INVESTIGATIONS OF ACOUSTIC PROPERTIES OF MgO MINERALS AT HIGH FREQUENCIES

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Frequency and temperature dependences of the attenuation coefficient of longitudinal hypersonic waves in MgO natural minerals were studied using the new acoustooptical method. The proposed measuring method is one of ways for undestroying control of crystals and minerals. It can be used for determination of attenuation coefficient of acoustic waves in nontransparent materials or materials with low acoustooptical quality. The method enables to determine the attenuation coefficient and velocity values simultaneously. The longitudinal acoustic wave is exited in system, which consists of investigated mineral and standard sample. Diffracted light intensities are determined in such system for only one point of standard sample. The coefficient of acoustic wave is calculated by these data. The experiment results for investigated MgO samples are comparable with data for MgO single crystals. At the same time, the precision of measurements does not depend on diffraction quality of investigated materials. These measurements can be carry out by any standard acoustooptic plant.