

Comparison of OPUS, CSRS-PPP and magicGNSS Online Post-Processing Software of DGPS Observations for Geometric Geoid Modelling in FCT, Abuja

Paul Oluyori, Matthew Ono and Sylvester Eteje (Nigeria)

Key words: GNSS/GPS

SUMMARY

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Oluyori, P. D1., Ono., M. N1. and Eteje, S. O1.

1 Department of Surveying and Geoinformatics, Nnamdi Azikwe University, Awka, Anambra State

ABSTRACT

Global Positioning System (GPS) static measurements require post-processing to determine 3-D positions coordinates i.e. Eastings, Northings, and ellipsoidal height (E, N, h) of various points of interests. The adoption of differential GPS (DGPS) approach for data capture improves on the positional data. Use of dual frequency Hi- Target V30 Pro geodetic receivers also enhances the reliability and quality of GPS measurements through online processors. Online post-processing software (OPUS, CSRS-PPP, magicGNSS) were used to process the uploaded Receiver INdependent EXchange format (RINEX) data for the GPS position determination. ANOVA statistics was used to analyze the results. Computed F-test values compared against critical F-test table values and hypothesis testing was carried out. The results indicate that there is no significant difference between the three online post processing software. It is recommended that any of the online post-processing software can be used interchangeably to process DGPS observations.

Keywords: 3-D coordinates, Online post-processing Software, DGPS, ANOVA, F-test

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