

Analysis of the Spatio–Temporal Variability and Impact of Tropospheric Delay on the Positional Accuracy in GNSS PPP Observations

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Key words:

SUMMARY

Improvements in dual frequency observations with multiple differencing techniques have led to the development of the Precise Point Positioning (PPP) observation technique. Envisaged to have reduced positioning error; the tropospheric delay and multipath error remain the most outstanding factors that mitigating its positional accuracy in PPP observations. This paper attempts to access the impact and spatio-temporal variability of tropospheric delay on PPP positioning technique in GNSS observations across Nigeria. 24 hours data from six CORS across the six geopolitical zones in the country have been processed at three months interval (January – July, 2014) using the RTKLIB software in the PPP static post processing mode. Results obtained indicate a leap frog pattern of variation in the tropospheric delay across the country with least delay observed in January (during the dry season).