

Crustal deformation of the strain concentration zone along the Eastern Japan Sea margin

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The strain concentration zone along the eastern margin of Japan Sea has been recognized as significant concentration of E-W contraction through triangulation since the Meiji era and recent GPS observations [e.g. Hashimoto (1990), Sagiya et al. (2000)]. In this presentation, I will review previous studies based on geodetic observations and discuss unsolved problems associated with the deformation zone. In particular, it is an important question related to the evaluation of seismic potential whether the deformation is elastic or inelastic. Also, in order to produce strain concentration at the surface, the deeper crust have to accommodate contraction, whose physical mechanism has not been well understood.

We started a dense GPS observation from 2008, as a part of the 'Intensified investigation and observation of the strain concentration zone' sponsored by MEXT. Main purpose of this project is to investigate the details of crustal deformation in the strain concentration zone and facilitate seismic potential evaluation. We established about 50 GPS campaign sites in Niigata Prefecture and conduct campaign observation for 5 years. We will report the outline of the first observation in November 2008.