

Kodaikanal Observatory

Bulletin No. CLXVI

PART I

Summary of Prominence and Calcium Flocculus Observations for the First Half of 1961

The results of observations of prominences and calcium flocculi made at Kodaikanal Observatory during the first half of 1961 supplemented by data derived from photographs supplied by 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.

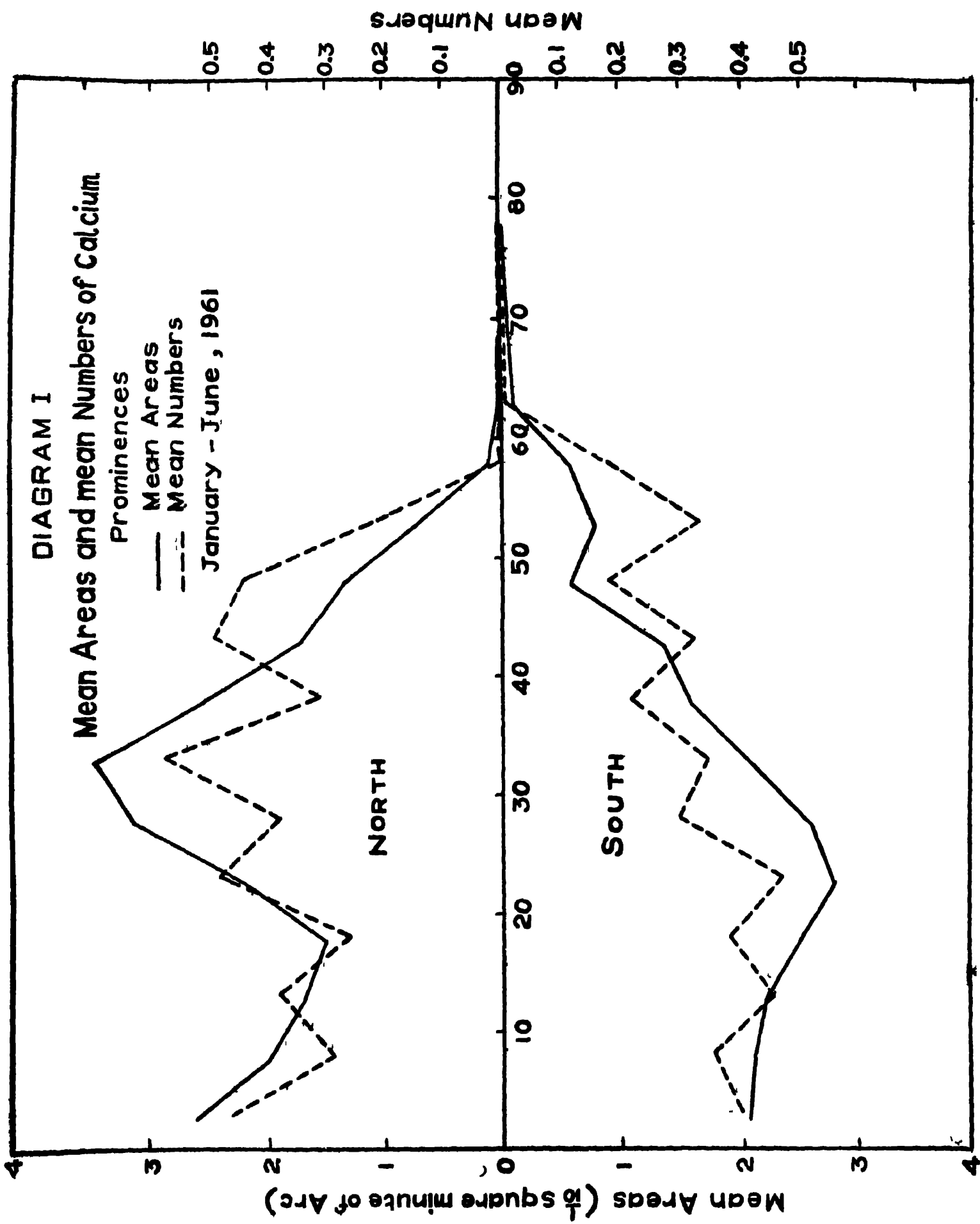
Calcium prominences on the limb.—During the half-year under review, photographs of calcium prominences were secured at Kodaikanal on 129 days which were counted as 107½ effective days after giving due weightage according to their quality. Spectroheliograms for 32 days were obtained from the Mount Wilson Observatory and for 36 days from the Meudon Observatory. In all complete observations were available for 143½ effective days.

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	2.29	4.3
South	2.14	4.0

These figures, when compared with the corresponding values of the previous half year, indicate a decrease of 7.9% in areas and 5.3% in numbers.

The distribution of areas and numbers in five degree ranges of latitude as obtained from the combined data is represented in diagram I. In the curves for area, there is a broad peak of activity in the northern hemisphere in the latitude belt 25°-35° while in the southern hemisphere the maximum activity is in the zone 20°-30°. In the curves for numbers, the peak of activity in the northern hemisphere is in the latitude belt 30°-35°.



The monthly, quarterly and half-yearly areas, numbers, heights and extents of prominences derived from all the photographs are given in table I

TABLE I

1961/months	No of effective days	Area in Sq minutes	Numbers	Daily Means		Mean height	Mean Extent
				Area Sq minutes	Numbers		
January	27½	133 1	198	4 8	7 1	44 8	4.20
February	21½	81 0	168	3.8	7 8	39.9	3 38
March	27½	109 4	272	3 9	9 9	36.3	3 06
April	22½	108 3	207	4 8	9.1	43.8	3 70
May	23	145 1	196	6.3	8.5	44 3	4 04
June	20½	58 3	150	2 8	7 2	38 1	2 66
1st quarter	76½	323 5	638	4 2	8 3	40 0	3 49
2nd quarter	66½	311 7	553	4 7	8 3	42 4	3 54
1st half year	143½	635 2	1191	4 4	8 3	41 1	3 51

The distribution of prominences about the sun's axis of rotation is as follows :—

1961 January-June

	East	West	Percentage East
Areas (sq minutes)	2898	3448	45 6%
Numbers	576	616	48 3%

Observations with the Hale Spectroheliograph

Details of Doppler displacements in prominences and dark markings observed in the light of the H-alpha line are given in table II.

TABLE II

	North	South	East	West	Displacements to red and violet
Displacements in prominences	45	19	33	31	64
Displacements in dark-markings	3	4	7	5	12

Prominences projected on the disc as absorption markings

During the period under review photographs of the sun's disc in H-alpha line were obtained at Kodakanal on 129 days which were counted as 99½ effective days after giving due weightage according to their quality. Spectroheliograms for 31 days were received from the Mount Wilson Observatory and for 37 days from the Meudon Observatory. On the whole, records were available for 140½ 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 dark markings as derived from the combined data are given below :—

Combined data		
	Mean daily area (Millionths of the sun's visible hemis- phere)	Mean daily numbers
North	1859	11.0
South	1325	8.6
Total	3184	19.6

Compared to the previous half-year, there has been an appreciable decrease in the activity, the decrease being 40.3% in areas and 38.6% in numbers.

The distribution of the areas of the absorption markings in 5° ranges of latitude as obtained from the combined data is shown in the diagram II. The peak of activity in the northern hemisphere is in the latitude belt 25-35°.

The distribution of total areas and numbers of the dark markings east and west of the sun's axis of rotation is as follows :—

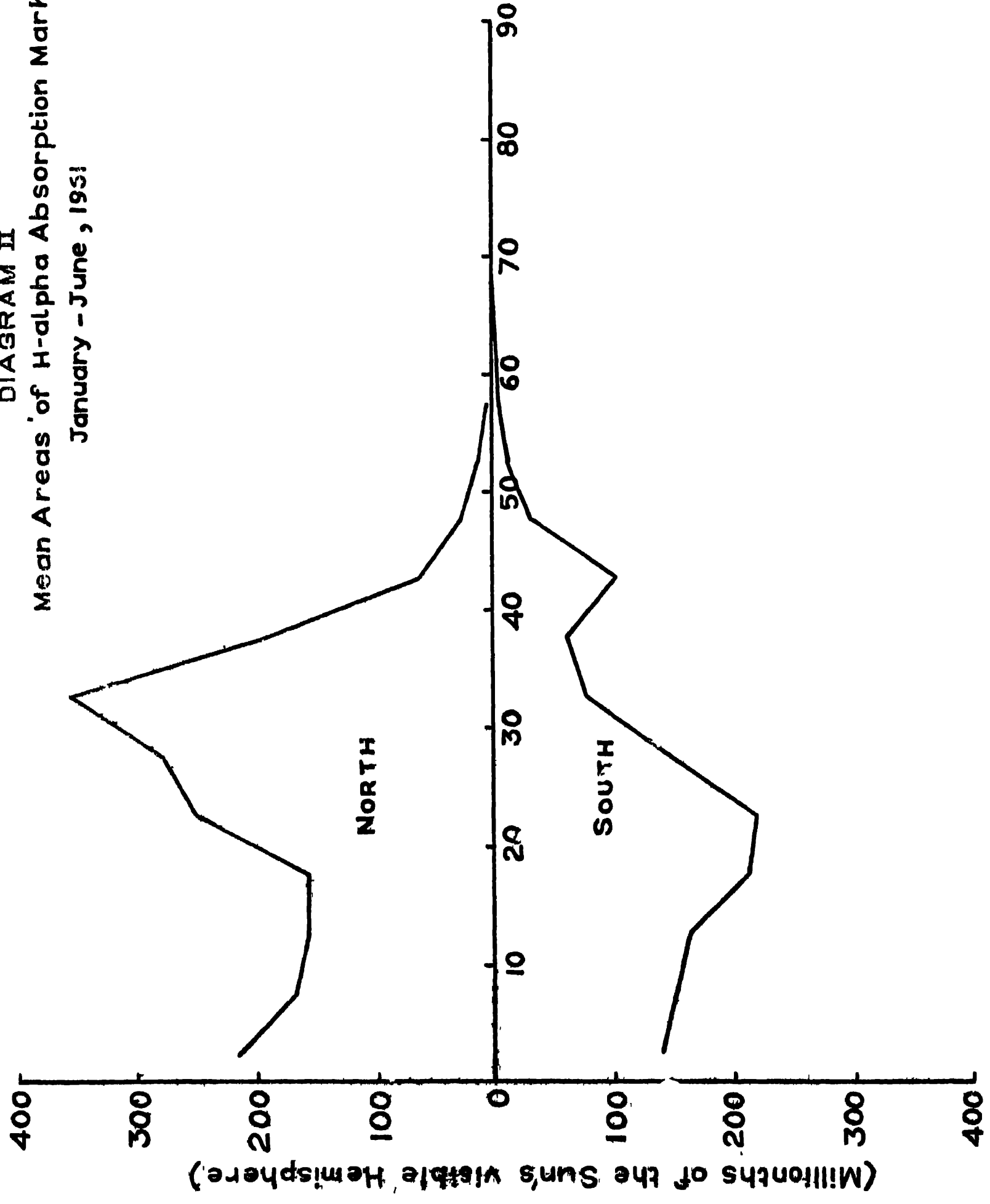
	East	West	Percentage East
Total area (in millionths of the sun's visible hemisphere uncorrected for foreshortening)	2,134.38	2,388.13	47.2
Total numbers	1,363	1,397	49.4

Particulars of solar flares, sudden disappearances 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 monochromatic heliograph are shown in the accompanying charts.

Calcium flocculus

During the period under review, calcium flocculus spectroheliograms were taken on 150 days at Kodakanal. Calcium disc spectroheliograms for 18 days were received from the Mount Wilson Observatory and for 36 days from the Meudon Observatory. In all complete observations were available for 149½ effective days.

DIAGRAM II
Mean Areas of H-alpha Absorption Markings
January - June, 1951



Characteristic fmin
Unit Mc
Month January 1961

TABLE 6
Ionospheric Data
75 0°E Mean Time

Latitude : 10 2°N
Longitude : 77°5'E

12	13	14	15	16	17	18	19	20	21	22	23	Hour/Date
3 2	3 0	2 6	2 8	2 2	2 6	1 7	1 6	2 4	2 3	1 9	1 7	1
3 2	3 1	3 2	3 0	2 6	2 7	1 7	2 2	2 1	1 9	2 2	2 1	2
3 2	3 2	3 0	3 1	2 5	2 6	2 3	2 2	2 6	2 7	2 6	2 3	3
3 2	3 1	C	3 1	2 5	2 7	2 1	2 1	2 1	2 0	2 0	2 3	4
3 2	3 7	3 3	3 8	2 8	2 8	2 5	2 2	2 6	2 6	2 6	2 6	5
3 0	3 0	2 7	2 5	3 0	3 0	2 2	2 2	2 4	2 4	2 2	2 2	6
2 9	2 8	2 6	2 6	2 2	2 4	1 8	1 8	1 8	1 8	1 8	2 1	7
3 0	2 8	2 8	2 5	2 2	2 1	1 6	2 5	2 0	2 1	2 0	2 2	8
2 9	3 0	2 6	2 6	2 2	1 8	1 6	1 9	2 2	2 3	2 2	2 4	9
3 0	3 1	2 7	3 4	2 1	2 3	1 7	2 2	2 3	1 9	2 2	2 5	10
3 0	3 0	2 9	2 6	2 4	2 5	1 7	2 0	2 0	1 7	2 4	2 4	11
3 2	3 0	2 6	2 5	2 4	2 5	1 9	2 2	2 7	2 5	2 6	2 2	12
3 0	2 9	2 7	2 9	2 3	2 6	2 0	1 8	2 0	2 2	2 4	1 9	13
3 2	3 1	2 8	2 7	2 3	2 5	1 7	C	2 2	2 5	2 2	2 2	14
2 9	2 8	2 8	3 6	2 5	2 6	2 4	2 2	2 3	2 9	2 3	2 4	15
2 8	2 9	2 8	3 4	2 3	2 3	1 8	2 4	2 5	2 5	2 3	2 5	16
2 9	3 3	3 1	2 9	2 6	2 6	2 1	2 1	2 6	2 7	2 7	2 9	17
3 1	3 2	2 8	2 8	2 1	2 4	1 6	2 6	2 4	2 1	2 6	2 7	18
3 1	2 9	2 9	3 4	2 4	2 4	1 8	2 0	2 1	2 3	2 4	2 4	19
4 0	2 8	3 0	3 5	2 2	2 5	1 8	1 5	2 2	2 6	2 7	2 2	20
2 9	2 8	2 6	3 1	2 4	2 2	1 8	1 4	2 0	3 4	2 8	2 5	21
2 8	3 6	3 8	3 6	3 0	2 2	1 7	2 2	2 2	2 6	2 2	1 8	22
3 0	3 0	2 8	2 8	2 1	1 9	1 9	2 2	2 2	2 4	1 9	2 0	23
2 8	2 8	2 6	2 4	2 2	2 0	1 7	2 2	1 7	2 0	2 2	1 6	24
2 8	3 0	2 8	2 4	2 2	2 2	1 9	2 0	2 2	2 2	1 9	2 4	25
3 2	3 0	3 0	2 8	2 2	2 2	1 5	2 2	2 5	2 2	2 0	1 9	26
3 0	3 0	2 8	2 8	2 3	2 6	1 7	1 9	2 6	2 2	2 1	2 0	27
3 2	3 1	2 8	2 8	2 4	2 4	1 9	2 4	2 2	2 8	2 8	2 4	28
3 1	2 9	3 0	3 8	2 5	2 7	1 8	2 1	2 5	2 3	2 2	2 6	29
3 2	3 1	2 9	3 0	2 5	2 3	1 8	2 2	2 4	2 3	2 5	2 3	30
3 4	3 4	3 0	3 8	2 8	2 3	1 9	2 3	2 6	2 6	2 0	2 5	31
3 1	3 1	3 0	3 1	3 1	3 1	3 1	3 0	3 1	3 1	3 1	3 1	Count
3 0	3 0	2 8	2 9	2 4	2 4	1 8	2 2	2 2	2 3	2 2	2 3	Median
3 1	3 0	2 9	3 0	2 4	2 4	1 9	2 1	2 3	2 4	2 3	2 3	Mean

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

Characteristic . (M3000)F2
Unit :—
Month January 1961

TABLE 11—contd
Ionospheric Data
75°E Mean Time

Latitude : 10 3°N
Longitude : 77 5°E

Date	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	3 00	3 10	3 15	3 30	3 30	3 50	3 00	2 80	2 50	2 35	2 30	2 30
2	3 20	3 10	3 20	3 30	3 60 _m	E	3 30	3 10	2 65	2 45	2 55	2 45
3	3 20 _F	3 15	3 30	3 40	3 60 _m	E	3 30	3 00	C	2 55	2 55	2 50
4	2 80	2 70	2 70	3 10	3 45	E	3 30	3 15	2 75	2 40	2 40	2 45
5	3 10	3 20	3 35	3 35	E	E	3 10	2 90	2 50	2 50	2 45	2 40
6	3 30	3 30	3 10	3 20	3 30	3 65 _m	3 20	2 90	2 35	2 40	2 45	2 45
7	3 40	3 20	3 20	3 35	3 35	E	3 40	3 20	3 00	2 40	2 30	2 40
8	2 90	2 90	3 10	3 15	3 40	3 70	3 40	3 15	2 95	2 65	2 30	2 40
9	2 95	2 85	2 75	2 90	3 10	3 10	2 90	2 80	2 60	2 65	2 50	2 50
10	3 10	3 00	2 90	2 95	3 15	3 15	3 00	2 85	2 70	2 50	2 50	2 45
11	3 20	3 30	3 25	3 40	3 50	E	3 40	3 30	3 00	2 60	2 50	2 65
12	3 20	3 30	3 25	3 50	3 60	E	3 30	3 20	2 90	2 40 _m	2 40	2 60
13	3 10	3 35	3 45	3 45	3 55	E	3 40	3 30	3 10	2 80	2 50	2 50
14	3 10	3 35	3 40	3 40	3 45	E	3 05	2 80	2 65	2 60	2 50	2 40
15	3 40	3 45	3 40	3 40	3 35	R	3 25	3 10	3 05	2 60	2 60	2 55
16	3 40	3 35	3 70	E	E	E	3 05	2 85	2 65	2 60	2 50	2 60
17	3 30	3 45	3 35	3 50 _m	E	E	3 30	3 35	3 35	2 75	2 60	2 65
18	3 00	3 00	3 15	3 50	3 75	E	3 10	3 15	3 00	2 70	2 70	2 65
19	3 30	3 25	3 30	3 25 _m	2 90	E	3 20	3 15	2 95	2 65	2 70	2 65
20	F	3 30 _m	3 50	3 15 _F	3 45	3 70	3 10	2 80	2 80	2 60	2 60	2 80
21	3 20	3 20	3 30	3 50 _m	3 45 _m	E	3 10	3 00	2 65	2 65	2 90	2 55
22	2 70	3 10 _m	3 40	3 60	E	E	3 20	3 20	2 50 _m	2 60	2 60	2 60
23	3 25	3 40	3 40 _R	R	E	E	3 40	3 15	2 60 _m	2 60	2 60	2 65
24	F	F	F	3 00	3 35 _m	E	3 50	3 40	2 90	2 60	2 45	2 55
25	3 15	3 10	3 30	3 35	3 50 _m	E	3 50	3 45	3 25	2 90	2 85	2 75
26	3 30	3 50	3 50	3 50 _R	3 40 _m	R	3 20	3 00	2 70	2 60	2 55	2 60
27	3 30	3 35	3 30	3 40	3 40	3 50	3 40	3 35	3 15	2 55	2 45	2 55
28	3 15	3 35	3 40	3 50	E	E	3 15	3 10	2 80	2 50	2 55	2 55
29	3 35	3 30	3 20	3 20	3 30	3 35 _m	3 20	3 20	2 90	2 35	2 60	2 45
30	3 30	3 25	3 20	3 20	3 50	E	3 10	2 90	2 60	2 60	2 50	2 40
31	3 05	3 25	3 30	3 35 _F	3 35	3 30	3 00	3 00	2 65	2 60	2 60	2 60
Count	29	30	30	30	25	9	31	31	30	31	31	31
Median	3 20	3 25	3 30	3 35	3 40	3 50	3 20	3 10	2 80	2 60	2 50	2 55
Mean	3 16	3 20	3 26	3 30	3 40	3 45	3 20	3 10	2 80	2 55	2 55	2 55

Sweep 1.0 Mc. to 25.0 Mc. in 27 seconds.

Characteristic foF2 TABLE 23—Cont'd Latitude 10 2°N
 Unit Mc Ionospheric Data Longitude 77 5°E
 Month March 1961 75°E Mean Time

1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330	Hour/Date
8 8	9 1	9 4	9 5	9 5	9 5	8 9	F	8 5 _F	9 2	F	8 3	1
9 6	9 9	10 4	10 7	10 9	10 3	9 5	8 5	F	F	F	F	2
9 0	9 4	9 8	10 0	10 4	10 3	9 6	F	F	F	F	F	3
8 4	9 3	9 8	10 6	11 1	11 6	10 2	F	F	F	10 4 _F	10 2	4
9 6	10 1	10 8	11 5	12 2	11 6	11 4	F	F	F	F	F	5
9 8	10 4	10 7	11 2	11 8	12 0	11 2	10 8	11 2	11 5	10 4	9 3	6
8 8	9 4	9 8	10 2	10 6	10 6	10 2	10 0 _F	F	F	F	F	7
10 9	11 5	11 9	12 2	12 2	12 0	11 2	10 2	F	F	F	10 8 _F	8
10 0	10 4	10 6	10 3	10 3	10 0	9 6	8 3	F	F	10 7	11 0	9
11 0	11 0	10 5	11 2	12 3	11 8	11 2	10 6	11 6	8 5	10 5 _F	4 5	10
12 1	12 8	13 1	13 8	13 8	C	12 3	11 0 _F	10 8	11 0	10 8 _F	10 7	11
9 9	10 1	10 8	11 3	11 2	11 2	10 3	9 0	10 3 _F	9 0	8 8	10 0 _F	12
8 8	9 4	10 4	11 2	11 7 _S	12 1	11 0	9 3	F	F	9 6	FS	13
9 1	C	10 8	11 6	12 0 _S	12 3	11 6 _S	11 7 _S	11 4	10 8	10 0	9 6	14
10 0	10 6	11 3	11 8	12 0	12 0 _S	11 6	F	F	F	F	F	15
8 8	9 7	11 0	11 6	12 3	12 6	S	11 2	11 2	11 0	10 4	9 8	16
7 5	8 8	10 0	10 8	11 2	11 4	10 9 _S	9 0	F	F	11 0	10 1	17
8 8	9 4	10 2	11 6	12 2	12 2	11 6	F	F	F	11 0	10 3	18
9 1	10 4	10 9	11 2	11 2	11 4	10 4	F	11 4	11 6	9 1	7 2	19
9 0	9 1	9 6	9 8	10 4	10 6	10 5	9 6	10 7 _F	10 4	10 7	10 4	20
8 4	8 5	8 9	9 8	10 5	11 2	10 4	F	F	F	10 2 _F	10 4	21
9 0	9 0	9 8	10 8	11 1	11 1	10 5	10 4 _F	10 6 _F	10 6	11 0	10 8	22
C	9 4	10 4	11 0	11 0	11 0	10 4 _S	F	F	F	10 9	10 6 _F	23
9 2	9 4	9 8	10 2	10 4	S	10 6 _S	7 6 _F	F	F	F	F	24
10 5	10 8	11 2	12 0	11 7	11 6	10 6	F	F	F	F	10 0	25
8 9	9 5	10 5	10 8	11 7	11 7	10 7	F	F	F	11 6	F	26
9 4	9 8	10 3	10 7	11 1	10 6	9 7	F	F	F	F	10 8 _F	27
10 8	10 8	11 4	11 7	12 3	12 4 _S	12 6	11 4	10 7	10 8 _F	F	S	28
9 4	10 2	11 2	11 6	11 7	11 9 _S	10 8	F	F	C	F	10 8	29
9 7	10 4	11 6	12 1	12 8	12 6	11 1	F	F	F	F	11 6	30
10 3	11 0	11 8	11 8	12 5	11 6	10 6	F	F	F	F	12 1 _F	31
30	30	31	31	31	29	30	16	11	11	17	22	Count
9 3	9 8	10 5	11 2	11 7	11 6	10 6	9 5	10 8	10 8	10 4	10 2	Median
9 5	10 0	10 6	11 1	11 5	11 4	10 7	9 8	10 4	10 4	10 1	9 9	Mean

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

Characteristic foF2
 Unit Mc
 Month June 1961

TABLE 56
 Ionospheric Data
 75 0°E Mean Time

Latitude 10 2°N
 Longitude 77 5°E

Date	00	01	02	03	04	05	06	07	08	09	10	11
1	3.4	2.1	F	E	E	E	5.8	8.6	8.7	9.2	9.2 _{II}	8.4
2	3.4	2.5	1.8	1.5	1.4	2.1	5.6	7.1	8.2	9.3	8.4	8.2
3	C	F	F	F	F	F	6.1	7.9	8.8	9.6	9.4	C
4	5.3	3.5 _F	F	F	F	2.0	5.6	7.4	8.7	8.1	7.8	7.5
5	4.4	2.9	3.1	2.6	F	1.6	5.3	7.3	8.4	8.6 _{II}	7.8	7.5
6	3.4 _r	F	F	F	S	F	5.3	7.3	8.6	8.4	7.9	8.1
7	2.3	S	E	E	E	F	5.3	7.7	7.9	7.2	6.9	7.1
8	3.7 _s	4.6 _F	F	F	F	F	5.3	7.7	8.6	9.3	8.2	7.5
9	6.0 _s	2.2 _s	A	2.7 _F	2.7 _F	2.5 _r	5.7	7.6	8.8	8.7	8.4	8.4
10	4.3	2.7	2.0	A	1.8	2.0	6.0	8.2	9.0	9.1	8.8	8.8
11	3.0 _s	A	2.3	F	2.3	E	5.7	7.5	8.4	8.3	8.4	8.2
12	F	F	F	FS	S	S	5.4	7.9 _s	8.8	8.3	7.5	6.9 _{II}
13	2.7	2.3 _a	2.1 _a	1.8 _a	1.7	H	6.0	7.7	C	8.8	9.2	R
14	2.3	A	A	A	1.8	H	5.7	7.7	9.0	9.5	9.0	8.6
15	3.8	2.8	2.4	FH	F	F	5.9	8.3	9.2	9.1	8.7 _{II}	7.9
16	5.6	5.1	F	3.1 _F	2.9	2.9	5.4	7.6	8.9	9.4	9.4	8.4
17	4.5	3.3	2.8	2.3	2.0	2.3 _{II}	6.0	8.6	9.3	9.5	10.0	9.5
18	4.7	F	F	F	F	F	5.9	8.0	8.5	8.2	C	C
19	6.5	4.7	3.9	2.9	2.5	2.8	6.7	8.5	9.6	9.7	9.9 _{II}	9.3
20	5.2	4.2	3.2 _F	2.5 _v	2.3	2.8	6.4	8.4	9.1	9.1	8.6	8.8
21	7.4	6.4	5.4	4.2	3.6	2.7	6.9	8.4	9.8	9.4	10.3	10.5
22	8.6	7.0	6.1	4.8	2.8	2.5	6.6	8.7	9.8	10.4	10.6	10.7
23	7.1	5.0	F	F	F	F	6.0 _F	8.6	10.4	10.9	10.3	9.4
24	F	F	F	F	4.6 _r	3.0 _F	6.2 _r	8.4	9.3	9.0	8.0	8.2
25	F	F	F	F	F	4.0	6.1	7.6	9.0	9.2	9.0	8.8
26	4.6	3.9	3.2	3.3	3.5	2.6	6.3	8.0	8.8	9.0	9.1	9.0
27	F	F	F	F	F	F	6.0	8.3	8.9	8.8	8.4	8.6
28	3.5	2.9 _{II}	3.1	3.6	3.2	2.9	5.6	8.0	8.7	8.5	8.3	8.3
29	C	3.7	F	F	F	2.5 _F	5.6	8.1	8.7	8.5 _{II}	8.1	7.5
30	3.6	2.8	2.7	2.5	2.3	E	5.4	8.3	8.7	9.1	8.2	8.0
Count	24	20	15	15	18	19	30	30	29	30	29	27
Median	4.6	3.6	2.8	2.6	2.3	2.5	5.8	8.0	8.8	9.1	8.6	8.4
Mean	4.7	3.8	3.2	2.9	2.6	2.6	5.9	8.0	8.9	9.0	8.8	8.4

Sweep 1.0 Mc to 25.0 Mc in 27 seconds

TABLE 2
 Hourly Values of Declination (Westerly), 1961
 (Averages for sixty minutes centred at the full hours of Greenwich Mean Time)
 FEBRUARY 2° plus tabular quantities

Date	Hours G M T														
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
1†	38 6	39 0	39 6	39 6	39 4	39 6	38 7	37 6	36 5	36 2	36 4	36 9	38 2	38 2	37 9
2†	38 6	38 7	39 3	39 1	38 5	39 1	40 3	40 6	39 5	38 1	37 2	37 1	37 8	38 4	37 9
3	38 5	38 5	38 8	38 4	39 1	40 0	41 3	40 9	39 5	38 4	36 5	36 4	37 2	38 2	37 5
4††	39 1	39 1	39 2	40 2	40 9	41 3	41 2	40 9	39 6	38 2	37 6	37 0	37 1	37 5	37 0
5	37 0	37 1	37 1	36 9	36 6	37 0	38 0	38 0	36 9	36 9	34 9	34 9	35 6	36 3	36 0
6	37 4	37 4	37 0	37 0	37 5	38 5	39 9	40 4	39 7	38 0	36 9	36 4	36 3	36 7	36 6
7	37 4	37 0	37 0	36 7	37 1	38 5	39 8	39 9	39 9	39 1	37 9	37 1	37 0	37 1	37 2
8	36 7	36 3	36 0	36 5	37 1	38 5	40 0	40 6	40 5	39 5	38 5	38 4	38 4	38 1	37 4
9	37 5	37 5	37 2	37 5	38 3	39 7	41 1	41 5	41 0	39 9	38 6	37 9	37 6	37 5	37 8
10	38 3	38 3	37 9	37 6	37 2	37 2	38 7	40 1	40 0	39 5	38 8	38 3	38 0	38 1	38 0
11	38 8	39 7	39 7	39 4	39 0	39 4	40 1	40 2	40 2	39 5	38 4	37 2	36 9	37 7	37 3
12†	38 7	38 7	38 4	38 4	38 1	38 2	38 2	38 9	40 1	40 1	39 5	38 8	38 7	38 5	38 1
13	38 8	38 8	39 2	39 4	39 4	39 4	39 4	39 1	39 1	39 8	38 9	37 7	37 3	37 3	36 8
14	38 7	38 8	38 8	39 2	38 9	39 0	39 5	38 9	38 6	38 3	38 2	38 1	38 1	38 1	37 8
15	38 9	38 9	39 2	39 0	38 9	39 0	38 9	38 6	38 1	37 4	37 1	36 7	37 1	37 6	37 9
16††	38 9	39 2	39 3	38 7	38 7	38 8	39 8	40 1	39 5	38 0	36 6	36 1	37 1	36 6	35 9
17††	38 4	38 7	38 9	38 8	37 5	38 8	38 8	38 9	38 8	38 7	38 8	38 2	38 1	38 1	38 0
18††	39 6	40 2	38 4	37 3	37 3	37 4	37 8	38 2	38 1	37 3	36 4	35 8	36 7	36 6	36 8
19	38 5	38 5	38 6	37 6	37 6	37 4	39 3	39 3	38 7	38 1	37 4	37 0	36 7	36 7	37 7
20††	38 7	38 7	38 7	38 6	38 6	38 1	38 8	39 7	38 4	38 7	38 3	37 4	37 0	36 9	37 3
21	38 7	38 7	38 3	37 4	37 9	38 3	38 8	39 5	40 0	39 7	38 7	38 3	37 4	36 9	37 3
22	38 7	38 6	38 7	38 3	38 7	39 3	40 0	40 1	39 7	39 3	38 7	38 1	38 1	37 9	37 9
23	38 7	38 7	38 6	38 3	38 4	39 0	39 7	10 0	40 0	39 7	39 5	38 8	38 6	38 3	38 0
24	38 8	38 8	38 6	38 0	37 9	38 5	38 7	39 4	40 1	40 1	39 4	39 3	38 7	38 5	38 0
25†	38 6	38 3	38 2	37 2	37 1	38 4	39 5	40 0	40 7	40 0	39 1	38 5	38 5	38 5	38 2
26†	38 5	38 4	38 4	37 7	37 9	38 6	39 6	39 7	39 6	40 1	38 7	38 3	38 3	38 3	38 3
27	38 6	38 6	38 6	38 2	38 2	38 8	39 3	39 5	39 5	39 6	39 2	38 8	38 2	38 2	37 8
28	38 2	38 1	37 9	37 4	36 7	36 7	37 3	37 7	38 1	37 7	37 5	37 3	37 4	37 4	37 4
Mean	38 4	38 5	38 4	38 2	38 2	38 7	39 4	39 6	39 3	38 8	38 0	37 5	37 6	37 7	37 5
Mean†	38 6	38 6	38 8	38 4	38 2	38 8	39 3	39 4	39 3	38 9	38 2	37 9	38 3	38 4	38 1
Mean††	38 9	39 2	38 9	38 7	38 6	38 9	39 3	39 6	38 9	38 2	37 5	36 9	37 2	37 1	37 0

†Five international quiet days
 ††Five international disturbed days
 ΔLoss of record, day omitted for means

