

The removal of the postseismic crustal deformation from the GPS data

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JMA monitor the GPS data of GSI by spatial Monitoring (Kobayashi, 2007) for forecasting of the Tokai earthquake. This output is published as the JMA report of Earthquake Assessment Committee for Areas under Intensified Measures against Earthquake Disasters. Offset of the maintenance and earthquake and trend is removed from the GPS data. But JMA couldn't monitor the GPS data because of the postseismic crustal deformation which occurred after the 2011 off the Pacific coast of Tohoku Earthquake (Mw 9.0). The postseismic crustal deformation may continue for several decades. It is necessary to remove the postseismic crustal deformation from the GPS data to monitor the phenomenon that is going to happen now. Therefore, we tried to estimate the parameters of the postseismic crustal deformation.

We use the combination of a logarithmic function and an exponential function as the postseismic crustal deformation. We estimate some parameters by the SCE-UA method so that the total of the difference at 30 day is minimized. We explain the result that removed the postseismic crustal deformation of the 2011 off the Pacific coast of Tohoku Earthquake (Mw 9.0) or the Tokachi-oki Earthquake in 2003 (Mw 8.0).

Keywords: GPS, postseismic crustal deformation, SCE-UA method