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Seismic Observations of Micro-Earthquakes at a Platform Territory

We used the small-aperture arrays measurements for a few areas in East-European Craton territory and compared the seismic data processing results and regularities revealed during the analyses with the data obtained from geomorphology studies of fault structures. The results confirm most small and micro-earthquakes (up to M~ -2) locate in the fault zones and zones of "dynamic influence of faults". Location of variety scales earthquakes on fault zones is more distinct in cases with more accurately hypocenters determined. At the same time branched structures of major fault zones, it is assumed that some of the earthquakes occur at feathering fractures of smaller scale. It is thus possible to develop a "seismological" criterion for definition of a zone of "dynamic influence of faults", i.e. the zone containing the majority of earthquakes associated with the fault zone under consideration. The first example of the need for registration of micro-earthquakes in the platform territory is to monitor Nuclear Power Plants (NPP) as safety standards provide for seismic monitoring in local area around the NPP both during the periods of their erection and exploitation.

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