Observation of postseismic displacements following the Noto earthquake using a dense continous GPS network

Manabu Hashimoto[1]; Hiroaki Takahashi[2]; Minoru Kasahara[2]; Ryosuke Doke[3]; Akira Takeuchi[4]; Kensuke Onoue[5]; Yoshinobu Hoso[6]; Yo Fukushima[7]; Fumio Ohya[7]; Kajuro Nakamura[8]; Yoshihiro Hiramatsu[9]

[1] DPRI, Kyoto Univ; [2] ISV, Hokkaido Univ; [3] Dept. Earth Sci., Univ. Toyama; [4] Grad. Sch. Sci. Eng., Univ. Toyama; [5] Research Center for Earthquake Prediction, Kyoto Univ; [6] RCEP, DPRI, Kyoto Univ.; [7] DPRI, Kyoto Univ.; [8] DPRI, Kyoto Univ.; [9] Natural Sci., Kanazawa Univ.

http://www.rcep.dpri.kyoto-u.ac.jp

The Noto Peninsula earthquake of March 25, 2007, is a special event that occurred in a seismically quiet region. It is an important issue to reveal crustal defromations associated with this event and its mechanism for the understanding of the generation mechanism of inland earthquakes and tectonics on the eastern margin of the Sea of Japan. However, there are only three GEONET sites (Wajima, Anamizu, and Togi) in this region, and the source region is entirely included in a triangle consisting of these GEONET sites. Therefore it is essential to conduct an observation of crustal deformations with much denser GPS network than GEONET.

We started continuous observations of GPS in and around the source region of the Noto Peninsula earthquake in order to detect postseismic displacements or coseismic displacements from significant aftershocks and reveal faulting of this earthquake or mechanical characteristics in the source region. We set dual-frequency receivers at 11 sites in a region about 20km x 40km during March 25-28. Data sampling is usually 30 seconds, but 1 or 10 seconds observations have been conducted at selected sites.

We are going to present the outline of this observation and preliminary results of observation of postseismic displacements during 1 month since the occurrence of the mainshock.

