SOLAR AND GEOMAGNETIC PHENOMENA DURING THE PERIOD 1st JANUARY—31st MARCH, 1950.

According to observations made at Kodaikanal Observatory no very striking solar or geomagnetic phenomena occurred during the period under review; but the following phenomena are worthy of mention.

A long dark marking was observed in the southern hemisphere since January 22 on the H_α spectroheliograms. On February 3 it appeared as a large prominence, 8 sq. minutes of arc in area, at mean solar latitude 2·5° S and extended over 32° of the west limb. Large Doppler displacements on either side indicated great agitation, maximum displacements observed being 4·5 Å towards the red and 2·2 Å towards the violet. The prominence became invisible on the following day.

A geomagnetic 'crochet' was observed on the HF magnetogram at 1150 hrs. I. S. T. on February 15. The horizontal force showed a maximum increase of 78γ in the course of the disturbance which lasted for an hour and two minutes. A simultaneous ionospheric phenomenon—a Dellinger fade-out between 1155 hrs. and 1310 hrs. I. S. T. on the same day, with a complete fade-out between 1155 and 1255 hrs.—was

reported by All India Radio, New Delhi. All frequencies between 7 and 22 Mcs. were reported to have been affected and no pulse returns from 5 to 14 Mcs. were observed. Spectroheliograms for the day were available for 0818, 0849 and 1406 hrs. The plate taken at 1406 hrs. showed brightening of faculae at several points of the disk. The geomagnetic 'crochet' and a simultaneous Dellinger Type fade-out indicate that there was probably a solar flare at about 1150 hrs. for which time no solar observation is available.

February 20 was marked by the central meridian passage of a large sunspot group which first appeared on February 16 with an area of 2568 millionths of the sun's visible hemisphere. Its area progressively decreased as the group moved across the disk. It was not visible during the second rotation. The following table indicates the observed area from 16th to 22nd Feburuary.

Date.	*Area.*
16	2568
17	2380
18	2417
19	No observation was possible.
20	2045
21	2004
22	1736

The group was generally active and was accompanied by bright faculae. A flare of intensity 1 was also observed on February 22 in its vicinity.

A moderate magnetic storm of sudden commencement type was recorded at Kodaikanal Observatory on February 20 with an initial impulse of 19γ in H at 2308 hrs. A fall in HF was recorded thereafter and a minimum was reached at 0204 hrs. on February 21. The disturbance showed up in all the three elements for which the ranges were: H=319γ V=2·5γ and D=0·6'.

A radio fade-out of the partial severe type was observed at Delhi between 1540 hrs. and 1610 hrs. I. S. T. on February 21. According to All India Radio report all frequencies between 7 and 22 Mcs. were affected.

A moderate magnetic storm started on March 19 with a sudden commencement at 1112 hrs. and an initial positive impulse of 75γ in H. A maximum was attained at 1156 hrs. and thereafter H registered a fall reaching a minimum value at 2024 hrs. I. S. T. on the same day. The recovery period lasted until 0400 hrs. of March 20. The ranges of variations in HF and D observed were 562γ and 0·2' respectively.