

Title: Spatial and seasonal ionospheric error growth in dgps measurement: a case study in Malaysia

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Abstract: This paper tackles the Equatorial ionosphere and its effects on Differential Global Positioning System (DGPS) error growth over Malaysia by using a network of GPS Continuously Operating Reference Stations (CORS). Seasonal variation of ionospheric delay has been examined and findings show that the effect of spatial variation of ionospheric errors in DGPS is very significant during the equinoctial seasons. Furthermore, a DGPS regression model was developed and tested during the solar maximum year in 2013 by using internet-based DGPS. The results show that the model is capable of estimating DGPS positional errors for distances of user to reference station less than 680 km.