

Mapping the Moho under Japan by the transmission P-to-S convertibility estimated from teleseismic body-wave migration

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We have developed a technique for mapping seismic discontinuities of subsurface structures from teleseismic body-wave records (Takenaka et al., 2004 Joint meeting), which exploits the "transmission P-to-S convertibility" defined as the ratio of the transmission PS conversion coefficient to the transmission PP coefficient at each depth. The P-to-S convertibility at each depth can be estimated by a processing of teleseismic body-wave records similar to the migration processing of the reflection seismology and the receiver function analysis of teleseismic P codas. We are trying to apply this technique to seismic network data over Japan such as the Hi-net of the NIED to draw the Moho distribution under Japan in a unified sense. In this presentation we will show the results of a feasibility study using a 2.5-D simulation of teleseismic body waves under Tohoku area, and a preliminary result from Hi-net data application.