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Features of TEC behaviour over the low-latitude North-American region during the period of medium solar activity.

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Abstract.

The study is focused on Total Electron Content (TEC) behavior in low-latitude North-American region within the twelve-year period from 2005 to 2016. The obtained systematic (regular) TEC variations (diurnal, seasonal patterns) conform to the known tendencies described by climatological TEC models. TEC variations during disturbances have a number of distinctive features. The majority of positive TEC enhancements occur already with $Dst < -30$ nT. The intensity of TEC change does not depend on Dst-index minimum value. Almost all cases of day-time TEC disturbances are accompanied by night-time disturbances with the possibility of relative night-time deviations being larger that is confirmed by data of low-orbit satellites CHAMP and DMSP. The simultaneity of changes of critical frequencies of the ionosphere with changes of TEC during disturbances was observed at Ramey (Puerto Rico) and Eglin (U.S.A.) stations when ionosonde data was available. This proves that TEC reflects the character of ionospheric

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