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Moho Topography of the Tibetan Plateau Using Multi-Scale Gravity Analysis and Its Tectonic Implications

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Abstract

Determining the Moho topography of the Tibetan Plateau is crucial to understand the tectonic development. Over the past decades, seismic explorations have obtained profound results about the Moho topography, except in regions where seismic station coverage is poor, especially in the central and western Tibetan Plateau. In comparison, gravity data have the advantage of global homogeneous coverage, which can thus be used to determine the Moho structure beneath the entire Tibetan Plateau. In this paper, a novel approach, the multi-scale gravity analysis method, is developed to extract the gravity signals originated from the Moho undulations and to determine the Moho topography beneath the whole Tibetan Plateau. The inverted Moho topography for the Tibetan Plateau is consistent with that derived from the

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