

A Study on the improvement of the Positioning Accuracy using New Regional Ionospheric Model for GNSS

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Ionospheric effects on GPS signal propagation is one of the major source and it is easy to eliminate this error using a frequency combination technique. But the ionosphere errors should be estimated precisely for single receiver. We used 9 GPS Continuously Operating Reference Stations(CORS) which have been operated by Korea Astronomy and Space Science Institute(KASI) and also developed the new regional ionospheric model based on GPS network. In this paper, we propose the new regional ionospheric model to improve the positioning accuracy and performed the several tests for a variety of ionospheric environment. When applying the newly developed ionosphere model, it showed that the positioning accuracy is improved 40 percent compared with the broadcasting model.