

of Historical Peaceful Nuclear Explosions Parameters Conducted on the Territory of the former USSR

Wednesday, 21 June 2023 10:06 (1 minute)

One of the most valuable sources for ground truth events are peaceful nuclear explosions as these were conducted in different geological environments on a vast territory. Temporary stations were deployed very often to record these events, and, in addition, in recent years work on the precise coordinates using contemporary methods was conducted. Using the records of historical analog seismograms of 1965 – 1988, a seismic bulletin of peaceful nuclear explosions conducted on the territory of the former USSR was compiled. In total, more than 1500 seismograms were processed. For this study, the archive records of the CSE IPE AS USSR network, whose stations were installed on the entire territory of the former USSR at an epicentral distance of 520-6700 km away from peaceful nuclear explosions, were used. The regional travel time curves of the main seismic phases were constructed by data of calibration sources for different regions of Kazakhstan. These were tested and compared with other regional and global travel time curves for this territory. The dependences of the regional magnitudes on the explosions yield were constructed. It was shown that the dependence is affected much by the medium in which the explosion was conducted. The obtained results can be used for the seismic stations calibration and in nuclear tests monitoring tasks.

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Promotional text

The seismic bulletin of peaceful nuclear explosions conducted on the USSR territory can be used for the seismic stations calibration and in nuclear tests monitoring tasks

Oral preference format

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Session Classification: Lightning talks: P2.5, P4.1, P4.2, P4.3

Track Classification: Theme 2. Events and Nuclear Test Sites: T2.5 Historical Data from Nuclear Test Monitoring