Analyzing Strong Motion Generation Area of the M_{JMA} 6.5 Earthquake Occurring Offshore the Kii Peninsula on April 1, 2016

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An M_{JMA} 6.5 earthquake occurring along the Nankai trough is thought to be a thrust-event on the plate boundary between the Eurasian and Philippines Sea plates, where future mega-thrust earthquake is expected (e.g., Wallace *et al.*, 2016). Since this type of earthquake with moderate-to-large size is very rare in this region in the last half century, it is a good opportunity to investigate the source characteristics relating to strong motion generation of subduction-zone plate-boundary earthquakes in the Nankai area, southwest Japan.
We collected from near-source strong motion data recorded by accelerometers at cabled sea-floor stations of Dense Oceanfloor Network system for Earthquake and Tsunamis (DONET1) jointly operated by NIED and JAMSTEC. We also collected records from Long Term Borehole Monitoring System (LTBMS) installed within accretionary prism underling the Kumano sedimentary basin at a depth of 904 m below the see floor at site C0002, which is operated by JAMSTEC. In addition to offshore stations, we collected strong motion data from velocity-type strong motion sensors (VSE-355G3) recorded at onshore broadband stations in the Kii peninsula belonging to the F-net of NIED and those recorded at a station in Shionomisaki installed by DPRI, Kyoto University.
Beside the M_{JMA} 6.5 mainshock, there are several M3 class aftershocks on the day of the mainshock. Firstly, we analyzed source spectral ratio between the mainshock and an EGF event to obtain the corner frequencies and the source scaling parameters for both events. We referred to the relocated catalog by Wallace *et al.* (2016) for the hypocenters of the mainshock and aftershocks. Then, we estimated the source parameters of strong motion generation area (SMGA) of this event based on broadband strong motion modeling by the empirical Green’s function method (Irikura, 1986; Miyake *et al.*, 2003) using both offshore and onshore strong motion stations. We will compare the source characteristics of this event with those from subduction-zone plate-boundary earthquakes in northeast Japan to discuss the regional difference in source characteristics in terms of strong motion generation from plate-boundary earthquakes.
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Keywords: strong motion generation area, plate-boundary earthquake, Nankai trough

