

Data analysis of the Western Pacific Integrated Network of GPS (1995.7~1998.6)

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The Western Pacific Integrated Network of GPS (WING) has been established since around 1995 as a joint research project among the Japanese University group and MRI. Baseline analyses have been conducted using about 40 sites in the region including WING and IGS global sites. Estimated vectors at sites are generally more reliable than the previous results chiefly because the data lengths are longer. In addition, we included campaign results to estimate the Euler vector of the Philippine sea plate relative to Eurasia and the back-arc spreading at the southern Mariana area. Yet, in the southeastern Asia and Chinese continents, the site distribution is much sparse relative to the tectonic complexity of the area.

The Western Pacific Integrated Network of GPS (WING) has been established since around 1995 as a joint research project among the Japanese University group and MRI. About 10 GPS stations have been established so far, among which two sites had been excluded. Baseline analyses have been conducted using about 40 sites in the region including WING and IGS global sites. Estimated velocity vectors at sites are generally more reliable than the previous results chiefly because the data lengths are longer. We present the newly updated displacement rate field estimated by these analyses.

In addition, we included campaign results to estimate, first, the angular velocity vector of the Philippine Sea plate relative to Eurasia and, second, the back-arc spreading at the southern Mariana area. Yet, in the southeastern Asia, the site distribution is much sparse relative to the tectonic complexity of the area. Also, the large deformation in the Chinese continent is not precisely known due to lack of dense GPS array. Although the WING network was introduced to facilitate the solid earth science, it is now considered to be important also for atmospheric and hydrological sciences in the area. Thus it may have to be considered that the network should be a fundamental infrastructure for the earth science and be maintained under better organization for long-term operations.