

QUIET AND STORMY TIME foF2 AND hmF2 VARIABILITY OVER MIDDLE LATITUDES AS IT WAS OBSERVED AND MODELLED

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This paper will present results of the analysis of the ionospheric F layer peak parameters variability under quiet and stormy conditions over middle latitudes. The analysis was carried out using manually checked hourly foF2 and hmF2 values obtained from selected ionospheric stations of the Northern (NH) and Southern hemisphere (SH). The observations were compared with the IRI2007 model outputs. Quality of the STORM model storm-time corrections was also evaluated. Overall summary of the evaluation results for Northern hemisphere indicates the decreasing ability of the model to simulate storm-time foF2 behaviour with decreasing latitude. For Southern hemisphere an efficiency of the model corrections seems to be considerably lower and decreases with increasing latitude. In general, the quiet time hmF2 above NH middle latitudes is better represented by IRI during winter and summer months, while at SH middle latitudes the model simulates hmF2 variability more successfully during summer and equinoxes. Our results indicate an importance of knowledge of the local patterns of ionospheric variability for the development of global models.

Ionosphere, magnetic storms, ionospheric models

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