

## Three-dimensional seismic velocity model of the Nankai Trough subduction zone considering marine seismic reflection and onshore seismic data

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Three-dimensional seismic velocity model must be necessary for forecasting earthquakes and tsunami events more reliably as well as determination of hypocenters with high-resolution around the Nankai Trough. Although Nakanishi et al. (2018) first constructed the three-dimensional seismic velocity model, it was mainly based on results of marine seismic refraction survey. To construct more realistic model, results of marine seismic reflection surveys must be also considered into the three-dimensional model that will be able to explain the seismic reflection data. In this study, we try to upgrade the three-dimensional model by integrating the results of marine seismic reflection surveys. In particular, seismic interfaces interpreted by both seismic refraction and reflection surveys are all adjusted in the time domain. Precise velocity structure of the shallow sediments estimated by using seismic reflection data are preferentially used to construct the three-dimensional model. Geometry of the plate interface beneath the Shikoku island estimated by receiver function analysis by using onshore seismic observation give more well-determined and reliable information for deep structure. In this presentation, we show an upgraded three-dimensional model considering marine seismic reflection and onshore seismic data. This study is part of 'Research project for compound disaster mitigation on the great earthquakes and tsunamis around the Nankai trough region' and the project 'Comprehensive evaluation of faults information on offshore Japan' funded by Ministry of Education, Culture, Sports, Science and Technology, Japan.

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