



Survey of minor-to-moderate magnetic storm effects on ionosphere: American sector

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The paper is focused on ionospheric reaction to occasional minor-to-moderate magnetic storms above selected ionospheric stations located across the Northern and Southern America. Most of the storms analysed occurred under extremely low solar activity conditions of 2007-2009. We analysed variability of the F2 layer critical frequency foF2 and the F2 layer peak height hmF2 obtained for different latitudinal and longitudinal sectors of both hemispheres for the entire period of selected magnetic storms. Observations were compared with the effects of strong magnetic storms and with the IRI2000 outputs when STORM model option is activated. We analysed ionospheric reaction during each storm phase with main emphasis paid on the recovery phase. In general, storm recovery phase is characterized by an abatement of perturbations and a gradual return to the “ground state” of ionosphere. Magnetospheric substorms, typical for the main phase, as a rule cease during the storm recovery phase. However, observations of stormy ionosphere show significant departures from the climatology also within this 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 independent on season and location.