D108-007 **Room: Function Room B** **Time: May 19 10:45-11:00**

Repeated slow slip events east off-Choshi in the Boso Peninsula, central Japan, on subducting interface of Pacific plate

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Interplate seismic coupling at circum Pacific region varies from trench to trench. Mysterious is that no giant interplate earthquake was reported for Izu-Mariana subduction zone in 20th century, leading to no seismic coupling.

Abe (homepage of ERI, U. Tokyo) suggested that the Mw6.5 earthquake on 2005/1/19 near triple junction 200 km east off the Boso Peninsula was a tsunami earthquake of Mt7.5. Original target of this study is to obtain fault plane solution of this event using GPS displacement data of GEONET and crustal tilts of Hi-net to give a new insight on behavior of relative plate motion along the Izu-Bonin subduction zone.

Moving average over 5 days of GPS day displacements at about 180 GPS stations in the Kanto District, central Japan, shows overall eastward steps of a few millimeters of a time constant of a few days from 1/14 to 1/18. This suggests that a slow slip event occurred east off the Boso Peninsula separately from the 1/19 earthquake. Applying BAYTAP-G (Ishiguro and Tamura, 1984) to tiltmeter records of about 10 deep (deeper than 500m) borehole stations of Hi-net, we obtain tilt steps of around 10 nano radian of a similar time constant at a few stations.

Considering one-sided azimuthal coverage of GPS and tiltmeter stations, we suppose that inversion solutions will have poor resolution. Thus, we try to invert the steps with fault plane solutions previously reported slow slip events off the Boso Peninsula, using an inversion program of Matsuura and Hasegawa (1987).

After the inversion, we obtain a fault plane solution of a low angle thrusting 20 km east off Choshi of equivalent magnitude of 6.3 at a depth of 40 km on subduction interface of the Pacific plate, where two slow slip events of equivalent magnitude of around 6 occurred in 1999 (Nakagawa et al, 2000) and 2000 (Hirose et al., 2001).

Tilts and strains are partial derivatives of surface displacements with horizontal coordinates. Thus their geometrical decay is one-order larger with respect to distance and sensitive to perturbation of source parameters. Inversely, joint inversion for displacements and their partial derivatives, tilts and strains, is required to constrain fault plane solutions.