Heterogeneous crustal structure off-Sanriku region using ocean bottom seismometers.

Gou Fujie [1], Junzo Kasahara [2], Toshinori Sato [1], Shinobu Ito [3], Ryota Hino [4], Masanao Shinohara [5], Kiyoshi Suyehiro [6]

[1] ERI, Univ. Tokyo, [2] Earthq. Res. Inst., Univ.Tokyo, [3] Geological Survey of Japan, [4] RCPEV, Tohoku Univ., [5] Dept. Earth Sciences, Fac. Sci., Chiba Univ., [6] ORI, U. Tokyo

A seismic reflection-refraction experiment with Ocean Bottom Seismometers(OBS's) was conducted in 1996 in the Japan Trench in order to clarify the crustal structure in the subduction area. The experiment was conducted along two lines, one was parallel to the trench axis, which is called Line2, and another was perpendicular to the axis, which is called Line1. To determine the velocity structure beneath the both lines, we applied the iterative non-linear traveltime inversion method. Along Line 2, the depth of the plate boundary is not uniform and we found velocity anomaly around there. The seismic activity also has not been uniform. Along the Line 1, the dipping angle of subducting Pacific Plate becomes steeper toward west of around 143.5E.