

Crustal strain field at Toyohashi station of National Institute of Advanced Industrial Science and Technology

Yuuichi Kitagawa[1], Naoji Koizumi[1], Norio Matsumoto[2], tsuneo yamauchi[3]

[1] GSJ, AIST, [2] AIST, [3] RCSV

In cooperation with Research Center for Seismology and Volcanology, Nagoya University, National Institute of Advanced Industrial Science and Technology (AIST) has observed crustal strain, crustal tilt, groundwater levels, groundwater temperatures, and gases dissolved in groundwater at observation boreholes or a crustal movement observation tunnel, in Toyohashi City in Aichi Prefecture. Toyohashi city is located at the western edge of a hypothetical fault zone of the Tokai Earthquake, and is also located within the area of the remarkable crustal movement occurring from the beginning of 2001 in Tokai Region. This report shows the crustal strain field at Toyohashi station using three component strain meters in the borehole, and compares it with other borehole strain data near Tokai area and triangulation by Geographical Survey Institute (GSI).

At Toyohashi station, the N102E component was extended, the N222E and N341E components were compressed. By the strain analysis, the direction of WNW-ESE was the maximum extension, and the direction of NNE-SSW was the maximum compression in last two years. This result was roughly consistent with a result (NW-SE: the maximum extension, NE-SW: the maximum compression) at Sakuma station of Japan Meteorological Agency (JMA) in Shizuoka Prefecture. However it was not consistent with other results in Shizuoka Prefecture (Kakegawa station of JMA, Kusanagi station of AIST, and Omaezaki station of GSI). It was somewhat different from a result at 97FT-01 station of Tono Geoscience Center, Japan Nuclear Cycle Development Institute in Toki city in Gifu Prefecture (N-S: the maximum extension, E-W: the maximum compression). In addition, it was also somewhat different from the triangulation results near Toyohashi city in 1883-1985 and 1985-1994 by GSI (ENE-WSW: the maximum extension, NNW-SSE: the maximum compression).

We will analyze a calibration correction using the theoretical tide, and discuss further.