

Prominences.—Prominence activity during the year under review shows considerable decrease as compared with the previous year. The mean daily areas and numbers of calcium prominences as derived from photographs taken at Kodaikanal are given below :—

	North	South	Total
Area (sq. minutes)	1·54	1·04	2·58
Number	4·48	3·52	8·00

Compared with the previous year's values, the areas and the numbers show 37 per cent and 26 per cent decreases respectively. The latitudinal distribution of areas indicates maximum activity in the zones N. 25° - 35° and S. 20° - 25° , with two secondary maxima at N. 65° - 70° and S. 55° - 60° . A comparison with the distribution of areas and numbers in 1949 indicates no marked change.

Twelve metallic prominences were observed with the prominence spectro-scope. Eleven of these were in the northern hemisphere and one in the south. Nine were observed on the east limb and the rest on the west limb.

Doppler displacements of the *H*-alpha line in prominences were observed on 45 occasions with the prominence spectro-scope. In 14 cases the shifts were towards red, in 11 cases towards violet and on the rest of the occasions in both directions. Particulars of a few prominences which showed large Doppler shifts are given below :—

Date	Coordinates of prominences	Doppler displacements observed
February 3	W. limb—N. 10°	3 A. to violet
	W. limb—N. 14°	4 A. to red
March 13	E. limb—N. 20°	4 A. to red
March 15	W. limb—N. 30°	3 A. to violet and 3 A. to red
May 4	E. limb—S. 10°	3 to 4 A. to red and 1 A. to violet

There were nine occasions during the year when sudden disappearances of fairly large hydrogen absorption markings on the disk and prominences on the limb were noticed. A large eruptive prominence was observed on February 3 at mean latitude S. $2^{\circ}.5$, extending over 32° on the west limb and covering an area of 8 sq. minutes of arc. Large Doppler displacements indicating great agitation were noticed before the prominence erupted. The maximum height of the prominence as recorded on the calcium spectroheliogram taken at 05^h 42^m U.T. was 630 seconds of arc or nearly 285,000 miles.

The heights of 98 prominences were measured with the prominence spectro-scope in *H*-alpha, D_3 and *H*-beta lines. These were compared with the heights of corresponding prominences photographed in the K line. The mean heights were $58''.8$ in K, $56''.1$ in *H*-alpha, $53''.7$ in D_3 and $50''.0$ in *H*-beta.

Particulars of Doppler displacements in prominences and *H*-alpha dark markings observed with the spectrohelioscope are given below :—

	Displacements towards			Total
	Red	Violet	Both ways	
Prominences	9	7	24	40
<i>H</i> α dark markings	6	10	11	27

The mean daily area of *H*-alpha absorption markings (without applying foreshortening correction) was 3224 millionths of the Sun's visible hemisphere, representing a decrease of 28 per cent as compared with the previous year. The distribution in latitude shows peaks of activity at N. 25° - 35° and S. 20° - 30° , indicating a poleward drift of the zones of maximum activity by 5° compared with the previous year.

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