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Regional variation in Moho depth and Poisson's ratio beneath eastern China and its tectonic implications

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Abstract

Eastern China comprises a complex amalgamation of geotectonic blocks of different ages and undergone significant modification of lithosphere during the Meso-Cenozoic time. To better characterize its deep structure, we conducted H-κ stacking of receiver functions using teleseismic data collected from 1143 broadband stations and produced a unified and detailed map of Moho depth and average Poisson's ratio (σ) of eastern China. A coexistence of modified and preserved crust with generally in Airy-type isostatic equilibrium was revealed in eastern China, which correlates well with regional geological and tectonic features. Crust is obviously thicker to the west of the North-South Gravity Lineament but exhibits complex variations in σ with an overall