

## Global Rate of TEC Index (ROTI) Observed by Ground-Based GPS TEC in 2009 and 2013

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Routine observations of the ionospherically imposed propagation effects upon GPS satellite signals are available online from Scripps Orbit and Permanent Array Center (SOPAC). With over 1500 ground-based stations now reporting data, ionospheric studies ranging from the analysis of single-site observations to the full global network have demonstrated the geophysical science yield possible from this remarkable resource. This study examines the standard deviation of TEC (total electron content) variations in a 10-minute interval to find the rate of TEC index (ROTI) around the receiving station on the ground. Results show that prominent ROTIs appear in the low-latitude ionosphere, plus and minus 30-degree dip, which begin at 1900 LT, reach their maximum at 2000-2100 LT, and vanish by about 2400 LT, especially in spring and autumn. A comparison shows that variations of ROTI well agree with S4 scintillations observed by FORMOSAT-3/COSMIC.

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