



Research of the acoustic emission of the near-surface sedimentary rocks in Kamchatka

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The results of acoustic emission investigations, which has been carried out at IKIR FEB RAS since 1999, are presented. The regularities of acoustic emission for different dynamics of the stress-strain state of the near surface sedimentary rocks are described. A high-frequency effect is characterized. It is the increase in geoacoustic radiation intensity in the frequency range from hundreds of hertz to the first tens of kilohertz that manifests the most at the final stage of earthquake preparation. Changes activity of geoacoustic emission and its azimuthal distribution associated with earthquakes are considered. Statistics of the appearance of pre- and post-seismic anomalies in emission directivity is presented. The applied systems for acoustic signals monitoring and analysis are described. They are developed on the basis of modern computing instruments. Piezoceramic hydrophones installed by the bottom of artificial and natural water reservoirs are used as acoustic emission sensors. It allowed us to carry out the investigations in a wide sound frequency range from units of hertz to the first tens of kilohertz. A laser strainmeter-interferometer was used to control the deformations.

Keywords

Acoustic emission, Geoacoustic emission, Acoustic emission activity,
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References



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