

# AOB Seminar

**“Characteristics of the post seismic crustal deformation in Andaman arc region from continuous GPS measurements: A Preliminary Result ”**

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2006年3月7日(火) 14:00 – 15:00

地震・噴火予知研究観測センター(別館)第一会議室

March 7, 2006 (The) 14:00 – 15:00

Research Center for Prediction of Earthquakes and Volcanic Eruptions

Lecture Room #1 (AOB annex )

--- Abstract ---

The mega thrust Sumatra earthquake of a magnitude 9.0 occurred on December 26, 2004 that was followed by devastating tsunami. To investigate the co-seismic and post seismic crustal deformation and to understand the geodynamics of the Andaman arc region, GPS data from Andaman and Nicobar Islands, some sites from India Peninsular and IGS sites around the epicentral region have been analyzed. The time series at Diglipur, Port Blair and Campbell Bay indicate SW movement of these Islands and east component of the horizontal displacement at these sites show a transient decay that can be best fitted to a logarithmic function. The Indian sites have displaced eastward by about 0.5–1.5 cm. The co-seismic displacement south to the surface rupture found decreasing gradually and the direction of the displacement is relatively stable, while the displacement north to the surface rupture is concentrated along the southern edge of the trench. The preliminary result from the GPS observations has shown that the creeping displacement across the rupture is more for the first two weeks, and decrease rapidly afterwards, showing the rheological property of the deformed crust. The post-seismic creeping rate across the fault found decreasing with time. This is good agreement with the fact that the aftershocks are located out of the main shock activity.

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