Strain and tilt changes due to the water injection experiments at Toshima station on Awaji Island

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The 800m and 1800m boreholes at Toshima are located about 500m southeast of Nojima fault on Awaji Island. Water injection experiments based on a scientific drilling program were performed in January - February, 2000, in order to investigate geophysical characteristics of crustal movements due to the water injection. Water was injected into the 1800m borehole for 4 - 5 days with a water pressure of 3 - 4 MPa. Strain and tilt changes during the experiments were observed by a multi-component borehole instrument installed at the 800m borehole. The water injection resulted in maximum contractions of 4.0E-8 to 7.0E-8 with the directions of N35E-S35W to N60E-S60W. Tilt changes were not caused by the water injections.