

## Deep Structure under Northern Part of Itoigawa-Shizuoka Tectonic Line from 2002 Wide-Angle Reflection Profile

# Tomoko Imai[1], Takaya Iwasaki[2], Hiroshi Sato[3], Tetsuya Takeda[3], Naoshi Hirata[3], Taku Kawanaka[4], Shinji Kawasaki[5]

[1] ERI, [2] ERI, Tokyo Univ., [3] ERI, Univ. Tokyo, [4] JGI, [5] JGI, Inc.

The Itoigawa-Shizuoka Tectonic Line (ISTL) is one of the major tectonic line in Honshu island, Japan, dividing the SW and NE Honshu. Although several seismic survey were undertaken around this tectonic line, its deep structure of this tectonic line is remained unclarified. In 2002, intensive seismic reflection and refraction/wide-angle reflection surveys were carried out to map deeper structure of the northern part of ISTL and to understand active tectonics of the surveyed area. The refraction/wide-angle reflection profile line, 65 km in length, was taken from Ohmachi City to Komoro City, Nagano Prefecture, on which 1358 receivers were deployed with a 50m spacing. As a seismic source, 4 dynamite shots (100kg charge) were fired. In addition, high fold vibroseis shots were undertaken at six points on this profile.

This paper presents results based on seismic refraction/wide-angle reflection analyses, mainly using the dynamite and high-fold vibroseis shots. The records from these shots were in high quality, in which clear first arrivals are traced in almost the entire profile. In some records, remarkable later phase are also recognized, which probably correspond to wide-angle reflection from the midcrustal interfaces.

An extended time-term method using ABIC was applied to obtain a preliminary structure model. The uppermost part corresponding to the sedimentary layer shows a complicated structure with a  $V_p$  variation of 2.8-4.3 km/s. This layer is about 1 km thick in the central part of the profile but thickened toward the both sides at which the thickness is about 2-3 km. The velocity of the basement is estimated to be 5.85 km/s, which is almost consistent with the previous refraction surveys.