**Study of the influence of atmospheric waves generated by a tropospheric convective source on the ionosphere**

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The influence of atmospheric waves generated by a tropospheric convective source on the state of the upper atmosphere and ionosphere during the recovery phase of the geomagnetic storm on May 27-28, 2017 was studied. The calculations implement a new approach of inclusion of atmospheric waves generated by tropospheric convective sources in large-scale atmospheric models without using their parameterization. The study was carried out using the numerical model of the neutral high-resolution AtmoSym and the Global Self-consistent Model of the Thermosphere, Ionosphere and Protonosphere (GSM TIP). The calculation results showed that longitudinal changes in foF2 in the region of the convective source demonstrate a stable negative response of the ionosphere at sub-auroral latitudes and positive disturbances at mid-latitudes. During the period of a meteorological event, the formation of periodic structures in the area of its localization is observed, which indicates the possibility of formation of traveling ionospheric disturbances in the considered spatio-temporal region.

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