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Results of application of automatic computation of static corrections on data from the South Banat Terrain

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Due to the continuous development of the seismic acquisition and processing method, the increase of the signal/fault ratio always represents a current target. The correct application of the latest software solutions improves the processing results and justifies their development. A correct computation and application of static corrections represents one of the most important tasks in pre-processing. This phase is of great importance for further processing steps.

Static corrections are applied to seismic data in order to compensate the effects of irregular topography, the difference between the levels of source points and receipt in relation to the level of reduction, of close to the low-velocity surface layer (weathering correction), or any reasons that influence the spatial and temporal position of seismic routes.

The refraction statics method is the most common method for computation of static corrections. It is successful in resolving of both the long-period statics problems and determining of the difference in the statics caused by abrupt lateral changes in velocity in close to the surface layer.

XtremeGeo FlatironsTM is a program whose main purpose is computation of static correction through a refraction statics method and allows the application of the following procedures: picking of first arrivals, checking of geometry, multiple methods for analysis and modelling of statics, analysis of the refractor anisotropy and tomography (Eikonal Tomography).

The exploration area is located on the southern edge of the Pannonian Plain, in the plain area with altitudes of 50 to 195 meters. The largest part of the exploration area covers Deliblato Sands, where the geological structure of the terrain and high difference in altitudes significantly affects the calculation of static correction.

Software XtremeGeo FlatironsTM has powerful visualization and tools for statistical analysis which contributes to significantly more accurate assessment of geometry close to the surface layers and therefore more accurately computed static corrections.