

## **Ionospheric correction and ambiguity resolution in DGPS with single frequency.**

### **Abstract**

The free electron distributed in the atmospheric region known as the ionosphere produces a frequency dependent effect on the Global Positioning System (GPS) signals, a delay in the pseudorange and advance in the carrier phase. The ionospheric influence is one of the main problems in the real-time ambiguity resolution for the carrier phase GPS data in radio navigation. Real Time Kinematics (RTK) and Malaysian Active Station (MASS) data from JUPEM (Jabatan Ukur dan Pemetaan Malaysia) were used in this analysis. In this study, the effects of initial phase ambiguity at GPS and modeling of ionosphere on base components were researched. To overcome this problem, a correction ionospheric model was used. This correction model could be implemented in single frequency measurements with similar accuracy, which can be obtained from dual frequency.

**Keyword:** Ambiguity resolution; Ionosphere; Baseline.