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Spectral-kinetic properties of $CsI(CO_3)$ crystal

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Abstract. Comprehensive investigations into the effect of activator concentration on alternation of radioluminescence (RL), scintillation pulse length (τ) and oscillatory absorption spectra luminescence centers were carried out to study the state of activiating impurity and the nature of luminescence centers in $CsI(CO_3)$ crystals. It is ascertained that the activating impurity in $CsI(CO_3)$ crystals produces two types of luminescence centers which differ in spectral and kinetic parameters. The first type of centers features RL with λ_m=3.15 eV and τ_1=1.4 μs, and the second type of centers RL with λ=2.85 eV, τ_2=3.4 μs. The nature of the second type of centers is not finally established. However, the investigations performed and published data attest that the second type centers, responsible for 2.85 eV luminescence, are revealed to the products of carbonate-ion decomposition in the process of crystal growth, and the most probable ones are O_2^{2-} ions. 4 refs., 5 figs

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Спектрально-кинетические свойства кристаллов $CsI(CO_3)$

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