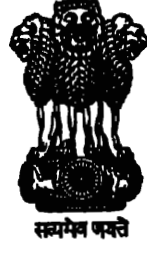


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ERRATA FOR MONTHLY JOURNAL OF CLIMATE AND BULLETIN NO 314VII

Part I.

Page No.	Title	Column	For	Read
10	Ferro Date November 22	7	1-	1+
12	Surgas etc, November 23, BSL	7	0140	0740

Part II.

Magnetic Data

Page No.	Table No.	Date / Line	How Column	For	Read
14	--	4.	--	CLXXII and CLXXVI	CLXXII, CLXXVI and CLXXIII
22	4	mean +	10	27.0	33.7
27	3	3	15	30.1	36.1
27	3	5	15	33.3	38.9
30	3	13	01	551	532
32	9	14	03	528	523
32	9	mean	03	595	598
32	9	mean ++	03	575	595
33	9	14	mean	571	575
34	10	4	04	614	613
36	11	21	07	574	573
39	12	22	Range	32	132
39	12	mean	Range	101	105
41	13	14	lin./Time	0715	0915
43	14	11	21	256	233
43	14	11	max./mag.	256	233
43	14	11	Range	30	17
43	14	18	Mag./Time	0340	2340
43	14	31	13	233	255
43	14	mean ++	22	255	255
44	15	3/Heading	--	full of hours	full hours
45	15	14	20	241	241
50	18	mean +	08	201	201
52	19	Heading	10	Greenwich 3 day	Greenwich day
52	19	Heading	11	Greenwich 3 hour index	Greenwich 3 hour period
52	19	September 30	3	1	1

Page No.	Table No.	Date/Line	Hour/Column	For	Read
54	1	1	00	U 5.4 F	U 4.5 F
72	8	-	Count	21	27
90	10	-	Mean	11	110
94	11	1	00	02.90 F	U 2.90F
94	11	14	09	U2 35 C	U 2.30S
134	21	2	05	--	100
140	22	8	0430	EU	L
153	23	-	0430	0340	0430
135	33	21	1030	2.30	3.30
137	34	11	13	--	9.4
139	34	30	1330	12.1	12.3
195	36	29	12	U 3.4 R	U 3.4R
198	37	23	03	U 4.85	U 4.3
217	41	29	1430	U 235 F	U 235B
217	41	29	1530	U 240 F	U 240L
217	41	15	2130	270	290
217	41	25	2230	U 250 H	U 250F
221	42	12	1430	510	110
222	43	11	11	--	100
223	43	19	14	100	110
234	43	24	6	3	--
251	50	15	14	2.2	2.4
254/255	51	Unit	--	Mc.	mm.
256/257	51	Unit	--	Mc.	km.
257	51	22	1730	--	L
257	51	23	1730	L	--
257	51	24	1730	--	L
251	52	medi n	1730	265	260
274	56	5	05	4.5	4.7
275	53	24	23	3.3 F	U 3.3F
277	53	25	2130	U 7.1 F	U 7.1S
277	53	27	2330	U 5.3 F	U 5.3S
290	50	09	01	--	2.0
273	62	12	09	U 360 L	U 260 L
317	53	11	2130	3.30	3.20

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KODAIKANAL OBSERVATORY

Bulletin No CLXVII

Published on

PART I

Summary of prominence and calcium flocculus observations for the second half of 1961

The results of observations of prominences and calcium flocculi made at Kodaikanal Observatory during the second half of 1961, supplemented by data derived from photographs supplied by the Mount Wilson and Meudon Observatories for those days on which Kodaikanal had imperfect or no observations due to cloudy sky conditions are summarised in Part I of this Bulletin. Our thanks are due to the co-operating observatories for the photographs supplied by them.

Calcium Prominences on the limb

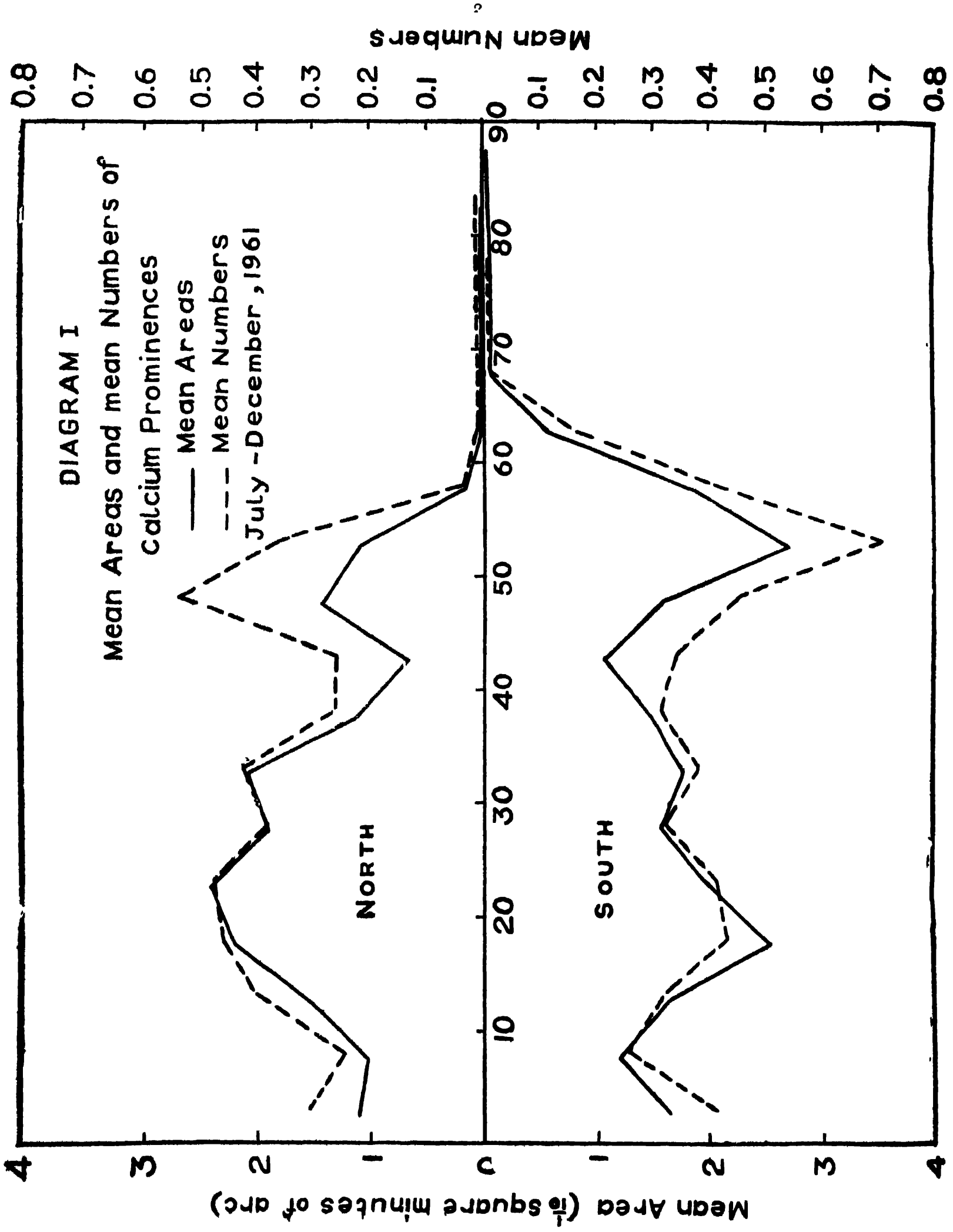
During the half-year under review photographs of calcium prominences were secured at Kodaikanal on 113 days. Spectroheliograms for 43 days were received from the Meudon Observatory and for 10 days from the Mount Wilson Observatory. In all, observations were available for 129 effective days after giving due weightage to the quality of the photographs.

The mean daily areas (in square minutes of arc) and the mean daily numbers of prominences derived from all the above records are as follows:

	Combined data	
	Mean daily areas	Mean daily numbers
North	1.63	4.25
South	2.17	4.93
TOTAL	3.80	9.18

These figures, when compared with the previous half-year's values show a decrease of 14.2% in areas whereas in the case of numbers there is an increase of 10.3%.

The distribution of areas and numbers in five degree ranges of latitude, as obtained from the combined data is represented in diagram I. The peak of activity of areas in the northern hemisphere is centered in the latitude belt 20°—25° whereas the numbers show maximum activity in the belt 45°—50°. In the southern hemisphere there are two peaks of activity of both areas and numbers in the latitude belts 15°—20° and 50°—55°.



The monthly, quarterly and half-yearly areas, numbers, heights and extents of prominences as derived from all the available records are tabulated below

TABLE I

1961 Months	No of effective days	Areas in sq mts	Numbers	Mean daily area in sq minutes	Mean daily numbers	Mean height "	Mean extent °
July	21½	54.5	140	2.53	6.51	39.2	3.1
August	24½	98.9	189	4.04	7.71	42.1	3.6
September	21	1.7	218	4.84	10.38	39.8	3.3
October	22½	103.5	237	4.65	10.65	40.8	3.4
November	16½	65.9	179	9.99	10.85	39.5	3.1
December	23½	65.3	221	2.81	9.51	34.4	2.9
3rd Quarter	67	255.1	547	3.81	8.16	40.5	3.3
4th Quarter	62	234.7	637	3.79	10.27	38.2	3.1
2nd half year	129	489.8	1,184	3.80	9.18	39.3	3.2

The distribution of prominences about the sun's axis of rotation is given below —

1961 July—December

	East	West	Percentage East
Total areas (sq minutes)	250.0	239.8	51.1
Total numbers	594	590	50.2

Observations with the Hale Spectroheliograph

Details of Doppler displacements in the H-alpha line, observed in prominences and dark markings are given below

TABLE II

	North	South	East	West	Displacement to red and violet
Displacements in darkmarkings	18	2	10	10	20
Displacements in prominences	18	9	16	11	27

Prominences projected on the disc as dark-markings

During the half-year under review, photographs of the sun's disc in H-alpha line were obtained at Kodaikanal on 97 days. Spectroheliograms for 65 days were obtained from the Meudon Observatory and for 21 days from the Mount Wilson Observatory. On the whole, records were available for 121 effective days.

The mean daily areas in millionths of the sun's visible hemisphere (uncorrected for foreshortening) and the mean daily numbers of the H-alpha darkmarkings as derived from the combined photographs are given below.

	Combined data	
	Mean daily area (Millionths of the sun's visible hemisphere)	Mean daily number
North	1962	14.55
South	1409	10.50
TOTAL	3371	25.05

On comparing with the previous half-year's values, these figures show an increase of activity, the increase being 5.9% in areas and 27.8% in numbers.

The distribution of the areas of the absorption markings in 5 degree ranges of latitude as obtained from the combined data is shown in diagram II.

There is a broad peak of activity in the northern hemisphere in the latitude belt 15°—30°.

The distribution of total areas and numbers of the dark markings east and west of the sun's axis of rotation is given below:

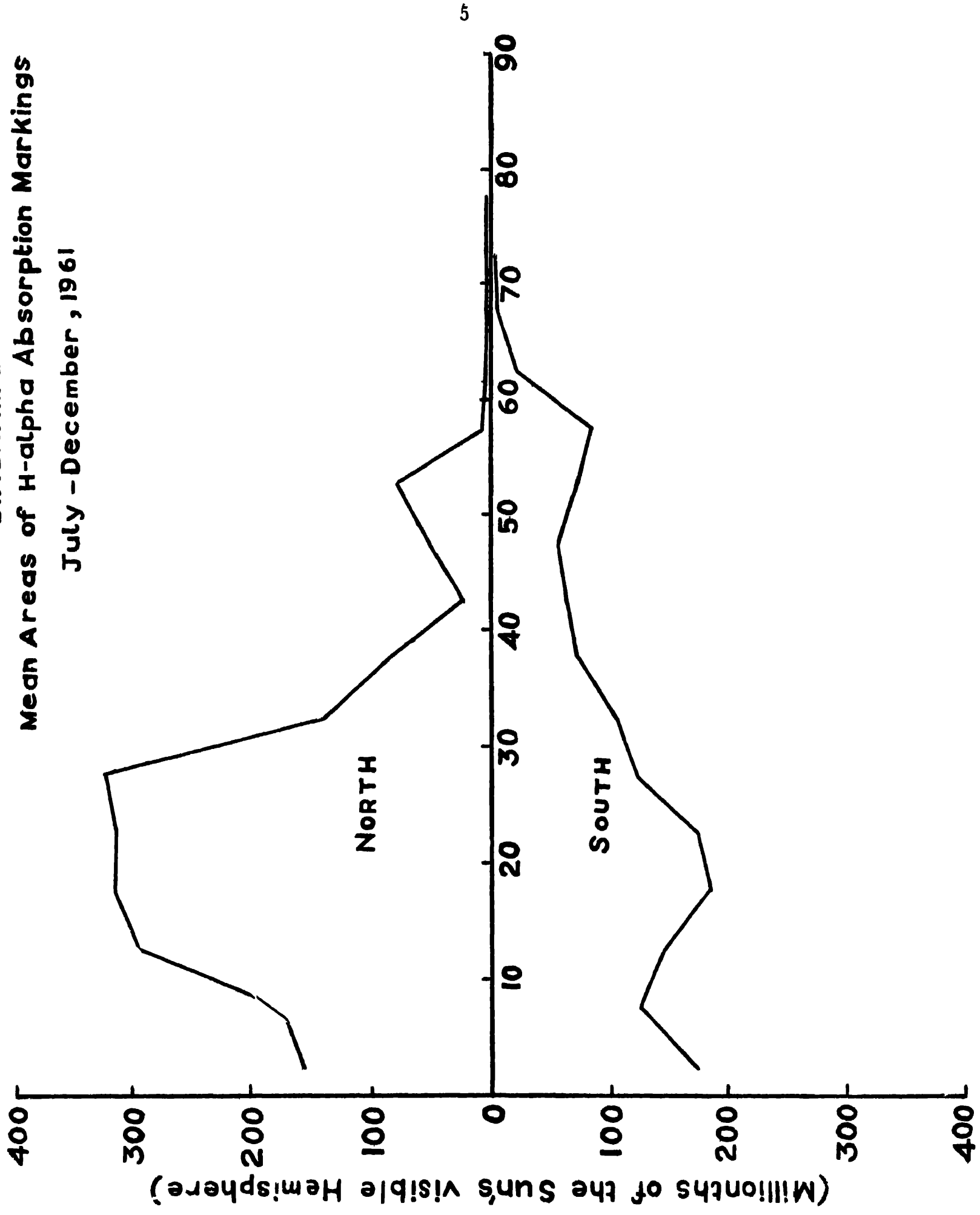
	July—December, 1961		
	Combined data		
	East	West	Percentage East
Total area (Millionths of the sun's visible hemisphere)	2,100.31	1,978.75	51.50
Total numbers	1,503	1,528	49.58

The area shows a slight eastern increase whereas there is no appreciable difference in the numbers.

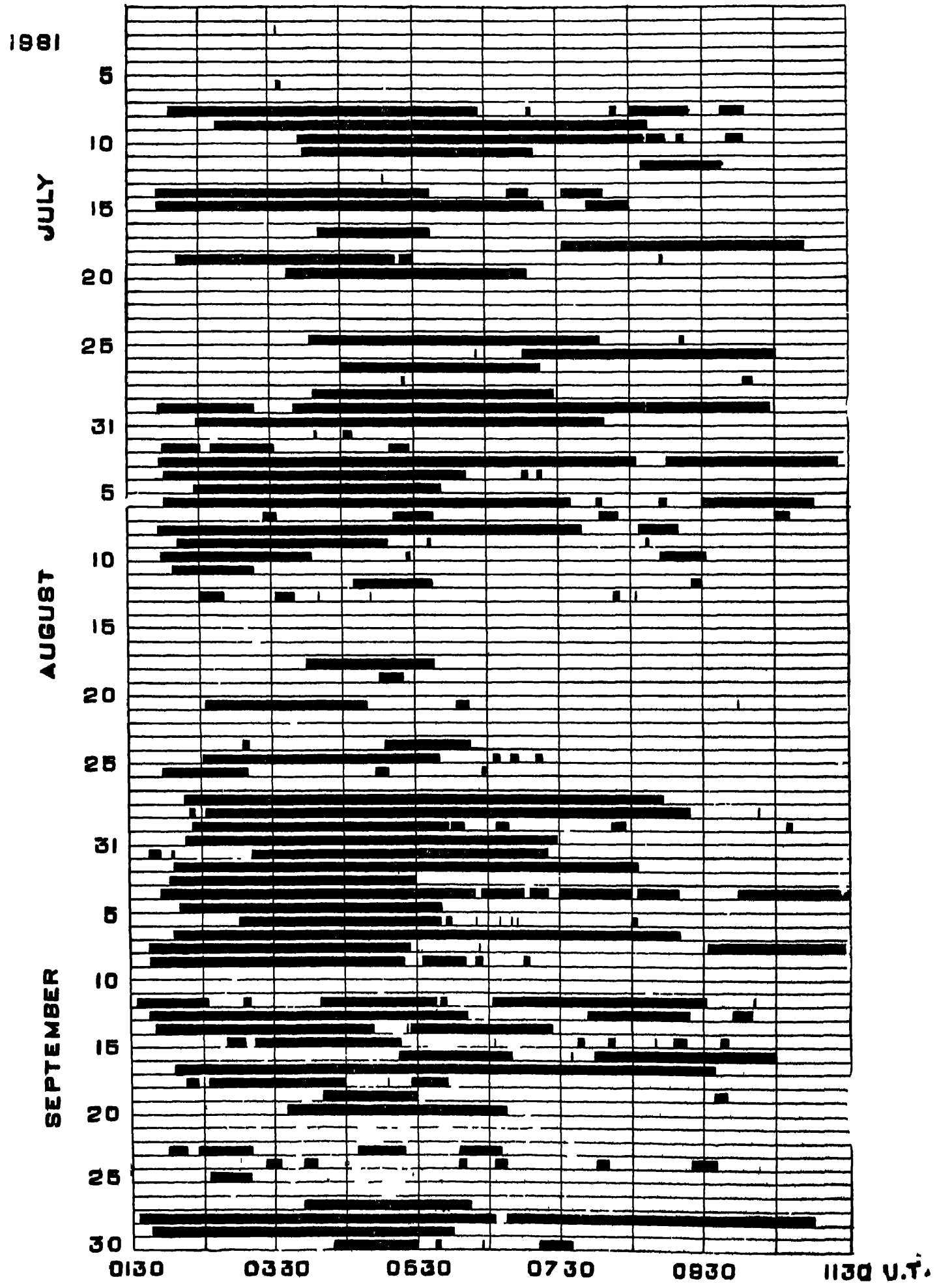
Particulars of solar flares, sudden disappearance of prominences and dark markings, surges and active prominences are given in Tables III—V.

The hours of solar patrol with the spectrohelioscope and the Lyot Filter are shown in the accompanying charts.

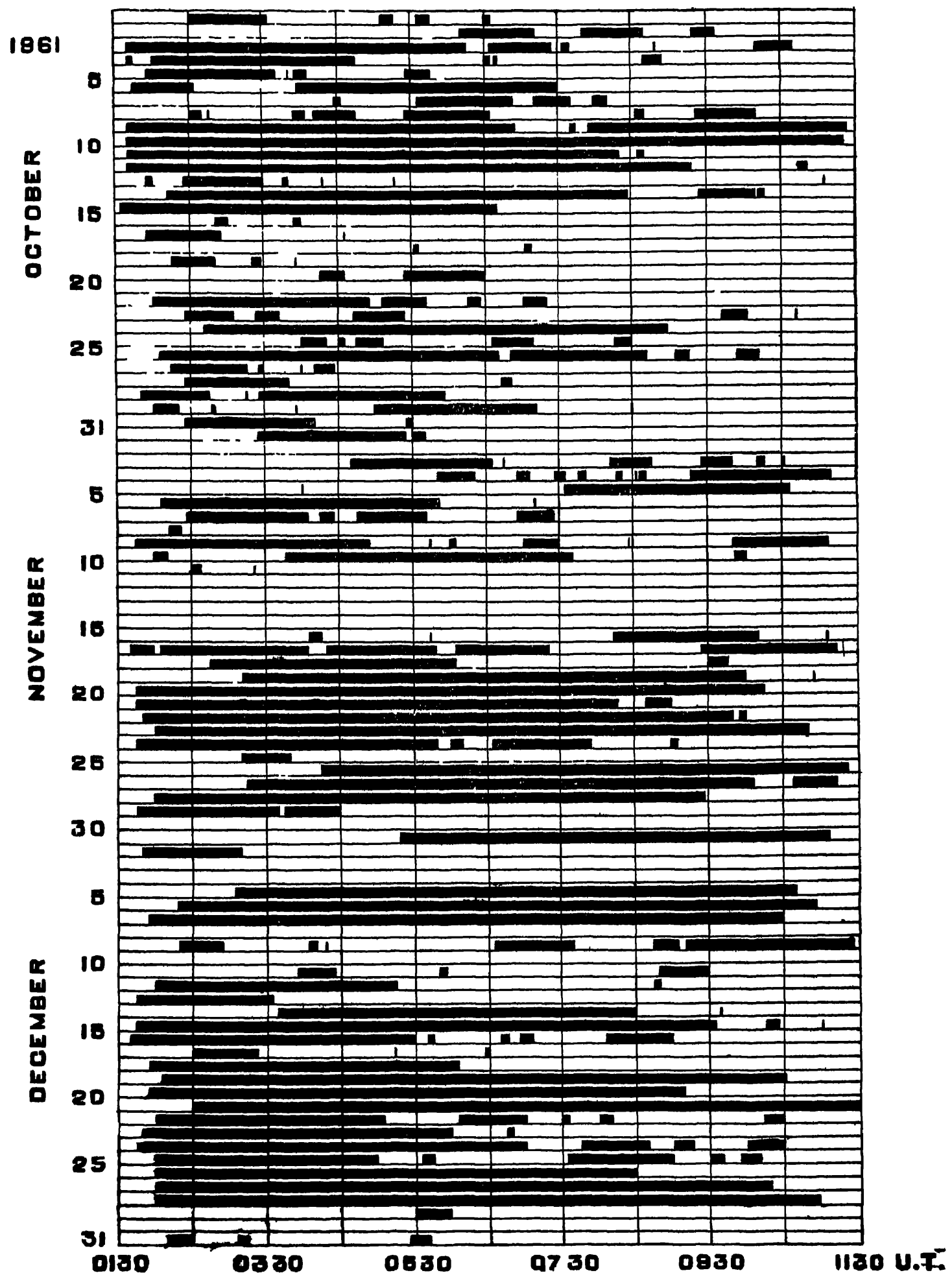
DIAGRAM II
Mean Areas of H-alpha Absorption Markings
July - December, 1961



EFFECTIVE HOURS OF SOLAR PATROL WITH
SPECTROHELIOSCOPE AND LYOT FILTER



EFFECTIVE HOURS OF SOLAR PATROL WITH
SPECTROHELIOSCOPE AND LYOT FILTER



Summary of calcium flocculus observations

During the half-year under review, calcium flocculus photographs were obtained at Kodaikanal on 133 days. Spectroheliograms for 17 days were received from the Mount Wilson Observatory and for 44 days from the Meudon Observatory. On the whole, records were available for 154½ effective days.

The distribution of the areas of calcium flocculus east and west of the sun's axis of rotation is given below.

July—December, 1961

	Combined data		
	East	West	Percentage East
Total area (Millionths of the sun's visible hemisphere uncorrected for foreshortening)	7,490,62	7,298,13	50.66

The mean daily area in millionths of the sun's visible hemisphere (uncorrected for foreshortening) of the calcium flocculi as derived from the combined photographs are given below.

	North	South	Total
Mean daily area (Millionths of the sun's visible hemisphere)	6,515	3,073	9,588

Compared to the previous half-year there is a slight increase in the activity, the increase being 4.67%.

TABLE III
Solar flares

	Time U T			Coordinates		Importance	Maximum width of H-alpha line observed	
	Beginning H M	Maximum H M	End H M	Mean Latitude °	Mean Longitude °			
	1	2	3	4	5	6	7	8
1961 July								
10		0700	0710	0710	09°S	52°E	1-	1.32
12		0909	0926	0926	09°S	29°E	1	..
14		0255	0307	0309	07°S	03°W	1	1.44
14		0210	0220	0240	08°S	03°W	1-	
14		0340	0400	0400	08°S	03°W	1-	
14		0447	0459	0525	08°S	04°W	1-	
15		0425	..		08°S	17°W	1-	
17		0334			07°S	42°W	1-	
18		*0813		0831	07°S	55°W	1+	
18		*1043		**1053	07°S	55°W	Probably 2	
19		0210	0225	0230	06°S	70°W	1	1.60
30		0406			06°N	66°W	1-	
30		0458		0516	06°N	66°W	1-	

Characteristic : fo F1
 Unit Mc
 Month : August 1961

TABLE 13 (Contd.)
 Ionospheric Data
 75°E Mean Time

Latitude : 10°2'N
 Longitude : 77°5'E

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Hour/Date
L	L	L	L	L	L							1
4.7	L	L	L	3.7	L							2
L	L	L	L	L	L							3
L	L	L	L	L	L							4
4.7	L	L	L	L	L							5
L	L	L	A	L								6
L	L	L	L	L								7
L	L	L	A	L								8
L	L	L	L	L								9
L	L	L	L	L								10
L	L	O	L	L	L							11
L	L	L	L	L	L							12
L	L	L	L	L	L							13
L	L	L	L	L	L							14
L	L	A	L	L								15
L	L	L	L	L	L							16
L	L	L	L	L	L							17
L	L	L	L	L	L							18
L	L	L	L	L	L							19
O	L	L	L	L	L							20
L	L	L	L	L	L							21
L	L	L	L	L	L							22
O	L	L	L	L	L							23
L	L	L	L	L	L							24
L	L	L	L	L	L							25
L	L	L	L	L	L							26
O	L	L	L	L	L							27
L	L	L	L	L _R	L							28
L _R	L	L	L	L	L							29
A	L	L	L	L	L							30
L _R	L	L	L	L	L							31
2				1								Count
												Median
												Mean

Sweep 1 0 Mc. to 25 0 Mc. in 27 seconds.

Characteristic fo F1
 Unit . Mc
 Month . September 1961

TABLE 24 (Contd)
 Ionospheric Data
 75°E Mean Time

Latitude 10 2°N
 Longitude 77 5°

Date/Hour	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1							L	L	L	L	L	L
2							L	L	L	L	L	L
3							L	L	L	L	L	L
4							L	L	L	L	L	L
5							L	L	L	L	L	L
6								L ^H	L ^H	L	L	4 8
7							L	L	L	L	L	L
8							L	L	L	L	L	L
9							L	L	L	L	L	L
10								L	L	L	L	L
11							L	L	L	L	L	L
12						L	L	L	L	L	L	L
13							L	L	L	L	L	L
14							L	L	L	L	L	L
15						L	L	L	L	L	L	L
16								L	L	L	L	L
17							L	L	L	L	L	L
18							L	L	L	L	L	L
19							L	L	L	L	L	L
20								L	L	L	L	L
21							L	L	L	L	L	L
22							L	L	L	L	L	L
23						L	L	L	L	L	L	L
24						L	L	L	L	L	L	L
25							L	L	L	L	L	L
26							L	L	L	L	L	L
27				G	G		L	L	L	L	L	5 0
28						L	L	L	L	L	L	L
29							L	L	L	L	L	L
30							L	L	L	L	L	L
Count												2
Median												
Mean												

Sweep 1 0 Mc to 25 0 Mc. in 27 seconds

