

To which shall the 2001 Tokai event correspond between the acceleration time of plate coupling, and relief time?

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It is suggested from the 2001 slow slip detected in the Tokai region, central Japan by GSI dense GPS network that the interplate coupling between the subducting Philippine Sea and the overriding plates is episodic with time. We re-discuss the episodic events of the interplate coupling from the EDM data and precise leveling data observed in the region for 20 years. EDM and precise leveling are made every three-month and every year. Accelerated shortenings of the baseline lengths are synchronized with the upheaval at the western area in the region (phase-A). On the contrary, relaxed shortening of the line lengths are synchronized with the upheaval at the central area in the region (phase-B). It is difficult to estimate the location and extent changes in the interplate coupling precisely from only the EDM and leveling data because of the limited locations of the baselines and benchmarks. We discuss the interplate coupling with the forward modelling based on the back slip model (Sagiya, 1999). Phases A and B suggest the forward slips of 1-2 cm/yr and 2-3 cm/yr at western and central area. We conclude that the interplate coupling in the Tokai region are episodic with time especially beneath the Hamanako area.