

Spatial-temporal relationship between short-term slow slip events and deep low-frequency tremor in the Kii Peninsula

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In 2006, Geological Survey of Japan (GSJ), National Institute of Advanced Industrial Science and Technology (AIST) started constructing integrated observatories in and around Shikoku and Kii Peninsula, Japan for research on the Tonankai and Nankai earthquakes. Two observatories were constructed at Kii Peninsula in June 2007, and ten were completed in January 2009. We detected strain changes related to these tremor activities. In Kii Peninsula, tremor activities occurs several times per year. The changes can be explained by short-term slow slip events (SSEs) occurring at several segments of the plate boundary, whose locations are consistent with the tremor activities (Itaba et al., 2010). Itaba et al. (2009b) decided the fault planes by a grid-search method. As a result, the fault plains for SSEs were consistent with the locations of the tremors.

On the other hand, the observation suggested the existence of SSEs before or without the tremors (e.g. Fukuda and Sagiya, 2008; Itaba et al., 2009a). In this research, we tried to decide the fault planes of these examples by a grid-search method. In this lecture, we will discuss the spatial-temporal relationship between short-term slow slip events and deep low-frequency tremor.

References

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