Investigation of the possible tectonic fault in the Little Carpathians Mts. using combination of geophysical methods

Lucia Fojtikova (1,2), Miriam Kristekova (1), Jan Madaras (1), and Jiri Malek (2)
(1) Earth Science Institute of the Slovak Academy of Sciences, Slovakia, (2) Institute of Rock Structure and Mechanics of the Czech Academy of Sciences, Czech Republic

The small-aperture array (DVOA) has been installed around the seismic station DVOD within the epicentral zone in the Little Carpathians Mts. (Slovakia). DVOA consists of 3 short-period three-component stations with the distance between stations 120 m. The mini-array was built with the aim to improve detection capability of weak events in the area. However, the data show incoherency at the one of the stations and estimated back-azimuths of events with epicentres in particular direction are significantly biased. One possible explanation is the presence of the fault just below the array. Results of radon emissions measurements at the site also support this idea. The assumption of the fault was confronted with the results of other independent geophysical methods (e.g. geo-electrical measurements).