 10			13	E	15	
	10			15	E	10	
	8 9	6		23	E	20	Base extends in Ca to — 29° E.
	4			33	E	10	
	4	1		38 5	E	70	Very faint. Connected with the last by a Ca streak.
	0			59	E	20	
	0			61 5	E	10	
	54	2		65	W	15	
	13			49	W	10	Ca.
	13			42	W	10	Ca.
	53	1		36	W	20	
	51	1		21 5	W	15	
	50	2		17	W	20	} Connected and 30" high in Ca.
	49	4		8	W	10	
	47	3	14 5		W	40	90" high in Ca.
	45		23		W	10	
	44		25		W	50 ±	Faint, detached } Connected and 70" and 50"
	44		31 5		W	70 ±	Very faint. } in Ca.
	13		60 5		W	10	Ca
							Ca photographs 8 <sup>h</sup> 13 <sup>m</sup> and 8 <sup>h</sup> 41 <sup>m</sup> .
November 1. S.S.	14 30	.	59	...	E	40	
	30	0 5	56		E	20	
	32	1	40		E	10	
	34		35		E	Low	O slightly displaced to red
	35	1	16		E	10	
	25	8	1		E	25	Ca.
	25	3		26 5	E	20	Ca.
	25			34	E	60	Ca Faint.
	25			59	W	20	Ca.
	25	11		30 5	W	40	Ca.
	25			15 5	W	35	Ca. Detached streaks extending from — 11° to — 20° W.
	25			6	W	15	Ca.



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1900.	H. M.	°	°	°		"	
November 5. S.S. — <i>contd.</i>	8 17	8	37	...	E	90	Ca
	42		32		E	20	
	39		18		E	20	Surmounted by a cloud 9' long, and 60" high
	38	2	8		E	35	} In Ca these are all connected, and the group extends from lats. +42° to -26° E.
	37			1.5	E	10	
	31	3		41.5	E	40	55" high in Ca at 11h 9m
	29			57	E	10	
	28			64	E	10	
	17			79.5	W	10	Ca.
	17			78.5	W	10	Ca.
	9 18	2		31	W	80	55" high in Ca.
	16	2		26	W	25	} Connected in Ca
	14	2.5		22	W	25	
	8 17			18	W	20	Ca
	17			9	W	15	Ca.
	17			4	W	25	Ca.
	9 10			7	W	10	
	9			10	W	10	O slightly displaced to red at base.
	7	2		16	W	35	
	5	0.5		32	W	20	
2	2		40	W	30		
						Seeing poor Ca photographs 8h 10m, 8h 17m, 9h 22m, and 11h 9m.	
November 6. A.Y.S.	9 46	..	73.5	...	E	10	Ca.
	7	3	54.5		E	30	
	4	9	32.5		E	70 ±	Top faint. 80" and 230" high in Ca.
	8 58	12	19		E	60	See Note.
	52	0	4		E	40	
	48	1		1.5	E	15	
	48	1		3.5	E	15	
	9 46	4		7.5	E	Low.	Ca. A streak
	30			10	E	30	
	8 44	8		16	E	45 ±	Changed, and 60" high at 11h 20m.
	30			60	E	15 ±	
	9 29			32	W	15	
	28			70.5	W	10	
	46			67.5	W	20	Ca.
	23	13		28.5	W	40	
	17	6	8		W	20, 10	
	15		18		W	35	} Tops connected, and 20" high in Ca.
	15	2	23		W	20	
12	2	20		W	25		
10	2	55		W	25		
9		79.5		W	10		
						Ca photographs 9h 46m and 9h 12m.	
November 7. S.S.	8 31	..	77	...	E	10	
	29		53.5		E	15	
	20		36		E	90	About 4" broad at top.
	26		29		E	30	Do. do. } Tops connected.
	24	10	25.5		E	10	
	45		6		E	15	Ca.
	20	6		12.5	E	50	} In Ca, these are connected and extend from lats - 5° to - 26° E.
	17	2		22	E	50	
	16			40	E	10	
	18			80.5	E	10	
	45	0.5		84.5	E	10	Ca.
	54	6		32	W	35	
	45			16	W	20	Ca.
	52	3		14.5	W	10	
	45			9	W	30	Ca.
	50	1		1	W	10	O slightly displaced to red.
	47	8	10		W	75	} Connected by a Ca streak.
	41	1.5	27		W	20	
41	3	30		W	30.		
39	0.5	38		W	10		
37	3	54.5		W	40		



Date and observer.	Hour L.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	U. M.	°	°	°			
November 7. S.S. —contd.	8 45 35	0.5	69.5 73	...	W W	15 10	Ca. Seeing bad when observing the southern half. Ca photographs 8h 45m and 9h 23m.
November 8. A.Y.S.	8 7 55 51 7 7	... 3 2 12	84.5 53.5 35	... 4 12	E E E E	20 15 60 40 30	Ca. Top very faint. Ca. Two small detached streaks. Ca. Small portions of this 15" and 10" high were seen in H. Three streaks meeting at top.
	10 30 8 7 25 7 10 26 8 7 10 23 23 8 7 9 19 17 15 11 10 8 7	9 3 3 7	42.5 52 56 74.5 34.5 26 21 8 6 1.5 16 29.5 43 54.5 81.5	E E E E W W W W W W W W W W	50 10 10 15 20 10 10 20 20 20 30 10 45 10	Ca. Ca. Ca. Top flows and meets the next prominence. } Connected by Ca streaks, 75" high. Ca. Seeing poor. Ca photographs 8h 7m and 8h 15m.	
November 9. S.S.	8 33 33 9 3 3 54 50 9 30 29 8 33 9 27 27 25 22 19 18	0.5 4 2 2 0.5 2 0.5 2 1 2	48 39 14 21 45 36 32 22 19 17 3 30 48 53	... 14 21 45 36 32 22 19 17	E E E E W W W W W W W W W W	15 35 40 20 35 15 35 15 10 10 15 35 10 20	Ca. Ca. Very faint in Ca. Ca. } Connected, and 50" high in Ca. Seeing bad. S. pole to lat.—40° W. not observed. Ca photograph (foculus only), 8h 33m.
November 10. A.Y.S.	10 59 9 21 8 53 49 9 18 8 45 44 10 59 8 32 30 29 24 10 59 69 9 15 13 10 59 8 24 9 10 8 8 10 59 59	... 3 2 2 1 2 3 3 1.5 9 1 2 4	59 58 49.5 38 32 20.5 5 7 13.5 21.5 29 29 45.5 55 71 73.5 85 70.5 50 30 16 13 10 5	... 7 13.5 21.5 29 29 45.5 55 71 73.5 85 70.5 50 30 16 13 10	E E	10 20 45 15 10 15 35 15 30 30 20 30 15 25 10 20 20 20 15 Low 20 25	Ca. Very faint. 5" broad in Ca. Top broader. A Ca streak from this meets limb at 0° E. Ca. } Connected by a streak. Slightly changed at 9h 16m. Ca. Ca. Seen only at 10h 59m Slants eastwards. Seen in Ca only at 8h 23m. Ca. Ca. Seen only at 8h 24m. Bright in Ca. A Ca streak from the S. end is 30" high. In Ca at 10h 59m this was a hook 60" high. Only faint streaks here at 8h 24m. Ca. Ca.

Date and observer.	Hour I.S.T.	Base.	Latitude.		Lamb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
November 10. A.Y.S. —contd.	10 59	.	13	..	W	40	Ca.
	59		17		W	50	Ca. Detached.
	59		18		W	50	Ca.
	9 4	5	34.5		W	35	
	0	6	51		W	45	30" high in Ca. Differently shaped and 75" high in Ca at 8h 24m.
	10 59			57		W	30
8 55			69.5		W	10	Ca photographs 8h 24m and 10h 59m.
November 11. S.S.	8 19	..	87		E	15	Ca.
	19		73.5		E	10	Ca.
	19		72.5		E	10	Ca.
	19		64		E	10	Ca.
	19		62		E	10	Ca.
	35		55		E	20	
	35		53		E	10	
	19	1	44.5		E	15	Ca. A streak from top goes 4° north.
	33	2	28		E	15	
	26	4	Equator.		E	20	Faint.
	25	1		17	E	10	Chromosphere depressed on both sides of this.
	24	0.5		21	E	20	
	23			26	E	10	
	22			29	E	15	
	21			30.5	E	10	
	18	2		43	E	70	
	15	1		48	E	15	
	15	1		50.5	E	20	
	15	1		54.5	E	10	
	10			82.5	E	10	
	8	1.5		78.5	W	30	
	8			75.5	W	10	
	8 0	1.5		26	W	10	
	8 59	1.5		21	W	20	
	58	4		14	W	20	
	58	1.5		6.5	W	25	} Connected, 45" high, and extend to + 5° W in Ca.
	55			1	W	30	
	19	0.5		16	W	20	Ca.
	19	1		22.5	W	25	Ca.
	49			29.5	W	10	
	48			34	W	10	
	48			36.5	W	15	} Tops connected by a Ca streak.
	19			40	W	15	
45	1		51	W	30	Ca.	
45	1		53	W	25		
44	3		56	W	25		
42			67.5	W	10		
19	0.5		76.5	W	15	Ca.	
19			80.5	W	15	Ca.	
						Ca photographs 8h 19m and 8h 30m.	
November 12. A.Y.S.	8 31	...	31	...	E	10	
	18		15		E	45	Ca. Streaks from the top flow both ways to latitudes + 29° and + 13° E.
	22		6		E	15	A very faint streak.
	20		3		E	25	Almost detached.
	18			7.5	E	50	Ca. A detached cloud.
	17			40	E	10	
	17			49	E	10	
	15			72	E	10	
	9 44			79.5	W	20	± Slants southwards.
	42			73.5	W	10	
	40			38	W	10	
	37	2		9.	W	30	A thin Ca streak from top flows southwards.
	35	2		14.5	W	20	Connected with the last in Ca.
	31	2		8	W	15	} Tops connected, and 30" high in Ca.
	27			0.5	W	15	
	8 18	3		10.5	W	20	Ca.
	9 21	1		19	W	20	
	18	1.5		23	W	40	
1			44	W	10		
0	4		54	W	30		

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height	Remarks.
			North	South.			
1909.	H. M.	°	°	°		"	
November 12. A.Y.S.	9 0	...	64	.	W	10	
—contd.	8 58		88.5		W	10	Passing clouds Ca photographs 8 <sup>h</sup> 18 <sup>m</sup> and 8 <sup>h</sup> 4 <sup>m</sup> .
November 13. S.S.	8 58	..	73.5		E	10	
	9	1	39		E	10	Ca.
	9	1	38		E	25	Ca.
	9	1.5	35.5		E	25	Ca.
	9	3	30.5		E	20	Ca.
	50	1.5	25		E	50	
	9		14		E	45	Ca. A faint, detached vertical streak.
	42			47	E	25	
	39			78.5	E	10	
	37			83.5	E	10	
	9 20	1		85.5	W	30	Surmounted in Ca by a detached spot 50" high.
	19			12.5	W	20	
	14	13		8.5	W	20	See Note.
	8 9		15.5		W	30	Ca. Detached. 5° long.
	9 8	1.5	25		W	20	
	7	1	31		W	15	Faint.
	8 9		40		W	30	Ca.
	9 0	2	51		W	10	
	4	5	55.5		W	30	Ca photographs 8 <sup>h</sup> 9 <sup>m</sup> and 8 <sup>h</sup> 30 <sup>m</sup> .
November 14. A.Y.S.	8 20	6	38	..	E	30	Faint. 70" high in Ca.
	17	4	27		E	40	Thin Ca streaks from top are 65" high.
	16	1	19		E	10	60" high in Ca. A Ca streak connects this with the last.
	15	1	0.5		E	10	
	14			2	E	25	Connected with the last by a Ca streak.
	39			5	E	20	Ca.
	9			42.5	E	10	
	5	4		47	E	30	
	2			55	E	15	
	42			85	E	10	
	40			44	W	10	
	40	2		36	W	15	
	39	2		28	W	15	A streak from top flows southwards.
	7			14	W	20	Ca. Seen only at 8 <sup>h</sup> 7 <sup>m</sup> .
	39	4	15		W	30	Ca. A streak.
	39	2	30		W	20	Ca.
	39		33		W	10	Ca.
	34	7	58.5		W	70	Ca photographs 8 <sup>h</sup> 39 <sup>m</sup> and 8 <sup>h</sup> 7 <sup>m</sup> .
November 15. S.S.	8 21	...	71	...	E	15	Ca.
	54	3	41.5		E	20	
	54	7	36.5		E	70	Faint.
	50	0.5	31		E	20	
	47		14		E	45	
	44	0.5		4	E	20	
	21			10	E	25	Ca. Faint. Detached.
	39	5		47.5	E	35	
	21			54	E	30	Ca.
	21			71	W	15	Ca. Detached.
	9 21			82	W	15	Faint.
	15	1		21.5	W	15	
	8 21			7	W	10	Ca.
	9 14	1		5	W	10	
	8 21	0.5		3	W	15	Ca.
	9 18	3	1.5		W	15	
	12		10.5		W	10	} Ca prominence connects these, and is 45" high.
	10	0.5	14.5		W	15	
	8 21		19		W	10	Ca.
	21	1	22		W	10	Ca.
	9 8	0.5	34		W	10	
	8 21	0.5	50		W	10	Ca.
	21	0.5	52		W	15	Ca.
	21	0.5	55		W	15	Ca. } Tops connected by a Ca streak.
	9 8	1	56		W	15	Ca photographs 8 <sup>h</sup> 21 <sup>m</sup> , 8 <sup>h</sup> 12 <sup>m</sup> , and 9 <sup>h</sup> 34 <sup>m</sup> .

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°			
November 16. A.Y.S.	8 50	...	46	.	E	15	Ca
	55	.3	42.5		E	20	
	55		35.5		E	30 ±	Top slants in Ca and almost meets the last; it is 45" high in Ca.
	50	8	12.5		E	45	Ca. Detached.
	40	2	8		E	25	40" high in Ca.
	50		5		E	15	Ca.
	50		3		E	15	Ca.
	35	7		47.5	E	30, 40	Faint.
	9 19			73	E	10	
	18			43	W	15 ±	Faint. 40" high in Ca.
	10			30	W	10	
	13	3		23.5	W	15	
	11		3		W	25	See Note.
	10	1.5	13		W	20	
	7	2	20		W	20	Connected with the last, and 60" high in Ca.
	5		24		W	20	
	8 50		43		W	75	Ca. Detached.
50	10	53		W	25	Ca. Seeing poor Ca photograph 8h 50m (poor).	
November 17. S.S.	9 10	...	52	...	E	30	} Connected in Ca.
	10	0.5	50		E	30	
	9	0.5	46		E	45	
	8 50	5	29.5		E	45	
	9 33		36		E	25	Ca.
	8 55	0.5	14.5		E	10	
	9 33			21	E	35	Ca.
	33			30	E	10	Ca.
	33			32	E	15	Ca.
	8 45			38	E	10	
	9 40	3		50.5	E	20	
	32	1		39.5	W	40	3° broad at top
	25			34	W	15	
	25			31	W	15	
	25			30	W	20	} Tops connected.
	25	5		23.5	W	25	
	25	0.5		15	W	20	
33			13	W	10	Ca.	
33				W	20	Ca. Faint.	
22	0.5	10		W	15		
21	1	25		W	30	Slants northwards. C slightly displaced to red; over almost the whole prominence. Seeing mostly poor. Ca photograph 9h 33m.	
November 18. A.Y.S.	9 27	.	78	...	E	10	
	26		69		E	15	
	8	14	49		E	75	
	8 42	2	20		E	15	
	40		6.5		E	10	
	10 36			2	E	10	Ca.
	8 37			20	E	25 ±	Top faint. A faint Ca streak from top 40" high, flows to -28° E.
	35			36	E	10	
	25	8		54	E	30	Slightly changed at 10h 0m.
	9 37			70	W	10	
	55	4		43	W	25	
	51	5		28	W	35	Slants southwards, 10° broad and 65" high in Ca.
	46			7	W	10	
10 36			2	W	70	Ca. A thin streak flowing southwards, and connected to limb at -2° W.	
9 42	1	1.5		W	20		
42	5	6.5		W	20		
34		44		W	40	Detached. Passing clouds. Ca photographs 10h 36m and 8h 41m.	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Lamb.	Height.	Remarks.
			North.	South.			
1909.							
November 19. S.S.	H. M.	°	°	°			
	9 5		75.5	.	E	20	O slightly displaced to violet at top.
	1	3	54		E	15	
	1	0.5	50		E	70	Tops connected in Ca.
	1	0.5	47		E	70	
	8 58	3	44		E	50	Tops connected.
	50	5	28		E	30	
	50	1.5	24		E	30	Ca. Surmounted by two streaks extending 3° farther north.
	50	2	21		E	45	
	50	4	16		E	20	Faint
	40		10		E	45	
	47	1	1		E	10	Faint and 30" high at 8h 41m Not seen at 8h 38m.
	46	1		7.5	E	25	
	44	1		13	E	10	Very faint. 20" high in Ca.
	40			24.5	E	10	
	40			27.5	E	20	Ca. Two short vertical streaks.
	40	1		41.5	E	20	
	33	2		52	E	80 ±	Ca. Very faint. 20" high in Ca.
	40	0.5		56	E	10	
	32	0.5		58.5	E	20	Ca. Surmounted by a detached vertical Ca streak 45" high.
	40	0.5		81	E	15	
	40			86	W	20	Ca. Surmounted by a detached vertical Ca streak 45" high.
	40			85	W	20	
	40			58	W	30	Ca. Surmounted by a detached vertical Ca streak 45" high.
	10 1			57	W	15	
	9 30	3		42.5	W	20	Ca. Surmounted by a detached vertical Ca streak 45" high.
	24	5	0.5		W	105	
	8 40		0		W	15	Ca. Surmounted by a detached vertical Ca streak 45" high.
	9 20	3	31.5		W	15	
	16	2	45		W	20	Ca. Surmounted by a detached vertical Ca streak 45" high.
	11	1.5	52		W	15	
							Passing clouds.
							Ca photographs 8h 40m and 8h 2m.
November 20. S.S.							
	9 40	..	54	...	E	20	Connected in Ca.
	40	1.5	53		E	60	
	40	0.5	50		E	50	Connected. Extend to + 30° E in Ca.
	40	1	47		E	35	
	34	5	24.5		E	30	Slants northwards. Very faint in Ca.
	34	1	19		E	30	
	32	4	6		E	15	Bright, metallic. D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> , b <sub>3</sub> , b <sub>4</sub> , bright.
	30			5	E	10	
	24	2		13	E	20	25" high in Ca.
	28	1		15	E	80	
	28	0.5		17	E	20	A faint detached streak.
	28			19	E	10	
	24	4.5		24	E	40	Ca. Faint. Surmounted by a streak 2° long.
	22	2		29	E	30	
	22			30	E	60	In Ca there is a faint extension up to lat. + 22° W.
	22	2		32	E	80	
	8 38			49	E	10	Ca. Two short streaks.
	9 20			52	E	10	
	10 15			78	E	10	Ca. Two short streaks.
	9			21	W	30	
	7			13	W	45	Ca. Faint. Surmounted by a streak 2° long.
	8 38		Equator.		W	20	
	10 2	2	34		W	30	Ca. Faint. Surmounted by a streak 2° long.
	0		50.5		W	10	
	8 38		72		W	10	Ca. Faint. Surmounted by a streak 2° long.
	38	1	86		W	15	
							Ca. Two short streaks.
							Ca photograph 8h 38m (Poor)
November 21. A.Y.S.							
	8 54	..	73	...	E	20	Ca. Faint.
	9 33		56		E	15	
	8 54		53		E	15	Ca. Faint.
	9 32	2	51		E	20	
	30	7	28.5		E	45	Ca. Faint. Surmounted by a streak 2° long.
	27	8	15.5		E	10	
							40" high in Ca.

Date and observer.	Hour I.S.T.	Base	Latitude		Limb.	Height	Remarks.
			North	South.			
1909.	H. M	°	°	°		"	
November 21. A.Y.S. — <i>conid.</i>	0 25 20 11 12 7	15 1.5 1 5	2.5	.. 10 13 17 22.5	E E E E	50 10 30 15 45	O displaced to red for about 1.0 Å. <i>See Note.</i> Bright. 30" high in Ca 30" in Ca. A small streak from the N. end flows eastwards. 45" only in Ca
	8 53 50 9 47 8 54	3		36.5 67 57 53	E E W W	20, 60 10 10 40	Ca. A streak slanting westwards. Only a small prominence 10" high was seen in O. Ca.
	54 9 45 45 8 54 9 44 38 36	5 1.5 1 3		34 20.5 12.5 1.5 19.5 34.5 38	W W W W W W W	10 20 20 40 10 30 25	A streak from this meets the next prominence. 3" broad, and 60" high in Ca Ca. Streaks from top flow northwards.  Passing clouds. Ca photographs 8 <sup>h</sup> 54 <sup>m</sup> and 8 <sup>h</sup> 18 <sup>m</sup> .
November 22. S.S.	9 35 8 33 32 31 29 27 24 10 1 1 1 1 9 56 2 10 1	1 3 0.5 2 4 4 1 2 1	52 29.5 12 5	... 3 28 36 51 44 41 16	E E E E E E W W W W W W	25 25 15 10 20 40 50 70 20 30 10 10 10 30	Narrow at top. Ca. Slants northwards. Ca. Ca. Ca.  Ca. Seeing poor. Ca photograph 10 <sup>h</sup> 1 <sup>m</sup> (poor and incomplete).
November 25. S.S.	8 4 4 40 4 4 4 4 37 34 34 34 30 27 4 4 4 9 10 10 8 4 4 4	3 0.5 4 2 4 2.5 0.5 1 1 1 1 1	53.5 37 31 20 16 14 10	... 4 13 17 22 31.5 49.5 77 45 37 26.5 18 10 14.5 21 23	E E E E E E E E E E W W W W W W W W	30 15 10 30 20 10 40 40 30 30 10 10 15 40 10 15 20 40 20 10 10	Ca. Ca.  Ca. Bends north Ca. Bends north. Ca. Ca. A short narrow streak parallel to limb.  } Tops connected } A Ca streak passes through by a Ca streak } these, and meets limb at the equator.  Ca. Ca. Surmounted by a streak 3" long. Ca. } Ca prominence is 60" and 50" high and extends from lat. — 12° to — 30°W. Ca. Double. Ca. Ca. Ca. Seeing poor Ca photographs 8 <sup>h</sup> 4 <sup>m</sup> and 8 <sup>h</sup> 17 <sup>m</sup> .
November 26. G.N.	13 52 52 52 52 52	3 3	53 37.5 10 8 6	..	E E E E E	20 50 20 10 15 10	Ca. Ca. Faint. Ca. Ca. Ca. Ca.

Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North.	South.			
1909.								
November 26. G.N. —contd.	H.	M.	°	'	"		"	
	13	52	.	...	5	E	25	
		50	7		22.5	E	45 ±	
		52			39	E	10	Ca.
		52	4		49	W	20, 50	Ca.
		52			9	W	30	Ca.
		52	2	16		W	45	Ca.
		52		36		W	15	Ca.
	40		60		W	25		
								Seeing poor. Ca photograph 13 <sup>h</sup> 52 <sup>m</sup> .
November 27. A.Y.S.	9	27	1	57.5	...	E	25	} Tops connected in Ca.
		27	1	54.5		E	25	
		58		32		E	10	
		24	2		11	E	15	
		22	4		21	E	30	
		19	1		38.5	E	15	
		15			43	E	10	
		55			60	E	10	
		54			81	E	10	
		52	4		46	W	30	Very faint, 2° broad, and 20" high in Ca.
		50	1		41.5	W	10	
		48			22	W	10	
		47	1		6	W	20	Thin streaks 40" high in Ca.
		10 3			2	W	30	Ca.
		9 43		7		W	10	Bright.
		41	2	16		W	30	Faint.
		39		23.5		W	35	A thin detached slanting streak.
		37		32		W	15	
	10 3		57		W	10	Ca.	
	9 59		58		W	10		
								Passing clouds. Ca photograph 10 <sup>h</sup> 3 <sup>m</sup> (poor).
November 29. S.S.	8	38	1	65		E	15	Ca.
		38		32		E	15	Ca.
	9	8	3	57		E	30	
		5		38		E	10	
	8	38		35		E	15	Ca.
		55	4	13		E	180 ±	} See Note. Streaks extend to lats. +4° E and —5° E.
		52	1		2	E	50	
		50	6		14	E	15	} Connected by a Ca streak.
		49	1		21	E	15	
		45			48	E	15	
		42			54	E	10	
		38			66	E	15	Ca.
		38			72	E	30	Ca.
		38	0.5		57	W	10	Ca. Bright.
	9	31			52	W	10	
		29	5		47.5	W	40	
	8	38			38	W	10	Ca.
	0	27	2		26	W	40	Arch-like.
		27			22	W	75	
	8	38	0.5		18	W	15	Ca.
		38	1.5		15	W	10	Ca.
	9	24	1		4	W	50	Slants north. Ca streaks on top proceed from lat. — 12° W to + 3° W.
	22	2	10		W	10		
8	38		14		W	15	Ca.	
	38		29		W	30	Ca.	
9	18	2	32		W	60		
	18	1	35.5		W	25		
	18	1	37.5		W	30		
8	38		41		W	60	Ca.	
9	14		53.5		W	10		
8	38		77		W	10	Ca.	
	38		79		W	10	Ca.	
	38		82		W	10	Ca.	
								Ca photographs 8 <sup>h</sup> 30 <sup>m</sup> , 8 <sup>h</sup> 32 <sup>m</sup> and 8 <sup>h</sup> 34 <sup>m</sup> (focculus); 8 <sup>h</sup> 38 <sup>m</sup> , 8 <sup>h</sup> 47 <sup>m</sup> , and 9 <sup>h</sup> 33 <sup>m</sup> (promi- nence).

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height	Remarks.	
			North.	South				
1909.	H. M	°	°	°		"		
November 30. A.Y.S.	8 54	3	56 5	..	E	30	Ca. A thin arch covering 15° of limb from lat. + 30° to + 45° E.	
	47		37 5		E	45		
	47	9	28		E	10	Ca. See Note	
	39		11.5		E.	20, 55		
	36			24		E.		15
	35		4	31		E		30
	32	1	39		E.	15	± Faint. Slants southwards. 35" in Ca.	
	9 11		75.5		E	15		
	9		5	47.5		W		35
	30	8		25	W	60	A small Ca streamer flows westwards from top. It was gone by 5h 30m. Ca. Seen only at 9h 30m.	
	47			24	W	90		
	47	9	5	16.5	1.5	W	50	Ca. Slants westwards. A small portion of this was seen in C. Ca. A portion of this 20" high was seen in C. A faint arch.
	9 1					W	40	
	8 57	2		41		W	35	Faint. Ca photographs 8h 15m, 8h 25m, 8h 47m, 9h 30m, 9h 37m, 9h 41m, 9h 47m, 9h 52m, 10h 10m, and 10h 16m.
	56			56		W	20	
December 1. G.N.	9 0	1.5	75	...	E.	30	Ca. Faint.	
	7		52		E	30		
	7		25		E	10		
	7	7	21		E	10	Ca.	
	7		13		E	20		
	7		3.5		E	20, 45		
	8 50	7		20	E.	20	Ca.	
	47			32.5	E	40		
	47	8		52 5	E.	15	Ca.	
	9 7			56	W	10		
	6			47	W	20		
	7	3		2	W	25	Ca.	
	7			39.5	W	60		
	7	3	46		W	40	Ca. Faint. Seeing poor. Ca photographs 9h 7m.	
	December 2. S.S.	8 19	0.5	52	...	E	10	Ca.
19		48			E	20		
19		34			E	10		
7		4	24		E	30	Ca. Seen only at 8h 7m. Connected by curved Ca streaks 75" high at the N. end, and 50" at the S. end.	
44			21		E	25		
41			3.5		E	20		
39		3		8 5	E.	20	Ca. Slants 3° south.	
19				26.5	E	15		
19		1		33	E	10	Ca.	
84				42	E	60		
19		8		57	E	15	In Ca it was a complex structure with 4 stems.	
19				31	W	20		
19		0.5		28	W	20	Ca.	
19				33	W	15		
19		10		38	W	10	Ca. Narrower at top.	
56				47	W	40		
58				71	W	20		
50				86 5	W	20	Ca.	
December 3. A.Y.S.	8 56	.5	36.5		E	10	Seeing poor Ca photographs 8h 19m and 8h 7m.	
	9 36		53 5		E	15		
	8 53		40		E	15		
	9 35	3	36		E	10	} Connected, and 30" high in Ca.	
	25		25 5		E	30		
	8 40	4	19		E	25	Ca. A small arch surmounted by a detached cloudlet 45" high in Ca. A Ca streak from this flows to lat. + 14° E	
	9 32		5		E	30		
	31	2	Equator.		E	25	} Connected, and 50" high in Ca.	
	29		3		E	15		



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb	Height.	Remarks.
			North.	South.			
1909.	H. M.	"	"	"		"	
December 3 A.Y.S. —contd.	8 31	3	..	20.5	E	25	45" high in Ca Two Ca streaks from top meet limb at lat. - 12° and - 16° E.
	9 25			32	E	15	Ca.
	8 28			35	E	10	Slants eastwards and 40" high in Ca
	9 25			36	E	20	Ca
	26	6		42	E	40	Faint
	26			46	E	50	
	8 26			53.5	E	10	
	9 16			69	E	15	O slightly displaced to red at base.
	15	2		58	W	20	
	25			44	W	10	Ca
	25			39.5	W	60	Ca.
	25			35	W	50	Ca. Two detached cloudlets.
	25			33	W	40	Ca. Slants to lat - 30° W.
	10			24	W	10	
	10			17	W	10	
	25		8		W	10	Ca.
	25		15		W	10	Ca.
	0	7	47.5		W	40	Ca photograph 9 <sup>h</sup> 25 <sup>m</sup> .
December 4. G.N.	8 27	.	53		E	20	Ca.
	45	2	37		E	60	A Ca streamer extends to lat. + 44°
	27		26		E	40	Ca. Bends northwards, and extends to lat. + 33° E.
	27	4	12		E	30	Ca. Streamers proceed to lats. + 21° and + 9°.
	27		2		E	15	Ca. A detached dot.
	27			2	E	15	Ca Meets the cluster of prominences at lat. - 15°
	41	1.5		11.5	E	60	} All these are connected at top by Ca streamers which extend to lats. - 5° and - 28° E
	41			17	E	60	
	41			19	E	60	
	41			21	E	60	
	27	7		35	E	60	Ca.
	27			43	E	15	Ca
	27			46	E	30	Ca
	27	2		62	W	15	Ca.
	15			34	W	15	Ca.
	27			25	W	25	Ca.
	0 8			20	W	20	A Ca streamer proceeds from the top to lat - 14° W.
	8			15	W	25	A Ca streamer proceeds from the top to join the large prominence at - 8° W.
	8			13	W	15	
	8	5		8.5	W	50	Several streamers proceed both ways to lats + 1° and - 14° W.
	8 54		14		W	20, 15, 20	Three prominences close together.
	50	6	50		W	50	
	27		71		W	15	Ca. Ca photographs 8 <sup>h</sup> 27 <sup>m</sup> and 8 <sup>h</sup> 15 <sup>m</sup> .
December 5. A.Y.S.	8 35	6	36.5	...	E	50, 60±	See Note 1.
	33		25.5		E	10	
	37		13		E	25	Ca. } Connected at top in Ca.
	32		10.5		E	25	
	37			1.5	E	25	Ca. Detached
	37	4		7	E	25	Ca. A small portion of this 10" high was seen in C } Connected in Ca.
	30	1		10.5	E	40	
	28			19	E	15 ±	Faint. A Ca streak from this 40" high slants, and meets the last prominence.
	37			21	E	10	Ca.
	26	4		36	E	70	See Note 2
	23			49	E	10	
	9 20			62	W	20	A vertical streak 60" high in Ca
	9			27	W	10	
	9	1		28.5	W	35	20" high in Ca.
	0	6		7	W	75	See Note 3.
	8 58	7	14.5		W	100 ±	See Note 4
	49	4	25		W	20	} Connected, and 35" and 45" high in Ca.
	46	2	33		W	35	
	37		40		W	15	Ca.

Date and observer.	Hour L.S.T.		Base.	Latitude.		Limb	Height.	Remarks.	
				North.	South				
1909.	H.	M.	°	°	°		"		
December 5. A.Y.S. — <i>contd.</i>	8	37	.	42	..	W	10	Ca.	
		37		45		W	30	Ca. Slants northwards.	
		41	6	52		W	45		
December 6. S.S.	8	23	...	81	.	E	10	Seeing poor. Ca photographs 8 <sup>h</sup> 37 <sup>m</sup> , 8 <sup>h</sup> 7 <sup>m</sup> , and 8 <sup>h</sup> 48 <sup>m</sup> .	
		23		79		E	15	Ca.	
		54		66		E	10	Ca.	
		23		57		E	10	Ca.	
		46	3	39.5		E	75	Ca. See Note 1.	
		50		33		E	100	A slanting streak broken in the } Connected in Ca. centre.	
		23	1.5	28		E	10	Ca.	
		23	2	11		E	10	Ca. An arch.	
		39	1		1	E	20		
		35	2		14	E	15		
		33	2		23	E	15		
		31	1		35.5	E	30		
		29	4		40	E	40		
		28			68	E	10		
		24			75	E	10	Nothing here at 8 <sup>h</sup> 27 <sup>m</sup> .	
		9	25	2		87	W	25	
		8	23	2		32	W	35	Ca. Faint.
		23	1		25.5	W	15	Ca. Surmounted by a streak 4° long	
		9	21		17.5	W	15	In Ca it extends from lat. - 19° to - 3° where it	
		20	3			W	35	is 135° high. Changing.	
	16	2		2	W	20	Surmounted by a Ca streak 6° long.		
	8	23		14	W	25	Ca. Bends up to lat - 8° W.		
	9	12	5	33.5	W	35			
		8	3	52.5	W	40			
		8	2	56	W	25	} Connected in Ca.		
	8	57	1	84.5	W	10	See Note 2. Ca photographs See Note 3.		
December 7. G.N.	8	8		88	..	E	10	Ca.	
		8		74		E	10	Ca.	
		8	2	52		E	45	Ca.	
		8	4	42		E	40, 120,	See Note 1.	
		8					20		
		8	6	20		E	20	Ca.	
		35	3	3.5		E	15		
		33	1		14	E	10		
		32	4		25	E	30		
		30	4		41	E	45		
		8			48	E	10	Ca.	
		30			50	E	10		
		8	2		52	E	15	Ca.	
		8			71	E	10	Ca.	
		8			50	W	15	Ca.	
		8			47	W	10	Ca.	
		8			41	W	60	Ca Bends and extends to lat. - 32°.	
		8			35	W	20	Ca.	
		8			27	W	60	Ca. Bends to south and extends to lat. - 37°.	
		49	1		16	W	15		
	45	3		8	W	15			
	8			5	W	180, 150	See Note 2		
	43			21	W	20			
	42	4.5		34	W	60			
	8	3.5		55	W	15			
	8			76	W	15	Ca.		
	8			38	W	10	Ca Ca photographs 8 <sup>h</sup> 8 <sup>m</sup> , 8 <sup>h</sup> 28 <sup>m</sup> , 8 <sup>h</sup> 51 <sup>m</sup> , 9 <sup>h</sup> 54 <sup>m</sup> , and 10 <sup>h</sup> 19 <sup>m</sup> .		
December 9. S.S.	8	42	1	74	...	E	10		
		15		67		E	20	Ca.	
		36		34		E	10		
		15		23		E	10	Ca.	
		15		17		E	10	Ca.	
		34		11		E	25	Detached. } Connected, 25° high, and extends to lat. + 14° E. in Ca.	
	34		8		E	25			

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remark.
			North.	South.			
1900.	11 M	0	0	0		"	
December 9. S.S. —contd.	8 34	...	6	..	E	15	
	32	4		2	E	30	
	15			4	E	20	Ca.
	15	0.5		8	E	15	Ca. } Connected.
	28	1		10	E	35	
	28	1		13	E	20	
	28			16	E	20	Detached.
	22	6		48	E	80	
	15			85	W	10	Ca.
	9 2	1		80	W	10	
	1			52.5	W	40	
	8 15			44	W	10	Ca.
	9 0			32.5	W	10	
	8 59	13		18.5	W	40	Ca. Detached.
	15			10	W	40	
	54	4		8	W	10	
	15	6	2		W	50	Ca. Faint streaks.
	53		10		W	10	
	52	0.5	17		W	15	
	52	1.5	20		W	30	} Connected in Ca.
50	1	25.5		W	40		
47	4	33		W	30		
45	2	55		W	10		
						Ca photographs 8h 15m and 8h 2m.	
December 10. G.N.	11 10	5		5.5	E	60	A number of jets close together.
	39	4		48	E	60	Bright.
	14			32	W	10	Ca.
	20			30	W	15	
	20			28	W	15	
	19	5		12.5	W	20	
	20			7	W	15	Ca.
	20	3	24.5		W	30	Ca.
	15	5	55.5		W	40	Ca.
							Ca photographs (foculus only) 11h 12m and 11h 17m.
December 11. A.Y.S.	9 39	..	76		E	10	Ca.
	16	2	52		E	15	
	39		17		E	10	Ca.
	39	1	29.5		E	30	Ca.
	14	3	24.5		E	10	80" high in Ca. } Tops connected in Ca.
	39	7		4.5	E	80	Ca. A portion of this about 35" high was seen in C.
	9	1		41	E	10	
	8 30	0		48	E	55 ±	85" high in Ca.
	21	2		56	E	20	
	9 45			60.5	E	10	
	45			60	E	30 ±	Very faint.
	48			68.5	W	10	
	42	1		44	W	10	
	39			30	W	10	Ca.
	41			33	W	15	
	39			30	W	10	Ca. } Connected in Ca.
	40			27	W	20	
	40			23	W	10	
	38			12	W	10	See Note 1
	38			9	W	10	
39			6	W	30	Ca. A slanting streak. } Connected in Ca.	
30		3		W	10	Ca.	
37		7		W	10		
39		9		W	10		
33	4	22		W	60	Streamers extend both ways to lats. + 13° and + 31' W.	
28	3	54.5		W	65	See Note 2. Ca photographs 9h 39m and 9h 47m.	
December 12. S.S.	11 16	0.5	35	...	E	15	
	15	2	28		E	35	
	11		13		E	10	Detached.
	10	1.5		3	E	35	
	10			5	E	35	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H M.	.	°	°		"	
December 12. S.S. — <i>contd.</i>	10 59	4		48	E	30	
	57			74	W	10	
	11 58			14	W	25	
	55	2	1		W	35	
	54	1	1	10	W	60	
	47			44	W	10	
33	3		52.5	W	75		
December 14. A.Y.S.	9 7		89		E	15	Weather poor and observations partial
	7		87		E	10	No prominence photographs.
	7		52		E	10	Ca.
	8 28		43		E	30	Ca.
	28		41		E	15	
	9 7	2	39		E	15	Ca. A faint arch.
	8 26		27.5		E	10	
	59		24		E	10	
	25	3	18.5		E	15	
	9 7	1		1.5	E	60	Ca.
	7			4	E	20	Ca. Top bends, and almost meets the limb at — 7° E.
	8 24			21	E	40	Ca. Slants to lat. — 24° E
	20	3		43	E	20	Not in Ca.
	9 7			47.5	E	40	
	8 55			68	E	10	Ca.
	9 7			83	E	40	Faint.
	7			89	E	15	Ca.
	7			72	W	10	Ca.
	7			71	W	10	Ca.
	7			68	W	10	Ca.
	7			44	W	10	Ca.
	8 46	5		39.5	W	30	60' high in Ca. A thin Ca streak from this meets limb at lat. — 35° W.
	43			34	W	10	} Tops connected by a thin Ca streak.
43			30	W	30		
9 7			27	W	15	Ca. Slants to lat. — 27° W.	
7	6		10	W	40	Ca. Changing. Streaks proceed both ways to lat. — 13° and — 1° W.	
7			37	W	10	Ca.	
5			48	W	75	See Note.	
8 32	6		58	W	25	Rather faint.	
9 7			72	W	15	Ca.	
December 15. S.S.	8 19	..	78	...	E	10	Ca.
	57		69.5		E	10	
	19	1	48		E	20	Ca.
	53		44		E	30	Faint.
	19		42		E	10	Ca.
	19		38		E	10	Ca.
	45	6	14		E	75	9° broad and 50' high in Ca.
	41		8		E	30	See Note.
	37	0.5		17	E	15	Extends to lat. — 8° E in Ca.
	34	2		23	E	15	
	34	2		26	E	15	
	19	1		38.5	E	40	Ca. Slants up to lat. — 45° E.
	32	1.5		46	E	10	Faint.
	29			67.5	E	10	
	19	0.5		52	W	10	Ca.
	9 20	8.5		40	W	46	A group of several faint { Connected, and extend prominences. from lat. — 47° to — 19° W.
	15	1		25	W	40	
	8 19			7	W	10	Ca.
	19	0.5	30		W	10	Ca.
	9 6	1.5	44		W	10	
8 19	0.5	46		W	10	Ca.	
19		51		W	10	Ca.	
9 4	3	57.5		W	30		
2	1	70.5		W	10		
8 19		77		W	10	Ca.	
						Ca photographs 8h 19m and 8h 8m.	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks
			North.	South			
1909.	H. M.	°	°	°		"	
December 16. G.N.	8 31	2	46	...	E	15	Ca.
	31	5	10.5		E	86	Ca. Differently shaped in C.
	35		11		E	10	
	35		6		E	10	
	33	1		7	E	20	Shows displacement to red for 3.0 Å in C.
	31	2		10	E	25. 50	Ca. Faint.
	31	3		21.5	E	20	Ca.
	30	2		43	E	20	
	31			85.5	E	10	Ca.
	31			87.5	E	10	Ca.
	31			81	W	10	Ca.
	31			79	W	10	Ca.
	31			70	W	10	Ca.
	31			53	W	10	Ca.
	40	4		45	W	60	Ca.
	31	6		33	W	60	Ca. A detached cloud hangs over this at a height of 50".
	31	5			W	20	Ca.
	31			7	W	15	Ca.
	31	10		35	W	30	Ca.
	31			48	W	10	Ca.
8 42	2		60	W	30		
8 31	2		62	W	10	Ca.	
31			67	W	10	Ca. photographs 8h 31m and 8h 19m.	
December 17. A.Y.S.	8 44	11	49.5	..	E	50, 45	
	38		37.5		E	10	
	20	4	32		E	20	Ca.
	20	10	25		E	45	Ca. An arch connected with the last. Portions of this about 30" and 25" were seen in C.
	32		14		E	20	
	32	2	0		E	30	Faint. Top flows northwards.
	32	1.5	7		E	30	
	30	7		7.5	E	20	
	28	2		39	E	20	45" high in Ca.
	27			62	E	10	
	20			85	E	10	Ca.
	20			85.5	E	10	Ca.
	9 6	1		78.5	W	10	
	5			54	W	20	
	5			46	W	20	40" high in Ca.
	2	1		28.5	W	15	A Ca streak from the top of this, 30" high, meets the next prominence.
	0	13			W	40, 35	70" and 35" high in Ca.
	8 53			3	W	15	
20			13	W	15	Ca.	
52	1		25.5	W	25		
51			31	W	20		
50			37	W	15		
40			50	W	10		
20			53	W	10	Ca.	
48	2		58	W	20	6" broad and 40" high in Ca.	
20			76	W	10	Ca. photographs 8h 20m and 8h 6m.	
December 18. A.Y.S.	10 17		55	...	E	30	Meets the top of the next prominence.
	17	4	40		E	75, 40	Differently shaped, and 45" high in Ca at 10h 25m.
	54	8	25		E	40	Ca. An arch enclosing a hydrogen prominence 10" high at + 26° E.
	48	6	10		E	35	Differently shaped at 10h 7m.
	50	18		6	E	30	Only 20" high at 0h 55m. Bright. Metallic. b <sub>1</sub> , b <sub>2</sub> , b <sub>3</sub> , b <sub>4</sub> bright at - 15° E
	9 12			21	E	10	
	11	3		28.5	E	10	
	10 52	5		37.5	E	75	
	39	3		45.5	W	20	
	39	2		40	W	20	} Connected by a curved Ca streak.
	35	3		28.5	W	30	A streak from this flows to lat. - 22° W.
	30	7		17.5	W	50	
	42	1		9.5	W	30	
	54			4	W	10	Ca.



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
December 22. G.N.	8 32	..	86.5	.	E	15	Ca.
	32		81		E	15	Ca.
	32		79		E	15	Ca.
	9 6	4	54		E	20	
	1	4	38		E	135	This is continued on Ca foculus plates into the disc for a short distance.
	8 57	1.5	19		E	15	
	55	9	9		E	50, 60, 75	See Note.
	48			8	E	10	
	46	8		19	E	35	
	32			82	E	10	Ca.
	32			88.5	E	10	Ca.
	32			88	E	20	Ca.
	32			81	W	10	Ca.
	32			78	W	15	Ca.
	9 14			53	W	15	
	14			47	W	15	
	14	5		41.5	W	70	
	8 32			12	W	15	Ca.
	32			10	W	10	Ca.
	32	2		1	W	15	Ca.
	32	2	10		W	30	Ca.
	32	2	21		W	15	Ca.
	9 10	1	50		W	15	
	8 32		53		W	10	Ca Ca photographs 8 <sup>h</sup> 20 <sup>m</sup> , 8 <sup>h</sup> 32 <sup>m</sup> , and 9 <sup>h</sup> 19 <sup>m</sup> .
December 23. G.N.	8 18	6	85.5	...	E	10, 40, 135	Ca. A number of jets one of which was 135" high. All were faint, and had disappeared by 8 <sup>h</sup> 40 <sup>m</sup> .
	18		80		E	10	Ca.
	15	4	68		E	50	Ca. Changing. At 8 <sup>h</sup> 45 <sup>m</sup> it had grown to 75", and by 10 <sup>h</sup> 42 <sup>m</sup> had disappeared.
	13	3	55.5		E	15	See Note 1.
	13		48		E	15	Ca.
	13	2	38		E	20	Ca.
	49		30		E	15	
	45	7	9.5		E	15, 60, 75	See Note 2.
	45	5		8.5	E	40	
	15	4		17	E	55	Ca. Barely visible at 8 <sup>h</sup> 45 <sup>m</sup> . Disappeared by 10 <sup>h</sup> 42 <sup>m</sup> .
	10 42			71	E	20	Ca.
	42			73	E	20	Ca.
	8 13			77	E	10	Ca.
	13			79	E	10	Ca.
	13			88.5	W	10	Ca.
	13			87	W	10	Ca.
	9 0	9		44.5	W	45	
	8 59	7		8.5	W	40	
	55	6	20		W	55	Ca streamers extend both ways from this.
	18	5	47.5		W	25	Ca.
	13	2	60		W	20	Ca.
	13		70		W	10	Ca.
	13		82		W	15	Ca. Ca photographs 8 <sup>h</sup> 13 <sup>m</sup> , 8 <sup>h</sup> 45 <sup>m</sup> , and 10 <sup>h</sup> 42 <sup>m</sup> .
December 24. G.N.	8 25	..	72	...	E	15	Ca.
	9 3	4	56		E	40	
	8 25	3	34.5		E	40	Ca.
	25	3	25.5		E	20	Ca.
	25		16		E	15	Ca.
	57	3		14	E	40	See Note.
	50	1.5		28	E	70	At 8 <sup>h</sup> 13 <sup>m</sup> , there were a number of Ca streaks at the place. Changing.
	47			57	E	15	
	25			62	E	10	Ca.
	25			78	E	10	Ca.
	25			86.5	E	10	Ca.
	25			83.5	W	10	Ca.
	25			81	W	10	Ca.
	25			79	W	10	Ca.
	9 12	10		47	W	35	







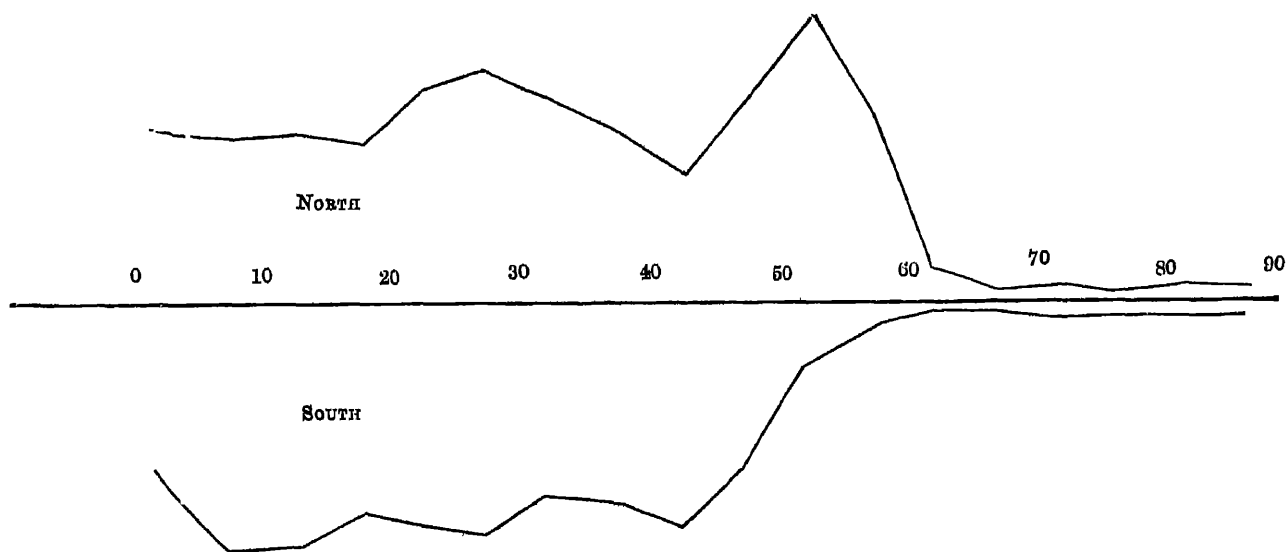
ABSTRACT FOR 1909.

Months.	Number of days of observation	Number of prominences.	Mean daily frequency.	Mean height.	Frequency in each hemisphere.			Mean heliographic latitude.	
					North.	South.	Equator.	North.	South.
January ... ..	27	643	23.8	27.9	11.2	12.4	0.2	33.9	38.1
February ... ..	28	654	23.4	27.9	11.1	12.1	0.2	34.2	34.6
March ... ..	30	658	21.9	27.8	10.7	11.2	0.0	34.4	35.9
April .. ...	29	624	21.5	29.7	10.3	11.1	0.1	34.9	31.0
May .. ...	27	535	19.8	27.4	10.1	9.6	0.1	35.3	33.6
June .. ...	25	424	17.0	25.1	7.9	8.9	0.1	34.7	35.7
July .. ...	18	240	13.3	24.4	7.2	6.2	0.0	37.9	32.3
August ... ..	25	423	17.1	24.5	8.4	8.5	0.1	30.7	35.2
September . . .	26	588	22.6	25.0	11.3	11.2	0.2	43.4	36.7
October . . .	29	519	17.9	25.6	9.6	8.3	0.0	35.4	30.7
November .. .	26	576	22.1	27.3	11.5	10.5	0.1	36.0	33.5
December ... ..	28	583	20.8	23.5	10.4	10.4	0.0	39.8	36.4
First quarter . . .	85	1,955	23.0	27.7	11.0	11.9	0.1	34.2	35.5
Second quarter ...	81	1,583	19.5	27.7	8.5	9.9	0.1	35.0	33.1
Third quarter .. .	69	1,256	18.2	24.7	8.2	8.9	0.1	40.0	35.4
Fourth quarter . .	83	1,378	20.2	26.5	10.4	9.7	0.1	37.1	33.7
First half-year ...	166	3,538	21.3	27.7	10.3	10.9	0.1	34.6	34.5
Second half-year ...	152	2,934	19.3	25.7	9.9	9.4	0.1	38.3	34.4
Year ... ..	318	6,472	20.4	26.8	10.1	10.2	0.1	36.3	34.4

Heliographic latitude of prominences in 1909.		Number of prominences in 1909.						Mean daily frequency (290) days.
		First quarter.	Second quarter.	Third quarter.	Fourth quarter.	First half-year.	Second half-year.	
North	90 to 81	30	23	39	41	53	80	0.419
	80 to 71	54	34	55	53	88	108	0.662
	70 to 61	41	41	39	39	82	78	0.541
	60 to 51	75	92	88	143	167	231	1.345
	50 to 41	162	123	84	93	283	177	1.561
	40 to 31	130	87	69	121	217	190	1.375
	30 to 21	129	135	103	120	264	223	1.615
	20 to 11	153	112	63	114	265	177	1.403
	10 to 1	180	124	94	143	284	237	1.760
Equator ..		12	10	6	5	22	11	0.111
South	1 to 10	144	131	101	141	275	242	1.747
	11 to 20	178	149	99	132	327	231	1.885
	21 to 30	169	128	90	137	287	227	1.730
	31 to 40	134	128	99	117	262	216	1.615
	41 to 50	129	82	74	111	221	185	1.372
	51 to 60	97	63	47	55	160	102	0.885
	61 to 70	63	42	30	36	105	66	0.578
	71 to 80	67	43	45	42	110	87	0.666
	81 to 90	88	26	31	35	64	66	0.439

**REMARKS ON THE DISTRIBUTION OF THE PROMINENCES DURING  
THE SECOND HALF OF 1909 AND A GENERAL SUMMARY  
FOR THE WHOLE YEAR.**

The general features of prominence distribution during the six months ending December 31st, 1909, are shown in the accompanying diagram which represents graphically the mean profile areas found for each zone of 5° of latitude.



MEAN PROFILE AREAS OF PROMINENCES,  
JULY 1ST TO DECEMBER 31ST, 1909.

Compared with the previous six months a general decrease of activity is shown, which may be partly due to the less favourable observing conditions prevailing during the monsoon months. The distribution in latitude remains practically unchanged excepting for an increase in latitude of about 5 degrees affecting the two maxima in the northern hemisphere, also the most northern active zone has become relatively more conspicuous, this zone having produced the greatest total area of any on the sun.

Only 15 metallic prominences were recorded during this period, five in the northern and ten in the southern hemisphere.

The activity as estimated by profile areas for the entire year shows a reduction of 23 per cent. compared with 1908. The figures for the two years are given in the following table:—

**MEAN PROFILE AREAS OF PROMINENCES.**

		1908.	1909.
		Square minutes.	Square minutes.
North	. . . . .	2.41	2.10
South	. . . . .	2.98	2.04
		Total	Total
		5.39	4.14

Considerable changes have taken place in the distribution in latitude compared with 1908. The polar regions in both hemispheres have been inactive, that is, the mean areas in the regions comprised between latitudes 65° and the poles have fallen to less than one-tenth of the areas found in lower latitudes. A well

marked zone of activity has developed between the parallels 45° and 55° in the northern hemisphere, a corresponding active region in the south recorded in 1908 having subsided. Such alternations between north and south have been recorded previously and appear to be a characteristic feature of prominence development. This change has had the effect of restoring the balance of activity between the hemispheres which have been sensibly equal in 1909.

There has been a great reduction in the number of metallic prominences recorded, particularly in the southern hemisphere, and the mean latitudes have decreased largely. The mean and extreme latitudes observed are given in the following table:—

*Metallic prominences.*

—	Number observed	Mean latitude.	Extreme latitudes.
North	21	8°·8	2°—16°
South	20	12°·2	2°—22°

The reduction in activity deduced from the mean areas is not shown by the mean frequencies, derived from the numbers of prominences observed, indicating that the prominences were on the average of smaller size in 1909 than in 1908.

In the abstract on page 258 the frequencies given are subject to a slight correction due to the prevalence of poor observing conditions during certain months. If allowance is made for difficult or partial observations, the half-yearly frequencies are as follows:—

Period.	Effective days of observation	Mean frequency per diem.*		Total mean frequency per diem.
		North.	South.	
January 1st to June 30th	159	10·7	11·4	22·2
July 1st to December 31st	137	10·9	10·4	21·4

\* Excluding equatorial prominences.

[ J. E. ]

## NOTES.

1909.

- July 6. Lat.  $-9^{\circ}$  E. This prominence was low at  $9^{\text{h}} 52^{\text{m}}$ , and  $10''$  high at  $9^{\text{h}} 53^{\text{m}}$ . Metallic.  $D_1, D_2, b_1, b_2, b_3, b_4$  were bright. It was growing in height. In Ca at  $9^{\text{h}} 42^{\text{m}}$  it consisted of faint streaks  $40''$  high, and at  $9^{\text{h}} 47^{\text{m}}$  it was  $50''$  high.
18. Lat.  $+7^{\circ}5$  W. A portion of the prominence at  $+8^{\circ}$  W was very bright at  $8^{\text{h}} 17^{\text{m}}$ . F was displaced slightly to violet. The bright portion had gone by  $8^{\text{h}} 49^{\text{m}}$   $20''$  and  $30''$  high in Ca.
- August 3. Lat.  $+21^{\circ}5$  W. The top was connected with the last prominence, and it extended also to lat.  $+35^{\circ}$  on the other side.
4. Lats.  $+30^{\circ}5$  and  $+23^{\circ}$  E. Form a single prominence in Ca extending from  $+23^{\circ}$  to  $+34^{\circ}$ . At lat.  $+23^{\circ}$  the prominence runs into the disc to an extent of  $45''$ .
8. Lat.  $-22^{\circ}5$  E. In Ca there is a low elevation from  $-7^{\circ}$  to the base of this prominence with a thin vertical streak  $30''$  high at lat.  $-16^{\circ}$  E.
14. Lat.  $+9^{\circ}$  E. Very bright. There was no trace of this at  $9^{\text{h}} 6^{\text{m}}$ . Changing. Only a detached streak  $20''$  high was seen here at  $10^{\text{h}} 20^{\text{m}}$ . Nothing was seen on the Ca photographs in this position from  $8^{\text{h}} 28^{\text{m}}$  to  $8^{\text{h}} 49^{\text{m}}$ .
16. Lat.  $+9^{\circ}$  W. The prominence was  $4^{\circ}$  broad, and  $25''$  high at  $9^{\text{h}} 22^{\text{m}}$ . In Ca at  $7^{\text{h}} 58^{\text{m}}$ , it was a streak  $15''$  high and extending from  $+10^{\circ}$  to  $+5^{\circ}$  W.
17. Lat.  $+25^{\circ}$  W. Ca streaks extend from the middle of this prominence to the limb on either side at lats.  $+20^{\circ}$  and  $+31^{\circ}$ .
21. Lat.  $-45^{\circ}$  E. Very faint.  $9^{\circ}$  broad in Ca. The prominence is surmounted in hydrogen by a detached cloudlet  $40''$  high. In Ca this cloudlet is  $60''$  in height, and connected to the top of the main prominence.
29. Lat.  $+22^{\circ}$  W. A series of prominences, all connected together, the highest of which was  $85''$  at lat.  $+25^{\circ}$ .
- September 6. Lat.  $+4^{\circ}$  E. Ca. A detached cloud extending over  $6^{\circ}$ , from lat.  $+1^{\circ}$  E to  $+7^{\circ}$  E. It was  $110''$  high at  $8^{\text{h}} 19^{\text{m}}$ ,  $115''$  at  $8^{\text{h}} 26^{\text{m}}$ ,  $130''$  at  $8^{\text{h}} 42^{\text{m}}$ , and  $140''$  at  $9^{\text{h}} 1^{\text{m}}$ .
8. Lat.  $-37^{\circ}5$  E. A Ca streak extends from the top of this to lat.  $+38^{\circ}$ . At  $8^{\text{h}} 46^{\text{m}}$ , the prominence was continued into the disc on the flocculus plate.
14. Lat.  $-2^{\circ}$  W. Metallic. The whole prominence showed displacement in O to red of about  $3 \text{ \AA}$ . At one moment, at  $-2^{\circ}$  W. the displacement was  $6.4 \text{ \AA}$  to red, and later  $4.0 \text{ \AA}$  to violet. At  $8^{\text{h}} 0^{\text{m}}$  a Ca streak from the top extended to  $130''$ ; but it had disappeared by  $9^{\text{h}} 7^{\text{m}}$ .
15. Lat.  $+16^{\circ}$  E. The height of the prominence was only  $20''$  at  $8^{\text{h}} 20^{\text{m}}$ . O was slightly displaced to red at  $8^{\text{h}} 20^{\text{m}}$ . Very bright. Metallic.  $D_1, D_2, b_1, b_2, b_3, b_4$  were bright. At  $8^{\text{h}} 59^{\text{m}}$  O was displaced both ways for about  $3.0 \text{ \AA}$ . Maximum amount was  $4.0 \text{ \AA}$  in F at  $9^{\text{h}} 0^{\text{m}}$ . The prominence was growing. Displacement in O to violet at  $9^{\text{h}} 2^{\text{m}}$  was  $2.0 \text{ \AA}$ .
16. Lats.  $-85^{\circ}5$  and  $-40^{\circ}5$  E. Connected. The Ca flocculus plate taken at  $8^{\text{h}} 12^{\text{m}}$  showed it as a regular arch  $30''$  high, with another similar, but inverted one just inside the disc, the two together forming a loop.
19. Lats.  $+23^{\circ}$  and  $+20^{\circ}$  E. In Ca they form a single prominence  $50''$  high, and slanting northwards.
20. Lat.  $-43^{\circ}5$  W. Ca. A faint detached cloud overhanging  $17^{\circ}$  of limb. It was fainter at  $8^{\text{h}} 40^{\text{m}}$  and had disappeared by  $9^{\text{h}} 21^{\text{m}}$ .
21. (1) Lat.  $-1^{\circ}5$  W. Ca. This prominence consisted of faint streaks covering  $25^{\circ}$  of the limb. Portions of these were seen in hydrogen at lats.  $+2^{\circ}$  and  $+11^{\circ}$  W about  $20''$  and  $10''$  in height.
- (2) Lat.  $+24^{\circ}$  W. Ca. Faint. A streak from the top slanting northwards reached to  $230''$  in height at  $9^{\text{h}} 5^{\text{m}}$  and  $285''$  at  $10^{\text{h}} 27^{\text{m}}$ .
22. Lats.  $-12^{\circ}, -5^{\circ}$ , and  $+1^{\circ}$  W. The Ca prominence extends over these, is  $130''$  in height, and its top bends down, and meets the limb again at  $+10^{\circ}$  W.
23. Lat.  $-18^{\circ}$  W. Ca. Rapidly changing. A streamer extends to lat.  $+4^{\circ}$ . Connected to the limb by a slender stem. Only a small portion was seen in hydrogen.

1909.

- September 28. At 10<sup>h</sup> 30<sup>m</sup>, a bright eruption of hydrogen was seen on the large spot, Greenwich No. 6728, and on the limb side of it. With a wide slit the prominence was seen distinctly though the weather was bad, and was seen to be changing rapidly. At 11<sup>h</sup> 0<sup>m</sup> F was displaced 0.4 Å to red, and 1 Å to violet; at 11<sup>h</sup> 3<sup>m</sup>, the amount was 1.7 Å to violet. The prominence was not quite continuous on the spot at 11<sup>h</sup> 0<sup>m</sup>. D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub>, b<sub>1</sub>, b<sub>2</sub>, b<sub>3</sub>, and b<sub>4</sub>, were brightly reversed on one of the umbrae at 11<sup>h</sup> 10<sup>m</sup>. The prominence extended both on the east, and west sides of the spot, but more on the west at 11<sup>h</sup> 11<sup>m</sup>. D was very dark on the whole prominence outside the spot on the limb side at 11<sup>h</sup> 23<sup>m</sup>. This eruption was apparently connected with a large magnetic disturbance \*
30. (1) Lats - 6°, and - 2° W. Connected. The prominence at - 2° W. was eruptive, and its form was rapidly changing. C was slightly displaced to red at the base of the prominence at 10<sup>h</sup> 15<sup>m</sup>. The height was 80" at 10<sup>h</sup> 15<sup>m</sup>. There was displacement of C to violet over the whole prominence at 10<sup>h</sup> 26<sup>m</sup>, and the amount was 1 Å in F. There was displacement at the south end of the prominence at 10<sup>h</sup> 33<sup>m</sup> of about 1.5 Å to violet. The height was steadily increasing at the south end at 10<sup>h</sup> 35<sup>m</sup>; b<sub>1</sub>, b<sub>2</sub> were bright in that position at 10<sup>h</sup> 42<sup>m</sup>, and F was displaced in the same place for 1.5 Å to violet, and 1 Å to red. There was displacement to red in F in several places between - 4° and - 10° W. The prominence had completely changed by 10<sup>h</sup> 46<sup>m</sup>. The two prominences had separated. There was no change between 10<sup>h</sup> 50<sup>m</sup> and 11<sup>h</sup> 15<sup>m</sup>. The successive Ca photographs showed changes in form, and height. At 10<sup>h</sup> 3<sup>m</sup> it was 90" and 55" high, at 10<sup>h</sup> 52<sup>m</sup> 20" and 40", and at 11<sup>h</sup> 55<sup>m</sup>, 20", 60", and 230" high.
- (2) Ca photographs. Flocculus:— 9<sup>h</sup> 38<sup>m</sup>, 10<sup>h</sup> 3<sup>m</sup>, 10<sup>h</sup> 10<sup>m</sup>, 10<sup>h</sup> 15<sup>m</sup>, 10<sup>h</sup> 17<sup>m</sup>, 10<sup>h</sup> 19<sup>m</sup>, 10<sup>h</sup> 53<sup>m</sup>, 10<sup>h</sup> 54<sup>m</sup>, 11<sup>h</sup> 35<sup>m</sup>, 11<sup>h</sup> 36<sup>m</sup>, and 12<sup>h</sup> 1<sup>m</sup>. Prominence:— 10<sup>h</sup> 30<sup>m</sup>, and 11<sup>h</sup> 55<sup>m</sup>.
- October 1. Lat. - 12° 5 E. The southern half of the prominence was very bright, and metallic. The following were the bright lines observed: D<sub>1</sub>, D<sub>2</sub>, b<sub>1</sub>, b<sub>2</sub>, b<sub>3</sub>, b<sub>4</sub>, 7765, 6677, and 4924.1 C was slightly displaced to violet at the top.
4. Lat. + 2° 5 E. A Ca streak at + 4° E. was 60" high. F was displaced 0.4 Å to red at base at + 5° E. D<sub>3</sub> was also slightly displaced to red.
7. Lat. + 6° 5 E. C was slightly displaced to red at the base. There was no displacement, and the prominence was nearly gone by 9<sup>h</sup> 0<sup>m</sup>.
14. (1) Lats. - 28°, and - 30° 5 E. Surmounted by a faint, slanting, detached streak 90" high, but not seen in Ca. The two prominences were changing in Ca.
- (2) Lat. + 2° W. In Ca it forms part of a prominence, extending from - 19° W. to + 12° W. and 75" high at the highest place.
16. Lats. - 10° and - 2° 5 W. Connected, and form a single prominence in Ca, extending from + 5° to - 15° W. and 15", 25", 40", and 30" high.
22. (1) Lat. + 49° 5 E. At 8<sup>h</sup> 8<sup>m</sup>, the Ca prominence was quite similar to the hydrogen one, but at 8<sup>h</sup> 27<sup>m</sup>, it was a detached vertical streak 55" high.
- (2) Lats. + 13° and + 17° 5 W. A Ca streak extends from + 8° W. to + 21° W. and passes through these.
29. Lat. - 41° E. A short streak. At 8<sup>h</sup> 23<sup>m</sup>, the prominence was fainter and consisted of two short streaks.
31. Lat. - 9° E. Bright. Eruptive. Metallic. b<sub>1</sub>, b<sub>2</sub>, b<sub>3</sub>, and b<sub>4</sub> were bright, and F was displaced both ways for about 1.0 Å at the top at 8<sup>h</sup> 15<sup>m</sup>. The forms of the prominence were different at 8<sup>h</sup> 16<sup>m</sup>, 8<sup>h</sup> 22<sup>m</sup>, and 9<sup>h</sup> 0<sup>m</sup>.
- November 2. Lat. + 63° 5 E. Ca. At 8<sup>h</sup> 10<sup>m</sup> the prominence consisted of two detached cloudlets 155" high; but at 8<sup>h</sup> 22<sup>m</sup>, it was a detached streak slanting eastwards as far as + 53° E, and 175" high. Nothing was seen here on the photographs at 8<sup>h</sup> 42<sup>m</sup>, 9<sup>h</sup> 13<sup>m</sup>, and 9<sup>h</sup> 18<sup>m</sup>.
3. Lat. + 20° E. The prominence was surmounted by a detached cloud 75" high, and 12° long. At 10<sup>h</sup> 30<sup>m</sup>, the upper and lower parts were nearer each other, and a streak from the former met the limb at + 14° 5 E.
6. Lat. + 19° E. Changing. At 9<sup>h</sup> 45<sup>m</sup> the top was not continuous, and the whole prominence was reduced to long streaks.
13. Lat. - 6° 5 W. F was displaced 1 Å to red at two points at - 6° 5 W. Two jets 40" high had formed there by 9<sup>h</sup> 16<sup>m</sup>. These jets were not seen on the Ca photographs.

\* See B. A. S., M N, Vol. Lxx, page 23

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- November 16. Lat.  $+3^\circ$  W. In Ca there were narrow streaks running almost parallel to the limb from  $+5^\circ$  to  $-3^\circ$  W. and connected to the limb by a small stem at  $+3^\circ$  W.
21. Lat.  $-13^\circ$  E. Bright and eruptive. C was displaced to red for about  $1.0 \text{ \AA}$  at the base, and to violet at the top for about  $0.5 \text{ \AA}$ . The prominence was broader, and of a slightly different shape at  $9^{\text{h}} 51^{\text{m}}$ .
29. Lat.  $+13^\circ$  E. A number of bright concentric arches  $30''$  high with a faint slanting streak about  $180''$  high. Metallic. The main part of the prominence was visible completely in  $b_1$ . F was displaced  $1.5 \text{ \AA}$  to red, and  $0.2 \text{ \AA}$  to violet near the base. The inner arches had disappeared by  $9^{\text{h}} 0^{\text{m}}$ . Small, and only  $10''$  high at  $10^{\text{h}} 10^{\text{m}}$ . In the Ca photographs the prominence was undergoing great, and very rapid changes.
30. Lat.  $+11^\circ.5$  E. Very bright and changing. At  $8^{\text{h}} 39^{\text{m}}$  this was a compact mass  $55''$  in height, and broader at the top than at the base. It was next observed at  $9^{\text{h}} 20^{\text{m}}$  when it was found blown up into thin streaks  $360''$  high with bright jets here and there showing a remarkable maximum displacement of about  $7.0 \text{ \AA}$  to violet, besides displacements in several places of lesser amounts. There was no displacement at  $9^{\text{h}} 26^{\text{m}}$ . At  $9^{\text{h}} 33^{\text{m}}$  there was displacement both ways at lat.  $+11^\circ$  E. The prominence was still  $360''$  high, but it consisted of only two tall streaks, the one starting from the base at  $+11^\circ$  E., the other starting from the middle of this, and slanting southwards. At  $9^{\text{h}} 36^{\text{m}}$ , the prominence was metallic, and  $b_1$  and  $b_2$  were bright. At  $9^{\text{h}} 40^{\text{m}}$  the prominence was only  $100''$  in height, and at  $9^{\text{h}} 43^{\text{m}}$  the southern streak had become detached and was  $80''$  high. This streak was not seen at  $9^{\text{h}} 44^{\text{m}}$ ; but it was very faintly visible, and  $150''$  high in the Ca photograph taken at  $10^{\text{h}} 10^{\text{m}}$ . The height of the prominence was only  $35''$  at  $9^{\text{h}} 54^{\text{m}}$ , and C was displaced to red for about  $1.0 \text{ \AA}$  at  $+9^\circ$  E. It was next observed at  $11^{\text{h}} 15^{\text{m}}$  when the southern streak was faintly seen and was about  $200''$  high. A small bank at  $+12^\circ$  E. was very bright. C was displaced to violet for about  $1.0 \text{ \AA}$  at  $+9^\circ$  E. At  $11^{\text{h}} 29^{\text{m}}$  there were only two small prominences at  $+9^\circ$  E. and  $+12^\circ$  E. The former was  $50''$  high, and latter about  $10''$ . But the displacement at  $+9^\circ$  E. persisted, and the amount was now  $1 \text{ \AA}$  to violet.
- December 5. (1) Lat.  $+36^\circ.5$  E. The southern part of the prominence was very faint. In Ca it was  $11''$  broad, and  $100''$  and  $50''$  high. Two Ca streaks from the top of this,  $80''$  in height, met the limb at  $+18^\circ$  and  $+22^\circ$  E. These streaks were surmounted by a small detached cloudlet.
- (2) Lat.  $-36^\circ$  E. A cloud connected to the limb by two stems at  $-34^\circ$  and  $-38^\circ$  E. It had slightly changed at  $9^{\text{h}} 23^{\text{m}}$ . There was a small elevation of the chromosphere in Ca from the stem at the northern end up to  $-29^\circ$  E.
- (3) Lat.  $-7^\circ$  W. Broader at the top. Streaks from the top flow southwards and northwards. The former meet limb at  $-16^\circ$  W. C was displaced to red at  $-1^\circ.5$  W. for about  $1.0 \text{ \AA}$ .
- (4) Lat.  $+14^\circ.5$  W. An irregular arch. C was displaced to violet at the top for about  $1.0 \text{ \AA}$ . Changing in Ca. At  $8^{\text{h}} 37^{\text{m}}$  it was a hook  $120''$  high with small jets close to it at the base. This changed into an arch  $115''$  high at  $9^{\text{h}} 7^{\text{m}}$  with higher jets close to it. At  $9^{\text{h}} 47^{\text{m}}$ , besides traces of the old arch, there was also seen a new arch  $105''$  in height.
6. (1) Lat.  $+39^\circ.5$  E. Narrow at top in hydrogen. In Ca it looks like brilliant jets  $75''$  high superposed on fainter jets  $100''$  high.
- (2) Lat.  $+84^\circ.5$  W.  $20''$  high at  $9^{\text{h}} 1^{\text{m}}$ ,  $25''$  at  $9^{\text{h}} 2^{\text{m}}$ , and very faint and slender at  $9^{\text{h}} 14^{\text{m}}$ . Disappeared by  $9^{\text{h}} 32^{\text{m}}$ .
- (3) Ca photographs  $8^{\text{h}} 23^{\text{m}}$ ,  $8^{\text{h}} 11^{\text{m}}$ ,  $8^{\text{h}} 40^{\text{m}}$ ,  $9^{\text{h}} 16^{\text{m}}$ ,  $9^{\text{h}} 36^{\text{m}}$ ,  $9^{\text{h}} 41^{\text{m}}$ ,  $10^{\text{h}} 15^{\text{m}}$ ,  $10^{\text{h}} 19^{\text{m}}$ ,  $11^{\text{h}} 8^{\text{m}}$ ,  $11^{\text{h}} 15^{\text{m}}$ ,  $11^{\text{h}} 34^{\text{m}}$ ,  $11^{\text{h}} 38^{\text{m}}$ , and  $11^{\text{h}} 41^{\text{m}}$ .
7. (1) Lat.  $+42^\circ$  E. Ca. Three jets close together. A detached cloud overhangs these at a height of  $180''$ . One of the jets had disappeared by  $8^{\text{h}} 28^{\text{m}}$ .
- (2) Lat.  $-5^\circ$  W. Ca. A cloud overhanging about  $10^\circ$  of this part of the limb, and connected with the prominence at  $-8^\circ$  W. by a slender bent stem. It had changed at  $10^{\text{h}} 19^{\text{m}}$ , and overhung about  $17^\circ$  of the limb, still at a height of  $150''$ .
41. (1) Lat.  $-12^\circ$  W. Very bright. C was displaced to red for about  $0.5 \text{ \AA}$  at the base. Metallic.  $b_1$ ,  $b_2$ ,  $b_3$ , and  $b_4$  were bright.
- (2) Lat.  $+54^\circ.5$  W. A small streak from about the middle of this prominence flows northwards and bends towards the limb.

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- December 14. Lat. + 48° W. Very faint. Top flows northwards as far as + 59° W. Changing in Ca. Differently shaped, and 70" and 45" high in Ca at 8<sup>h</sup> 27<sup>m</sup>.
15. Lat. + 8° E. A detached cloudlet C was slightly displaced to violet over it. In Ca it was a long detached strip extending to - 2° E.
22. Lat. + 9° E. Changing. Metallic. Showed displacement in C to red for 1.5 Å. D<sub>1</sub>, D<sub>2</sub>, b<sub>1</sub>, b<sub>2</sub>, b<sub>3</sub>, and b<sub>4</sub> were bright. The prominence had gone altogether by 9<sup>h</sup> 19<sup>m</sup>.
23. (1) Lat. + 55° 5 E. Ca. Changing. It was 20" high at 8<sup>h</sup> 45<sup>m</sup>, 30" at 10<sup>h</sup> 42<sup>m</sup>. A tall cloud rose over this to a height of 350" (which is the limit of the plate) at 10<sup>h</sup> 42<sup>m</sup>.
- (2) Lat. + 9° 5 E. The prominence consisted of a number of jets, some faint and others bright. Changing. At 8<sup>h</sup> 45<sup>m</sup> there was only one curved jet 75" high. The chromosphere near it showed displacement to red for about 5.0 Å in C.
24. Lat. - 14° E. Intensely bright, and metallic. Showed displacement to violet for 2.0 Å at 8<sup>h</sup> 25<sup>m</sup>. In Ca there was a network of streaks rising to 30" and 45" in height.
27. Lat. + 12° W. A thin Ca streak from the middle of this prominence meets the limb again at + 5° W. Others from the top flow northwards to + 23° W.
31. Lat. - 35° E. The shape of the prominence was slightly different at 9<sup>h</sup> 5<sup>m</sup>. C was slightly displaced to violet at the top at 9<sup>h</sup> 5<sup>m</sup>. In Ca it was 10" high at 8<sup>h</sup> 18<sup>m</sup>, and 20" at 8<sup>h</sup> 34<sup>m</sup>.

KODAIKĀNAL,  
8th July 1910.

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