ABSTRACT FINAL ID: T51G-2444

TITLE: Crustal structure of active margin at offshore Central Taiwan

SESSION TYPE: Poster

SESSION TITLE: T51G. TAIGER Project Results and Comparison With Other Data and Other Orogens II Posters

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ABSTRACT BODY: We obtained images of the crustal structure from both ocean bottom seismograph (OBS) and multi-channel seismic (MCS) data collected at offshore central Taiwan. Combining MGL0906-19N and MGL0906-20 offshore seismic data with onshore studies, we are able to construct better structure image. Previous onshore tomography studies revealed large-scale structure features could involving entire crustal-upper mantle processes which may closely related to arc-continent collision. However, knowledge of the crustal thickness, geometry, density and detailed subduction structures are still not clearly determined from transmission tomography. Receiver function studies from teleseismic data provide alternative solution for crustal thickness and bulk lithological property. A rather thick and obvious spatially varying Moho boundary was revealed by the receiver function study in central Taiwan. Such finding indicates that high resolution imaging to reveal fine structure details using both onshore-offshore seismic data in central Taiwan becomes a critical issue. Preliminary data processing, transmission tomography follow by the migration of MCS/OBS data was performed along both offshore seismic lines. These images show passive margin sediments overlying oceanic crust, as well as Moho boundary. Integration of tomography image with migration images and gravity data acquired as part of the TAIGER project will provide further constraints on key features governing the behavior of crust structure associate with arc-continent collision and subduction configuration occurred in Taiwan.


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