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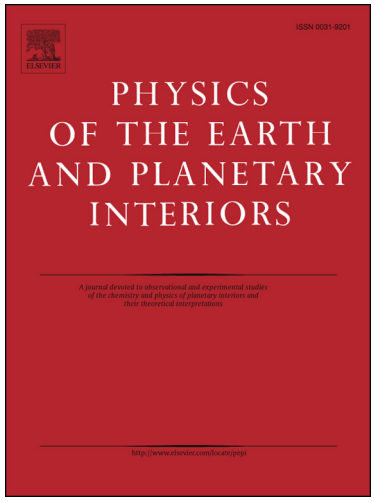

Attenuation characteristics in eastern Himalaya and southern Tibetan Plateau: an understanding of the physical state of the medium

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Attenuation characteristics in eastern Himalaya and southern Tibetan Plateau: an understanding of the physical state of the medium

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Abstract

Attenuation characteristics of the crust in the eastern Himalaya and the southern Tibetan Plateau are investigated using high quality data recorded by Himalayan Nepal Tibet Seismic Experiment (HIMNT) during 2001-2003. The present study aims to provide an attenuation model that can address the physical mechanism governing the attenuation characteristics in the underlying medium. We have studied the *Coda* wave attenuation (Q_c) in the *single isotropic scattering model* hypothesis, S wave attenuation (Q_s) by using the *coda normalization method* and intrinsic (Q_i^{-1}) and scattering (Q_{sc}^{-1}) quality factors by the *multiple Lapse Time Window Analysis (MLTWA)* method under the assumption of multiple isotropic scattering in a 3-D half space within the frequency range 2-12 Hz. All the values of Q exhibit frequency dependent nature for a seismically active area. At all the frequencies intrinsic absorption is predominant compared to scattering attenuation and seismic albedo (B_0) are found to be lower than

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