# Movement of the Philippine Sea slab beneath the Kanto area

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Beginning with the investigation the Philippine Sea (PH) slab and the Pacific (PA) slab beneath the Kanto area from the unified JMA earthquake catalog since 2001, we discuss the relation between PH and PA beneath the Kanto area, which suggests an ocean floor spreading near the Izu peninsula.

(1) PA slab: The projection of deep foci beneath the Kanto area on a vertical plane from ESE direction with a dip angle of 30 deg shows a sharp bending of a plane. It forms a ridge of PA slab. The seismic activity around the ridge is so high and widespread in depth that the discrimination of PA and PH is not easy from the focal distribution. However the planer structure of PA at northern and southern side of ridge provides us to delineate PA and PH slabs beneath.

(2) Eastern margin of PH slab: Distributions of foci within a narrow zone of 50km wide viewed from S26E disclosed a clear aseismic zone bounded upper by the seismic zone of PH and lower by the sinking PA .The aseismic zone indicate the boundary of PA at the depths. It is not the same as shown by the distribution of shallow events.

(3) Northern margin of PH slab: The seismic activity of PH slab ranges widely in depth near the ridge of PA slab. This implies that PH slab do not proceed north beyond at the ridge.

(4) According to Seno et al.(1998) PH plate to the west of Izu peninsula moves at a speed of 55mm/y toward N56W. Whereas the direction of deep boundary of PA and PH is N26W. The discrepancy implies a disruption or a spreading of PH slab near Izu peninsula. The volcanic activity and the distribution of shallow events are similar to those at transform fault zone. We suggest occurrence a sea floor (or PH slab) spreading.

(5) Sub-crustal earthquake in central Japan: It is well known that the sub-crustal events do not occur in areas near the boundary between Kanto and Chubu. It might be caused by the difference of 30 deg in plate motion (=N56W - N26W).