

## Strain rate anomaly preceding the 2000 Western Tottori Earthquake

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We tried to detect the strain rate anomaly preceding the 2000 Western Tottori Earthquake, using a daily coordinate value of GPS observation network by Geographical Survey Institute (GEONET). We assumed the period after March in 2003 as the interseismic term. We set a time window of 18 months and estimated average displacement velocity of each station and estimated the strain rate tensor at each grid. Anomaly of the principal strain rate axes was seen only in the vicinity of the source of the main shock, from May in 1998 (about 2.5 year before the main shock). Then, we examined spatio-temporal distribution of normal and shear strain rate along the main shock fault to investigate the relation between the anomaly and the faulting of the main shock. Anomaly in shear strain rate was seen only in the vicinity of the source of the main shock about 2.5 year before the main shock, although the remarkable anomaly was not seen in normal strain rate. Shear strain rate having polarity of left lateral slip was seen in all periods at far grids from the source and in the interseismic term at neighbor grids, which is consistent with the focal mechanism of the main shock. However, shear strain rate having polarity of right lateral slip was seen from 2.5 year before the main shock at neighbor grids. When we assumed a seismic fault in an elastic domain, and generated preslip, acceleration of left lateral strain accumulation should have been seen. When we consider that the anomaly was due to the phenomenon that occurred in a vicinity of the source or in a deeper part, the local anelastic deformation would be the cause.