The Comparison of Accuracies of Results Obtained from Bernese v5.2 Software and Web-Based PPP Services

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SUMMARY

Type the English summary here (about ½ page) .... Precise Point Positioning (PPP) technique has been developed as a technique which is providing absolute and high positioning accuracy, using satellite and clock corrections, with a single GNSS receiver. In this method, with a single receiver which has double frequency using code and carrier phase observations point positioning accuracy can be obtained at cm/dm level. The most important problem in precise point positioning is that convergence time required for phase ambiguities is long.

In this study, on a mechanism created, it is aimed to determine the point positions by a PPP method by shifting the GNSS receiver at 1-cm intervals at east-west direction. While raw data were collecting, record interval was selected as 30 seconds and session duration was taken as 24 hours. The raw data were evaluated with Bernese v5.2 GNSS software and Web-based PPP services (CSRS PPP and Magic GNSS). Coordinates obtained after the evaluation were compared with 1 cm, 2 cm, 3 cm, 4 cm and 5 cm differences. In conclusion, it is observed that at 1 cm, 2 cm, 3 cm and 5 cm, the best results were obtained by CSRS PPP, Magic GNSS and Bernese v5.2 GNSS software, respectively. Also for 4 cm, the best results were given by the Magic GNSS method, Bernese v5.2 GNSS software and CSRS PPP, respectively.