

## Seismic activity around the upper surface of the Pacific slab beneath Kanto

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Kanto is known as a unique region characterized by the subduction of two oceanic plates, the Philippine Sea plate and the Pacific plate, and intensive seismicity occurs along the upper surfaces of the two subducting plates (e.g., Uchida et al., 2007). In particular, many interplate earthquakes occur along the upper surface of the Pacific slab from the north of the Tokyo bay to southern Ibaraki prefecture, forming an N-S-trending marked seismic cluster at depths of 60-90 km, and the seismic cluster is composed of many isolated sub-clusters. In this study, we apply double-difference location method (Waldhauser and Ellsworth, 2000) to a large number of catalog-derived differential arrival-time data, and relocate sub-earthquakes in the N-S-trending cluster. Delineation of detailed distribution hypocenters around the upper surface of the Pacific slab provides a clue to understand the cause of the marked seismic activity in this area.

The main results obtained in this study are as follows: (1) most of the sub-clusters have the thickness of 5-10 km. (2) small repeating earthquakes and thrust-type earthquakes mainly occur at the middle and deeper part of the sub-clusters. (3) earthquakes that occur at the shallow part of the sub-clusters have focal mechanisms different from low-angle thrust type. In the next step, we will relocate hypocenters more precisely using waveform-derived differential arrival-time data, and investigate the seismogenesis along the upper surface of the Pacific slab beneath Kanto.

Keywords: repeating earthquakes, Kanto, activity of earthquakes