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[Poster]

Dataset for low ionosphere modeling

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Abstract: Strong radiation has the potential to alter the structure of the Earth's atmosphere by causing more ionization. These kinds of solar activity and radiation cause sudden ionospheric disturbances (SIDs), interfere with communications from space and electrical devices on Earth, and may cause a variety of natural disasters. This work focuses on the analysis of ionosphere plasmas and their properties, as well as the investigation of SIDs utilizing very low frequency (VLF) radio signals to forecast the impact of strong radiation on Earth. The daylight atmospheric characteristics caused by this severe radiation are obtained using the model computation, which is based on all data gathered by VLF BEL stations (see Srećković et al. 2021; Šulić et al. 2016). We offer a straightforward approximation formula for electron density and an empirical model of the D-region plasma density.

Keywords: modeling, climate, VLF

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