

Three-Dimensional Multi-Channel Seismic Survey in the Seismogenic Zone, off Tokai district -Preliminary Result-

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Japan-France collaborated study was held on Eastern Nankai Trough for the purpose to image the seismogenic zone. Five major fault systems were imaged. We carried out a Three-Dimensional Multi-Channel Seismic Survey cruise. The obtain 3D box is 45km long and 5km wide and location was in the Easternmost part of the Nankai subduction zone. From a 3D survey we can investigate lateral variations of the seismic attributes of targets like the upper part of the Tokai thrust lateral decollement structure and the lateral sedimentation structure. Tokai thrust and Kodaiba fault characterize the geological structure of this area. These fault systems are reverse fault which dip angle is about 10 degrees to the land direction. The strong reflection can be seen around 7-7.5s (Two-way-Time).

Japan-France collaborated study was held on Eastern Nankai Trough for the purpose to image and investigate the seismogenic zone. Five major fault systems were imaged, and closely relate to the big earthquake generation mechanisms of this area. We carried out a Three-Dimensional Multi-Channel Seismic Survey cruise using the IFREMER's research vessel Nadir during June and July 2000. The obtain 3D box is 45km long and 5km wide and location was about 50km south-west from Omaezaki Peninsula, in the Easternmost part of the Nankai subduction zone. From a 3D survey we can investigate lateral variations of the seismic attributes of targets like the upper part of the Tokai thrust lateral decollement structure and the lateral sedimentation structure. The seismic section obtained by preliminary data and data processing reveals the following results:

1. Tokai thrust and Kodaiba fault characterize the geological structure of this area. These fault systems are reverse fault which dip angle is about 10 degrees to the land direction.

2. Geological sedimentation structure near the sea floor are deformed by the faults. This means that fault systems of this area is still active.

The Decollement between subducting Philippines plate and the Nankai wedge relate to the two major thrust. The duplex structure is observed upper part of the Decollement. The strong reflection which is interpreted as upper part of oceanic crust or Decollement can be seen around 7-7.5s (Two-way-Time).