

# Kodaikanal Observatory.

## BULLETIN No. XIX.

### LIST OF PROMINENCES OBSERVED BETWEEN 1909 JANUARY 1 AND 1909 JUNE 30.

This list is a continuation of that published in Bulletin No XVII. and contains all prominences recorded both visually and photographically during the first 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	..	..	..	..	..	..	..	..	..	141
Partial	do.	do.	..	..	..	..	..	..	..	24
No	do.	do.	..	..	..	..	..	..	..	16
Complete spectroheliograph records	..	..	..	..	..	..	..	..	..	139
Partial	do.	do.	..	..	..	..	..	..	..	24
No	do.	do.	..	..	..	..	..	..	..	18

Date and observer.	Hour I.S.T	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
January 4.	S.S.		37.5	...	E	50	
				11	E	10	} Tops meet.
				14.5	E	25	
				17.5	E	25	
				56	E	25	
				40	W	15	
				36	W	20	} Detached.
				25.5	W	20	
		2		21	W	30	
		2		18	W	60	
				7.5	W	25	
			5		W	10	
			29		W	25	
			41		W	20	
		1.5	55		W	15	
January 5.	A.Y.S.		56	..	E	15	Ca. A faint arch
			51		E	20	Ca.
			49.5		E	Low	Bright.
		2	44		E	20	Ca.
			42		E	30	
		1.5	39		E	30	20" in Ca.
			36		E	15	Ca.
			24		E	10	Faint.
			13		E	10	
		10		3	E	85, 20	14° broad in Ca.
				12	E	25	} A Ca streak from top meets limb at — 17° E. } Base and top connected in Ca, and 30", 40", and 20" high in it.



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
January 8. —contd.	S.S.	...		65.5	W	10	Very low at 8 <sup>h</sup> 34 <sup>m</sup> .
				58	W	10	Ca.
				50	W	10	Ca.
		2		47	W	25	} Connected.
		2		43.5	W	35	
				32	W	15	Ca.
				26	W	10	20" in Ca.
		12	2		W	30	Ca. A small portion of this, 30" high, is seen in H at lat. + 8° W.
		1	25		W	25	4° broad in Ca
			33		W	10	Ca.
		4	39		W	25	Ca.
			50		W	50 ±	A slanting streak. Shape slightly different and height 40" and 25" in Ca.
			71.5		W	20	Ca. Slants westwards. Ca photograph 8 <sup>h</sup> 20 <sup>m</sup> .
January 9.	A.Y.S.	15	31	...	E	45, 75	Changing. 28° broad, 105" and 50" high in Ca.
			6		E	15	Ca
		1	3.5		E	10	Faint
		3	0.5		E	30	5° broad in Ca.
				8	E	20	Ca.
				13	E	20	
				16	E	10	Ca.
		3	22.5		E	20	A small Ca streak proceeds from this and meets the last prominence
		7	37.5		E	45	
			64.5		E	10	Faint and 45" high in Ca.
			79		E	10	
			82		E	20	Ca. Slants southwards. Seen only at 8 <sup>h</sup> 20 <sup>m</sup> .
		9	52		W	20	Ca. } Tops meet.
		1	49.5		W	20	
		2	44		W	45	6° broad in Ca.
			29		W	10	Ca.
			12.5		W	10	
			5		W	25	Slants northwards } See Note 1.
			6		W	20	
		1	9		W	30	
			15		W	30	Ca. } Faint and slender streaks.
			16		W	30	Ca. }
		14	26		W	30, 40	See Note 2.
			34.5		W	20	Ca.
			38.5		W	30	Ca.
			45.5		W	10	
		3	49.5		W	30	See Note 3.
			70.5		W	15	Ca.
							Ca photographs 9 <sup>h</sup> 19 <sup>m</sup> and 8 <sup>h</sup> 20 <sup>m</sup> .
January 10.	S.S.	...	84.5	.	E	25 ±	Faint.
			78.5		E	15	Hook-like. At 8 <sup>h</sup> 49 <sup>m</sup> the hook-like form was gone 20" high in Ca at 8 <sup>h</sup> 32 <sup>m</sup> , gone at 9 <sup>h</sup> 9 <sup>m</sup> .
			90.5		E	50	Ca. A streak slanting eastwards.
			58		E	10	
		1.5	45		E	20	
		3	32.5		E	25	
		5	25		E	30	} Form a single connected prominence in Ca extending from + 50° E to + 10° E and 50", 45" and 30" high.
			20		E	20	
			18.5		E	20	
			18.5		E	10	
			14.5		E	10	
		1.5	8		E	15	Ca.
			6		E	20	
		2	20		E	30	Faint, 5° broad and 45" high in Ca.
		2	24		E	10	
		1	27.5		E	20	} Connected in Ca.
		4	38		E	40	
			42		E	10	Ca.
			68.5		E	20	Ca.
			78.5		W	20	Very faint in H. Faint and detached in Ca.
			69.5		W	10	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
January 10. S.S. —contd.	8 32	...	...	55	W	10	Ca.
	13			52	W	40	
	12	2		46	W	35	Top flows southwards.
	32	4		41	W	50	Ca. } Connected in Ca.
	8			37	W	20	
	6			35	W	10	
	9 15			33	W	40	Faint.
	8 32			17	W	10	Ca.
	9 11	2		18	W	20	4° broad and 35" high in Ca.
	8 32			10	W	10	Ca.
	32			9	W	10	Ca.
	9 9	5	0.5		W	100, 80 ±	Top very faint. 11° broad in Ca.
	6		10		W	20	D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> bright; 10" high in Ca.
	8 32		14		W	75	Ca. A detached streak.
	9 4	3	16.5		W	30	
	2	4	24		W	35	Tops connected, 50" and 45" high in Ca.
	0		29.5		W	50 ±	
	8 59	2	32		W	30	Connected in Ca.
	55	1	47		W	40	2° broad in Ca.
	52		82		W	10	
							Ca photographs 8h 32m and 9h 9m.
January 11. A.Y.S.	9 0	...	84.5	...	E	30	Changing rapidly.
	57		71.5		E	30	Ca.
	57	4	48		E	30	Ca.
	8 54	4	40		E	50	8° broad and 25", 45" and 50" high in Ca.
	40	5		2	E	65	50" high in Ca. } Connected in Ca.
	36			11.5	E	40	4° broad and 30" high in Ca. }
	29			17	E	30 ±	Faint. Three thin streaks 90" and 60" high in Ca. at 9h 57m. Changing. Not so high at 8h 33m.
	9 57			21	E	25	Ca.
	57			32	E	20	Ca. An arch.
	57	1		37.5	E	30	Ca. A jet. } Connected in Ca.
	8 24	1		40.5	E	20	
	21			75.5	E	10	20" in Ca.
	9 57			80	E	20	Ca.
	27	2		58	W	20	
	57	1		48.5	W	15	Ca. A streamer from top meets the last prominence.
	24			8	W	10	
	22	1		4.5	W	50	Changing At 8h 33m in Ca these were thin streaks 90" and 70" high extending from the equator to - 15° W.
	57			1	W	45	Ca. }
	57	1	4.5		W	50	Ca.
	18	1	10		W	10	
	15		17		W	20	At 8h 14m in Ca, a streak from top of this extends from + 12° to + 19° W.
	57	2	22		W	40	Ca. Streaks extend bothways. One of these meets limb at + 17° W.
	14	5	32.5		W	50	40" in Ca.
	9		43		W	15	
	7		45		W	15	Faint.
	5		47		W	30	10" only in Ca.
	57		86		W	10	Ca.
							Ca photographs 9h 57m, 8h 33m and 8h 14m.
January 12. G.N.	8 3	...	42		E	15	Ca. }
	9 5	1	40		E	30	
	5		84.5		E	45 ±	} See Note.
	11 46		30		E	70 ±	
	9 10		3		E	15	
	10	3		0.5	E	35	
	10	1		4	E	30	
	5	4		11	E	60	Ca streamers extend from this to meet the prominences on either side.
	8 50	1		18	E	15	
	50	4		22	E	20	
	50	1		25	E	15	
	3			45	E	40	Ca.
	3	2		57.5	W	15	Ca.
	9 15	2		52	W	50	
	8 8			5	W	25	Ca



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
January 14. A.Y.S. —contd.	10 1	3	.	1	W	30	Ca Three prominences 25" } Tops connected by only at 9 <sup>h</sup> 27 <sup>m</sup> . } a streak at 9 <sup>h</sup> 27 <sup>m</sup> . Ca. Seen only at 9 <sup>h</sup> 27 <sup>m</sup> . }
	9 27		5.5		W	25	
	10 1		15		W	15	Ca.
	29	3	25.5		W	15	Ca.
	1	1	30.5		W	10	Ca.
	28	5	35.5		W	60 ±	Faint. Filamental. Top flows westwards and is 150" high in Ca
	20		50		W	10	
	9 27	1	84		W	30	Ca. Seen only at 9 <sup>h</sup> 27 <sup>m</sup> . Ca photographs 10 <sup>h</sup> 1 <sup>m</sup> and 9 <sup>h</sup> 27 <sup>m</sup> .
January 15. S.S.	9 1	..	63	..	E	10	
	8 15		55.5		E	40	Ca.
	59		50		E	10	
	15	0.5	42		E	15	Ca. Slants northwards
	55	0.5	35		E	15	30" high in Ca, and top bends and meets limb at + 28° E. in it.
	9 48		21		E	20	
	8 15		15		E	20	Ca.
	47		14		E	10	60" high in Ca at 8 <sup>h</sup> 15 <sup>m</sup> . } Not seen at 8 <sup>h</sup> 50 <sup>m</sup> . Do.
	47		10.5		E	10	
	46	1.5	7		E	35	Changing. In Ca at 8 <sup>h</sup> 15 <sup>m</sup> this consisted of two small streaks 30" and 40" high.
	45	4.5	1.5		E	10	See Note 1.
	15	9		11.5	E	20	Ca. See Note 2
	15	2		19	E	90	Ca. Top slants as far as — 12° E.
	40			23	E	20	Faint. }
	38			30	E	20	} Tops connected by a Ca streak.
	38			31	W	20	
	35			45	E	10	
	15			49	E	10	Ca.
	33			53	E	10	} Connected and 15" high in Ca.
	33	1		55.5	E	25	
	30			60.5	E	35	} Connected and 30" high in Ca.
	30			65	E	40	
	30			68	E	20	
	26			85	W	10	
	9 39	2		54.5	W	20	
	8 15	1		48.5	W	30	Ca.
	9 35			42	W	30	15" high in Ca.
	34	1		38.5	W	10	
	33	8		23.5	W	50	11" broad in Ca.
	8 15			9	W	15	Ca. Faint.
	15			6	W	10	
	15			8	W	15	Ca. Faint.
	9 27	5	6		W	20	
	21	1	19		W	25	} Connected by a thin Ca streak 75" high.
	18	2	26.5		W	35	
	15	2	33.5		W	150 ±	180" high in Ca
	10		44.5		W	10	Faint.
	8 15	1	74.5		W	10	Ca. Ca photographs 8 <sup>h</sup> 15 <sup>m</sup> and 8 <sup>h</sup> 27 <sup>m</sup> .
January 16. G.N.	9 10	..	68.5	..	E	20	
	8 27		38		E	10	Ca.
	27		19		E	10	Ca.
	27		12		E	20	Ca. Slants northwards
	27	2	10		E	100	Ca.
	9 5	2	8.5		E	80	Eruptive. Metalho. } Tops connected in Ca.
	5	1	3.5		E	30	
	8 27	2		24	E	10	Ca.
	9 0			28	E	20	
	8 27			54	E	20	Ca. Top flows southwards and meets the next prominence.
	55	7		63	E	30, 40	
	27			85.5		15	Ca.
	27			72.5	W	15	Ca.
	9 30	1		55.5	W	10	
	8 27			54	W	40	Ca.
	27			49	W	20	Ca.



Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1900.	H. M.	°	°	°		"	
January 19. —contd.	G.N.	..	32	..	E	120	Ca. A detached cloudlet.
			22		E	120	Ca. A streak slanting northwards.
			13		E	30	Ca.
			8		E	20	
		5		10.5	E	30 ±	See Note 1.
	10 0			22	E	20	
	9 38	8		38	E	40	Ca.
	10 0	1		43.5	E	20	
	9 58	1		25	W	30	See Note 2.
	55	11		10	W	55	See Note 3.
	52		Equator.		W	10	
	50	2	8		W	20	
	50		10		W	30	Detached.
	48	3	18.5		W	20	5° broad in Ca.
	9 47		25		W	30	
							Ca photographs 9 <sup>h</sup> 38 <sup>m</sup> , 10 <sup>h</sup> 22 <sup>m</sup> (poor and incomplete on W limb), 9 <sup>h</sup> 25 <sup>m</sup> (focculus).
January 20.	S.S.	...	69.5	.	E	10	
			60.5		E	20	Faint.
	8 57		33		E	10	Very faint.
	56		30		E	30 ±	Very faint. } See Note,
	53		14		E	20 ±	Top very faint. }
	43			41	E	30	
	43			47	E	20	
	43	1		48.5	E	45	Connected in Ca.
	39			51.5	E	15	Ca.
	36			74	E	15	30" high in Ca.
	34			85	W	10	
	39	4		56.5	W	20	Ca.
	9 36			41	W	10	
	8 39			32	W	10	Ca.
	9 33			28	W	15	Slants southwards.
	31			19	W	10	
	30			14	W		
	28	2	5.5		W	30	Top bends and meets limb at +10°W. O slightly displaced to violet in the upper half of the prominence
							A thin Ca streak from top flows westwards and meets limb at +12°W.
	20		17		W	20	
	18		21.5		W	40	Very faint. Slants as far as +27°W.
	15		37		W	15	Very faint. Slants both ways in Ca to +32°W. and +46°W. Differently shaped at 11 <sup>h</sup> 4 <sup>m</sup> in Ca.
	10		45		W	35	Connected with the last in Ca.
	10	1	50		W	15	8° broad in Ca. Ca photographs 8 <sup>h</sup> 39 <sup>m</sup> and 11 <sup>h</sup> 4 <sup>m</sup> .
January 21.	A.Y.S.	2	83.5	...	E	15	Ca.
			63.5		E	10	
		3	55		E	40	Ca.
			51.5		E	15	Ca.
			39.5		E	10	
			28		E	10	Slants eastwards, and is 110" high in Ca.
			18		E	30	Ca. Detached.
			17		E	15	Slants eastwards in Ca.
				13.5	E	10	
		13		47.5	E	80, 20, 30	15° broad, and 40" and 110" high in Ca.
				74	E	10	Ca.
				77	E	15	Ca.
				79	E	15	Ca.
				79.5	W	15	
				67.5	W	10	Ca.
				65.5	W	15	Ca.
				11	W	30	Ca.
	9 13		15		W	30	Detached. 45" in Ca. A thin Ca streak from this flows westwards and meets limb at +9°W.
		2	21		W	40	Bright.
		4	49.5		W	30	An arch.
	8 59		81		W	30 ±	Ca photographs 8 <sup>h</sup> 19 <sup>m</sup> and 14 <sup>h</sup> 41 <sup>m</sup>





Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.							
January 25. S.S.	H. M.	°	°	°		"	
	9 40		75.5	...	E	10	Ca.
	8 54		52.5		E	20	
	9 36	2	45.5		E	30	
	31		36.5		E	10	
	29	1	28.5		E	10	25" high in Ca.
	25		11		E	25 ±	Faint
	16	3	6.5		E	40	See Note } Connected and changing in Ca. At 8h 43m shape was slightly different, and height 70", 80" and 60" in it.
	11			16	E	40 ±	
	9			18	E	30	
	9			19	E		C slightly displaced } Connected and 90" and 70" to red. 20" high } high in Ca.
	5	6		31	E	45	
	8 59			55.5	E	10	
	52			84.5	E	10	
	50			74	W	10	
	10 10	4		36	W	15	8° broad, and 10" and 20" high in Ca, and top slants and meets the next prominence in it.
	5	4		28	W	40	50" high in Ca.
	0	18		1	W	40	
	9 55	2	22		W	10	
	47	5	45		W	30, 20	
8 54		57.5		W	10	Ca.	
54		83		W	10	Ca.	
9 42		84.5		W	15	Ca photographs 8h 54m and 8h 43m	
January 26. A.Y.S.	8 31	...	61.5		E	15	Ca.
	31		60.5		E	15	Ca.
	31		51.5		E	16	Ca.
	31		48.5		E	20	Ca.
	10 16		47.5		E	10	20" high in Ca.
	8 31		45.5		E	20	Ca.
	31		41		E	15	Ca.
	31		38		E	10	Ca.
	31		33		E	10	Ca.
	31	6	9		E	20, 70, 90	Ca. Top bends as far as + 1° E. A small portion of this, 10" high, was seen in H at 10h 13m.
	10 9	1		17	E	10	In Ca this consists of small jets intensely bright on focculus plates 40" and 15" high.
	9 42	2		25	E	25	15" in Ca.
	29	1		32	E	15	80" in Ca.
	27			36	E	15	
	8 52			48.5	E	50	Top bends bothways and meets limb at - 89° E and - 48° E.
	46	1		52	E	25	Top flows southwards and meets the next prominence in Ca.
	45			57.5	E	10	
	43			66.5	E	50	40" in Ca.
	31			78.5	E	10	Ca.
	31			79.5	E	10	Ca.
38			83.5	E	10		
31			55.5	W	15	Ca.	
10 38	6		20	W	30, 40	See Note	
25			14	W	10		
8 31	1	8.5		W	10	Ca. An arch.	
10 24	1	11.5		W	10		
22	1	20.5		W	80	40" high in Ca	
21	2	44.5		W	20	8° broad in Ca. Ca photographs 8h 31m and 8h 43m.	
January 27. G.N.	11 12	...	37	...	E	40	Ca. Slants northwards.
	12		23		E	15	Ca.
	12		11		E	40	Ca. Faint
	9 26	2	2		E	30	
	25	1		8	E	20	
	11 12			16	E	15	Ca.
	9 24	1		24	E	15	
	24	2		26	E	15	
	11 12			30	E	10	Ca.
	12			32	E	10	Ca.
12			42	E	15	Ca.	

Date and observer.	Hour I.S.T.	Base	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
January 27. G.N. contd.	9 22 11 12 9 22 22 20 37 35 33 33 11 12 9 30 11 12	3 1.5    3 0.5 1 22 8	..       19 32 38.5	44.5 50 55.5 60 62.5 40 28.5 17 14.5	E E E E E W W W W W W	20 20 30 30 65 ± 15 20 10 15 ± 40, 50 30 45	Ca. Faint. Slants eastwards, and is 40" high in Ca. Form a single prominence in Ca 100" high, extending from -60° E to -62° E. Shows displacement to violet for about 0.5 Å.  Ca. Not in Ca. Ca. Ca photograph 11h 12m.
January 28. S.S.	13 40 14 2 9 35 35 14 23 27 9 35 14 37 42 44 44 44 9 35 35 14 46 9 35	1 1   1         4	82 57            36	.  3 6 12.5 46.5 55.5 59.5 84 81.5 81 78.5 76.5 29 28 10	E E E E E E E W W W W W W W W	20 10 10 20 25 20 20 40 10 10 10 10 10 10 10 10 25	Ca. Ca. Ca. Ca. Slants eastwards.  Ca. Ca. Ca. Faint. Seeing very bad. + 40° W to north pole could not be observed. Ca photograph 9h 35m; flocculus only.
January 29. A.Y.S.	8 53 10 29 28 29 8 49 10 29 29 21 8 36 34 10 29 8 30 9 14 50 8 59	4       1 1.5   0.5 1.5	82 87 25 14 10      2 21.5	...    10 15 30.5 33.5 43.5 50.5 68 20	E E E E E E E E E E E W W W	10 240 60 40 15 ± 40 20 30 30 30 30 25 10 ± 35	Bright. Ca. Ca. A streak slanting northwards. Ca. Ca. Ca. Ca. Ca. Ca. Very faint. 4" broad and 25" high in Ca. Seeing bad. Bright sky and unsteady limb. Ca photograph 10h 29m (poor).
January 30. G.N.	8 44 9 22 31 8 44 44 9 29 29 28 28 20 20 8 44 44 9 39 39 36 35 34	...    1 1.5   3 1 2 0.5 2	47.5 19 2.5  1 15 42.5 49.5 59.5 67 77.5 75.5 20.5 7 14 21 38.5 44.5 48.5	E E E E E E E E E E W W W W W W W W	20 15 Low 30 20 10 10 80, 10 20 15 15 25 10 25 15 15 15	Ca. Chromosphere very bright. Ca. A streak slanting southwards. Ca. 20" high in Ca. Faint. Top flows eastwards. Faint. Ca. Tops connected by a Ca streak. Ca photograph 8h 44m (poor).	

Date and observer	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M.	°	°	°		"	
January 31. S.S.	9 14	2	38 5	...	E	120 ±	Faint. Shape slightly different and heights 70" and 25" in Ca.
	10 0		45.5		E	80	Ca. Detached.
	9 11		88		E	30	
	7		Equator.		E	15	
	4	4		17 5	E	85	Top flows eastwards and meets the last prominence. 9° broad and 50" high in Ca
	8 59			48	E	15	
	9 50			79.5	W	10	Faint.
	39	7		16.5	W	70	
	84	4		Equator.	W	25	
	32		17		W	15	
	29	4	39.5		W	20	
	24		59		W	20	Observed through thin cirrus. Ca photograph 10h 0m.
February 1. A.Y.S.	9 45	...	69.5	.	E	10	
	28		47.5		E	35 ±	Very faint Detached. Changing in Ca, 45" high at 8h 42m and 60" high at 9h 44m.
	24		45.5		E	10	
	15		41.5		E	45	Faint.
	13		30		E	10	
	44		25		E	30	Ca. Very faint.
	10		12		E	15	
	0	1		13 5	E	60, 25	Top bends and meets limb at — 6°E Streaks proceed bothways
	8 52	3		25.5	E	10	} Connected in Ca.
	52			29	E	10	
	51			34	E	10	
	9 44			51.5	E	15	Ca. Faint.
	10 10			55.5	W	15	
	9			37	W	20	Very faint. 2° broad in Ca.
	0	9		16.5	W	100	Two big prominences with tops connected. 100" and 75" high in Ca.
	8 49	4	88		W	15	Ca. Seen only at 8h 49m. A thin streak almost parallel to limb.
	9 44	2	38.5		W	10, 20	40" high in Ca
	48		52.5		W	10	
	44		78 5		W	15	Ca. Faint. Ca photographs 9h 44m and 8h 49m.
February 2. G.N.	8 46	3	50	..	E	60	Ca.
	46		47.5		E	15	Ca.
	46	2	45.5		E	30	Ca.
	9 6	2	31		E	25	
	8		10		E	15, 20	Only 10" in Ca.
	1	6		12	E	80, 20, 25	Surmounted in Ca by a detached cloud 100" high.
	8 58			29	E	10	
	40			75	W	15	Ca.
	9 22	4		87	W	45, 25	
	19	3		14.5	W	60	Top flows southwards 70" and 80" high in Ca.
	14		2		W	10	
	13	4	24		W	25	
	8 46	9	30.5		W	100, 135	Ca. Connected with the last. Slants as far as +46°W.
	46		48.5		W	15	Ca.
	9 10		48 5		W	15	
	10		50 5		W	15	Ca photographs 8h 46m and 9h 15m.
February 3. S.S.	8 49	...	49.5	..	E	70	Ca. } Connected in Ca.
	0 6	1	47.5		E	50	
	6		44		E	30	
	6	1	41.5		E	25	
	0		22		E	20	

Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North.	South.			
1909.	H.	M.	°	"	"		'	
February 3 — <i>conid.</i>	S.S.	9 0	.	20	.	E	10	
		8 58	1	11	.	E	20	Faint.
		49		Equator.		E	15	Ca.
		9 52		5		E	10	
		8 49		22		E	20	Ca.
		49		26		E	15	Ca.
		49		30		E	15	Ca.
		50		38.5		E	10	
		49		71		E	10	Ca.
		9 3	2	38.5		W	30	20' high in Ca.
				20		W	00, 45	Ca. Bends bothways. A small portion of this 15" high is seen in H.
		9 35		1		W	10	Faint.
		34		3		W	10	
		32		12		W	10	
		30	3	23		W	30	} Form a single connected prominence in Ca, ex- tending from + 31° W to + 12° W and 60' and 45' in height.
		30	2	27.5		W	25	
		25		55.5		W	10	Observed through cirrus. Ca photograph 8 <sup>h</sup> 49 <sup>m</sup> .
February 4.	A.Y.S.	9 14	...	76	...	E	10	
		8 38		70		E	15	Ca.
		9 12		55.5		E	15	
		10	2	48.5		E	40	} Connected in Ca.
		8	3	48.5		E	20	
		6		38.5		E	15	
		5	1	23.5		E	30	Top bends and meets limb at + 20° E.
		8 38		1		E	15	Ca.
		9 3			1	E	25	
		8 38	4		4	E	20	
		52			6.5	E	25	
		55			9.5	E	10	
		47			13	E	10	
		44			23	E	10	Slants northwards. 30' in Ca.
		43			32	E	10	
		40			42	E	20	Faint.
		35			64	E	10	
		35	1		66	E	15	
		38			58.5	W	10	Ca.
		9 39	4		40.5	W	40	
		36	2		20	W	65	100' in Ca. Ca streaks extend to - 16° W.
		8 38	2		10	W	45	Ca. Slants southwards.
		9 32	2	3		W	45	See Note 1.
		30		11		W	25	
		22	15	24.5		W	70	See Note 2. Ca photographs 8 <sup>h</sup> 33 <sup>m</sup> and 8 <sup>h</sup> 55 <sup>m</sup> .
February 5.	G.N.	9 27	2	51.5	..	E	35	
		25		27		E	15	
		25	1	25		E	20	30" high in Ca.
		8 59		3		E	15	
		10 14	6		22	E	40	Ca.
		14			40.5	E	35	Ca.
		8 52			54.5	E	15	
		50	0.5		75.5	W	15	
		10 14			45.5	W	15	Ca. Faint.
		9 37	2		42.5	W	35	
		10 14	13		21.5	W	70	Ca. Faint.
		9 35			5.5	W	15	
		35		1		W	25	} Connected by a streak in Ca.
		10 14		8		W	15	
		14		11.5		W	40	Ca. Detached.
		14		22		W	60	} Connected, and 60" and 85" high in Ca.
		14	1.5	24.5		W	20	
		9 32	4	29		W	60 ±	
		8 52		52.5		W	30	Ca. Detached. Seen only at 8 <sup>h</sup> 52 <sup>m</sup> .
		9 30		58.5		W	15	Seen only at 8 <sup>h</sup> 52 <sup>m</sup> in Ca. Poor weather. Ca photographs 10 <sup>h</sup> 14 <sup>m</sup> and 8 <sup>h</sup> 52 <sup>m</sup> .

Date and observer.	Hour I S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1909.	H. M	°	°	°		"	
February 6.	S.S.	...	72	..	E	15	
	9 0	...	54.5		E	10	Ca.
	8 31		53.5		E	10	Ca.
	58		50.5		E	10	
	58		49.5		E	20	
	55		37.5		E	25	45" high in Ca.
	31		34.5		E	10	Ca.
	52		32		E	15	
	48	3	12.5		E	30	40" high in Ca. Slants northwards.
	31			8	E	20	Ca.
	42			22	E	15	
	40			34	E	20	Ca. Seen only at 8 <sup>h</sup> 49 <sup>m</sup> .
	39	5		38	E	70 ± 40 ±	Two faint prominences. 40" only in Ca.
	29			79	W	20	} Slant toward and meet each other.
	27			74.5	W	20	
	31			66	W	10	Ca.
	31			67.5	W	10	Ca.
	9 42	4		40.5	W	30	
	30	1		30.5	W	30	Faint.
	28	0.5		23	W	20	
	8 31	5		18.5	W	50	
	9 23		2		W	10	Ca. A faint arch with another small arch within. Visible in D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> , and 20" high in Ca. A thin Ca. streak from top meets limb at - 5° W.
	20	1		8	W	20	
	17			12	W	Low	D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> bright.
	17			15	W	Low	D <sub>1</sub> , D <sub>2</sub> , b <sub>1</sub> , b <sub>2</sub> bright.
	17	2		23	W	30	See Note.
	18	2		29	W	20	40" high in Ca.
9 11			40.5	W	15		
8			57.5	W	15		
8 31			82.5	W	15	Ca. Ca photographs 8 <sup>h</sup> 31 <sup>m</sup> and 8 <sup>h</sup> 49 <sup>m</sup> .	
February 7.	S.S.	...	83	...	E	20	Ca.
	8 25	...	70		E	15	Ca.
	9 20		60.5		E	10	
	18		50.5		E	15	Ca.
	8 25	2	46		E	50	} Connected in Ca.
	25	1	40		E	25	
	9 15	1	36.5		E	10	
	14		29.5		E	10	20" high in Ca.
	12	1	25		E	20	Ca.
	8 25	6	13		E	30	30" and 40" high in Ca.
	8 25		4		E	30	Ca.
	9 8	1.5	0.5		E	15	
	8 25	1	3.5		E	30	Ca.
	9 0	3		0.5	E	40	} Connected in Ca.
	3	2		12	E	40	
	8 40	2		18	E	10	Top flows northwards.
	46	0.5		24	E	25	See Note.
	25			26	E	10	Ca.
	42			38	E	25	Faint.
	39			50	E	10	
	38			80	E	10	
	35			83.5	E	10	
	46			82	W	30	Ca. 15" only at 8 <sup>h</sup> 25 <sup>m</sup> .
	9 40	7		46	W	25	35" high in Ca.
	8 25	8		33.5	W	10	Ca.
	9 35	1		25	W	25, 70 ±	Top faint, and detached. A Ca. streak from top meets limb at - 32° W.
	8 25			11	W	15	Ca.
9 31			8	W	20		
8 25	11		3	W	75'	Ca. An arch.	
25			11	W	15	Ca.	
9 29			15	W	20		
8 25			68	W	20	Ca. Ca photographs 8 <sup>h</sup> 25 <sup>m</sup> and 8 <sup>h</sup> 46 <sup>m</sup> .	
February 8.	G.N.	...	76.5	..	E	20	Ca.
	8 38	...	52.5		E	15	
	9 12	7	45		E	70	60" high in Ca.







Date and observer.	Hour L.S.T.		Base.	Latitude.		Limb.	Height	Remarks.
				North.	South.			
1909.	H.	M.	°	'	"			
February 12. G.N. —contd.	8	16	...	...	46.5	W	15	Ca. Detached.
	9	9			45.5	W	10	
		8	4		31	W	40	
		8 16			28	W	50	Ca. A slender vertical streak.
		9 6	2		9	W	25	35" high in Ca.
			1		0.5	W	10	A Ca streak from top, 30" high, flows as far as + 4° W.
		8 2		7		W	40	Ca. Seen only at 8 <sup>h</sup> 2 <sup>m</sup> . A streak from top, 30" high, extends as far as + 13° W.
		9 3	1	21 5		W	30	} Tops connected, and 55" high in Ca.
				28		W	25	
				32		W	10	Ca.
			1	47		W	20	
			2	54.5		W	25	Ca.
				59.5		W	15	Ca.
								Ca photographs 8 <sup>h</sup> 16 <sup>m</sup> and 8 <sup>h</sup> 2 <sup>m</sup> .
February 13. A.Y.S.	9	13	...	32.5	..	E	15	40" high in Ca.
	8	18		70		E	10	Ca.
	9	3		40.5		E	35	Base bright. Top faint and 50" high.
		0	4	24		E	20	
		8 50	4	14		E	35	45" high in Ca.
				6		E	20	Bright, detached.
				Equator.		E	10	
				12		E	30	Ca. A slender vertical streak.
				15		E	10	
			4	35.5		E	40	
				44.5		E	10	
				69.5		E	10	
				71.5		E	10	
				71		W	10	
				59.5		W	20	
				49		W	10	
		9 40	6	44.5		W	40	Faint.
			1	32.5		W	20	
			12	5		W	25, 35	
	8 18		3		W	30	Ca.	
	9 30		12		W	Low	Bright.	
	8 18		27		W	20	Ca.	
	9 25		32.5		W	35	} Very faint. Connected, and 50", 60", and 15" high in Ca.	
			40.5		W	25		
		2	45.5		W	20		
							Ca photographs 8 <sup>h</sup> 18 <sup>m</sup> and 8 <sup>h</sup> 28 <sup>m</sup> .	
February 14. A.Y.S.	9	20	4	40.5	...	E	25	
		17	4	17		N	50	
		5			6	E	25	Ca. Detached.
	8	32			9	E	45	Ca. Seen only at 8 <sup>h</sup> 32 <sup>m</sup> .
		32			11	E	25	Ca. Do. do.
	9	14	9		19.5	E	50	
		9			30	E	20	
		6			34.5	E	55	} Connected and 90" high in Ca.
		4	2		36.5	E	25	
		5			38.5	E	10	Ca.
		3			42.5	E	20	
		1	2		59.5	E	10	
		0			69	E	10	Faint.
	8	58			68	W	10	
		47	4		58.5	W	50	
		51			48.5	W	15	
	55	4		44.5	W	50	Top flows southwards and almost meets the last prominence.	
	9 38	27		8.5	W	70		
	5		17		W	15	Ca.	
	26	1	35		W	80 ±	Very faint. 9° broad and 80" high in Ca.	
	24	3	44		W	35	An arch. Ca photographs 9 <sup>h</sup> 5 <sup>m</sup> and 8 <sup>h</sup> 32 <sup>m</sup> .	
February 15. S.S.	9	26	6	41.5	...	E	25	
		24	2	32.5		E	30 ±	Faint, 75" high in Ca.
		21	8	17.5		E	40	60" high in Ca.







































































































