

Photo-EPR studies of KTN-1.2: Evidences of the Nb 4+-O - polaronic excitons

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Abstract

Strongly anisotropic photoinduced electron paramagnetic resonance spectrum was found in the $\text{KTa}_{1-x}\text{Nb}_x\text{O}_3$ crystals with $x = 0.012$ at $T < 10$ K, which is described well within the model of the center with $S = 1$, $g_{\parallel} = 0.82 \pm 0.04$, $g_{\perp} = 0.52 \pm 0.04$, and $D = 0.44 \pm 0.03$ cm⁻¹. Analysis shows that this spectrum originates from the Nb 4+-O - polaronic exciton in the triplet state.

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