

DYNAMICS OF RELAXATION
PROCESSES IN γ -IRRADIATED
CESIUM IODIDE CRYSTALS
DOPED WITH CATION IMPURITIES

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S u m m a r y

Relaxation processes in γ -irradiated CsI—Cd and CsI—Ba crystals (up to doses of 1×10^4 — 5×10^6 Gy) have been studied by measuring the electroconductivity (σ) and the ionic thermocurrent. The process of accumulation and destruction of defects was found to flow differently, depending on the γ -irradiation dose and the type of cation impurity. The creation of dipoles and the increase of σ have been revealed in CsI—Cd single crystals subjected to the irradiation with a dose of 10^5 Gy. At the same time, the irradiation of CsI—Ba crystals resulted in the decrease of σ and the drastic reduction of the concentration of dipoles. Possible mechanisms have been proposed to explain the revealed differences between the relaxation processes running in CsI—Cd and CsI—Ba crystals subjected to various doses of γ -radiation.