

## Eastern Kanto GPS Network Analysis with MOST

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MOST (Multimodal Occupation Strategy) method has been adopted in the eastern Kanto GPS network analysis for the first time. The combination of continuous and campaign approaches makes it more flexible and robust. Analysis of two session data with baseline lengths as long as 200 km has confirmed the capabilities of this new approach within the desired limits. The baseline repeatability achieved was to the level of 1.4 mm + 2.64 ppb, 1.4 mm + 5.24 ppb in the N-S and E-W components, respectively. And the vertical component was found to be 10 times larger than the horizontal ones.

In the regional network analysis of the eastern Kanto GPS network we have adopted the method of MOST (Multimodal Occupation Strategy) for the first time. This strategy is the combination of continuous and campaign approaches. The biggest advantage in using this is the fact that is very flexible and robust. The stations in the regional network are positioned relative to the continuously operating GPS sites. Thus, the corrections implemented in the continuous GPS sites will be automatically carried over to the regional sites .

To confirm the new approach two days of observations (namely 292 and 294 days of year 1997) were conducted with 5 GPS roving receivers in the eastern Kanto region. This network covers an area of 110 X 225 km<sup>2</sup> with the northern most station of Mt.Yamizo and the southern most station of Nojimazaki. The data obtained were analyzed along with the data from continuously operating GPS sites of GSI and IGS in the vicinity of the network.

The present analysis was done with the softwares GAMIT9.72 and GLOBK4.1, in which the primary solutions for individual sessions were obtained with loose a priori uncertainties assigned to the global parameters. Further, IGS site's positions were constrained to 1cm horizontally and 10cm vertically. We achieved the baseline repeatability to the level of 1.4mm + 2.64ppb in the north-south component and 1.4mm + 5.24ppb in the east-west component. Although the standard deviation for the vertical component was about 10 times larger than that of the horizontal component, further calculations have been attempted in order to improve it. The means for the baseline scatter components were reduced to 1.64mm, 1.84mm and 23.64mm respectively.