

Using teleseismic data to determine fault planes of intermediate-depth earthquakes

A I Kim[1], James Mori[2]

[1] DPRI,RCEP, Kyoto Univ, [2] RCEP, DPRI, Kyoto Univ.

We determined the fault plane for the March 28,2000 Volcano Islands earthquake($M_w 7.6$) in the Izu-Bonin subduction zone. The focal mechanism shows downdip extension on either a nearly vertical or a nearly horizontal fault plane. This event at 100km depth is important for understanding the stresses within the down-going slab.

We used the waveform inversion to determine the slip distribution of earthquake. We carried out this procedure for both fault plane and tested to see which plane provided a better fit to the observed data.

For the waveform inversion we used 18 teleseismic Pwaves and SHwaves recorded on broadband instruments and archived at the IRIS data center.