Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

SCG088-P17 Room: Convention Hall Time: May 27 17:15-18:45

Dense GPS observation in the strain concentration zone along the Eastern Japan Sea margin (preliminary report)

Takeshi Sagiya[1*], Takeo Ito[1], Hiroaki Takahashi[2], Satoshi Miura[3], Yusaku Ohta[3], Teruyuki Kato[4], Akira Takeuchi[5], Shin'ichi Miyazaki[6], Takao Tabei[7], Takeshi Matsushima[8], Shigeru Nakao[9], Toshikazu Tanada[10], Masatake Harada[10], Takashi OKUDA[1], Shinichiro Horikawa[1], Yuhki Kohno[2]

[1]Nagoya University, [2]Hokkaido University, [3]Tohoku University, [4]The University of Tokyo, [5]University of Toyama, [6]Kyoto University, [7]Kochi University, [8]Kyushu University, [9]Kagoshima University, [10]Hot Springs Research Institute

We have been conducting a dense GPS observation in the central-southern Niigata Prefecture, a part of the Strain concentration zone along the Eastern Japan Sea Margin, since 2008. Along this strain concentration zone, strong E-W contraction occurs within a narrow belt within 50-100km, and many large earthquakes have been reported. Better understanding of the deformation mechanism and evaluation of the seismic potential are an urgent problem to be solved. In particular, it is an unsolved question how this deformation belt has aseismic concentrated contraction and large earthquakes such as the 2004 Chuetsu and the 2007 Chuetsu-oki earthquakes together. In order to tackle these questions, we established a dense GPS network with a spacing of a few kilometers over an 80km wide area. We try to resolve minute deformation pattern and resolve the deformation mechanism based on it. We established 50 GPS sites in cities of Itoigawa, Joetsu, Tokamachi, Minami-Uonuma, Kashiwazaki, and Nagaoka. We occupied these sites for 3 to 6 weeks twice in 2008 and 2009. Now the 2009 data are being processed and we will report our preliminary deformation results with them.

Keywords: strain concentration zone, crustal deformation, GPS