

Imaging of the three-dimensional distribution of small-scale heterogeneities in the Hidaka region using coda wave amplitudes

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We estimated a three-dimensional distribution of small-scale heterogeneities beneath the Hidaka Mountains by using coda envelopes of high-frequency (>1 Hz). We revealed a remarkably nonuniform distribution of relative scattering coefficients. Two major characters are: (1) Scattering coefficients at a shallow depth of 40 - 50 km in the south-west of the Hidaka Mountains are large only at low frequency (2 Hz). This area may agree with an area of high microearthquake activity. (2) A nearly horizontal layer of concentrated scatterers is located at a deep part, around 90 - 110 km, at all the frequency ranges, which appears to correspond to the upper plane of the subducting Pacific plate.