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Ionospheric response during geomagnetic storm events in 2004

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Abstract :

The ionosphere is the region of the ionised plasma extending from about 50 to 1200 km above the Earth's surface. It consists of free electrons and ions produced during interaction of extreme ultraviolet radiation (EUV) with upper atmosphere neutral gas. It is destabilised by solar activities such as coronal mass ejections (CME) and solar flares. In this study, the response of the critical frequency of the F2 layer (foF2) during geomagnetic storms in 2004 was investigated using ionosonde data obtained from South African Ionosondes network. Geomagnetic storm periods were identified based on the disturbance storm time index (Dst) which is a measure of the Earth's magnetic field disturbances. During the analysed period, negative ionospheric storm effects (decrease in electron density) were frequently observed.

Award :

yes

Level :

MSc

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Paper :

No

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