Impact of strong solar flares on the lower ionosphere: radio waves, satellite observations and modeling

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Solar flare X-ray energy can significantly increase electron density in the Earth's atmosphere (Srećković et al. 2021). This intense solar radiation and activity can cause abrupt ionospheric disturbances, potentially leading to natural disasters (see Kolarski et al. 2022 and references therein). The primary goal of this research is to examine the changes caused by strong solar X-ray flares using very low frequency and low frequency radio signals and satellite observations. The model is used to compute the ionosphere parameters caused by intense solar radiation.

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