

Crustal Structure across the Northern Honshu Arc Deduced from Seismic Wide-Angle Experiment III

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A new crustal structure model across the Northern Honshu Arc is presented from an extensive seismic refraction expedition in 1997. The crustal structure obtained shows remarkable heterogeneity. The shallow structure west of the backbone ranges indicates the severe crustal deformation associated with the Miocene opening of the Sea of Japan. The lower crustal velocity below 15-km depth is 6.6-6.7 km/s. The crustal structure east of the backbone range is characterized by a relatively high velocity (6.0-6.1 km/s) upper crust and reflective lower crust. The Moho depth varies from 25-28 km at the western edge of the to 32-25 km beneath the backbone range. Our data suggest the existence of low velocity anomaly along the fault zone developing in the margins of the backbone range.