DETERMINATION OF IONOSPHERIC TOTAL ELECTRON CONTENT (TEC): PHASE MEASUREMENT BASED ON LEVELLING TECHNIQUE

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MOHD AMIRSHAIFULRAZAIN ABU ZAINI
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM,
SELANGOR, MALAYSIA

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ABSRACT

GPS has become a great tool for ionospheric studies and research. The accuracy or quality of coordination data of GPS receiver can be increased by determining the source and factor of the disturbances that produce at ionosphere layer. Basically, dual frequency carrier-phase and code-delay Global Positioning System (GPS) observations are combined to obtain ionospheric observables related to the slant TEC (TECs) along the satellite-Receiver line of sight (LoS). The Total Electron Content (TEC) data was taken from receiver station located at Universiti Teknologi Malaysia, Johor, UTMJ station and Wisma Tanah, Kuala Lumpur, KTPK station. A code-delay data produce high noise level compared to carrier-phase data. This research assessing the conversion of code-delay to carrier-phase data ionospheric observable and so-called "Levelling process" which applied to reduce code-delay ambiguities. It was found that the levelled carrier-phase has a low noise level and the remaining noise was discarded.

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