

MAGNETIC STORM OF 6 OCTOBER 1960

A severe magnetic storm was recorded at the Indian Magnetic Observatories at Alibag, Annamalainagar and Trivandrum. The storm commenced suddenly on 6 October 1960 at 0238 GMT and ended at 0200 GMT on 8th. In all, it lasted for about 48 hours.

This storm was preceded by a slight disturbance on 5 October. A prominent bay with an increase in the value of the horizontal geomagnetic intensity H was recorded about five hours prior to the commencement of the storm. Apparently this storm was neither preceded by any solar-flare of importance 2 and above nor associated with any active sunspot group.

The storm began at 0238 GMT on 6 October with a sudden increase of 19γ in H at Alibag. The SSC amplitudes in H at Annamalainagar and Trivandrum were 48γ and 45γ respectively. A second SSC was also recorded at all the above observatories at 0326 GMT with amplitudes of 17γ , 47γ and 53γ in H at Alibag, Annamalainagar and Trivandrum respectively. The higher values at Annamalainagar and Trivandrum are apparently due to the influence of the electrojet in the equatorial region.

Major fluctuations were recorded between 0900 GMT of 6 October to 0300 GMT of

TABLE 1

Station	Storm time (GMT)		Type	Sudden commencement			Duration of		Range		
	Beg.	End.		D	H	Z	Initial phase	Main phase	D	H	Z
	<i>h m</i>	<i>d h</i>		Υ	Υ	(hrs)	(hrs)	Υ	Υ	Υ	
Alibag	02 38	08 02	SSC	-0.6	19	-6	2.0	12.5	7.6	320	84
Annamalainagar	02 38	08 02	SSC	-1.5	48	14	2.0	12.5	8.3	419	139
Trivandrum	02 38	08 02	SSC	0.3	45	58	2.0	12.5	6.6	411	289

TABLE 2

Sample horizontal force fluctuations and impulses

Station	Date	Fluctuations			Sudden impulses	
		Beg. (GMT) <i>h m</i>	Period (min)	Amp. (Υ)	Time (GMT) <i>h m</i>	Amp. (Υ)
Alibag	6 Oct	06 37	4	17	15 21	45
		10 05	5	19	20 02	71
					22 27	41
Annamalainagar	6 Oct	06 37	5	58	15 21	56
		10 05	5	34	20 02	77
					22 27	34
	7 Oct				14 40	70
Trivandrum	6 Oct	06 37	5	85	15 21	44
		10 05	6	45	20 02	65
					22 27	37
	7 Oct				14 40	57

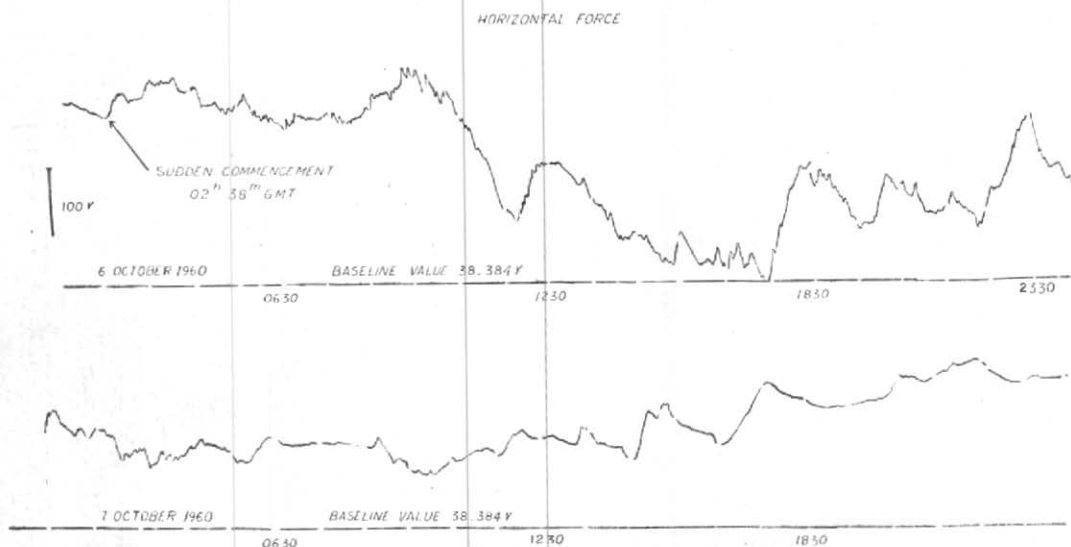


Fig. 1. Records of Magnetic Observatory, Alibag, showing the severe magnetic storm of 6—8 October 1960

7th. Minimum in H was reached practically at 1655 GMT on 6th at all the three stations. The ranges in H at Alibag, Annamalaiagar and Trivandrum were 320 γ , 419 γ and 411 γ respectively. Moderate disturbance continued for about a day and a half after the ending of the storm.

Reports were received about world's most powerful transmitters becoming quite inaudible. The telegrams despatched to overseas countries were subjected to heavy delays. Radio signals from Moscow to New York were among worst hit. Some West Asian stations remained inaudible for most

of the evening on 6th.

Fig. 1 is a reproduction of the H trace of the storm at Alibag. Some of the prominent features of the storm are presented in Tables 1 and 2.

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