

## Seismic inversion of the incoming sedimentary sequence in the Nankai Trough off Kumano Basin, southwest Japan

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Huge earthquakes have been repeated in the cycle of 100–150 years in the Nankai trough. The south western Japan have been struck terrible shakeups and tsunamis by these earthquakes. In these days the next emergence of the earthquake becomes one of the most serious issue in Japan. Therefore detailed description of geological structure is urgently needed to understand mechanism of the seismogenic zone of this area. Moreover, this area is getting attentions of scientists as the most surveyed subduction zone with accretionary prism in the world and recently becomes an important research target of IODP (Integrated Ocean Drilling Program). The seismic inversion technique is an inversion method to estimate physical parameters of layers on seismic profiles: in this method a seismic profile is modeled as convolution of measured physical properties with an estimated wavelet, and actual physical properties are estimated by the modeled seismic profile if the convolved profile shows good fitting with the observed one. We use 3D MCS (3D Multi-channel Seismic reflection survey) data which was acquired on KR06–02 research cruise in 2006, and measured physical properties of borehole logging and sediment cores by IODP Expedition 319 and 322 cruises in 2009. This study aims to challenge CLSI (Core–Logging–Seismic Integration) on the sediments layer of the Nankai trough.

Keywords: Nankai trough, Multi-channel Seismic reflection, sediments, seismic inversion