

AZIMUTHAL PN VELOCITY ANISOTROPY IN THE CONTINENTAL UPPER MANTLE: EXPERIMENTAL STUDIES IN THE URALS AND EAST-EUROPEAN PLATFORM

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There are more seismic experiments for learning an azimuthal velocity anisotropy of a upper mantle were made in oceans, and only a few in continents. At least for two areas in the East-European platform and in the Urals it is possible to estimate an anisotropy in a upper mantle using Pn-arrivals. In both areas there are till four DSS-profiles, intersected in one point. The azimuthal variations of velocity values in both areas were about 5% (from 8.0 to 8.4 km/s). It is can be important to constraint on possible composition of the upper mantle. The point is that from two alternative models of the upper mantle, which are eclogite and peridotite composition, the first is not able to form essential velocity anisotropy even if alignment its minerals (garnet and clinopyroxene) is total (100%). In the case of peridotite composition (olivine, rhombic and monoclinic pyroxene) even under partial alignment of the olivine crystals the noticeable velocity anisotropy is possible.