



WAVE PATTERN PECULIARITIES OF DIFFERENT TYPES OF EXPLOSIONS CONDUCTED AT SEMIPALATINSK TEST SITE

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The historical seismograms of the explosions conducted at the STS in 1949 – 1989 are of great interest for the researchers in the field of monitoring. Large number of air (86), surface (30) and underground nuclear explosions were conducted here in boreholes and tunnels (340). In addition to nuclear explosions, large chemical explosions were conducted at the Test Site. It is known that tectonic earthquakes occur on the Test Site territory and near it. Since 2005 the Institute of Geophysical Researches conducts works on digitizing the historical seismograms of nuclear explosions. Currently, the database contains more than 6000 digitized seismograms of nuclear explosions used for investigative monitoring tasks, major part of them (4000) are events from the STS region. Dynamic parameters of records of air, surface and underground nuclear explosions, as well as large chemical explosions with compact charge laying were investigated for seismic stations located on the territory of Kazakhstan using digitized records of the STS events. In addition, the comparison between salvo wave pattern and single explosions was conducted. The records of permanent and temporary seismic stations (epicentral distances range 100 – 800 km) were used for the investigations. Explosions spectra were analyzed, specific features of each class of events were found.

The seismograms analysis shows that the wave pattern depends significantly on the explosion site and on the source type.