Low-latitude ionospheric disturbances associated with earthquakes

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Abstract

Topside electron density measured on satellite board was analyzed. It was shown that before the two considered earthquakes with their epicenters located at low and equatorial latitudes the stable modification of the ionosphere both at and above the height of the F-layer peak was observed. Electron density gradually decreased and its spatial distribution looked like a funnel located either immediately over the epicenter or from its one side. Electron density irregularities of 300-500 km size in a meridional direction also occurred side by side with the aforesaid background large-scale depletions. For detection of local structures of more than 1000 km extent, the method of natural orthogonal component expansion was applied; spectra of smaller scale inhomogeneities were investigated by means of the Blackman-Tukey method. A proposal is made for observed experimental data interpretation.

Keywords

Ionosphre;equatorial anomaly;low latitudes;earthquakes

Full Text:

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References

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