

## The DaiDaiToku Integrated Model of the Velocity Structure beneath the Tokyo Metropolitan Area (3)

# Hiroe Miyake[1]; Kazuki Koketsu[1]; Takashi Furumura[2]; Yoshiaki Inagaki[3]; Tetsu Masuda[4]

[1] Earthq. Res. Inst., Univ. Tokyo; [2] ERI, Univ. Tokyo; [3] OYO Corp.; [4] Oyo Corporation

We have integrated the velocity models in the Tokyo metropolitan area under the Special Project for Earthquake Disaster Mitigation in Urban Area (DaiDaiToku Project) in order to upgrade strong ground motion prediction. The DaiDaiToku project conducted large-scale reflection surveys along the Boso, Tokyo bay, Sagami, and Kanto west lines, then Sato et al. (2005) discovered that the depth of the upper surface of the Philippine sea slab is much shallower than previous estimates. Baba et al. (2006) constructed 3D seismic velocity models of subduction zones for the Sagami and Nankai, troughs and Japan trench by compiling the marine seismic survey results as well as the new geometry of the Philippine sea slab. Regarding the 3D velocity-structure model beneath the Tokyo metropolitan area, Tanaka et al. (2005) has been constructed by integrating refraction, reflection, borehole, microtremor, and gravity data as well as ground motion spectra.

Shallow velocity-structure is essential to complete broadband ground-motion prediction. Here we propose 3D shallow structure model beneath the Tokyo metropolitan area by compiling about 56,000 borehole data. Velocity structure of each 250 m mesh is constructed based on reference depths of N-value of 50 corresponding to  $V_s = 350$  m/s, and of  $V_s = 500$  m/s. Average shear velocity of upper 30 m (AVS30) of the models is 70 % of previous estimates for the region along the Ara river, Yokohama, Machida, where larger seismic intensities have been reported.