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Short-term slow slip events in western Aichi Prefecture

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Active Fault and Earthquake Research Center, Geological Survey of Japan, AIST has a network composed of about 50 ground-water observation stations in and around the Tokai, Kinki and Shikoku areas in Japan. At these stations, groundwater levels are observed. At about half of the stations, crustal strains and seismograms are also observed by the borehole strainmeters and seismometers.

It is well known that the episodic short-term slow slip events (SSE) accompanied by deep low-frequency tremors on the plate boundary along Nankai Trough. On the other hand, around northern Ise bay, tremors are less active and the short-term SSEs are also seldom observed except the event in January 2006.

Based on semblance analysis by vertical seismic array network (V-net), we searched the crustal strain changes at TYE and TYS stations in Aichi Prefecture. In March 2010 and September 2010, the short-term SSEs were observed at western Aichi Prefecture, where is located on the northeastern side of the Ise bay. In the cases, tremors were not so active.

Keywords: crustal strain change, short-term slow slip, deep low-frequency tremor, vertical seismic array, Ise bay, Nankai Trough