

Estimate of velocity heterogeneity and seismic anisotropy by travel time inversion; numerical experiment

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The studies on three-dimensional heterogeneity of seismic velocities assume the earth to be an elastically isotropic body. But recent observations of seismic waves show that the earth is weakly anisotropic. The seismic anisotropy is described by 'intensity' and 'direction'. We made a numerical experiment, where the anisotropy intensity and direction, as well as the velocity heterogeneity, are determined by inversion of travel-time data. The result shows that the anisotropy direction is correctly estimated and there is trade-off relationship between the velocity heterogeneity and anisotropy intensity.

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