

Seismicity of Semipalatinsk Test Site Territory by Data of Kazakhstan Monitoring Network

According to the map of general seismic zoning of the Republic of Kazakhstan (2006) the territory of the Semipalatinsk Test Site is considered as aseismic. Starting from 1950 analogue seismograms of earthquakes were collected, source parameters were précisied. Contemporary instrumental seismic data of Kazakhstan monitoring network from 1994, and data from temporary networks of seismic stations installed on the territory of the Test Site in 2005 – 2010 at testing sites Sary-Uzen, Balapan and Degelen (where UNE were conducted) were processed. The works resulted in creating of a unified earthquake catalogue for the STS territory and its vicinity from 1783 till present. The location of tectonic lineaments was précisied using Landsat software for space images decoding, and materials of geologic and topographic surveys. The calculations show that the Test Site territory can actually experience the events with intensity 6 by MSK-64 scale. The works on revising the active map of seismic zoning for this territory are conducted. Field seismic stations have recorded small events at the regions where nuclear explosions were conducted; these events are considered as induced events caused by cavities collapses. It is recommended to create a permanent network of seismic monitoring stations to investigate different geodynamic processes.

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