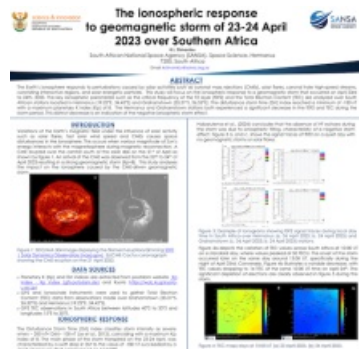


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Poster

The Earth's ionosphere responds to perturbations caused by solar activities such as coronal mass ejections (CMEs), solar flares, coronal hole high-speed streams, corotating interactive regions, and solar energetic particles. This study will focus on the ionospheric response to a geomagnetic storm that occurred on April 23rd to 24th, 2023. The key ionospheric parameters such as the critical frequency of the F2 layer (foF2) and the Total Electron Content (TEC) are analyzed over South African stations located in Hermanus (19.22°E, 34.42°S) and Grahamstown (33.31°S, 26.52°E). The disturbance storm time (Dst) index reached a minimum of -180 nT with a maximum planetary K index (Kp) of 8. The Hermanus and Grahamstown stations both experienced a significant decrease in the foF2 and TEC during the storm period. This distinct decrease is an indication of the negative ionospheric storm effect.



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