

COMPARATIVE ANALYSIS OF THE MAGNITUDE SENSITIVITY OF THE NEW SEISMIC ARRAYS IN KAZAKHSTAN - MAKANCHI, AKBULAK, KARATAU

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Several new seismic arrays were installed on the Kazakhstan territory during last years. Data from these new arrays are actively used in various seismological centers (International Monitoring System CTBTO, AFTAC (USA), international consortium IRIS), as well as in monitoring of seismic activity of the Kazakhstan and neighboring territories. The comparative analysis of magnitude sensitivity of the following seismic arrays was accomplished: Makanchi seismic array (installed in 2000), Karatau seismic array (installed in 2001) and Akbulak seismic array (installed in 2003). All three seismic arrays have similar configuration. These arrays belong to the so-called regional-teleseismic types of arrays, which means, that the design of these arrays allows to record seismic events both from regional and teleseismic distances.

In order to estimate the magnitude sensitivity of the seismic arrays, the following studies were made: maps of the minimal magnitude level detection both for the Central Area region and the whole globe were plotted; seismic sensitivity curves for the regional events were computed; recurrence graphs for the regional and teleseismic events with various magnitudes were plotted. After that the representative magnitude levels for regional and teleseismic distances were estimated for all three arrays. . It was concluded, that new Kazakhstan seismic arrays are rather efficient for both regional and teleseismic observations. However, some peculiarities in the seismic observations, specific for the given array were revealed.