

Earthquake on January 24, 2024 near Krasnodar city, $M_w=4.1$, $I_0=5$

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Abstract The article presents instrumental and macroseismic data on the earthquake on January 24, 2024 at 11:19 (UTC), $M_w=4.1$, $h=8$ km. The earthquake parameters were determined using instrumental data from the network of regional seismic stations in the North Caucasus of the GS RAS. The earthquake parameters were determined from instrumental data from the network of regional seismic stations in the North Caucasus of the GS RAS. The source spectra of three regional seismic stations (GOYR, MRNR and GUZR) were calculated, from which the seismic moment M_0 , the stress drop $\Delta\sigma$ and the source radius R were determined. The solution of the focal mechanism was obtained from the polarization in P-waves at 71 seismic stations and the type of source fault with a right-lateral strike-slip component. The epicentral zone of the earthquake on 24.01.2024 is located within the high-magnitude Akhtyrka zone of potential earthquake source zones (ESZ) with $M_{max}=6.5-6.8$ and represents the boundary between the Northwestern part of the structures of the Greater Caucasus and the West Kuban trough. According to macroseismic survey in the regions, 300 respondents were interviewed in 20 settlements. The maximum observed intensity was $I=V$ MSK-64.

Keywords North Caucasus, seismicity, Akhtyrka flexure-fault zone, spectral parameters of the source, focal mechanism, macroseismic data.

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