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ON EFFICIENCY OF THE DIFFERENT SENSORS FOR SEISMOACUSTIC MONITORING AND WAVE POLARIZATION ANALYSIS

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Abstract. Some results obtained under study of the peculiarities and nature of the underground background sound (UBS) using the magnetoelastic geophones are presented. As a rule the registration was carried using the instrument-software averaging the signals at one minute interval, followed by smoothing on a more extended time intervals. Analysis of the amplitudes of the UDS variations and the discrete-frequency analysis of data collected at the outputs of the four analog bandpass filters are performed. The comparison of the frequency characteristics and transient features, obtained by magnetoelastic geophones and electrodynamic seismometers, allows the concluding on the preference of the latter for the purposes of wave polarization analysis. Some restrictions on the use of magnetoelastic geophones are considered as well as the possible ways for their modernization.

Keywords: magnetoelastic geophones, electrodynamic seismometers, frequency characteristics, transient features, wave polarization analysis.