

## Migrating Crustal Deformation from GEONET

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Recently, the Geographical survey Institute of Japan completed the installation of a GPS continuous observation network in Japan, which has enabled us to investigate real-time crustal movement. In this study, we attempt to detect the migrating crustal deformation in Japan, using temporal changes in three components of station coordinates, which were observed at 947 GPS observation stations during the period from start of observation. These data may include the effect of plate coupling, earthquakes and noise. In order to remove these, we adapted the stacking of GPS data within 150km from each GPS station and the trend model, which used Kalman filter. Next, we carried out a semblance analysis for these crustal deformation data in the whole Japan.

Recently, the Geographical survey Institute of Japan completed the installation of a GPS continuous observation network in Japan, which has enabled us to investigate real-time crustal movement. In this study, we attempt to detect the migrating crustal deformation in Japan. The migrating crustal deformation is the amplitude characteristics of migrating strain. For example, Ishii et al. (1980) found the amplitude characteristics of the migrating strain with a velocity of about 40km/year from extensometers in five crustal movement observatories located in the northeastern Japan arc.

In order to detect the migrating crustal deformation, we use temporal changes in temporal changes in three components of station coordinates, which were observed at 947 GPS observation stations except the anomalous stations during the period from start of observation. These data include the effect of plate coupling, earthquakes and noise. In order to remove these, we adapted the stacking of GPS data within 150km from each GPS station and the trend model, which used Kalman filter.

Next, we carried out a semblance analysis for these crustal deformation data in the whole Japan. Here, we will present and discuss these results.

### References:

H. Ishii, T. Sato and A. Takagi (1980): Characteristics of Strain migration in the Northeastern Japan Arc (2)-Amplitude Characteristics-, Journal of the Geodetic Society of Japan, Vol. 26, No. 1, pp. 17-25