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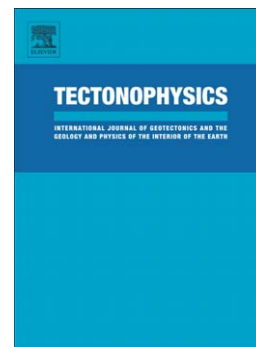
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Complex Deformation in the Caucasus Region Revealed by Ambient Noise Seismic Tomography

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Abstract

Cross-correlation of 3 years of ambient seismic noise recorded at 35 seismic stations deployed in Caucasus region yields hundreds of short-period surface-wave phase-speed dispersion curves on inter-station paths. We inverted these measurements using two techniques to construct tomographic images of the principal geological units of Caucasus. High-resolution isotropic and azimuthally anisotropic phase-velocity maps (at periods between 5 and 20 seconds) and shear-velocity tomographic maps between 5 and 30 km are generated.

The resulting maps show a velocity dichotomy between the Caucasus region and the surrounding that is interpreted in term of changes in crustal thickness. There is also a strong dichotomy in the anisotropic pattern between the eastern part and the western part of the Caucasus. This difference in both amplitudes and directions of the 2ψ anisotropy is linked to the

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