[EJ] Evening Poster | S (Solid Earth Sciences) | S-SS Seismology

[S-SS09]Crustal Deformation

convener:Tadafumi Ochi(Institute of Earthquake and Volcano Geology, Geological Survey of Japan, The National Institute of Advanced Industrial Science and Technology), Mako Ohzono(Institute of Seismology and Volcanology, Graduate School of Science, Hokkaido University)

Sun. May 20, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

Study of crustal deformation plays an extremely important role in the investigation of wide scale earth dynamics those are earthquake and volcanic activity, plate motion and so on. In our session, we discuss the study related to crustal deformation, such as development of observation instrument, observed crustal deformation, analysis method, and simulation study.

[SSS09-P04]Post-seismic deformation of 2016 Kumamoto Earthquake by continuous GNSS network (2)

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Keywords:Continuous GNSS observation, post-seismic deformation, 2016 Kumamoto Earthquake

Post-seismic deformation has been observed since April 15, 2016 by extraordinary GNSS observations of 20 sites and cooperative GNSS observations of 15 sites by Kyushu University, Kyoto University and Kagoshima University. Extraordinary GNSS sites started observation in April, 2016 after occurrence of 2016 Kumamoto Earthquake. Cooperative GNSS observations have observed continuously before the earthquake. Bernese GNSS Software V. 5.2 are used for GNSS data analysis with GEONET data, which is operated by GSI and JMA GNSS continuous data in Kyushu. CODE precise ephemerides and Earth rotation pole data are used.

Plate motion in each site should be removed from post-seismic deformation data. Displacement velocities of GNSS sites are estimated by Least Squares method in the period from 2004 to 2013. Displacement velocities of extraordinary GNSS sites are interpolated by velocities around the sites. Post-seismic deformation is derived by extracting the displacement velocity of plate motion.

Post-seismic deformation is observed at sites which are located on the south-east side of Hinagu fault, especially on NS component until December 2017. It seems that clear post-seismic deformation continues until early part of June, 2016 at sites which are located on the north-west side of Hinagu faults. Change in NS component around May, 2017 and in EW component around August, 2017 occurred at sites which are located on both sides of Hinagu fault.