

## Observation of Large-Scale Traveling Ionospheric Disturbance over Peninsular Malaysia Using GPS Receivers

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**Abstract :** This paper presents the result of large-scale traveling ionospheric disturbance (LSTID) observation during moderate magnetic storm event on 25 October 2011 with SYM-H  $\sim$  -160 nT and Kp  $\sim$  7 over Peninsular Malaysia at equatorial region using vertical total electron content (VTEC) from the Global Positioning System (GPS) observation measurement. The propagation of the LSTID signatures in the TEC measurements over Peninsular Malaysia was also investigated using VTEC map. The LSTID was found to propagate equator-ward during this event. The results showed that the LSTID propagated with an average phase velocity of 526.41 m/s and average periods of 140 min. The occurrence of this LSTID was also found to be the subsequent effects of substorm activities in the auroral region.

**Keywords :** Global Positioning System (GPS), large-scale traveling ionospheric disturbance (LSTID), moderate geomagnetic storm, vertical total electron content (VTEC)

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