

A dense GPS observation around the northern Itoigawa-Shizuoka Tectonic Line (2)

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The Itoigawa-Shizuoka Tectonic Line Fault System is one of the most active fault in Japan. Since there has been no large earthquake in history, the fault has a high probability of a large event in the future. The Headquarters for Earthquake Research Promotion is going to launch a new project of intensified observation in order to improve estimation of future earthquake probability and estimation of strong ground motion from FY2005. A pilot project of intensified observation has been conducted around the Itoigawa-Shizuoka Tectonic Line. We have conducted a dense campaign GPS observation as a part of this pilot project. The campaign observation is aimed to densify the existing continuous observation network (GEONET). Another purpose of this observation is to examine the actual precision of the campaign observation, which uses anchor bolts fixed around the roof of RC buildings. The observation started in 2002 and we reoccupied the same sites for about a week every year. 28 observation sites are located surrounded by Hakuba, Nagano, Ueda, Suwa, Azumi, and Kamitakara. We estimated average crustal displacement rate from three observations. Most of the campaign sites show a horizontal displacement rate consistent with those at surrounding continuous sites. Displacement rate change pattern from Hakuba to Nagano indicates strain partitioning between the Kamishiro Fault and the West Nagano Basin Fault. Campaign observation could resolve the horizontal crustal deformation, but the vertical component is not precise enough to detect significant signals. We still need a little more time and observations to estimate reliable displacement rates.