ScS reflection seismology with J-array

Mamoru Kato[1], Mika Misawa[1], Hitoshi Kawakatsu[2]

[1] ERI, Univ. Tokyo, [2] ERI, Univ of Tokoyo

We made an intensive analysis of the mantle layering beneath the Japanese islands using the ScS reverberation waveforms of two recent large deep focus earthquakes occurred around Japan (1998/8/20 Izu-Bonin, depth 425km, and 1999/4/8 China-Russia border,575km).

Broadband seismograms of these events recorded at two dense networks, J-array and FREESIA, are stacked to produce clear ScS reverberation intervals up to ScS4, which enabled us to estimate the layering structure of the mantle on a regional scale.

Compared to the surrounding region, the 660km discontinuity is consistently deeper for about 10 km in the region where subducted slabs are known to be stagnant in the mantle transition zone.