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Type: Contributed Talk (20 minutes)

Ionospheric response to geomagnetic storms of different intensity in the Eastern North Atlantic mid-latitudinal zone: comparison between Lisbon, Azores and Madeira

Geomagnetic storms during the declining phase of the solar cycle 24 were studied using the total electron content (TEC) data obtained from three geodetic receivers located in Portugal: Lisbon (Continental Portugal), Furnas (Azores) and Funchal (Madeira). Two of the receivers (Lisbon and Furnas) are located at about the same latitude ($\sim 39^\circ\text{N}$) while the third receiver (Funchal, $\sim 33^\circ\text{N}$) is positioned quite well to the south.

In this work, we study TEC variations during geomagnetic storms ($\text{Dst} \leq -50 \text{ nT}$) observed between 2015 and 2019. We draw conclusions on the strength and the type of the ionospheric response, and on geomagnetic and other conditions that favour a significant ionospheric storm in the studied region. Special attention is given to the analysis of the longitudinal and latitudinal (dis)similarities in the ionospheric variations observed at three studied locations.

Which topic best fits your talk?

Climate and Environment

Authors: MOROZOVA, Anna (University of Coimbra); LIMA, JOÃO; Mr CHIAHA, Shedrach (University of Porto); BARATA, Teresa (University of Coimbra)

Presenter: Mr CHIAHA, Shedrach (University of Porto)