

S wave reflector in the lower-crust beneath Okinawa Island in the central Ryukyu arc

Mamoru Nakamura[1]; Saori Kudou[1]

[1] Sci., Univ. Ryukyus

<http://seis.sci.u-ryukyu.ac.jp/>

We investigated the seismic reflector beneath Okinawa Island, central Ryukyu arc, using unusual later phases after the S-arrival. The travel time analysis of the reflected S waves by using data acquired through both stationary and temporary seismic network set up in this region shows that this unusual S wave reflector is distributed at the depth of 24 km, dipping 11° northward. The reflector is located above the Moho discontinuity and subducting Philippine Sea plate. Depth of the reflector is deeper than the cutoff depth of crustal earthquakes, suggesting that the reflector is distributed in the lower crust. Observed high reflection coefficient suggests the fluid-filled porosity zone beneath Okinawa Island.