

EFFECT OF IONIZING RADIATION ON ELECTRIC PROPERTIES OF CRYSTALLINE DIELECTRICS

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S u m m a r y

The results of experimental studies of the effect of ionizing radiation on the electric properties of crystalline dielectrics (α -SiO₂ and α -Al₂O₃) are presented. The regularities of thermoradiative changes in direct-current conductivity σ , the tangent of the angle of dielectric losses $\tan\delta$, and permittivity ε are determined, and the activation energies of the conductivity of the crystals are calculated. The approximation of the curves $\sigma(T)$ is carried out, and the relevant laws of conductivity are revealed for both dielectrics. In the frame of the known models, the peculiarities of the kinetics of radiation-induced formation of defects and the temperature dependence of electrical conduction are discussed.