

CORS Networks and Investigation of Point Positioning Accuracy of Konya Permanent Gns Network (KOSAGA)

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SUMMARY

Mankind has always wondered where it is on the earth. To answer this question, they come to the point of Global Navigation Satellite Systems (GNSS) from the primitive methods in the early ages thanks to the technological developments in the present.

In satellite positioning, static relative positioning, differential GNSS (DGNSS), conventional RTK (Real Time Kinematic) and Network RTK (CORS) methods are used. Satellite Positioning Systems brings a new understanding to location determination and are used effectively in navigation of land, sea and air vehicles, geodetic and geodynamic measurements, cadastral measurements, deformation measurements, vehicle tracking systems, tourism, agriculture, forestry, sports, security, hydrographic studies and GIS applications.

Many countries have established GNSS based Continuously Operating Reference Stations (CORS) to provide centimeter level accuracy to the end users and they can be used locally or regionally. In this context, TUSAGA (TNPNGN- Turkish National Permanent GPS Network) Active (CORS-TR) and KOSAGA which is covering Konya province (including the surrounding districts), permanent GNSS stations are established and operating.

In this study, a test network consisting of 10 trig stations (C3) and 25 traverse points was established with a total of 35 points in Selcuk University Alaeddin Keykubat Campus Area in order to investigate the point positioning accuracy of Konya CORS Network (KOSAGA) and Tusaga-Aktif. Reference stations are measured by Static Method and traverse points are measured by fast static and RTK GPS. The results of the evaluations are compared with the point position accuracies obtained with TUSAGA-Active and KOSAGA systems.

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