

CORRECTION TO BULLETIN No. XXXVII.

The following paragraphs should be substituted for those at the bottom of page 56 under the heading "displacements of hydrogen lines":—

Displacements of hydrogen lines.

Attention has again been devoted to the displacements of the C line in prominences. Altogether 73 prominences showing displacements were observed; 34, or nearly half of them, were observed in high latitudes from 60° to the poles, 23 in latitudes from 30° to 60° and 16 between the equator and latitude 30° .

The largest displacement recorded was observed on September 27th at latitude $+69^\circ$ and was estimated to be 5\AA to the red. In the majority of cases the displacement was but slight.

The displacement was towards the violet in 38 cases, to the red in 31, and both ways simultaneously in 4. Forty were on the east limb and thirty-three on the west, forty-one were north of the equator and 32 south.

Kodaikanal Observatory.

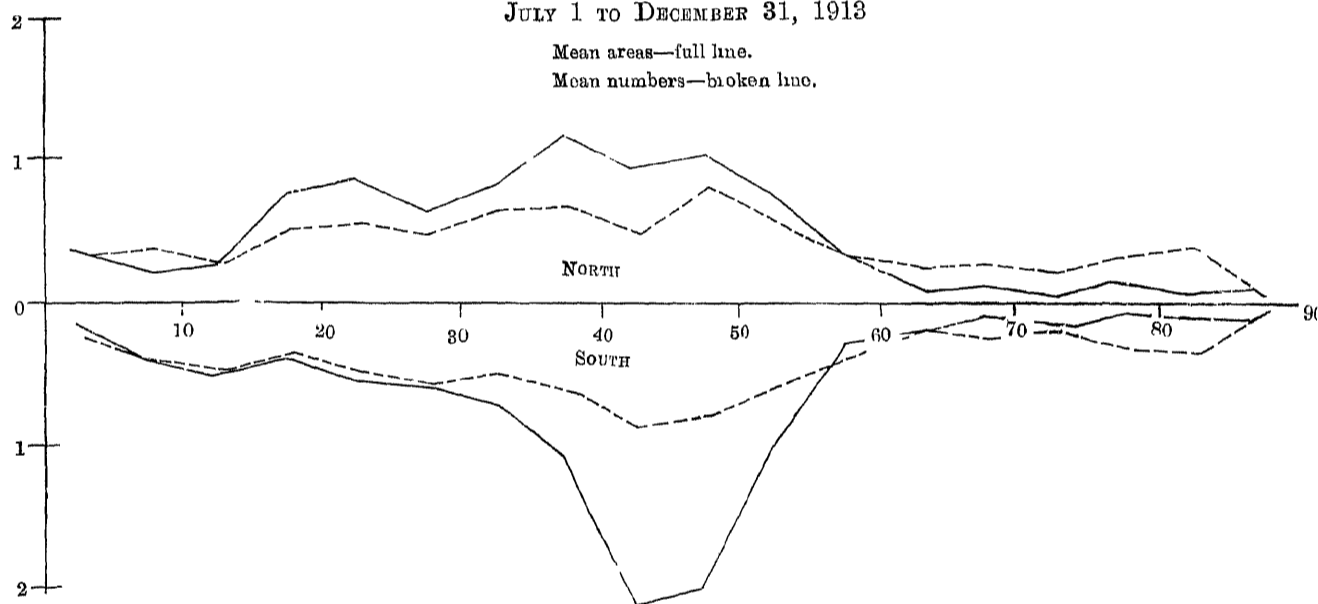
BULLETIN No. XXXVII.

SUMMARY OF PROMINENCE OBSERVATIONS FOR THE SECOND HALF OF THE YEAR 1913.

THE distribution in latitude of the prominences observed during the six months ending December 31, 1913, is represented in the accompanying diagram. The full line gives the mean daily areas, and the broken lines the mean daily numbers for each zone of 5° of latitude. The ordinates represent tenths of square minutes of arc for the full line and numbers for the broken line. The means are corrected for partial or imperfect observations, the total of 147 days being reduced to 126½ effective days.

MEAN AREAS AND MEAN NUMBERS OF PROMINENCES.

JULY 1 TO DECEMBER 31, 1913



The mean daily areas and daily numbers for each hemisphere, corrected for partial observations are as follows:—

	Mean daily areas (square minutes)	Mean daily numbers.
North	0.91	7.61
South	1.01	7.15
Total ..	1.92	14.76

There is a reduction of area and of numbers in both hemispheres compared with the previous six months. The daily area has however increased in the region — 40° to — 50°, this being practically the only region of activity in the southern hemisphere. North of the equator the daily area in the belt + 40° to + 50° is on the other hand considerably reduced. Although the amounts of reduction of area and of numbers are sensibly equal, it is noteworthy that the southern hemisphere has been the more active hemisphere according to areas, but the less active according to numbers. This indicates that the average area of each prominence was greater in the southern hemisphere than in the northern.

The monthly, quarterly, and half-yearly frequencies, and the mean height and extent are given in the following table. The daily frequencies given are corrected for partial observations.

Abstract for the second half of 1913.

Months.	Number of days of observation		Number of prominences.	Mean daily frequency.	Mean height	Mean extent.
	Total.	Effective				
July	23	17½	313	17.9	28.3	1.01
August	27	22½	366	16.3	26.6	0.96
September	29	25½	361	14.2	26.4	1.24
October	24	21½	246	11.4	28.8	1.33
November	20	17½	300	17.1	27.4	1.02
December	24	22	287	13.0	28.9	1.32
Third quarter . . .	70	65½	1,040	15.9	27.0	1.07
Fourth quarter .. .	68	61	833	13.7	28.3	1.21
Second half-year ..	147	126½	1,873	14.8	27.6	1.13

The reduction in the mean frequency compared with the previous six months has already been commented on above; there is a reduction in mean height, whilst the mean extent has remained practically the same.

The total number of prominences which attained heights of 60" or over during the 147 days is 111 or an average of 1.3 per diem, as against 2.0 per diem during the previous six months. A prominence observed on November 14th at -42° west reaching a height of 240", and one on December 20th at -32° west reaching 180", were the highest prominences during the half-year.

Distribution east and west of the sun's axis.

The eastern limb again shows a preponderance over the western, but the preponderance is slight in the case of numbers. The data are as follows—

1913—July to December—

	East.	West	Percentage east.
Numbers observed	944	929	50.40
Total areas in square minutes of arc	127.1	116.5	52.18

Metallic prominences.

No prominences showing metallic lines were observed during the six months under consideration.

Displacements of the hydrogen lines.

Attention has again been devoted to the displacements of the C line in prominences. Altogether 39 prominences showing displacements were observed; 17, or nearly half of them, were observed in high latitudes from 60° to the poles, 14 in latitudes from 30° to 60° and 8 between the equator and latitude 30° .

The largest displacement recorded was observed on September 27th at latitude $+69^\circ$ and was estimated to be 5 \AA to the red. In the majority of cases the displacement was but slight.

The displacement was towards the violet in 20 cases, to the red in 15, and both ways simultaneously in 4. Eighteen were on the east limb and twenty on the west; twenty-four were north of the equator and fifteen south.

Reversals of the hydrogen lines on the disc.

Reversals of the C line were recorded on four occasions in the neighbourhood of sunspots.

Prominences projected on the disc as absorption markings.

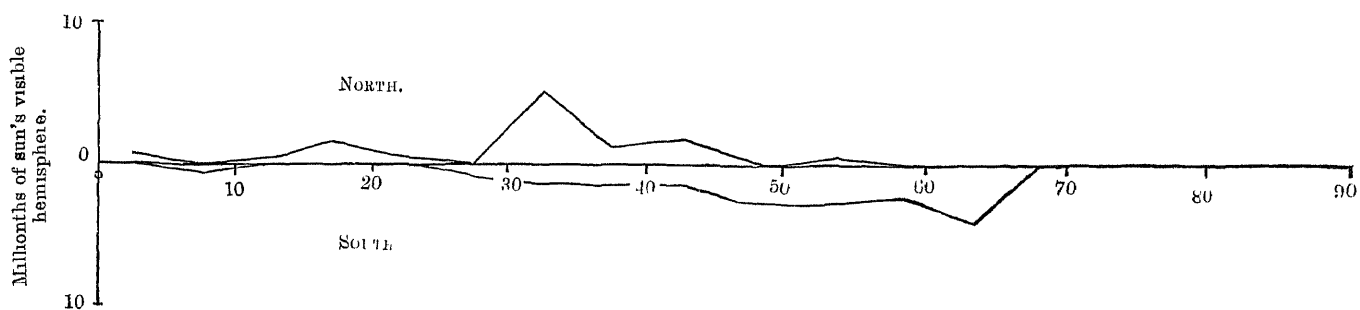
The sun's disc was photographed in H α light on 71 days and on 30 of these days absorption markings are shown. Photographs were not taken after November 19th, as the grating was required for the spectrograph. The distribution of the markings in latitude are given in the accompanying diagram in which the mean daily areas, corrected for foreshortening, are given for each zone of 5° of latitude. The areas are expressed in millionths of the sun's visible hemisphere.

MEAN AREAS OF H α ABSORPTION MARKINGS.

JULY 1 TO DECEMBER 31, 1913.

Total mean area for north hemisphere = 23·8 millionths.

Do do. south do. = 36·3 do.



In the northern hemisphere, the distribution generally speaking follows that of prominences shown in Fig. 1, but the zone of greatest prominence activity between 35° and 55° in the southern hemisphere is not reproduced in the H α absorption markings. South of the equator the area of the markings for each belt of 5° increases gradually up to the belt 60°—65° falling off to zero for latitudes higher than 70°.

The mean daily areas and daily numbers are given in the table below and compared with the previous six months :—

	1913—July to November.		1913—January to June.	
	Areas	Numbers.	Areas	Numbers.
North	24	0·28	44	0·24
South	36	0·30	84	0·56
Total	60	0·58	128	0·80

There is again a large reduction both in areas and numbers to record. The mean areas are reduced by 53·1 per cent and numbers by 27·5 per cent.

THE OBSERVATORY, KODAIKANAL,
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