

Kodaikanal Observatory.

BULLETIN No. XXVI.

LIST OF PROMINENCES OBSERVED BETWEEN 1911, JULY 1 AND 1911, DECEMBER 31.

This list is a continuation of that published in Bulletin No. XXV, and contains all the prominences recorded both visually and photographically during the second half of 1911.

Remarks on the general distribution of the prominences with a diagram representing the mean profile areas for each zone of five degrees of latitude, and a review for the whole year, will be found on pages 499-500.

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	..	..	..	..	..	..	..	..	..	95
Partial do do.	..	..	..	..	..	..	..	..	..	35
No do do.	..	..	..	..	..	..	..	..	..	54
Complete spectroheliograph records	..	.	..	..	..	..	..	..	..	124
Partial do.	..	..	..	..	..	..	..	..	..	30
No do.	..	..	..	..	..	..	..	..	..	30

Date and observer	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1911.	n. m.	°	°	°	↓	"	
July 1. A.Y.S.	8 19	..	80.5		D	20	C was slightly displaced to violet. } Ca. See Note. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca. Ca.
	9 18	3	44.5		E	40	
	16		38		E	40	
	16		28		E	10	
	16		16		E	10	
	16		12		E	10	
	8 16		2		E	10	
	16			8	E	10	
	40			18	E	15±	
	13			38	E	10	
	13			42	E	15	
	11			56	E	10	
	29			80.5	W	20	
	9 18			28	W	15	
	8 26			16	W	20	
9 16			5	W	10		
8 24			8	W	15		
9 16			17	W	15		
16	7		31.5	W	50		
8 20			74	W	15±		
July 2. G.N.	8 36	...	49		E	50	Ca.
	36		48		E	10	Ca.
	34	2	41.5		E	65	
	34		25		E	10	
	38			1	E	15	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks
			North.	South.			
1911.	n. m.	°	°	°		"	
July 10.	G.N.	2		28	W	40	Ca.
—contd.		7	28.5		W	60	
		1.5	68.5		W	20	Ca. Ca photographs 10 ^h 20 ^m and 11 ^h 25 ^m .
July 15.	S.S.	...	..	79.5	W	15	
		1	16	78.5	W	15	
		2	97		W	15	
					W	25±	Seeing bad. + 55°E to -65°E not examined. No prominence photographs.
July 20.	G.N.	...	54		E	35	
			46		E	30	
			44		E	30	Ca. Faint
			40		E	30	
			19		E	20	
			15		E	15	Ca. 30'' high at 8 ^h 42 ^m .
			4		E	15	Ca.
				1	E	30	Ca.
				20	E	15	
		10		48	E	30	
				68.5	E	15	
				85.5	E	25	Ca. Faint.
		1		82	W	30	Ca.
		2		54	W	25	
		3		48.5	W	20	Ca.
				31	W	10	Ca.
			5		W	15	
			7		W	20	Ca.
			18		W	10	
			20		W	15	
			20		W	100	Ca
			34		W	55	
		3	39.5		W	110	Ca photographs 8 ^h 21 ^m and 8 ^h 42 ^m .
July 21.	S.S.	3	...	49.5	E	50 ±	
		2		50.5	W	30	
		2		88	W	40	Three prominences close together.
		1		41	W	75	Ca.
		0.5	85		W	10	Seeing bad. Ca photograph, flocculus only, 7 ^h 55 ^m .
July 22.	S.S.	...	84.5		E	10	
			76		E	25	
		1	68.5		E	10	
		0.5	14.5		E	20	Faint.
		1		9	E	15	
		1		12	E	40	20'' high and surmounted by a streak 6° long in Ca.
		1		16.5	E	10	Ca. Slants south.
				24	E	25 ±	Slants south.
		8		45.5	E	45, 40	A group of three prominences.
				84	W	15	
		1		50	W	30	
		2		37	W	50	
		3		31	W	65	80'' high in Ca. } Connected.
				1	W	10	
			11.5		W	20	
			20		W	25	Ca. Faint.
		1	32		W	25	4° broad in Ca.
		0.5	48		W	15	
			52.5		W	10	Ca.
			54.5		W	30	Ca.
			68		W	10	Very faint. Passing clouds. Ca photographs, through cirrus, 8 ^h 25 ^m and 8 ^h 39 ^m .

Date and observer	Hour I.S.T.	Base.	Latitude.		Limb	Height.	Remarks	
			North	South.				
1911	H. M.	°	°	°				
July 24.	8 40	4		4	W	20, 30	Ca.	
	40	2	2		W	10	Ca	
	40	4	31		W	35	Ca No visual observations. Ca photograph 8h 40m; poor.	
July 25	A.Y.S.		42		E	15	O was slightly displaced to violet.	
			28		E	10		
		4	22		E	50 ±		
		1	11.5		E	15		
				32	E	20		
			36	E			No prominence. C was slightly displaced to red. In Ca there was a prominence 20" high.	
	10 16	8		38.5	W	20	Ca. Faint.	
	9 35			32	W	30	Ca. Portions were seen in C.	
	9 35	22		18	W	15, 30, 45	Ca	
	9 35		33		W	20	Ca Seeing bad Ca photograph, through clouds, 9h 35m	
July 26.	S.S.	9 14	...	88.5	E	15	Ca.	
		7		77.5	E	10		
		5	2	60.5	E	10		
		14		28	E	60	Ca. Upper part detached from lower.	
		0			E	10		
		14			E	10	Ca.	
		14			E	10	Ca.	
		8 55			48	E	15	} Connected and extend from -41° to -49° E in Ca.
		54	2		45.5	E	35	
		53			58.5	E	10	
		9 14	7		67	E	10	Ca. Very faint.
		8 50			68.5	W	15	
		50			68.5	W	15	
		9 26			48.5	W	30	
		25	1		48.5	W	15	
		14			42	W	15	Ca
		24	2		36	W	30	
22			27	W	20			
21	10		17	W	40			
17	8		34	W	50			
14			44.5	W	40			
14	1		50	W	30	Ca photographs 9h 14m and 8h 46m.		
July 27	G.N.	8 52	...	88.5	E	20	Ca.	
		48		79.5	E	25		
		52	3	33.5	E	90	Ca.	
		41		25	E	10		
		40		6	E	20		
		40	1	3.5	E	15		
		36	4		47.5	E	30	
		33			68.5	E	10	
		33			69.5	E	10	
		31			74.5	E	10	
		30			81	E	10	
		52			65.5	W	10	Ca
		53			43.5	W	10	
		52			17	W	10	Ca.
		9 21	3		20	W	15	Ca.
		8 50	3		27.5	W	15	
		48	2		34	W	45	
52	2		43.5	W	20	Ca		
46	2		64	W	10			
July 28.	A.Y.S.	10 54	1	54	E	45	Ca	
		9 28	1		E	20		
		28	1		E	15		
		26			61.5	E	10	
		8 25			65.5	E	20	
		22			75	E	15	
		10 46	1.5		57.5	W	25	Ca photographs 8h 52m and 9h 21m.
		44			28	W	20	

Date and observer.	Hour I.S.T	Base	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1911.	H. M.	°	°	°		"	
August 1. —contd.	S.S.	1		25.5	W	30	Gone at 9 ^h 24 ^m
		2		23	W	50	Ca. Two faint streaks extending westwards.
				4	W	45	Ca.
				1	W	10	Ca.
				Equator	W	15	
		4		44.5	W	40	Ca. A portion 15" high was seen in C.
				53	W	20	
		1		63	W	10	
				72	W	20	
				76	W	20	Ca. Ca photographs 8 ^h 54 ^m and 8 ^h 22 ^m through cirrus.
August 2.	A.Y.S.	1	53.5		E	30	
		1	50.5		E	10	Ca.
		1	48.5		E	10	
			43.5		E	50	Ca.
			40.5		E	15	Ca.
			30.5		E	25 ±	
			29		E	10	
			26		E	15	
			9		E	50	Ca. Detached.
				6	E	30	Ca.
			3	11.5	E	45	See Note.
				27	E	10	
			1	30.5	E	10	C slightly displaced to violet.
				38.5	E	10	
				54.5	E	10	
				78.5	E	30	} Ca.
				80	E	10	
				84	—	10	
				83.5	W	15	
				8	53.5	W	35
			48.5	W	30		
			39.5	W	25		
			34	W	10	Ca.	
			2	W	10	Ca photographs 9 ^h 28 ^m and 8 ^h 44 ^m .	
August 3	G.N.	1	52.5		E	30	
			39.5		E	10	Ca.
			35		E	50	Ca.
			24		E	25	Ca.
			15		E	60	Ca.
			6		E	15	
			2	50.5	W	60	
			1	47.5	W	30	
				44.5	W	30	
				5	W	20	Ca Ca photographs 8 ^h 49 ^m and 8 ^h 19 ^m .
		10	W	30			
August 4.	S.S.	...	68.5		E	20	
			41.5		E	60 ±	Ca. Very faint.
		2	11		E	30	Extends northwards and is connected to limb at + 17" E. in Ca.
				6	E	30	Only 15" high in Ca.
				81	E	25 ±	
				48.5	W	50 ±	
				81	W	30	
				24	W	50	Ca. Top extends both ways.
				3	W	15	Ca.
				Equator.	W	15	Ca. Small jets.
	5	57	W	15	Seeing bad. Ca photograph, flocculus only, 9 ^h 15 ^m ; fair.		
August 5	A.Y.S.	..	45.5		E	10	
			37		E	10	C slightly displaced to red.
		4		47.5	W	35 ±	60" high in Ca.
				43	W	10	
		2		28	W	55	Ca.
			22	W	55	Ca.	

Date and observer.	Hour L S T	Base.	Latitude.		Limb.	Height	Remarks.
			North.	South			
1911.	H. M	°	°	°		'	
August 9. S.S.	8 40		46.5		E	15	Ca
	40		34.5		E	15	Ca.
	40	1		14.5	E	20	Ca.
	32	1.5		25	E	25	
	31			36.5	E	15	
	30			42.5	E	20	
	40	1		44	E	50	Ca.
	40			46.5	E	20	Ca.
	51			49.5	E	20	Extends from - 43° to - 50° and is 30" and 40" high in Ca
	48		20.5		E	20	±
	40	6	27		E	60	±
							Ca. 3 arches superposed on one another in C. Ca photograph 8h 10m, poor.
August 10. A.Y.S.	9 47	..	64.5		E	10	
	46		49		E	15	
	18		36.5		E	15	
	10		31		E	10	
	10	5	24.5		E	45	
	4	2		17	E	15	
	3	0.5		29	E	30	
	3			33	E	10	
	2			37	E	80	±
	8 51	4.5		43.5	E	30	
	34			46.5	E	10	
	9 39	1		53	W	15	
	38			45.5	W	20	
	35	2.5		27.5	W	15	
	34	1		20	W	35	±
	31	2	27		W	35	±
	20	1	30.5		W	20	±
	18		38		W	10	
	17		79		W	15	
	48		81		W	15	
							Detached. } Faint in Ca.
							Passing clouds. Ca photographs 9h 8m and 8h 8m; very poor.
August 11. G.N.	8 41	..	79.5	...	E	10	Ca.
	41		78		E	10	Ca.
	43		57.5		E	15	
	38	3	54		E	30	
	38	3	46		E	30	
	41		39.5		E	30	Ca.
	35		35.5		E	30	
	41	6	24		E	70	Ca
	41			1	E	100	Ca.
	41	4		45.5	E	25	Ca
	9 43			34.5	W	15	
	8 41			22	W	40	Ca. Streamers extend both ways.
	9 45	2		18	W	30	
	48	2		2	W	30	
	50	8		11	W	50	
	8 41			17	W	45	Ca.
	9 0			25	W	30	
	0			29	W	30	Connected at top in Ca
							Ca photographs 8h 41m and 8h 15m.
August 12. S.S.	9 24		56	..	E	20	
	45		53.5		E	40	
	45		49.5		E	45	
	45		45.5		E	20	
	45		42.5		E	20	Ca.
	45		39.5		E	10	
	45		25		E	30	
	14		6.5		E	20	3° broad in Ca
	45			8	E	20	Ca.
	52			43.5	E	35	
	48			56.5	E	10	
	48			61.5	E	25	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1911.	H. M.	°	°	°		"	
August 12. —contd.	S.S.	...	...	81.5	E	10	
	44	...	...	80.5	W	10	
	40	2	Equator.		W	45, 60	Ca. Broken streaks.
	45				W	30	Ca.
	45		13		W	80	Ca. Detached.
	45		16.5		W	40	
	45		22		W		Seeing mostly bad. Ca photograph 8h 45m.
August 13.	A.Y.S.	...	74	...	E	10	
	50	4	49.5		E	60	Ca. An arch.
	28		23		E	10	
	50		10		E	30	Ca.
	25		8		E	15	See Note.
	50			3	E	10	Ca.
	23			32	E	10	50" high in Ca.
	22	5		43	E	40	
	21			54	E	10	
	21			57.5	E	10	
	50			60.5	E	30	Ca. Seen only at 8h 50m.
	20			74	E	15	
	38			56.5	W	15	
	37	1		43.5	W	15	
	36			37	W	10	
	50			30	W	10	Ca.
	35	4		21	W	15	Faint in C. 30" high in Ca.
	80		7		W	20	Ca.
	31		57		W	10	
	31		67		W	20	Ca photographs 8h 50m and 8h 8m.
August 14.	G.N.	...	57.5	...	E	15	Ca.
	37	2	49.5		E	35	
	45		41.5		E	20	Ca.
	32			80.5	E	10	Ca.
	45			11	E	45	Ca.
	45			15	E	45	Ca.
	32			17	E	20	
	30	1		33.5	E	105	
	80			36.5	E	30	
	30			38.5	E	80	
	30			40.5	E	30	
	25			80	E	15	
	45			77	W	15	Ca
	43	2		19	W	40	
	41		37.5		W	15	
	40		53.5		W	20	
	18	2	61		W	30	Ca. Only at 8h 18m.
	18		70.5		W	15	Ca. Do.
							Ca photographs 8h 45m and 8h 15m.
August 15.	A.Y.S.	...	83	...	E	15	
	29		42.5		E	75	Ca.
	15		36.5		E	75	Ca. Seen only at 8h 15m.
	16		2.5		E	10	
	16	1	0.5		E	20	
	29	1		37	E	80	Ca.
	29			78	W	15	Ca.
	38			75.5	W	15	O slightly displaced to violet.
	35	2		22	W	30	
	35	2		19	W	40	
	33			13	W	15	
	31		22		W	10	
	30		27		W	10	
	28	4	35.5		W	30	Faint in C. 8" broad and 75" high in Ca.
	24		47.5		W	10	
	29		60		W	15	Ca.
							(Observed through thin cirrus.
							Ca photographs 8h 29m and 8h 15m.
August 16.	G.N.	...	46.5	...	E	60	Ca. Detached.
	9 38		9		E	25	
	30			20	E	15	

Date and observer.	Hour I.S.T	Base.	Latitude		Limb	Height.	Remarks
			North	South			
1911.	H. M.	°	°	°		"	
August 16. —contd	G.N.						
	8 15			27	E	20	Ca.
	30			30 5	E	10	
	15			36 5	E	15	Ca.
	9 10			28	W	20 ±	
	45		19		W	90, 110	Ca. Ca photographs 8h 45m and 8h 15m.
August 17.	A.Y.S.						
	8 30		89.5		E	low	Bright
	30		80		E	15	
	43		20		E	30	Ca.
	55		18		E	30	
	55		15		E	25	
	23		14		E	10	
	58		3		E	70	
	52	2		4	E	45	
	19			16.5	E	10	
	19			21.5	E	10	C slightly displaced to violet.
	50	1		45.5	E	20	
	43			47.5	E	10	Ca.
	50			50.5	E	10	
	49			57	E	15	Faint in C.
	48			82.5	E	low.	Bright.
	46			55.5	W	15	
	48	3		29.5	W	15	Ca.
	48			24	W	45	Ca.
	43	6		11	W	30, 20	A thin streak at the W. end is 20" high at 8h 43m and 70" high at 8h 52m.
	41			3.5	W	10	
	43			1	W	10	Ca.
	40		13		W	10	
	40		14		W	10	
	59		32.5		W	20	Faint in C.
	58	3	40		W	30	
	36		53.5		W	10	
	35	..	76	..	W	15	Seen in Ca only at 8h 52m. Ca photographs 8h 43m and 8h 52m.
August 19.	G.N.						
	8 58	..	39.5	..	E	15	
	46		21		E	30	
	46		18		E	30	
	46		16		E	20	Ca. Faint.
	46		15		E	20	
	55			7	E	10	
	48			22.5	E	30	Ca A detached streak.
	9 10	5		48	E	35, 50	
	8 46			75.5	E	10	
	46			73.5	E	15	
	46			49.5	W	15	
	46			47.5	W	40	Ca.
	46			40.5	W	45	
	46			29	W	15	
	46			24	W	10	
	9 5	8		8	W	20, 60	
	2	6	10		W	30	
	2		18		W	30	
	8 46		32.5		W	30	
	46		45.5		W	45	Ca.
	46		53.5		W	25	
							Seeing poor. Ca photographs 8h 46m and 8h 34m.
August 20.	G.N.						
	8 44	..	59.5		E	15	Ca.
	9 7		56.5		E	15	
	8 44	6	50.5		E	10	Ca.
	44		30.5		E	15	Ca.
	44			5	E	15	Ca.
	9 3	4		30	E	55	
	0	7		49	E	70	
	8 44			68	E	10	Ca.
	9 30	4		43.5	W	55	
	27			36.5	W	50	

Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North	South.			
1911.	h	m	°	°	°			
August 20. —contd.	G.N.	9 20	10		8	W	120, 80, 80, 45	
		15	9	16.5		W	60, 45	
		13		33.5		W	10	
		8 44	2	58.5		W	20	Ca
		44		75.5		W	15	Ca Ca photographs 8 ^h 44 ^m and 9 ^h 14 ^m .
August 28.	G.N.	8 31	3	38		E	15	Ca.
		47			6	E	15	
		45			12	E	65	
		45			16	E	15	
		45			22	E	45	
		45			30	E	20	
		40	8	49.5		W	30, 70, 90	
		19		72.5		E	30	Ca.
		19		78		E	40	Ca.
		19		81.5		E	10	Ca
		57	2	41		W	50	
		55	3	24.5		W	140	A steamer extends to + 16° W.
		31		30		W	50	Ca. } Connected at top.
		31		38.5		W	50	Ca. }
		52		45.5		W	15	
		52		46.5		W	15	Ca photographs 8 ^h 31 ^m and 8 ^h 19 ^m .
August 24.	A.Y.S.	10 11	..	78	...	E	30	Ca.
		11		73.5		E	15	Ca.
		9 5		68		E	10	
		10 11		61		E	25	Ca.
		9 4		49.5		E	25	Very faint in C.
		4		48		E	25	Do.
		3	2	28		E	30	
		10 11		24		E	40	
		11		19		E	30	
		11		15		E	60	Ca.
		11		9		E	30	
		7 59			6	E	30	Ca. Seen only at 7 ^h 59 ^m .
		9 0			9	E	20	C slightly displaced to red. Seen in Ca only at 9 ^h 10 ^m .
		8 50	4	14		E	30	45" high in Ca.
		52		20		E	30	
		51	2	25		E	90	Top extends to -16° E.
		49		33		E	15	
		48		44.5		E	15	Seen in Ca only at 7 ^h 59 ^m .
		10 11		65		E	80	A narrow faint streak slanting eastwards.
		9 24		75.5		E	10	
		31	2	47.5		W	30	
		31	2	43.5		W	30	
		10 11		32.5		W	15	Ca.
		9 28	1	25.5		W	20	
		26	3	19.5		W	30	
		10	1	5		W	20	Ca. Seen only at 9 ^h 10 ^m .
		23		24		W	40	
		21	2	31.5		W	25	60" high in Ca.
		21	1	35		W	25	45" high in Ca.
		12		42.5		W	30	Changing. Seen in Ca only at 9 ^h 10 ^m .
		8		57.5		W	10	Bright. C slightly displaced to red.
		10		64		W	40	Ca. Faint and seen only at 9 ^h 10 ^m .
		10 11		83		W	30	Ca. Ca photographs 10 ^h 11 ^m , 7 ^h 59 ^m and 9 ^h 10 ^m .
August 25.	G.N.	10 52	.	57.5	.	E	15	
		50	2	44		E	45	
		11 3		32.5		E	40	Ca. Faint.
		10 46	2	13		E	25	
		46		0		E	15	
		45	8		23	E	75	
		44	2		48.5	E	35	
		43			61	E	20	
		53	3		46	W	45	
		56			20	W	15	

Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb.	Height.	Remarks.
				North.	South.			
1911.	H.	M.	°	°	°		"	
August 31. G.N. —contd.	8	52	7		32	E	45	
		36			81	E	30	Ca. Faint.
		36			78.5	W	30	Ca.
		36			64	W	30	Ca. Only at 8 ^h 6 ^m .
		36			58	W	30	Ca.
		36			53.5	W	10	Ca.
		36			45.5	W	20	Ca.
		36			43.5	W	10	Ca.
		36		18		W	10	Ca.
		9	16	3	21.5	W	75	Ca photographs 8 ^h 36 ^m and 8 ^h 6 ^m .
September 1. A.Y.S.	8	47	..	67.5		E	30 ±	Very faint.
		44		60		E	10	
		27		48.5		E	20	Ca.
		27	3	42		E	65	Ca.
		40		34.5		E	10	
		38		Equator.		E	25	O slightly displaced to violet over top.
		38	4	12		E	45	
		33		17.5		E	25	} Connected in Ca.
		31		22		E	30 ±	
		28		29		E	15	
		28	2	36.5		E	30	
		27		68		E	10	
		27		49.5		W	20	Ca.
		27		45.5		W	30	} Ca. Detached dots.
		27		43.5		W	20	
		57		41.5		W	15 ±	
		27		38.5		W	30	Ca. A detached dot
		27	2	28		W	30	Ca.
		27		4		W	15	Ca. Slants southwards.
		55		5		W	10	
	27		7		W	10	Ca.	
	27	4	19		W	45	Ca.	
	52		47		W	10		
	27	2	67		W	40	Ca.	
	51		75.5		W	20	Seeing poor. Ca photograph 8 ^h 27 ^m , through cirrus.	
September 3. A.Y.S.	9	9	...	31	..	E	20 ±	
		9		26.5		E	10	
		20			25	E	10	Bright. O was slightly displaced to violet.
		6			37.5	E	10	
		19	5		42	E	45	
		5			61.5	E	10	
		17	2		51.5	W	30	
		15			43.5	W	20	
		13		23		W	25	
		41		28		W	45	Ca.
	12		48		W	20 ±		
	24		66		W		No prominence. O was displaced to red 1 A. Seeing poor. Ca photographs 9 ^h 41 ^m and 9 ^h 29 ^m through cirrus.	
September 4. A.Y.S.	9	16	1	59	.	E	15	
	8	53		29		E	70	Ca.
	9	10			10	E	10	
		9			21	E	15	
		8			33.5	E	10	O slightly displaced to red at base.
		7			35.5	E	40	
		7			38.5	E	40	
	8	53			41	E	40	} Connected in Ca.
		53			43	E	40		Ca.
		53			45.5	E	40	Ca.
	9	6			48.5	E	15	
		6			50.5	E	10	
		31			50.5	W	40	A Ca streak meets limb at — 46° W.
		30			43	W	10	
		28		28		W	20	
	27		68		W	10	Seeing poor. Ca photograph 8 ^h 58 ^m , poor	

Date and observer.	Hour I.S.T.		Base.	Latitude.		Limb	Height.	Remarks.
				North.	South.			
1911.	H.	M.	°	°	°		"	
September 8. A.Y.S. —cont'd	8	56	1		10	W	15	Faint in C.
		54	1	14.5		W	20	Ca streaks 45" high meet limb at + 11° W.
		55		56.5		W	10	
		52	1	67.5		W	15	
		47		82.5		W	15	Ca. Ca photographs 8 ^h 47 ^m and 8 ^h 8 ^m .
September 9 ..	8	9	..		9	E	60	} Ca. No visual observations. Ca photograph, focculus only, 8 ^h 9 ^m .
		9	5		47	E	45	
		9			54.5	E	15	
		9			58.5	E	15	
		9	2		23	W	50	
		9		9		W	40	
		9		11		W	40	
		9		12		W	15	
		9		53.5		W	80	
September 10. A.Y.S.	10	0		83		E	15	} Ca. Ca. 3 faint streaks. Seeing bad. Ca photograph, focculus plate, 9 ^h 59 ^m .
		2	1	15.5		E	25	
		2	1	11.5		E	25	
		0			13.5	E	20	
	9	59			39.5	E	40	
		59	5		51	E	30	
		59			50.5	W	20	
September 11 ...	8	36	7	...	41	E	60	} Ca. No visual observations. Ca photograph 8 ^h 36 ^m .
		36			76	E	45	
		36	3		49	W	50	
		36	2		30.5	W	45	
		36	4		22	W	60	
		36		41.5		W	40	
		36		44.5		W	40	
		36		68		W	30	
September 12. G.N.	8	5	...	79.5		E	15	} Ca. Ca. Only 35" high in Ca. } Ca. Ca } Joined at top. Ca. Ca. Ca. Ca. Ca. Ca. Ca photographs 8 ^h 5 ^m and 8 ^h 30 ^m .
		5		04		E	15	
		42	4	48.5		E	50, 65	
		5		41.5		E	30	
		5		21		E	10	
		5		19		E	10	
		39	4	11		E	15	
		5		0		E	15	
		35	12		40.5	E	45	
		5			60	E	45	
		5			68	E	45	
		53	4	48.5		W	45	
		45		34.5		W	15	
	8	5	1		32	W	20	
		5			22	W	75	
		5			24	W	15	
		47	3	43		W	45	
		5	1	70.5		W	15	
		30	2	79.5		W	30	
September 13. A.Y.S.	8	24	..	83		—	15	} Ca. Ca. Faint and 45" high in Ca. } Connected by Ca jets. Only one degree broad and 30" high in Ca.
		24		79.5		E	10	
		57	1	76.5		E	20	
		53		67.5		E	15	
		53		64.5		E	20	
		53	2	61		E	10	
		53		57		E	10	
		52	1	48		E	20	
		52		43.5		E	20	
		48	9	22.5		E	35, 65	
		46	3		14.5	E	50	

Date and observer.	Hour I.S.T		Base.	Latitude.		Limb	Height	Remarks.
				North.	South.			
1911.	H	M.	°	°	°		"	
September 13 A.Y.S. —contd.	8	24		..	18	E	15	Ca.
		24			19	E	15	Ca.
		42	1.5		30.5	E	40	Faint in C.
		42			31.5	E	100	Only 40" high in Ca.
		42			36.5	E	100	See Note
		40	3		45	E	30	
		38			60.5	E	15	
		9 14	1		74	E	15	
		12	1		74.5	W	20	
		24			52.5	W	30	} Ca.
		24			48.5	W	15	
		24			39.5	W	15	
		9 9	6		39.5	W	35	
		8 24			24	W	40	} Ca.
		24		4		W	20	
		24		20		W	15	
		9 6	1	24		W	15	
		5		33.5		W	15	Surmounted by a Ca detached cloudlet 50" high.
		5	1	36		W	20	60" high in Ca.
		3	7	46		W	60	
		8 24		55.5		W	15	Ca.
		58		80		W	15	
		58		81.5		W	15	
	58		82.5		W	15	Ca photographs 8 ^h 24 ^m and 8 ^h 5 ^m .	
September 14. G.N.	10 34	...	33.5	...	E	15		
	6 0		21		E	45	Ca. Detached.	
	0				E	90	Ca.	
	10 43				E	40		
	8 0				E	80	Ca.	
	10 38	4			E	40		
	8 0				W	40	Ca.	
	0				W	20	Ca.	
	10 58	3			W	45		
	51	7			W	30		
	8 0			37.5		W	45	} Ca.
	0			39.5		W	45	
	0			48.5		W	20	
0			51.5		W	15		
0			54.5		W	10		
10 47			64		W	10	See Note.	
							Ca photographs 8 ^h 0 ^m and 8 ^h 14 ^m .	
September 15, A.Y.S.	9 32	0.5	59	..	E	15		
	32		45		E	10		
	31	1	39.5		E	20		
	30		25		E	10		
	45	2	23		E	45	Ca.	
	45		21		E	40	Ca.	
	29	1.5		3		E	20	
	29			23.5		E	25	3° broad and 60" high in Ca.
	27			37		E	10	
	8 40			44.5		E	15	
	9 48			68		E	20 ±	Faint in C.
	28	1		80		E	20	
	24			64		W	10	
	45			41.5		W	10	Ca
	41	4		32.5		W	55	
36	1	11.5			W	30	} Connected by a Ca streak.	
8 59	1	15.5			W	15		
9 45	1	21.5			W	30	Ca.	
45		36.5			W	30	Ca.	
35	3	42			W	60		
56	1	59			W	20	Ca photograph 9 ^h 45 ^m ; poor.	
September 16. G.N.	8 8	..	18	..	E	50	Ca. A streamer extends to + 24°.	
	8				E	10	Ca.	
	8	3			E	70	Ca.	
	9 0	4			E	30		

Date and observer	Hour I S T.	Base.	Latitude		Limb	Height.	Remarks.
			North.	South			
1911.	H M		"	"		"	
September 16. G.N. — cont'd.	9 8	1		47	W	15	
	8 40	0	18		W	45	
	40	5	27.5		W	50	Seeing poor Ca. photographs 8 ^h 8 ^m and 8 ^h 38 ^m .
September 17. A.Y.S.	8 42		74		E	10	
	41		60		E	10	
	41	2	58.5		E	15	80" high in Ca.
	39		33.5		E	25	
	37	1	27.5		E	10	
	37		24		E	15	
	37	3	19.5		E	35	75" high in Ca.
	45		8		E	10	Ca.
	15		8		E	10	Ca.
	36		8.5		E	20 ±	Ca. slightly displaced to red at base
	35			7.5	E	15	
	45			27	E	20	Ca.
	34	2		41.5	E	70	
	30			45.5	E	10	
	30	2		47.5	E	30	
	58			82	W	10	
	15			78.5	W	10	Ca.
	57			59.5	W	10	
	45			58.5	W	10	Ca.
	51	9		43	W	40	
	52			23	W	30	
51			8	W	15		
48	9		24.5	W	80		
46	1		34	W	20 ±	Ca.	
45			35.5	W	10	Ca.	
45	2		39.5	W	40		
45			63	W	30	Ca.	
44			81.5	W	10		
							Ca photographs 8 ^h 45 ^m and 9 ^h 31 ^m .
September 18.	11 50	3	.	49	E	45	} Ca.
	50	1		35	E	40	
	50		23		E	35	
							No visual observations. Ca. photograph 11 ^h 50 ^m .
September 19. A.Y.S.	8 26		72.5		E	15	Ca.
	13	1	68.5		E	20	
	40		50.5		E	15	
	40	3	44.5		E	25	15" high in Ca.
	40		33.5		E	10	
	30		11		E	15	
	30			9	E	10	
	30			8	E	35	A Ca streak from top almost meets the prominence at 16" E.
	30			11	E	25	
	30			16	E	20 ±	Ca.
	26			27	E	15	
	27	8		48.5	E	80	
	9 19			81	E	10	
	18	2		35.5	W	30	
	8 26			30.5	W	15	Ca.
	26			29	W	15	Ca.
	9 16			9	W	20	Broader at top.
	15			2	W	10	
	15	1.5		13	W	15	
	14	4		22	W	45	
	14			25.5	W	10	
11	2		30	W	25		
11	2		33.5	W	25		
5	4		40.5	W	15	Small jets.	
5			54.5	W	10		
8 57	2		63	W	15		
53			78.5	W	15		
							Ca photographs 8 ^h 20 ^m , 8 ^h 37 ^m and 9 ^h 20 ^m
September 20.	8 26		71.5		E	15	} Ca.
	26		67		E	10	

Date and observer.	Hour L.S.T.		Base.	Latitude.		Limb.	Height	Remarks.
	H	M.		North	South.			
1911.								
September 20 —condt.	8	26	.	55.5		E	15	} Ca. } Ca. Joined at top. } Ca.
		26		49.5		E	15	
		26		44.5		E	15	
		26		10		E	15	
		26			7	E	45	
		26			11	E	45	
		26	1		15.5	E	30	
		26	8		47.5	E	30	
		26	1		45	W	35	
		26			30.5	W	20	
		26			29	W	30	
		26	4	22		W	45	
		26		30.5		W	30	
		26	2	33.5		W	35	
		26	4	47.5		W	35	
		26		55.5		W	20	
		26		33		W	15	
								No visual observations. Ca photograph 8 ^h 26 ^h
September 22. A.Y.S.	8	16		40.5		E	15	} 60" high in Ca } Faint at 8 ^h 12 ^m . About 40" high at 8 ^h 44 ^m , 60' } high in Ca. } Chromosphere slightly elevated. In Ca there is a } prominence 15" high. } Ca. } Ca. } Ca. } Only 15" high in Ca. } Ca. Faint. } Faint in C. } Top extends both ways. } A streak 60" high connects these and meets } limb at + 19° in Ca. } Seeing poor. Ca photographs 8 ^h 5 ^m and 8 ^h 18 ^m } Ca. } Ca. } Ca. 30" high in Ca. } C slightly displaced to violet. } Ca. An arch. } 60" high in Ca. } Ca. } Ca. A detached jet. } Ca. Seen only at 10 ^h 0 ^m . } Ca. } Connected.
		16		37.5		E	20	
		16	1	34		E	15	
		16	1	31		E	25	
		16	1	27		E	30	
		14		10		E	10	
		13		4		E	10	
		12			8	E	20	
		11			18	E		
		10		33.5		E	10	
		42		37.5		E	15	
		5		39.5		E	10	
		39		52.5		W	15	
		5		49.5		W	10	
		38	3	44.5		W	30	
		5	2	37.5		W	15	
		36		34.5		W	30	
		5		30		W	30	
		32		22		W	20	
		32		20		W	45	
		30	1	5.5		W	25	
		28		16		W	10	
		25		26		W	30	
		25	1	28		W	25	
		23	2	30.5		W	20	
		23	1	33		W	15	
September 23. A.Y.S.	8	48	1	33	...	E	10	
	9	22		56.5		E	20	
	8	32	2	48.5		E	50	
		32		46.5		E	20	
		30	2	43.5	..	E	30	
	9	2	2	39.5		E	35	
		22		35.5		E	60	
		22		26		E	30	
	8	46		24		E	10	
		29		15.5		E	15	
		27		6		E	10	
		45	1		14	E	15	
	9	0			34.5	E	20	
		22	7		56	E	55	
	8	43			60	E	10	
		53			76	E	20	
		57	5		48	W	40	
	9	22	5		37	W	50	
		22			30	W	135	
	10	0			28	W	60	
	8	52			10	W	10	
	8	52			4	W	10	
		51	2	26		W	35	
		9		27		W	10	

Date and Observer.	Hour I.S.T		Base.	Latitude.		Lamb.	Height.	Remarks.
				North.	South.			
1911.	H.	M.	s	'	''			
September 23. A.Y.S. —contd.	9	22	1	28.5		W	60	
		22		31.5		W	45	Ca.
		22	2	39.5		W	20	Ca.
	8	40		59.5		W	20 ±	Observed through thin cirrus. Ca photographs 9 ^h 22 ^m and 10 ^h 0 ^m .
September 24. A.Y.S.	9	4	..	67.5		E	20 ±	
	10	12	2	38.5		E	180	Ca.
		12		35.5		E	10	Ca.
		12		33.5		E	15	Ca.
	9	12	1		1.5	E	15	C slightly displaced to violet
	10	12	4		24	E	45	Ca. A small portion was seen in C.
		12	4		46.5	E	20	Ca, do. do.
		12			53.5	E	45	Ca. A streak meets lamb at -68°E.
	9	22			66	E	10	
	10	12			47.5	W	30	
		12	5		43	W	50	} Ca.
		12	1		26.5	W	50	
	9	20			18.5	W	10	
		17		24		W	15	
	10	12		38.5		W	20	Ca.
	9	7		41.5		W	10	
		6	2	58.5		W	30	Only 15" high in Ca.
	10	12		60		W	10	Ca.
	9	15		83		W	10	Seeing poor. Ca photographs 10 ^h 12 ^m , 8 ^h 44 ^m and 9 ^h 41 ^m .
September 25 G.N.	8	50	1.5	57.5	...	E	15	
		48		17		E	60	Ca.
		26		15		E	00	
		45			22.5	E	20	
		15			24	E	20	Ca.
		26			54.5	E	10	
		50	4		42.5	W	60	
		57			24	W	15	
		57	2		20	W	15	Ca.
		26		0.5		W	45	
		55		33.5		W	15	
		55		85.5		W	40	Ca photographs 8 ^h 20 ^m and 8 ^h 52 ^m .
September 26. S.S.	8	51	...	72		E	20	
	9	18	2	48.5	...	E	15	
		16		31.5		E	20	
		16		30.5		E	20	
	8	9		24		E	15	Ca. Detached.
	9	14	4	21		E	10	
	9	18	2	6		E	85	
		11		2.5		E	15	
	8	48				E	20	
		48			8	E	20	
		46	2		9.5	E	45	
		45	2		26	E	30	} Connected in Ca.
		43			31.5	E	15	
		41			50.5	E	10	
		9			72	W	30	Ca.
		38			78	W	10	
	9	8			78	W	20	
		6	2		64.5	W	60	
		6	1		48.5	W	65	105" high in Ca.
		2			40	W	10	
		2			38.5	W	10	
		1			32.5	W	10	
		0			14.5	W	20	
	8	9	1		9.5	W	60	Ca.
		58		19.5	8	W	35	
		9	4	28		W	60	Ca.
		9		27		W	10	Ca.
		9		29		W	10	Ca.

Date and observer.	Hour I.S.T	Base	Latitude.		Limb	Height	Remarks.
			North.	South.			
1911	H M.	°	°	°		"	
September 26 S.S.	9 56		42.5		W	10	
—contd.	55	2	47.5		W	30	Ca photographs 8h 9m and 8h 24m.
September 27 A.Y.S.	8 47	5	13.5		E	15	
	7		6		E	15	Ca
	46			12	E	15	
	45	1		17	E	15	
	45			20	E	10	
	38	3		33.5	E	30	
	37	1		50.5	E	20	
	36			68	E	30	
	9 28	1		46	W	20	
	28	5		41	W	50±	105" high in Ca.
	8 7			8	W	20	Ca
	9 2			5	W	15	30" high in Ca.
	8 56	3	22.5		W	40	80" high in Ca.
	53	1	35.5		W	60	In Ca at 8h 31m, top inclined northward and connected to limb at + 41° W.
	49		82		W	30±	Ca photographs 8h 7m and 8h 31m.
September 28. G.N.	7 53	.	48.5		E	30	
	53		45.5		E	15	
	53			20	E	30	} Ca.
	53	4		36.5	E	40	
	53			45.5	E	20	
	10 12	2		51	E	20	
	7 53			40.5	W	25	
	53	2		37.5	W	30	
	53	3	15.5		W	40	Faint } Ca
	10 20		22		W	45	
	20		24		W	35	
	7 53		69		W	20	
	53		70		W	20	} Ca.
	53		83		W	15	
							Seeing bad. Ca photograph 7h 53m.
September 29. S.S.	9 16		67		E	30	
	14	2	42.5		E	25	40" high in Ca.
	14		39.5		E	15	
	12	2	28		E	40	
	12	6	21		E	60	} Tops connected
	8		3		E	25	10" high in Ca.
	6			1	E	15	
	8 42			24	E	20	
	41	3		37	E	40	
	50	0.5		40.5	E	20	Ca.
	39			55.5	E	10	
	39			57.5	E	10	
	37			65.5	E	15	
	37			66.5	E	10	
	36			70.5	E	15	
	32	1		69	W	20	
	9 0	3		48.5	W	20	
	8 55	0.5		31.5	W	20	35" high in Ca.
	50			30	W	20	Ca.
	50			28.5	W	60	Ca. A detached streak 3' long.
	53			26	W	80	Ca. Detached.
	49	2	59.5		W	15	
					W	25	
							Ca photographs 8h 50m and 8h 19m.
September 30 A.Y.S.	8 43	4	42.5		E	30	
	44		26		E	25	
	42	4	20		E	45	Ca Faint and seen only at 8h 44m.
	32		11		E	15	30" high and 2°.5 broad in Ca.
	32	1	8		E	30	
	31		2		E	10	See Note.
	31			8	E	20	
	31	1	22.5		E	40	Ca. Faint
	29	7	38		E	25.40	25" only in Ca.

Date and observer.	Hour I.S.T		Base.	Latitude.		Limb.	Height.	Remarks.
	H	M.		North.	South			
1911.			°	°	°		"	
October 5.	A.Y.S.	9 40	1	.	45	E	15	Top extends to south.
—contd.		11 19			45	W	15	Passing clouds. No prominence plates.
October 6.	S.S.	10 0	.	29°5	...	E	15	
		9 58	2	22		E	15	
		10 20	6		9°5	E	10	
		15	2		45°5	E	60 ±	See Note.
		23	2		78°5	W	10	
		11	2		48°5	W	25	Ca
		10			40°5	W	10	1° broad and 20" high in Ca.
		26			28	W	40	Only 15" high in Ca.
		26		21	20	W	40	Ca.
						W	20	Seeing poor Ca photograph 10h 26m, poor.
October 7.	G.N.	7 58	...	76°5	..	E	10	
		58		74°5		E	10	} Ca.
		58		21		E	15	
		8 37			14	E	15	
		35	2		48°5	E	30	
		9 5			59°5	E	15	
		2			59°5	W	15	
		7 58			20	W	30	} Ca.
		58			24	W	30	
		58			21	W	30	
		58		9		W	10	Ca.
		8 45		14		W	25	
		40		29		W	10	
		7 58		34		W	25	Ca.
		8 42		38		W	10	
October 8.	S.S.	8 49	..	82	...	E	10	Seeing poor. Ca photograph 7h 58m.
		23	0.5	73		E	30	Ca.
		47		61°5		E	20	
		23	3	57		E	15	Ca.
		45	2	49°5		E	50	25" high and base less than 0°5 in Ca.
		23	3	4°5		E	20	Ca.
		39			26	E	15	
		39			29	E	15	
		37	0.5		37°5	E	45	Ca streaks extend both ways from top.
		37	1.5		42°5	E	50	
		37			46°5	E	50	} Connected and 60" high in Ca.
		37	3		49°5	E	40	
		29			73°5	W	Low	20" high and C slightly displaced to red at 9h 5m.
		29			66	W	10	
		29			62°5	W	20	
		9 3	1.5		43°5	W	15	
		2	0.5		38	W	15	
		0	1		22	W	60	A streak extends southwards and meets limb at - 27° W. in Ca.
		8 23		6	...	W	15	} Ca.
		23		17		W	15	
		23		23		W	10	
		23		47°5		W	10	
		23		48°5		W	10	
		23	0.5	65		W	10	
		23	0.5	77°5		W	10	
		23		83		W	10	
October 9.	A.Y.S.	8 35	...	47°5	...	E	25	Ca photograph 8h 23m
		34		38°5		E	10	Only 10" high in Ca.
		4		9		E	10	Ca.
		32		4		E	15	30" high in Ca.
		31			0°5	E	15	
		30			21	E	25	
		29			33	E	10	
		27	8		46°5	E	60, 30	
		47			63	E	10	
		25			67	E	10	

Date and observer.	Hour I.S.T.		Base	Latitude.		Limb.	Height.	Remarks.
	h	m		North.	South.			
1911.								
October 9. A.Y.S.	8	46	88°5	E	15	} Base connected in Ca. Ca. Ca. An arch, almost disappeared at 8h 34m Only 80" high in Ca. } Ca. Ca photographs 8h 4m and 8h 34m
—contd.		48	2		55°5	W	10	
		43	3		51	W	25	
		42	1		45	W	20	
		41			23°5	W	10	
		4		2		W	30	
		39		15		W	10	
		4	5	28°5		W	30	
		38	4	43°5		W	45	
		4		73		W	15	
		4		76		W	15	
		4		82		W	15	
October 10. S.S.	8	54	0°5	42	...	E	10	
	9	6		23°5		E	40	
	8	59	1	21		E	75	
	9	5	3°5	14		E	15	
		3			6	E	15	
	8	59			16	E	30	
		59			22	E	20	
		45	5		47	E	55	
		59			58°5	E	30	
	9	0			84	E	10	
	8	59			60°5	W	10	
		59			52°5	W	10	
		57			45	W	15	
		59			27	W	75	
		59			17	W	10	
		59	1		18	W	10	
		56	3	14		W	10	
		56	3	20°5		W	25	
	9	8	1	41°5		W	45	
	8	59		64°5		W	15	
October 11. G.N.	7	56	...	25	...	E	15	
		56	2	20		E	75	
		56	7		47	E	50	
		56			44°5	W	50	
		56	1		37°5	W	45	
		56			86	W	75	
	8	23		Equator.		W	15	
		23	1	19°5		W	20	
	7	56	4	44°5		W	30	
	8	20		60°5		W	15	
October 12. A.Y.S.	10	3	..	83	...	E	20	
	7	58		76°5		E	10	
	10	3	0°5	70°5		E	15	
		0		96°5		E	10	
	9	53	2	19		E	75	
	8	56	3	15°5		E	70	
		56		12		E	40	
		49		2		E	20	
		48			8	E	20	
		44			23	E	15	
		42	2	48°5		E	70	
		34	9		53	E	60	
		30			59°5	E	15	
		30			68	E	10	
	10	18	5		41	W	60	
	7	58			88°5	W	100	
		58			36°5	W	40	
		58			32	W	30	
		58			31°5	W	45	
	10	9	4	5		W	20	
		7	1	11°5		W	20	
		6		33		W	20	
		5		39°5		W	25	
		4	3	47		W	45	

Date and observer.	Hour I.S.T.	Base.	Latitude		Limb	Height	Remarks.
			North	South			
1911.	H M.	°	°	°		"	
October 12. A.Y.S. —contd	7 58		54.5		W	10	Ca. Observed through breaks in clouds. Ca. photo- graphs 7 ^h 58 ^m (incomplete); 8 ^h 37 ^m (streaked with cloud).
October 13 S.S.	7 57	...	63.5		E	45	} Ca
	57		38.5		E	10	
	57	3	32.5		E	15	} Connected and 45" high in Ca
	9 5		28		E	30	
	5		26		E	30	
	5		24		E	30	
	5		22		E	30	
	5		20		E	30	
	7 57	3	17.5		E	50	Ca
	8 58			2.5	E	10	
	7 57	0.5		13	E	15	Ca.
	8 51			18	E	30±	Disappeared at 8 ^h 55 ^m .
	22	1		20	E	20	Ca. Seen only at 8 ^h 22 ^m .
	22	3		24.5	E	10	Ca. do. do.
	49	8		49.5	E	00	
	45			63.5	E	10	
	42			82	W	10	
	42			80	W	15	
	41			78.5	W	10	
	9 20			42.5	W	20	70" high and extends to -- 38° W in Ca
	7 57	1		28.5	W	20	Ca.
	57			12	W	50	Ca. A detached streak 2° long
	57	8		11.5	W	20	Ca, slants north
	57	1		1	W	15	Ca
	9 17	2	2		W	15	
	7 57		5		W	30	Ca. Extends to +11° W.
	9 18		11		W	15	
	7 57	0.5	13		W	30	
	57		20		W	35	} Ca
	57	0.5	25		W	10	
	57	1	30		W	10	
	57		48.5		W	15	Ca photographs 7 ^h 57 ^m and 8 ^h 22 ^m .
October 14. G.N.	8 45		65.5		E	10	
	44		58.5		E	20	
	40		48.5		E	15	Ca.
	40	4	24		E	00	
	30		13		E	25	Ca
	30			12	E	10	Ca.
	35			35	E	10	4 jets.
	30			39.5	E	30	Ca.
	35	7		46	E	50±	
	30			55.5	E	20	Ca. Faint.
	90			62.5	W	60	Ca. Faint.
	30	3		41	W	20	} Ca.
	30			12	W	70	
	30			7	W	70	
	52	7	3.5		W	30	
	50		9		W	15	} Connected by a Ca streak.
	50		13		W	10	
	48	2	35		W	65±	
	48	1.5	38.5		W	35	
	30	1	44		W	20	Ca. Ca photographs 8 ^h 30 ^m and 8 ^h 42 ^m .
October 16. S.S.	8 22	0.5	56.5		E	15	} Ca
	22	1	49.5		E	15	
	22		31		E	30	
	9 45		0.5		E	10	} Ca
	8 22			17.5	E	120±	
	22			35	E	45	
	9 40	2		48.5	E	40	25" high in Ca.
	40			50.5	E	10	
	10 31	1		54.5	W	40±	Not in Ca.
	8 22			42.5	W	20	Ca.
	22			7	W	15	Ca

Date and observer.	Hour I.S.T.		Base	Latitude.		Limb	Height.	Remarks.
				North.	South.			
1911.	n.	m	°	°	°		"	
October 21. A.Y.S.	8	42	1		55	E	20	
—cont'd	9	39			88.5	E	15	
		0	3		48	W	40	
		0			43.5	W	45	Detached.
	8	56	0.5	14		W	10	
	8	53		81		W	45	Ca.
								Passing clouds. Ca photograph, focculus, 8h 53m.
October 23.	8	42	3		52	W	45	Ca.
		42	4		49	W	75	Ca.
								No visual observations. Ca photograph focculus, 8h 42m.
October 24. A.Y.S.	8	30		52.5	...	E	10	
		30		42		E	60	Ca.
		30		40		E	10	
		30		28		E	40	Ca } Connected at top.
		42		25.5		E	25	
		30		22		E	40	Ca. Detached.
		29		18		E	10	
		29	5	11.5		E	20	
		27	3	4.5		E	10	
		25			17	E	10	
		25	8		30	E	90	
		23			41	E	15	
		30			46	E	10	Ca.
		21			49.5	E	10	
		20			68	E	20	C slightly displaced to violet.
		30			84.5	E	10	Ca.
		30			71.5	W	10	Ca
		38	2		47	W	30	70" high in Ca.
		37	5		40.5	W	30	80" high in Ca.
		36	1		24.5	W	45	Faint in C.
		30			18	W	50	
		30			3	W	15	
		30		11		W	15	Ca.
		30	1	15.5		W	20	
		34		53		W	10	
		30	8	82		W	10	Ca. Small jets. Ca photographs 8h 30m and 8h 18m.
October 25. S.S.	7	58		85	...	E	15	
		58		84.5		E	15	Ca
		58		37		E	10	
	8	38	2	26		E	40	50" high and extends to + 28° E. in Ca.
		36	2	18		E	10	35" high and surmounted by a streak 8° long in Ca.
	7	58	2	1		E	30	Ca.
		58			24	E	10	Ca.
	8	32	1		30.5	E	70	
		32			32	E	60	Detached. } Connected, 80" high, and extending to - 35° E at top in Ca.
	7	58			39	E	40	Ca.
	8	28	1		53.5	E	10	Extends to - 37° and is 30" high in Ca.
		26			85	E	10	
		26			84	W	10	
		25			76	W	10	
	9	4			47	W	20	40" high in Ca.
	7	58	0.5		46	W	40	Ca.
	9	2	5		38.5	W	45	100" high in Ca.
	8	59			25.5	W	30	Detached. Very faint.
	7	58	2		22	W	45	Ca. A slanting streak.
		58	2		17	W	45	Ca.
		58		16		W	20	Ca.
	8	55	2	21		W	45	Double. 65" high in Ca.
	7	58	2	24		W	65	Ca.
	8	52		30		W	60	Not in Ca.
		50		37		W	10	
		47	1	49		W	15	
		47	2	55.5		W	15	
	7	58		60.5		W	30	Ca.
		58		78		W	20	
	8	45		81.5		W	15	Ca photographs 7h 58m and 8h 32m.

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1911.	h. m	°	°	°		"	
October 26. G.N.	8 47	..	41	.	E	30	
	45	9	15.5	.	E	60	
	44	5	6.5	.	E	80	Ca.
	44		1	.	E	45	Ca.
	40		Equator.		E	10	
	35	2		32	E	45	
	30	2		35	E	50	
	30	2		44	E	50	
	14			50.5	E	15	Ca
	30			54.5	E	10	
	44			59.5	E	10	Ca.
	10 45	1.5		81.5	E	30	
	8 44			73.5	W	15	
	44			63.5	W	15	
	44			59.5	W	15	
	44	2		44	W	20	Ca.
	44			37	W	110	
	44			27	W	10	
	44	1		32.5	W	40	
	52	6	23		W	90	
	44		36		W	15	Ca.
	44		51.5		W	30	Ca.
							Passing clouds. Ca photographs 8h 44m and 8h 33m.
October 27 A.Y.S.	8 11	.	84.5	...	E	20	Ca.
	11		58.5		E	15	Ca.
	24		52.5		E	25	40' high in Ca.
	24		48.5		E	25	
	23		43		E	20	Base extends to + 46° E in Ca.
	11		37		E	10	Ca.
	11		34		E	70	Ca. Detached.
	21		21		E	15	
	21	2	17		E	40	Top connected to the limb in Ca at + 11° E.
	19	1.5		10	E	15	30' high in Ca.
	18			23.5	E	10	
	18	4		39	E	60	
	40			49.5	E	30	Seen only at 8h 39m in Ca.
	15			54.5	E	10	
	11			77	W	20	Ca.
	37			49	W	10	
	37	2		39.5	W	25	
	38	1		25	W	10	
	32	5	23.5		W	50	Faint. 75' high in Ca.
	30		28		W	80±	Very faint. 60' high in Ca.
	11	2	36		W	60	Ca. Only a small portion of this was seen in C.
	11		39		W	75	Ca. Top extends both ways to + 46° and + 36° W. Changing.
	28	2	49.5		W	30	45' high in Ca. Ca photographs 8h 11m and 8h 38m.
October 28. S.S.	8 57	1	52		E	25	Only 10' high in Ca.
	13	0.5	45		E	25	Ca.
	13	0.5	38		E	45	
	53		34		E	45	
	13		33		E	30	Ca.
	50		30		E	10	
	50		29		E	10	
	13		26		E	15	Ca.
	13		19		E	15	Ca.
	48	3		10.5	E	55	
	45	0.5		36	E	25	
	45	2		37.6	E	85	Connected in Ca.
	45			43	E	35	
	13			45	E	30	Ca.
	41	0.5		74	E	15	C slightly displaced to red at base.
	40	0.5		84	E	15	
	9 12	4		48	W	30	Very faint.
	8			17.5	W	15	

Date and observer.	Hour I.S.T.		Base.	Latitude.		Lamb.	Height.	Remarks.
	H	M		North	South.			
1911			°	°	°			
October 28. S.S. —contd.	9	4	..	28		W	10	
	8	13		29		W	10	Ca.
	9	4		30		W	10	
	8	13		52		W	10	Ca.
		18		68.5		W	10	Ca. Ca photographs 8 ^h 13 ^m and 8 ^h 57 ^m .
October 29. A.Y.S.	8	34	.	67		E	10	
		34		68.5		E	10	
		32		58		E	10	
		54		48		E	10	} Connected and 2° broad in Ca.
		54		41		E	20	
		31	2	34		E	30	Top rises to 75" in Ca.
		43			15	E	15	Ca.
		28	2		27	E	40	Faint in C.
		43	1		81	E	15	Ca.
		28	3		40.5	E	30	
		45			84	W	10	O slightly displaced to red at base.
		43			40	W	20	
		48			2	W	55	Ca.
		41		10		W	10	
		38	2	24		W	30	
		38		26		W	45	
		38		28.5		W	25	
		43		79		W	30	Ca.
		43	1	84.5		W	30	Ca. Observed through thin cirrus. Ca photographs 8 ^h 48 ^m and 9 ^h 7 ^m .
October 30. G.N.	8	49	.	75.5		E	15	
		3	4	39		E	60	Ca.
		46		27		E	15	
		3		25		E	10	Ca.
		28		2		E	10	Ca.
		44			7	E	15	
		44			9	E	20	
		44			10	E	10	
		3			28	E	40	} Ca.
		3			29	E	40	
		3			34	E	15	
		40	3		42.5	E	30	
		3			54.5	E	10	Ca.
		37			70.5	E	20	Not in Ca.
		23			84	E	30	Ca.
		3			84.5	W	20	Ca.
	9	0	3		49.5	W	60	Ca.
	8	3			19	W	35	Ca.
		3	2	24		W	25	Ca.
		55	1.5	32		W	70	
		23		61.5		W	30	Ca. Ca photographs 8 ^h 3 ^m and 8 ^h 23 ^m .
October 31	9	54	1.5		48	W	60	Ca.
		54	6		19	W	30	Ca.
		54		32		W	30	Ca. No visual observations. Ca photograph, foculus, 9 ^h 54 ^m .
November 1. G.N.	9	30		43		E	15	
	8	30		13		E	30	
		40			32	E	15	
		34			38	E	40	Ca.
		37	1.5		46	E	30	
		34	3		45.5	W	80	
		34			24	W	20	} Ca.
		34		17		W	15	
								Ca photographs 8 ^h 34 ^m and 9 ^h 21 ^m poor.

Date and observer	Hour I.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North.	South.			
1911.	H. M.	"	"	"		"	
November 2. S.S.	8 18		86	...	E	20	Ca.
	58		82		E	10	
	9 5		71.5		E	30	Ca. Faint. Seen only at 9 ^m 5 ^m .
	8 18		56		E	15	Ca.
	53	0.5	52		E	30	
	18	0.5	48		E	15	Ca.
	18	4	31		E	120	Ca. Slants north.
	51	1.5	24		E	15	
	18		20		E	15	Ca.
	50		8.5		E	10	
	18	0.5	Equator.		E	30	Ca.
	49	4		11	E	30	
	18			21	E	45	Ca.
	43			27	E	15	
	45			29.5	E	15	
	43	2		48	E	25	
	41			68.5	E	10	
	38	1.5		73.5	W	20	
	9 13	1.5		62.5	W	30	
	10			52.5	W	15	
	8	1.5		34	W	25	
	8 18	0.5		30	W	40	Ca. Forklike.
	9 6	2		15	W	30	See Note.
	8	0.5		5.5	W	10	
	8 18		4		W	30	Ca. Surmounted by a streak 8° long.
	18		12		W	30	Ca. Faint.
	18		18		W	40	Ca.
	18	1	23		W	30	Ca.
	18		27		W	10	
	18	1	33		W	10	} Ca.
	18		36		W	10	
	18		38		W	15	
	9 0	5	44.5		W	50	
	8 18	1.5	69.5		W	30	Ca. Ca photographs 8 ^h 18 ^m and 9 ^h 5 ^m .
November 4. S.S.	8 8	...	69.5		E	10	Ca.
	52		65		E	10	
	49		48.5		E	30	45" high in Ca.
	48	1	40		E	15	
	47		34		E	50	
	47		31		E	15	
	44		20		E	10	
	8			15	E	10	Ca.
	39			30	E	10	2° broad and 40' high in Ca.
	8	5		37.5	E	30	Ca.
	37	4		45	E	35	
	37			52	E	30	±
	8			55	E	10	Ca.
	33			58.5	E	10	
	32			63	E	10	
	8	0.5		79	E	30	Ca. Faint.
	9 8	3		84.5	W	10	
	6	2		71.5	W	25	Faint and 10" high in Ca.
	5	7		48.5	W	30	Faint in C.
	8 8	0.5		40	W	10	Ca.
	8			25	W	50	Ca. Faint.
	59	0.5		12	W	10	
	8	1		5	W	50	Ca. Faint.
	8		Equator.		W	10	Ca.
	8	0.5	3		W	10	Ca.
	8	5	27.5		W	40	Ca.
	57		32		W	10	
	8	1	60		W	10	Ca. Ca photographs 8 ^h 8 ^m and 8 ^h 33 ^m .
November 5. A.Y.S.	8 32	..	83	..	E	10	Ca.
	32		61		E	10	Ca.
	37		31		E	10	
	32		24		E	10	Ca.
	32	5	5.5		E	60	Ca.
	35	1		26.5	E	30	

Date and observer	Hour I.S.T		Base.	Latitude.		Lamb.	Height	Remarks.
				North	South.			
1911.	H	M.	°	°	°		"	
November 16 S.S. —contd.	9	3	2	37		W	40 ±	Faint. Ca prominence is 60" high and has its base at + 38° W
		1		43		W	10	45" high and extends to + 45° W in Ca.
	7	50	1	47		W	30	Ca. Faint.
	8	30	3	53.5		W	30	Ca. Seen only at 8h 30m.
		50		57		W	10	80" high and seen only at 8h 30m in Ca.
		58	0.5	70		W	10	
		58		73.5		W	20	
		58		76.5		W	10	
		55		85		W	10	
								Ca photographs 7h 50m and 8h 30m
November 17. A.Y.S	9	1	...	58		E	25 ±	
		10		35		E	10	
	8	50			4	E	20	
	9	19			12	E	30	Ca.
		19			15	E	40	Ca.
	8	59			20	E	15 ±	
		59			22	E	20 ±	
	9	19	2		36	E	15	Ca.
	8	58	2		43	E	30	
	9	14	5		48.5	E	40	Only 3° broad in Ca
	8	56			53	E	20 ±	
	9	12			63	W	20 ±	
		10	2	..	48	W	20	
		9			35	W	45	About 3° broad at top. 60" high in Ca.
		10		44		W	60	Ca. A streak from this meets lamb at + 35° W.
		6		60		W	15	80" high in Ca.
		25		71		W	10	
		25		77		W	10	
								Ca photograph 9h 19m poor.
November 18. S.S.	9	42	...	31.5		E	35	
		42		28.5		E	15	
		37			0.5	E	20	
		20	1		4.6	E	35	} Connected and 60" high in
		20			51	E	25	Ca.
	8	14			53	E	15	Ca. Detached.
		14			64	W	15	Ca.
		14			40	W	50	Ca. Detached } Nearly connected.
		14	2		35	W	60	Ca.
								Seeing bad and observations partial. Ca photographs, flocculus only, 8h 14m and 8h 10m.
November 19. A.Y.S.	8	47	6	33		E	60	
		44		8		E	15	
		44	1.5	6		E	30	
		42			3.5	E	10	
		40	4		35	E	30, 25	3 prominences.
		37	7		51.5	E	85	
		35			02	E	15	
		35	1		09.5	E	15	U slightly displaced to red.
		57			81.5	E	10	
		54	1		40	W	40 ±	Faint.
		54			34.5	W	60	Broader at top
		52		15		W	20	No Ca photographs.
November 22. S.S.	10	28	...	42		E	30	
		28	1	22		E	30	} Ca.
		28		10		E	45	
		40	1		12.5	E	50 ±	
		28			17	E	60	
		28			39	E	70	} Ca.
		40	1		46.5	W	70	
								Seeing bad and observations partial. Ca photographs, flocculus, much streaked with cloud. E. side 10h 28m, W. side 10m 40m.
November 24. S.S.	11	21	...	38		E	45	
		21	2	32		E	80	Faint. } Ca.
		21	7		8.5	E	60	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height	Remarks.
			North.	South.			
1911.	H. M.	°	°	°		"	
November 26. A.Y.S. —contd	9 20	1.5		68	E	30	See Note.
	8 38	2		73	E	10	
	38			75.5	E	15	
	9 10			85	E	15	Ca.
	10			87.5	E	10	Ca.
	14	6		48	W	60	
	12			24	W	10	
	12	1		22.5	W	25	
	9	6		17	W	35	
	5	2		11.5	W	10	
	10			8	W	20	Ca Slants to—8° W.
	8	1		1	W	10	
	3		1		W	10	
	1		15		W	10	
	0		30		W	30 ±	Faint. Only 10" high in Ca.
	8 50		34		W	15	
57		40		W	10		
9 10		74		W	15	Ca. Ca photographs 9h 10m and 8h 35m.	
November 27. S.S.	8 3	...	70	...	E	10	Ca.
	9 16	3	45.5	...	E	30	75" high in Ca.
	14		30		E	10	Extends over 4° in Ca
	13		20		F	25	
	10		12		E	15	
	9 9			2	E	40	Slants southwards. Only 25" high in Ca.
	7			12	E	15	3" broad, 25" high and faint in Ca.
	5			28	E	10	
	5			26	E	15	
	5			30	E	10	
	5	2		33	E	15	
	1	6		48	E	60	45" high in Ca.
	8 50			40.5	E	20	
	50			55	E	30	
	57			65	E	10	
	54			87.5	E	15	
	18			80	W	10	Ca.
	51			75.5	W	15	
	50	2		71	W	25	
	42			61	W	20	
	40			58	W	30	Changing.
	38	7		50.5	W	35	D ₁ , D ₂ bright at base. 20" high in Ca.
	35			42	W	10	
	3			87	W	10	
34			33	W	10		
33			25	W	10		
33			23	W	10		
21			14	W	10		
21			9	W	10	Ca. Seen only at 8h 21m.	
21			Equator.	W	10		
9 37			21	W	20		
36	3		25.5	W	55		
34	2		34.5	W	40	5" broad in Ca.	
27			42	W	10		
27			45	W	10		
8 3	...		54	W	60	Ca.	
3			70	W	10	Ca. Ca photographs 8h 3m and 8h 21m.	
November 28. A.Y.S	8 50	...	87.5		E	10	
	9 54		84		E	30	
	54		83		E	30	
	54		68		E	40	Ca.
	54	1		63	E	15	
	8 49			80	E	15	
	9 40	5		42.5	E	105	Only 80" high in Ca.
	8 40			33	E	15	
	45			21.5	E	10	
	45			18	E	35	35" high at 9h 54m and 45" high at 9h 19m in Ca.
9 54			14	E	10	Ca.	

Date and observer.	Hour L.S.T.	Base.	Latitude.		Limb.	Height.	Remarks.
			North	South.			
1911.	H. M.	°	°	°		"	
November 28. S.S. —contd.	9 54		8		E	10	Ca
	8 48	1	5		E	20	
	48	0.5	4		E	10	
	9 32	5		3 5	E	55	2 prominences with tops almost meeting. Connected and form a single prominence in Ca.
	81	2		84	E	25	
	28	4		45	E	60	
	26			51	E	30	Slants to ~ 54° E.
	26	2		57	E	30	
	8 37			61	E	15	
	9 54			80	E	10	Ca
	54			69	W	10	Ca
	28			57	W	25	
	23	8		51	W	50	See Note 1
	21	1		42.5	W	30	
	8 58			31	W	10	Ca. Seen only at 8h 53m.
	9 48			6.5	W	10	
	9	5		2	W	40	See Note 2.
	8 47		19		W	35	
	47		21		W	15	
	9 3	2	28		W	25	
	48		35		W	50	
	8 51	1.5	51		W	25	Only 15" high in Ca.
	9 54		72		W	40	Ca. Nothing was seen here at 8h 53m or 9h 19m.
	54		81		W	10	Ca. Ca photographs 9h 54m, 8h 53m, 9h 19m, 10h 22m and 10h 35m.
November 29. S.S.	8 1		50	..	E	15	Ca
	1		47		E	15	Ca.
	1	3	42.5		E	90	Ca. Top broader and slants eastwards. A small portion was seen in C.
	1		37.		E	10	Ca.
	1	2		12	E	45	Ca. Very faint.
	1			58	E	10	
	1			61	E	15	} Ca Faint.
	1			64	E	30	
	8 44			77	E	15	
	1			78	W	30	Ca.
	8 37			58	W	20	
	36			50	W	20	
	35			47	W	10	
	1			18	W	20	Faint.
	1			8	W	30	} Ca.
	1		8		W	30	
	1		19		W	50	
	9 25	1	38.5		W	30	
	8 1	1	48.5		W	15	} Ca
	1		50		W	10	
	1		65		W	10	Observed through clouds. Ca photographs 8h 1m and 8h 17m.
November 30. A.Y.S.	8 35	1	85	..	E	20	
	50		66		E	15	} Ca.
	50		56		E	15	
	50		47		E	15	
	30	7	41.5		E	60	90" high in Ca. } Connected by a Ca streak.
	26	2	31		E	60	Faint in C. }
	50		25		E	35	Ca.
	22	0.5		7	E	15	
	50			23	E	15	See Note.
	50			37	E	60	Ca Rather faint. Top broader. } Connected in
	19	4		43	E	60	Ca.
	16			61	E	15	
	16			68	E	20	C slightly displaced to red
	50			79	E	20	C slightly displaced to red at base.
	50			74	W	25	Ca.
	26			68	W	15	Ca.
	26			66	W	15	Ca. } Seen only at 8h 26m.
	48	1		49	W	30	
	46			35	W	30	

Date and observer.	Hour I.S.T.		Base.	Latitude		Limb.	Height.	Remarks.
				North.	South.			
1911.	H.	M.	°	°	°		''	
November 30. A.Y.S. —contd.	8	46	1	..	31	W	45	Faint at top.
		43	1		28	W	15	
		43		5		W	10	
		50	3	21.5		W	30	Ca.
		39	3	34.5		W	40	
		37		47		W	10	30" high in Ca.
		50		66		W	15	Ca.
								Ca photographs 8h 50m, 8h 26m, 9h 37m, 10h 5m and 10h 31m.
December 1. G.N.	8	29	..	45		E	30	
		29		43		E	45	
		29	4	38		E	60	Ca.
		29	2		13	E	15	
		29			36	E	60	Ca. A detached streak 4° long.
		30	1	45.5		E	60	
		26		77.5		E	15	
		29		89		—	20	
		29		87		W	15	Ca.
		29		79		W	15	
		52		68		W	10	
		29		50.5		W	45	Ca. A detached streak 3° long.
		29		50		W	10	
		29		47		W	10	Ca.
		29		45		W	10	
		45	1	32.5		W	50	Extends to —, 27° W. in Ca.
		43		4		W	10	
		42	2	3		W	25	
		39	1	80.5		W	10	Ca photographs (through cirrus) 8h 29m.
December 2. A.Y.S.	10	42	...	76	...	E	40	Ca. A faint narrow streak.
		12	3	59.5		E	25	
		10	1	56.5		E	10	
		5	1.5	39.5		E	20	
		5		36		E	25	Almost detached.
		5		33.5		E	15	
		5	1	30.5		E	20	
		52		24		E	20	
		52	1	22.5		E	15	
		9 59	8	11		E	40	Changed at 10h 51m, only 30" high in Ca.
		10 49	1	3.5		E	35	
		47	1		11.5	E	35	
		47	1		14.5	E	35	Very faint in C.
		9 50	10		35	E	20, 60	
		10 44			76	E	15	
		43	6		49	W	20	
		41	6		38	W	45	Only 30" high in Ca.
		37	2.5	5.5		W	30	
		29	3	11.5		W	25	Tops connected in Ca.
		25	5	30.5		W	30	
		42		36		W	45	Ca. A detached dot
		23	1	40		W	30	In Ca there is a small bank here surmounted by a detached dot 30" high
		23		43.5		W	10	
		13		75		W	15	
		13	2	88		W	30	C slightly displaced to red over top. Seeing poor. Ca photograph 10h 42m.
December 4. G.N.	10	43		15	..	E	30	
		11 0	3		19.5	E	30	Ca.
		0	4		47	E	30	
		0			60	W	15	Ca.
		0	2		42	W	15	Ca.
		5			12	W	60	See Note.
		10 53	1		5	W	15	
		11 0			2	W	40	Ca.
		0	1	10.5		W	25	Ca.
		0		31		W	40	Ca. Top extends both ways to + 28° and + 25° W.
		10 50	1	35.5		W	15	

Date and observer.	Hour I.S.T.	Base.	Latitude.		Lamb.	Height.	Remarks.
			North.	South.			
1911	H. M.	°	°	°		°	
December 15. S.S. —contd.	8 33	...		8	E	15	Ca
	9 19			14.5	E	15	
	17	6		26	E	35	
	14			32	E	10	
	8 33			41	E	10	Ca
	9 12			52	E	10	
	10			68	E	10	
	8			74.5	E	30	
	8 33			81	E	10	
	33			86	E	10	} Ca
	33			87	E	10	
	9 7			88	W	10	
	8 33			77	W	10	Ca.
	33			75	W	10	Ca.
	9 6			72	W	15	
	5			67	W	10	
	4			57	W	10	
	2			52	W	25	A bright jet. Changing. Only 10' high in Ca
	8 58	3		44.5	W	25	Very faint in C. 55" high in Ca.
	58	3		40.5	W	10	
	33			26	W	10	Ca.
	33		9		W	20	Ca.
	33		16		W	10	Ca.
	9 40		28.5		W	50	Nothing here in Ca.
	38	6	48		W	35, 25	
	8 33		59		W	10	Ca
	33		76		W	10	Ca.
	9 33		80		W	15	
	8 33		85		W	30	Ca. Ca photographs 8h 33m and 8h 0m.
December 16. S.S.	9 20	.	84	..	E	10	
	8 5		61		E	15	Ca
	9 18	2	57		E	10	
	8 5		53		E	10	
	9 15		47		E	15	
	8 5		42		E	10	Ca.
	9 18		36		E	30	
	11		23		E	50	70" high in Ca, and base extends to + 27° E.
	8 5	1		1.5	E	10	Ca.
	9 2			33	E	20	
	8 5			35	E	35	Ca. Detached. (Only 15" high at 8h 24m.
	5			39	E	55	Ca. Detached
	9 0	2		51	E	20	
	8 58	1		66	E	10	
	54			86	E	10	
	54			88	W	10	
	52			67	W	10	
	51	1		57.5	W	10	
	48			54	W	10	
	48	6		45	W	45	70" high in Ca.
	44	4		39	W	75	
	5			17	W	20	
	5			6	W	10	
	5			1	W	10	
	5	3	5.5		W	30	} Ca
	5		23		W	10	
	5		25		W	10	
	5	2	33		W	10	
	5		47		W	10	
	9 26		52		W	20	} Nothing here in Ca.
	26		53.5		W	15	
	28		78		W	10	
							Ca photographs 8h 5m and 8h 24m
December 17. S.S.	9 18	.	88.5	..	E	10	
	8 9	1	65		E	10	Ca.
	9 13		28		E	10	
	12	1.5	19		E	15	
	8 9		15		E	10	Ca.
	9			5	E	35	Ca.
	9 6	1		12	E	30	Seen only at 8h 39m in Ca

Date and observer.	Hour I.S.T.	Base.	Latitude		Limb.	Height.	Remarks.							
			North.	South.										
December 17. —contd.	S.S.	2	..	19	E	10	Ca.							
								8 9	24	E	35	Slants eastwards.		
	8 9	32	E	10	Ca.									
	9 2	43	E	25	Surmounted by a short detached streak 55" high.									
	1	49	E	15										
	8 59	2	56	E	20									
	9	62	E	10	Ca.									
	9	64	E	15	Ca.									
	57	75	E	15	80" high in Ca.									
	9	79	W	10	Ca									
	51	57.5	W	10										
	48	10	42	W	50	80" and 35" high in Ca.								
	9 53	1	18	W	15	30" high in Ca.								
	51	14	14	W	45	25" high in Ca.								
	8 9	}	2	14	W	10	} Ca.							
	9			33	W	10								
	9 48			38	W	20								
8 9	44			W	10									
9	52			W	10									
9	67			W	10									
9	83			W	10									
9	88			W	10									
9														
9														
December 18.	S.S.	...	79	...	E	10	Ca.							
								8 6	54	E	15	Ca.		
								10 16	38	E	20	10" high and seen only at 9h 43m in Ca.		
								8 6	2	E	10	Ca.		
								8 6	1	18.5	E	10	Ca. Faint.	
								10 12	5	31.5	E	60	35" high in Ca.	
								11	39	E	10			
								8 6	1	44.5	E	20	Ca.	
								10 9	1	47.5	E	10	40" high in Ca.	
								9	51	E	80			
								9	2	58	E	10		
								7	60	E	10			
								8 6	15	75	W	15	Ca.	
								6	10	58	W	10	Ca.	
10 2	1	48.5	W	10										
0 57	6	18	W	45, 30	80" high in Ca.									
8 6		31	W	30	4" broad and 45" high in Ca at 8h 6m.									
6		39	W	30	} Ca.									
6		43	W	25										
6		87	W	15										
December 19.	16	17	...	21	...	E	50	}						
									17	12	E	80		
									17	1	48	E	20	Ca.
									17	58	E	20		
									17	5	25.5	E	45	
December 23.	A.Y.S.	6	32	8	E	15	Ca. Seen only at 10h 32m.							
								10 32	2	15	E	25		
11 4	15	E	25											
4	17	E	25											
4	18	E	40	Ca.										
10 10	8	39	E	40	60" high in Ca.									
11 0	53	E	25											
10 57	2	52	W	15	} Ca.									
10	48	W	30											
10	30	W	30											
10	30	W	30											
Seeing poor. Only a portion of S.E. limb examined Ca photograph, foculus, 10h 10m. Prominence, 10h 32m, (poor).														

Date and observer.	Hour I.S.T.		Base.	Latitude.		Lamb.	Height.	Remarks.
				North.	South.			
1911. December 25.	H.	M.	°	°	°		"	
	13	49	..	42	..	E	60	Ca. Slants northwards.
		49	2	38		E	45	
		49		36		E	60	
		49		20		E	15	Ca.
		49	1		37.5	E	80	
		49	2		42	E	35	
		49			76	E	10	Ca.
		49	2	41		W	15	Ca.
								No visual observations. Ca photograph, focculus plate, 13 ^h 49 ^m .
December 26. A.Y.S.	9	34		78	..	E	10	
		38		62		E	15	Ca.
		38	1.5	48		E	25	
		32		37		E	35	Ca.
		32		29		E	10	
		38	4	20		E	40	Ca.
		43		12.5		E	10	
		43		9		E	20	±
		43			8	E	10	
		30	1		10.5	E	20	
		43	2		15	E	25	±
		38			28	E	30	Connected and 60" high in Ca.
		38			36	E	70	Ca.
		28	4		41	E	50	
		22	1		49.5	E	20	Nothing here in Ca.
		33			58	E	30	Ca.
		20			75	E	15	
		38			68	W	15	
		38			50	W	15	
		38			51	W	10	
		38			48	W	10	Ca.
		38			45	W	10	
		38			42	W	10	
		38	1		29	W	80	
		38			8	W	50	A small detached dot.
		38		8		W	15	
		38	3	12.5		W	45	Ca.
		38		32		W	80	
		38	1.5	57		W	10	
								Ca photographs 9 ^h 38 ^m and 9 ^h 27 ^m .
December 27. A.Y.S.	10	32	.	73	.	E	10	
		31		59		N	20	±
		31		53		E	10	40" high in Ca.
		40		25		E	15	
		45		24		E	65	Ca.
		40			4	E	10	
		38			19	E	15	
		38	2		24	E	15	
		37	1		39	E	30	±
		45	1		45.5	E	15	See Note.
		45			35	W	20	
		45			30	W	25	
		45	5		24.5	W	60	Ca.
		45			11	W	25	
		45			9	W	30	
		44	1.5	36		W	30	
		45		39		W	30	Ca.
		43		33.5		W	15	
								Ca photographs 10 ^h 45 ^m , 10 ^h 18 ^m and 11 ^h 44 ^m .
December 28. A.Y.S.	8	42	.	78.5	...	E	20	
		41		65		E	10	
		5		60		E	20	Ca.
		40	2	49		E	15	
		40		45		E	10	
		34		42		E	20	±
		34		38		E	20	40" high in Ca.
		33	1	31.5		E	15	
		33		28		E	45	Faint in C.
		31		13.5		E	15	
		31	4	9		E	25	Only 2° broad and 15" high in Ca.

Date and observer.	Hour I.S.T.	Base.	Latitude.		Limb.	Height	Remarks.
			North	South			
1911.	H. M.	°	°	°		"	
December 28 A.Y.S. -contd	8 30	.	3		E	15	
	29			5.5	E	15	
	29	2		32	E	15	
	28	4		36	E	35	20" high in Ca.
	23	5		48.5	E	25	
	21			67.5	E	10	
	21			70.5	E	10	
	5			84.5	W	15	Ca.
	52			77.5	W	20	
	5	1		59.5	W	15	Ca.
	50			51	W	15	2° broad in Ca.
	50			47	W	60 ±	A faint streak slanting southwards. Only 30" high in Ca.
	5	1		41	W	25	
	5			39	W	30	Ca.
	5			34	W	15	
	49	0		26	W	85	Changing slightly. In Ca it is a small arch extending from -21° to -25° W. and 60" high.
	5				W	35	Ca.
	45	1	1.5		W	30	
	5			20	W	10	Ca.
	5			19	W	10	Ca.
44	1.5		29	W	30	Ca photographs 8 ^h 5 ^m and 8 ^h 29 ^m .	
December 29. A.Y.S.	8 8	...	84.5	..	E	10	Ca.
	42		75		E	30	
	41		61.5		E	10	
	36	2	46		E	100	Top broader and slants northwards. Only 60" high in Ca.
	33		31		E	10	O slightly displaced to red.
	33	0.5	25		E	20	2° broad in Ca.
	30	3	7		E	50	
	28		Equator.		E	10	
	28	1		4	E	85	Only 10" high in Ca.
	8	1		10.5	E	10	Ca. A small arch.
	25			25	E	15	Top bends and almost meets limb at -28° E
	23	3		39.5	E	20	
	18	5		46.5	E	50	Only 35" high in Ca.
	18			50	E	15	
	9 13			83.5	E	15	Bright.
	13			86	E	10	
	8 8			87	W	10	Ca.
	9 12			78.5	W	30	
	10			63	W	10	
	9	4		50	W	40	See Note 1.
	1	2		34	W	80	
	1			31	W	25	Faint in O.
	1	1		29	W	25	
	1	2		25	W	30	
0	5		16.5	W	25	See Note 2.	
8 58	2		Equator.	W	30		
55			11	W	15		
50			21	W	10	80" high in Ca.	
50	2		25	W	30		
50	1		20	W	55	Top extends north. } Connected in Ca.	
47			34	W	30		
45			47	W	25		
45			40	W	35	Top connected.	
8			52	W	15		
8			53	W	10	Ca.	
8			89.5	W	10	Ca photographs 8 ^h 8 ^m and 8 ^h 33 ^m .	
December 30. A.Y.S.	8 18	...	86.5	..	E	20	Ca.
	43		87		E	10	
	18		58		E	25	
	18		40		E	10	Ca.
	18		39		E	10	
	39	6		17	E	80	A Ca streak from the top bends and almost meets the next prominence.
	35	0.5		8.5	E	30	

Date and observer.	Hour L.S.T.	Base.	Latitude.		Limb	Height.	Remarks.
			North	South			
1911.	H. M.	°	°	°		''	
December 30. A.Y.S. —contd.	8 35	1	3°5'		E	20	
	32	2		14	E	25	45" high in Ca
	30			20	E	10	
	29			32	E	20	Slants south and is 45" high in Ca
	27	6		41	E	35	
	25			45.5	E	45	A small detached Ca cloudlet over this is 60" high.
	25			48	E	25	
	24	1		50	E	15	
	22			74.5	E	10	
	18			83.5	W	30	Ca
	9 1			66	W	10	
	0	3		51.5	W	60	45" high in Ca at 8 ^h 8 ^m and not visible in the photograph taken at 8 ^h 42 ^m .
	8 8	6		44	W	20	} Ca.
	18			27	W	15	
	18			18	W	10	
	50	4	12		W	25	
	50		15		W	30	
	18		28		W	15	Ca
	18	1	25.5		W	15	Ca.
	48	4	31		W	30	Faint in C
	46		37		W	10	Surmounted by a Ca detached dot 45" high.
	46		40		W	10	
	18		58		W	10	Ca.
	45	1	88		W	20	Ca photographs 8 ^h 18 ^m and 8 ^h 42 ^m .
December 31. A.Y.S.	8 14	..	78.5		E	10	} Ca.
	14		61		E	10	
	14		49		E	10	
	42		46		E	15	Bright. D ₁ , D ₂ , b ₁ , b ₂ , b ₃ and b ₄ were bright.
	42		45		E	15	
	14		40		E	45	Ca. A detached dot.
	14		34		E	10	Ca.
	14	2	27		E	30	Oh. Faint.
	41	2	20		E	35	
	39		10		E	10	
	38	2		14	E	45	60" high in Ca.
	38	5		28.5	E	30	Faint in C. 60" high in Ca.
	29	5		41.5	E	60	
	17	6		48	E	40	
	14			61	E	15	
	14			62.5	E	20	
	14			75.5	E	15	Ca.
	12			79.5	E	20	
	12			86.5	E	25	Faint in C.
	9 5			85	W	10	
	0	8		51	W	60	
	8 14			33	W	30	Ca. Detached
	55	2		28	W	25	
	54			17	W	50	Top extends to -10° W
	50	3	8.5		W	30, 25	
	48	2	18		W	10	
	14		21		W	10	Ca.
	47	1.5	24		W	30	
	14		29		W	15	
	14	1	43.5		W	35	} Ca.
	14		56		W	15	
	14		76		W	10	
	14		79.5		W	10	Ca photographs 8 ^h 14 ^m and 8 ^h 42 ^m

NOTES.

1911.

- July 1 Lat. $- 80^{\circ}5$ W. Bright. C was displaced to violet 1.0 \AA . Changing. There was no prominence here, but there was a displacement to violet at $8^{\text{h}} 32^{\text{m}}$.
- August 2. Lat $- 11^{\circ}5$ E. The prominence was not seen at $8^{\text{h}} 24^{\text{m}}$. Eruptive. It had disappeared at $9^{\text{h}} 11^{\text{m}}$ except for a small portion at the base. In Ca only a portion of the prominence $30''$ high was seen at lat. $- 10^{\circ}$ E.
7. Lat. $+ 24^{\circ}$ W. The prominence was surmounted in Ca by a detached cloud 4° broad and $100''$ high at $8^{\text{h}} 9^{\text{m}}$. This cloud had disappeared in the photograph taken at $8^{\text{h}} 30^{\text{m}}$.
13. Lat. $+ 8^{\circ}$ E. Bright Metallic. $D_1, D_2, b_1, b_2, b_3,$ and b_4 were bright. Changing. F was displaced both ways slightly. The prominence was low at $8^{\text{h}} 40^{\text{m}}$. In the Ca photographs it was a slender slanting streak $45''$ high
26. Lat. $- 79^{\circ}$ E. An eruptive loop, faint and broader at the top. C was displaced to red throughout the prominence but most at the top the amount being 1.0 \AA to red. The prominence was changing. Nothing was seen here in the Ca photographs.
31. Lat $+ 7^{\circ}$ E. Bright. Metallic. Showed displacement in C to violet 2.0 \AA
- September 6. Lat. $- 40^{\circ}$ E. Changing slightly in hydrogen. It was 3° broad and $50''$ high in Ca.
8. Lat. $+ 31^{\circ}5$ E. The prominence was broader in the middle but the top narrowed to a fine point. The stem was bright. In Ca it was $200''$ high and streaks from it met the limb at lats. $+ 34^{\circ}$ E and $+ 25^{\circ}$ E.
13. Lat. $- 36^{\circ}5$ E. The prominence consisted of a slanting cloud connected to the limb by a narrow stem. There was a bright jet close to it at lat. $- 37^{\circ}5$ E. In Ca it was only $50''$ high.
14. Lat. $+ 64^{\circ}$ W. Eruptive. Showed displacement in C to red for about 3.0 \AA . The prominence was not seen in the Ca photographs.
30. Lat. $+ 8^{\circ}$ E. Changing. Bright. Metallic. $D_1, D_2, b_1, b_2, b_3, b_4,$ and 4924.1 were bright. $15''$ high at $8^{\text{h}} 40^{\text{m}}$. C was slightly displaced to red. At $8^{\text{h}} 41^{\text{m}}$ displacement in F to red was 2.0 \AA . The height of the prominence in Ca was $15''$.
- October 2. Lat. $+ 36^{\circ}5$ W. A Ca streak from the top extends on both sides and meets the limb at lats. $+ 31^{\circ}$ and $+ 39^{\circ}$ W.
6. Lat. $- 45^{\circ}5$ E. The Ca prominence extends from lat. $- 42^{\circ}$ to $- 52^{\circ}$ E, and is $30''$ and $45''$ high.
- November 2. Lat. $- 15^{\circ}$ W. Double $20''$ high in Ca. At $9^{\text{h}} 5^{\text{m}}$ it was bright and ringlike and $15''$ high in Ca
8. Lat. $+ 68^{\circ}$ W. Showed displacement to red in C about 2.5 \AA . The prominence had disappeared at $8^{\text{h}} 42^{\text{m}}$; but displacement of C to red continued.
9. (1) Lat. $- 7^{\circ}$ W. Changing in Ca. At $9^{\text{h}} 11^{\text{m}}$ it was connected with the last prominence, and was $100''$ high at one place and $80''$ at another in Ca.
- (2) Lat. $+ 17^{\circ}5$ W. $150''$ high in Ca at $8^{\text{h}} 22^{\text{m}}$. Increased in height to $180''$ at $9^{\text{h}} 11^{\text{m}}$ and decreased to $90''$ at $11^{\text{h}} 16^{\text{m}}$ in Ca.
26. Lat. $- 68^{\circ}$ E. Bright. Metallic. Changing. $D_1, D_2, b_1, b_2, b_3, b_4, 5316.8,$ and 4924.1 were bright.
28. (1) Lat. $- 51^{\circ}$ W. At $8^{\text{h}} 53^{\text{m}}$ in Ca a clouded float slanting to $- 4^{\circ}$ W. over this bank of prominences at a height of $150''$ with a fine thread-like streak almost meeting the bank. At $9^{\text{h}} 18^{\text{m}}$ it was $165''$ high. At $9^{\text{h}} 54^{\text{m}}$ it was $200''$ high but it was connected to the bank by the slender streak. At $10^{\text{h}} 22^{\text{m}}$ it was $240''$ high and there was no change in form. At $10^{\text{h}} 35^{\text{m}}$ it was an arch $240''$ high floating over the north end of the bank, and unconnected with it. The summit of the arch was thicker. In all the photographs there was little change in the bank itself.

1911.

November 28—(2) Lat. — 2° W. A bright eruptive cloud connected to the limb at two points. Changing Metallic. C was displaced 1 \AA to red at $9^{\text{h}} 9^{\text{m}}$. D_1 , D_2 , b_1 , b_2 , b_3 , b_4 , 5316.8, and 4924.1 were bright. Changed completely at $9^{\text{h}} 19^{\text{m}}$ the form at this time resembled that shown on the Ca photographs $30''$ high in Ca. Nothing was seen in Ca at $9^{\text{h}} 18^{\text{m}}$.

30. Lat. — 23° E. Ca The prominence was surmounted by a detached changing cloud the base of which was $1'$ above the limb, and the summit $4' 30''$. At $9^{\text{h}} 37^{\text{m}}$ it had increased its distance from the limb and was $5' 30''$ in height the base being $2'$ above the limb. At $10^{\text{h}} 31^{\text{m}}$ it consisted of two parallel vertical streaks the lower ends being $3'$ and the summit of the larger streak $7' 30''$ above the limb. During these changes the prominence drifted 3° or 4° towards the north.

December 4. Lat. — 12° W. A detached cloud in hydrogen. Changing in Ca. In the photographs taken at $9^{\text{h}} 59^{\text{m}}$ and at $11^{\text{h}} 0^{\text{m}}$ it was connected to the limb and was $60''$ and $80''$ in height in the respective plates; but in the photograph taken at $10^{\text{h}} 21^{\text{m}}$ it had changed in form and had become detached from the limb.

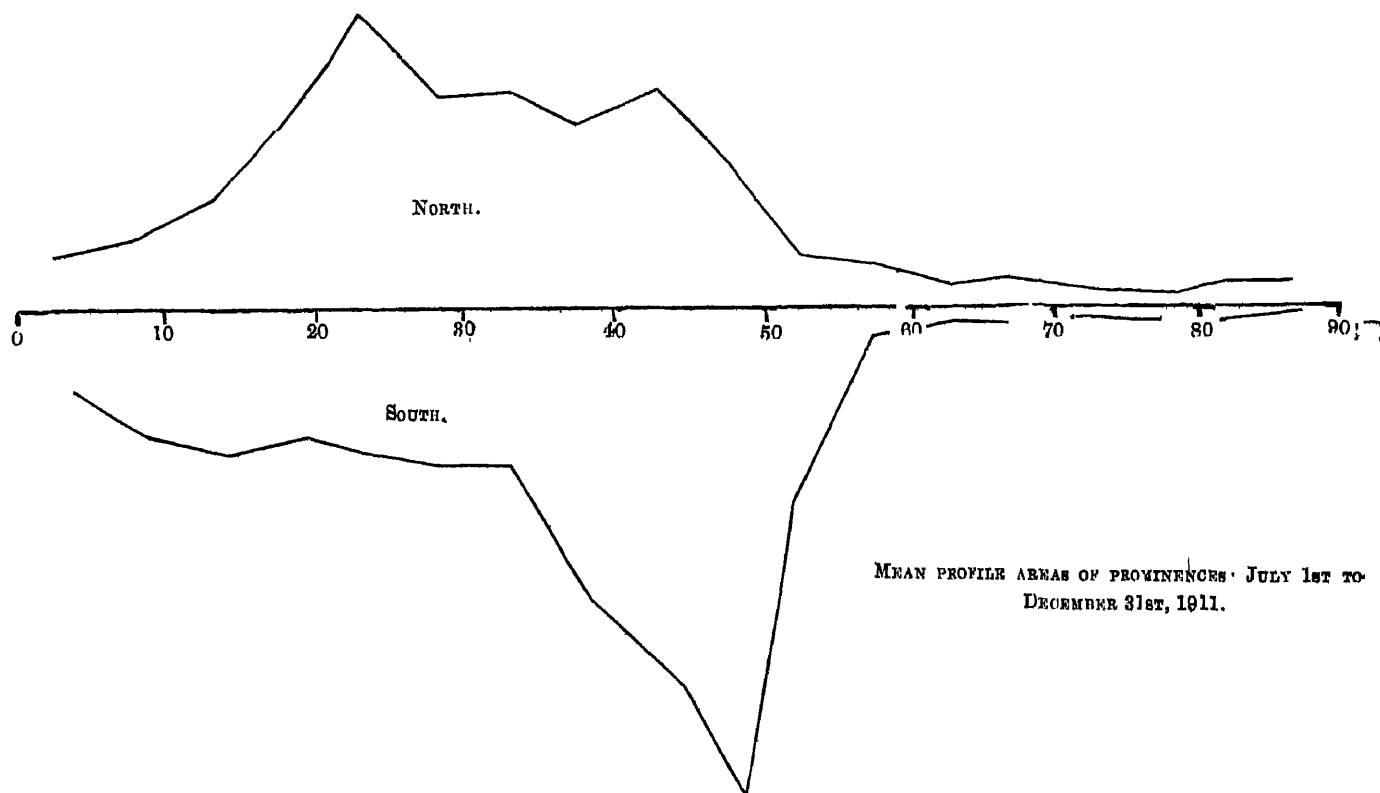
27. Lat. — 39° E. 9° broad in Ca and was surmounted by a detached cloud $125''$ high at $10^{\text{h}} 45^{\text{m}}$. At $11^{\text{h}} 44^{\text{m}}$ this cloud was connected to the limb at lat. — 37° E and was $145''$ high.

29. (1) Lat. — 50° W. Bright. Metallic. D_1 , D_2 , b_1 , b_2 , b_3 , and b_4 were bright. It was only $30''$ high in Ca.

(2) Lat. — $16^{\circ} 5'$ W. Very bright. Metallic. The whole prominence was visible in D_1 , D_2 , b_1 , b_2 , b_3 , and b_4 . The lines 6677, 5316.8, and 4924.1 were bright. The prominence was only 3° broad $15''$ high in Ca.

REMARKS ON THE DISTRIBUTION OF THE PROMINENCES DURING THE
SECOND HALF OF 1911 WITH A GENERAL REVIEW
FOR THE WHOLE YEAR.

The general features of prominence distribution during the six months ending December 31, 1911, are shown in the accompanying diagram which represents graphically the mean profile areas found for each zone of five degrees in latitude.—



The distribution is similar to that shown during the first six months of the year and differs only in the development of specially active zones between the parallels of 40° and 50° in the southern hemisphere and between 20° and 25° in the northern. The mean total area for the northern hemisphere remains practically the same as during the earlier months, whilst the mean for the southern hemisphere shows an increase of 10 per cent. due to the marked development of prominences between 40° and 50°.

The prominence activity for the whole year shows a diminution compared with the previous year. The mean profile area was 29 per cent. less and the mean frequency 6 per cent. less, the mean size of the prominences having diminished more than their mean numbers.

These figures show that the prominence activity is to a large extent independent of the spot activity which has fallen during 1911 to about one-third its value in 1910.

In the following tables the mean areas and mean frequencies are compared with the year 1910:—
Mean profile areas of Prominences in square minutes of arc —

	1910.	1911.
	Per diem.	Per diem.
North	2·03	1·27
South	2·07	1·64
Total ..	4·10	2·91

Mean frequencies of Prominences —

	1910.	1911.
	Per diem.	Per diem.
North	11·1	10·2
South	11·0	10·7
Equator	0·2	0·1
Total ..	22·3	21·0

The mean height shows a very slight increase being 27"·1 in 1911 against 26"·8 in 1910.

In forming these tables an approximate allowance is made for partial or imperfect observations and the mean frequencies are therefore very slightly greater than those given in the detailed abstract which follows in which the numbers observed are divided by the total number of days of observation.

Metallic prominences were very infrequent only 24 being recorded during the year. Most of these were found in the sunspot zones but, as in the previous year, a few were observed in high latitudes. The mean and extreme latitudes are given in the following table:—

	Number observed.	Mean latitude.	Extreme latitudes.
North	9	21·5	0·5 86·5
South	15	28·8	2·0 71·5

Displacements of the hydrogen lines were observed in prominences or in the chromosphere on 86 occasions. In 40 of these the displacement was towards the red and in 41 towards the blue; the remaining 5 showed displacements in both directions.

These disturbances were observed in all latitudes from the equator to the poles and they were much more frequent in the southern hemisphere than in the northern. It is noteworthy that a very large proportion occurred within the polar areas where the larger prominences were absent.

The most interesting prominence recorded during the year was observed on April 2 in south latitude 34°; successive photographs showed an accelerating motion of ascent increasing from 30 to 84 kilometers per second; and a final break up of the prominence into scattered fragments one of which attained the enormous height of 10' of arc or 435,000 kilometers above the sun's limb.

ABSTRACT FOR 1911

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	28	633	19.0	28.0	8.5	10.4	0.1	39.3	38.3
February	28	514	18.4	26.0	9.2	0.1	0.1	37.5	40.4
March	31	709	22.9	26.0	11.0	11.8	0.2	37.6	37.1
April	29	688	23.0	27.4	11.7	11.1	0.3	35.5	37.8
May	28	512	18.3	27.4	9.1	9.1	0.1	37.9	38.3
June	24	381	15.9	27.8	7.8	8.1	0.0	40.3	34.1
July	17	248	16.5	24.0	8.3	8.2	0.1	36.4	38.9
August	23	454	17.5	28.6	8.1	9.2	0.2	40.4	38.2
September	24	502	20.9	27.8	10.6	10.2	0.1	39.2	37.5
October	25	480	19.2	28.2	9.5	9.5	0.2	38.0	41.4
November	22	522	23.7	27.3	11.0	12.5	0.2	42.2	40.6
December	18	408	27.7	24.9	12.8	14.7	0.2	40.0	41.4
First quarter	87	1,756	20.2	26.5	9.6	10.4	0.1	38.1	38.4
Second quarter	81	1,501	19.3	27.5	9.0	9.5	0.1	37.4	36.9
Third quarter	65	1,204	18.5	27.5	9.0	9.3	0.1	39.0	38.0
Fourth quarter	65	1,500	23.1	26.8	10.0	12.0	0.2	40.1	41.1
First half-year	168	3,317	19.7	27.0	9.6	10.0	0.1	37.8	38.2
Second half-year	180	2,704	20.8	27.1	10.0	10.7	0.1	39.6	39.8
Year	298	6,021	20.2	27.1	9.8	10.3	0.1	38.6	38.6

Heliographic latitude of prominences in 1911.				Number of prominences observed in 1911.						Mean daily frequency in 1911 (288 effective days).
				First quarter.	Second quarter.	Third quarter.	Fourth quarter.	First half-year.	Second half-year.	
North	90 to 81	..	..	40	41	90	50	81	76	0.549
	80 to 71	..	..	42	58	20	53	100	82	0.636
	70 to 61	..	..	74	42	52	49	116	101	0.759
	60 to 51	..	..	87	68	54	60	155	114	0.941
	50 to 41	..	..	125	108	95	93	233	188	1.472
	40 to 31	..	..	115	124	90	130	239	220	1.605
	30 to 21	..	..	137	110	101	112	247	213	1.608
	20 to 11	..	..	102	123	78	98	225	176	1.402
	10 to 1	..	..	114	105	64	66	219	180	1.221
Equator ..	..	..	..	12	11	8	11	23	19	0.147
South	1 to 10	..	..	130	122	71	81	252	152	1.412
	11 to 20	..	..	112	86	74	88	198	162	1.259
	21 to 30	..	..	121	111	98	92	232	190	1.476
	31 to 40	..	..	159	133	87	117	291	204	1.731
	41 to 50	..	..	128	133	135	157	291	292	1.934
	51 to 60	..	..	80	89	45	75	139	120	0.906
	61 to 70	62	40	38	61	102	99	0.703
	71 to 80	60	53	41	59	119	100	0.766
	81 to 90	50	35	18	48	85	66	0.528

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THE OBSERVATORY, KODAIKĀNAL,
2nd April 1912.