

**Traveling ionospheric disturbances observed with the GSI GPS network in Japan (II)**

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The dual frequency radio signals (1575.42 and 1227.60 MHz) of the Global Positioning System (GPS) allow measurements of the total number of electrons, called total electron content (TEC), along a ray path from GPS satellite to receiver. Two-dimensional maps of TEC perturbations with high temporal and spatial resolutions are derived from using nearly 1,000 GPS receivers of Geographical Survey Institute (GSI) GPS network in Japan. We investigate TEC perturbations, which have been known as traveling ionospheric disturbances (TIDs). Activity of nighttime TID shows semiannual variation with summer and winter maxima, although the summer maximum is larger than winter. The nighttime TIDs propagate southwestward. For daytime, TID is the most active in winter. The daytime TIDs propagate equatorward.