

FEM modeling of the earthquake belt in the San-in district -Stress accumulation process of large intraplate earthquakes-

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We simulated the stress field in and around the earthquake belt along the Japan Sea in the Chugoku district in Japan, using a FEM code (Abaqus). A Stress inversion study (Kawanishi et al., 2007) clarify that the direction of the maximum principal stress rotates counterclockwise from N100E in the Chugoku district to N120E along the earthquake belt. We succeeded to reproduce the stress rotation in our 3D model that is equipped with a ductile fault zone in the lower crust beneath the earthquake belt and consider the thickness change in the lithosphere of the SW Japan and the Japan Sea. Since deformation in the upper crust is concentrated along the earthquake belt because of the ductile fault zone and the thickness change, local stress anomalies are produced there. These results suggest that large intraplate earthquakes are not generated by regional stress but local stress anomalies.