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Spectral kinetic properties of Yb³⁺:Na₄Y₆F₂₂ and Yb³⁺:LiLuF₄ crystals

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Abstract

Yb³⁺ (2.7 at.%):Na₄Y₆F₂₂ and Yb³⁺(1 at.%):LiLuF₄ crystals were grown by the Bridgman-Stockbarger method. We measured the temperature dependences of the thermal conductivity of the crystals and the absorption spectra. We determined the radiative lifetime of the Yb³⁺ ion in these crystals (1.94 msec and 2.13 msec) and calculated the stimulated emission cross section spectra. © 2007 Springer Science+Business Media, Inc.

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Keywords

Absorption cross section spectra, Femtosecond lasers, Fluoride crystals, Stimulated emission cross section spectra, Ytterbium ions