



Latitudinal/longitudinal dependence of the magnetic storm effect on ionosphere

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The paper is focused on latitudinal/longitudinal dependence of ionospheric reaction to disturbances induced by magnetic storms of different intensity above selected ionospheric stations located across the Northern and Southern Hemisphere. Most of storms involved in the analysis occurred within the 23rd and 24th solar cycle. We analysed variability of the F2 layer critical frequency foF2 and peak height hmF2 obtained for different latitudinal and longitudinal sectors of both hemispheres for the entire storm period, as our previous observations of stormy ionosphere showed significant departure from the climatology also within recovery phase, which are comparable with those usually observed during the storm main phase. Both positive and negative deviations of foF2 and hmF2 have been observed independently on season and location. We obtained significant differences in ionospheric reaction at different longitudes of the American and European-African sector during magnetic storms of different intensity. Latitudinal dependence of the storm effect was less pronounced during magnetic disturbances, which occurred at 2007-2009 (prolonged solar activity minimum).