Depot Bursts in the South of Kazakhstan and Uzbekistan by Data of Kazakhstan Monitoring Network Stations

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In recent years there were several tragic accidents at military depots in the south of Kazakhstan (Arys, Taraz) and in Uzbekistan (Malik) resulting in destruction of buildings, injuries and loss. All these bursts were recorded by Kazakhstan seismic stations. The closest station to the epicenters of all bursts was Karatau seismic array, part of the National Nuclear Center monitoring system of the Republic of Kazakhstan. Using the data of this station, the explosions were located, energy parameters were calculated and the waveforms were analysed in detail. Each of the three cases had a different "scenario" of explosion sequence. In Arys, there were more than 30 bursts with energy class (K) ranging from 4.8 to 7.8. In Taraz there were 17 bursts, with K value ranging from 4.3 to 8.1. In Uzbekistan there was one explosion with K=7.8. The wave pattern and spectral density were analysed using the f-k analysis, DTK – GPMCC, Geotool. The knowledge of the exact epicenter location of the bursts allowed them to be considered as ground-truth events. The location accuracy of different bursts using the data of one seismic array was estimated. The regional travel-time curve of seismic waves for south Kazakhstan was specified.

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Promotional text

Karatayu seismic array has recorded the ammunition depot blasts in Kazakhstan and Uzbekistan. The wave pattern was analyzed in details, the explosion parameters were determined.

Oral preference format

in-person

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