

Estimate of seismic velocity structure beneath Okayama prefecture by receiver function analysis

Ai Satou[1]; Motoko Ishise[2]; Toshiaki Saito[3]; Hitoshi Oda[4]

[1] Earth Sci., Okayama Univ; [2] Earth Sci., Okayama Univ; [3] Dept. Earth Sci., Okayama Univ.; [4] Dept. of Earth Sci., Okayama Univ.

Receiver function analysis is applied to seismograms from 74 far distant earthquakes in order to estimate seismic velocity structure under the Okayama prefecture of the Chugoku district, southwest Japan. The seismograms are those recorded at two seismic stations on the northern coast of the Seto Inland Sea. The receiver functions are calculated by the method of Langston (1977). We found four conspicuous phases in the receiver functions. They were identified as P-to S waves converted by the velocity discontinuities of the Conrad, continental Moho, upper boundary of the Philippine Sea (PHS) plate and oceanic Moho. Comparing the observed receiver functions with theoretical ones, we determined the depths of the Conrad, continental Moho, upper boundary of the PHS plate and oceanic Moho at 15, 38, 45 and 52 km, respectively.