

Abstract Submitted
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Temperature Dependencies of Linewidths, Positions, and Line Shifts of Spectral Transitions of Trivalent Neodymium Ions in Ceramic Nd³⁺:Y₂O₃ FRANCISCO PEDRAZA, EDWARD KHACHATRYAN, ROBERT DENNIS, KELLY NASH, DHIRAJ SARDAR, The University of Texas at San Antonio — Effects of temperature on widths and shifts of the spectral lines of Nd³⁺ in Y₂O₃ polycrystalline ceramic have been investigated. The spectral lines corresponding to the inter-Stark transitions R₁ → Y₁ (1074 nm) and R₁ → X₃ (914 nm) within the ⁴F_{3/2} → ⁴I_{11/2} and ⁴F_{3/2} → ⁴I_{9/2} transitions, respectively, have been studied. The widths of these lines and their shifts have been measured as a function of temperature in 10K- 300K range. The spectral linewidths of both transitions are found to increase with increasing temperature. This research was supported by the National Science Foundation Grant No. DMR-0934218.

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