SOLAR ACTIVITY (*continued*)

Twenty magnetic storms of range $\geqslant \frac{1}{2}°$ in D, or $\geqslant 150\gamma$ in H or in V, were recorded at Abinger, as compared with nine in 1942. With few exceptions, including the only "great" storm of the year on August 30–31, the nature of the disturbances of 1943 was characteristic of those occurring around solar minimum: (*a*) beginning of storms indefinite, (*b*) duration above average, (*c*) tendency to form 27-day sequences, (*d*) a diminished correlation as between storm occurrence and individual sunspots and their associated phenomena in the central zone of the disk. Fourteen of the twenty storms began, however, when the longitude of the Sun's central meridian was between 95° and 215°, indicating a broad "magnetically effective *M*-region" of the Sun.

H. W. NEWTON

Prominences, 1943.—During the year 1943 there has been a marked decline in all forms of solar activity.

The mean daily areas and numbers of calcium prominences as derived from Kodaikanal photographs are given below:

	Areas			*Numbers*		
	North	South	Total	North	South	Total
1943 January to June ...	1·24	1·38	2·62 sq. mins.	4·99	4·85	9·84
July to December ...	1·13	1·43	2·56 ,,	4·30	4·75	9·05

There has been a decrease of 19 per cent. in areas and a decrease of 18 per cent. in numbers when compared with the previous year's data. Both the areas and numbers show a southern preponderance. The distribution of areas in latitude shows maximum activity between 30° and 35° and between 45° and 50° in the northern and southern hemispheres respectively. The distribution of numbers is maximum between 25° to 40° in the northern and 40° to 45° in the southern hemispheres.

Only 2 metallic prominences were observed during the year as against 26 during 1942. Both were in the northern hemisphere within 14° latitude. Displacements of the *Hα* line in chromosphere and in prominences observed with the spectroscope numbered 47 as against 84 during the previous year. Of these, 19 were towards red and 28 to violet.

One hundred and twenty-two bright reversals of the *Hα* line on the Sun's disk in the neighbourhood of sunspots were observed with the spectroscope, compared with 295 during 1942. The displacements observed in the neighbourhood of sunspots were only 4 as against 9 in the previous year. Of these, 2 were towards red and 2 towards violet. D_3 was observed as a dark line on 94 occasions, compared to 185 during 1942.

The displacements observed in prominences with the spectrohelioscope were 86 as against 210 in the previous year. Of these, 38 were in the northern and 48 in the southern hemispheres respectively, 45 being on the east limb and 41 on the west limb. Displacements to red numbered 50 and those to violet 36. The largest displacement observed was 4·6 A. to red in an eruptive prominence on March 17.

An eruptive prominence photographed on February 18, on the west limb of the Sun, reached a maximum height of nearly 5 minutes.

The mean daily area of prominences projected on the disk as absorption markings (without foreshortening correction) was 1704 millionths of the Sun's visible disk, compared to 2888 millionths in 1942, showing a marked decrease of 41 per cent. The distribution of areas in latitude shows maximum activity between 15° and 20° and between 45° and 50° in the northern and southern hemispheres respectively.

A. L. NARAYAN.