

## Wide-angle seismic survey in the rupture area of the Tonankai earthquake.

# Gou Fujie[1]; Jin-Oh Park[2]; Ayako Nakanishi[3]; Shuichi Kodaira[3]; Yoshiyuki Kaneda[4]

[1] JAMSTEC; [2] The University of Tokyo, ORI, CIC; [3] IFREE, JAMSTEC; [4] JAMSTEC,IFREE

Magnitude 8 class interplate earthquakes, such as the 1944 Tonankai earthquake, have repeatedly occurred every 100-150 years in the Kumano-nada seismogenic zone off the Kii peninsula. The rupture zone of the 1944 Tonankai earthquake was wide along the trough axis, but the slip distribution showed strong regional variation. Baba and Cummins (2005) showed that the largest slip area was located at the south of Shima peninsula where a small seafloor mound exists, by the Tsunami waveform analysis. In the end of 2006, JAMSTEC conducted a seismic survey using OBSs and airgun array to reveal the seismic structure controlling the regional variation of slip distribution beneath the rupture zone of Tonankai earthquake. The survey was a part of 'Structure research on plate dynamics of the presumed rupture zone of the Tonankai-Nankai Earthquakes' funded by Ministry of Education, Culture, Sports, Science and Technology.

We deployed 90 OBSs (Ocean Bottom Seismometers) and fired an airgun array along two lines; one is perpendicular to the trough axis and the other is parallel to the axis, and the intersection of these lines is located at the seafloor mound of south of Shima peninsula. In addition, the airgun array were fired along another line which crossed the above two lines at the angle of 45 degrees. By integrating all the wide-angle reflection data observed by all the OBSs, it is expected that the structural boundary beneath the seafloor mound will be imaged in 3-D. Since this is the first trial for us to obtain and process such a 3-D wide-angle reflection seismic data, new processing approaches are required.

In the presentation, we will show the overview of the survey and the obtained data, and show processing approaches for imaging structure boundary using the 3-D wide-angle reflection data.