Seismic investigation of the Izu-Bonin subduciton zone at 31o.N (1)

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In the Izu-Bonin subduction zone, several distinct deep-sea canyons transect the Izu-Bonin Trench. At the forearc slope serpentine diapirs, which might contain water, are recognized. The objectives of this study are to reveal the nature of plate boundary and to show heterogeneity of crust around the trench if the canyons are tectonic origin. The present study was carried out in fall, 1998. The two survey lines have 130 km long, E-W and N-S, respectively. Twenty-three OBSs were deployed E of the Torisima island. Airguns and 106 chemical explosives were used as artificial sources. Results: there is a structure gap at (141.6E, 30.9N) and a 6km/s layer thought as boninite raised to shallow at N of there. Serpentine diapir is at E of there, we can think the serpentine rise up along there.