

Investigation of Kinematic Relative Positioning Accuracy Using SP3 and Broadcast Ephemerides

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SUMMARY

One of the main propose of engineering surveying is to do an application in shortest time and complete it economically. In relative positioning accuracy applications with GPS, the accuracy of positioning is changed depending on the application type. Rapid developments in GPS technology and use of it in different type of applications has been affected the constitutions and common use of permanent GPS stations which let users to collect data with high accuracy.

In this study, relative positioning accuracies of GPS measurements by using permanent GPS stations compared experimentally with geodetic commercial GPS receivers and processing software by taking in to account the baseline vector length, measurement duration and ephermerides type. As a result, 3D positions of points were calculated using statistical criteria of repeatability and standart deviations by kinematic methods. Especially the importance of permanent GPS stations in engineering applications is evaluated.

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