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Shear-wave splitting in the Tokai region

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In Tokai region, the Philippine Sea plate is descending to the N-W direction. The configuration of the subducting slab has been revealed by the seismic tomography and refraction/reflection studies. Those studies suggested that the top of the slab was not smooth. The subducting ridges were detected. The asperity is one of the important topics to know the mechanism of the inter plate earthquakes. There are many discussions for the relationship between the subducting sea mount and asperity. The Tokai region is one of the good fields to know the relationship. The configurations of the subducting ridges have been revealed by the refraction and reflection studies. If the effect of the subducting ridge to the stress pattern is large, it will be detected by the shear wave splitting at the seismic station just above the ridge. We did temporal seismic observation with about 70 seismic stations in Tokai region. The shear wave splitting is researched using the array.

The spatial variation of the shear wave splitting values was obtained. But, we could not find any close relationship between the topography of the subducting ridge and spatial variation of shear-wave splitting. It is expected that the effect of the subducting ridge to the stress pattern in the crust seems to be small.

Keywords: anisotropy, Tokai, asperity