
[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)

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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-P11]Possibility of a long-term slow slip event around the Shima Peninsula from late 2017

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Keywords:long-term slow slip event, Shima Peninsula, GNSS

In the Nankai Trough, slow earthquakes such as long-term slow slip events (SSEs) and short-term SSEs have been observed. Long-term SSEs occur around locked fault zones that are considered likely to cause large earthquakes in the future. It is important to characterize the spatiotemporal transitions of long-term SSEs.

I used the daily coordinates of the GEONET F3 analysis operated by the Geospatial Information Authority of Japan. I removed coseismic offsets, artificial offsets, annual and semi-annual variations, and long-term trend. From the displacement from June 2017 to December 2017, the displacement in the same period of the previous year was subtracted. Unsteady displacement in southeast direction about 5 mm was seen in the Shima Peninsula.

Assuming that this displacement is due to a long-term SSE, a rectangle source was estimated by a global optimization method. Estimated source was located around the Shima Peninsula and moment magnitude was 6.0.

The GNSS F3 coordinate data and offset data were provided by the Geospatial Information Authority of Japan.