



Experimental results of active monitoring and Earth's crust structure research in Siberia.

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The paper presents results of the experimental works with powerful seismic vibrational sources carried out by geophysicists of Siberian Branch of RAS. The materials of the deep vibroseismic researches of the Earth crust of the Altay-Sayan and Okhotsko-Chukotski regions and the Baikal rift zone are presented. The detail deep cross-sections of the Earth's crust and upper mantle including time-sections of CDP-DSS up to depth of 80km were received. The paper presents experimental data of the 10-days active vibroseismic monitoring of the Baikal rift zones where the attempt to estimate the top border of the reactive and dissipative strain-sensitivity of the crust in seismic active Baikal zone is made. The waves from vibrator reflected from Moho boundary at the distance of 125 kms were recorded and variations of the arrival times were analyzed. The results of the long-term experiment on vibroseismic monitoring for investigation of the seasonal variations of the vibrational wave field and experiment of the detection the influence of the Earth's crust tides on seismic wave velocities are presented too. In the paper are discussing new vibration geotechnologies based on the using of powerful seismic vibrators: detail deep seismic investigations of the Earth's crust and the upper mantle, diagnostics of physical state of buildings and structures, active vibroseismic monitoring of the seismic-prone zones and studying of the geodynamic processes, vibroseismic calibration of international network stations, seismic ecology.