

Technology and technical means for regional geophysical work

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The increase of detailed elaboration of regional seismic investigations is caused by the modern requirements of abyssal geology, geodynamics, the study of areas of super deep drilling as well as an understanding of nature and forecast of destructive earthquakes.

The transition for more detailed study of lithosphere can not be solved by the simple change of the scale of geophysical surveys. It is necessary to expend essentially a qualitative composition of obtained data about geometrical structure and the properties of medium. The basic ways to achieve these purposes are as follows:

- combined usage of seismic waves of different classes (reflected, quasi-head and refractive waves) and different types of polarisation (longitudinal and share waves);

- application of multy overlappings for registration of subvertical reflections (Super Deep - Common Depth Point) as well as for the waves of other classes observable in a wide range of distances "the source - the receiver" using profile and areal systems of observations;

- development of methods for interpretation of the wave field of isotropic and anisotropic media models with the definition not only of geometry of seismic borders with different extents but also the seismotomografic study of 2D and 3D wave distribution and the absorbtion properties of deep seated rocks.

Requirements for conducting of base seismic profiles, the technology of field work as well as new technical equipments for realization of the above stated purposes are discussed in this report.