

## Modeling of strain and stress accumulation process along the high strain rate belt in inland region of central Japan

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The high strain rate zone (NKTZ) observed in central Japan has been simulated through viscoelastic FEM modeling, considering the great interplate earthquakes with different cycles and the effect of lateral changes in crustal structure beneath NKTZ. The deformation velocity in the inland area far from trenches reflects the cycles of interplate earthquakes, and the crust deforms like an elastic sheet during the later stage of an earthquake cycle if the period of the earthquake cycle is enough longer than the relaxation time of the viscoelastic structure. Hence, in this longer interplate earthquake cycle case, the local crustal structure with small thickness and rigidity seriously affects the interseismic velocity and strain rate field. The weak (0.4~0.5) coupling between Pacific and Amurian plates and local crustal heterogeneity beneath the high strain rate zone explain the large strain rate belt if the earthquake cycle offshore Kanto is enough long.