

of Different Nature Events Records form the Semipalatinsk Test Site Region

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The Institute of Geophysical Research of the Republic of Kazakhstan conducts work on scanning and digitalizing of archived photo paper seismograms from the CSE IPE AS USSR. The records are digitized using WaveTrack software developed by the Novosibirsk Regional Center for Information Technologies of Russia and adjusted for data saving in contemporary formats. The main task of the project is to save the historical seismograms of nuclear explosions conducted at the Semipalatinsk Test Site recorded at regional distances and convert them into research quality waveforms. The WaveTrack digitization results were compared with records digitized previously by NXSCAN software developed by IRIS, USA. The comparison shows some advantages of the new software. The digitalized historical seismograms are used in a range of tasks related to nuclear test monitoring. The report shows the study results of dynamic parameters of digitized seismic records, energy and magnitude calculations of underground nuclear explosions (UNEs) conducted at Degelen site in the same tunnels. For UNEs, the decrease of seismic effect is observed for the second explosion conducted in geological medium partially destructed by the first explosions. Thus, a clear dependence of seismic effects as a function of the degree of destruction and fracturing of rocks is observed.

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Promotional text

The report shows the study results of dynamic parameters of digitized seismic records, energy and magnitude calculations of underground nuclear explosions conducted at Degelen site (STS) in the same tunnels.

Oral preference format

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