

Synthesis and Characterization of Eu doped YAG Nanophosphor

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Abstract

Yttrium aluminum garnet $Y_3Al_5O_{12}$ (YAG), existing in a cubic form with a garnet structure, has received much attention because of interesting optical and mechanical properties. YAG doped with Tb, Eu, Er, Ce is a promising phosphor for display devices. In this paper Eu doped YAG has been successfully synthesized by nitrate citrate (sol-gel) method and studied its usefulness for display devices. X-ray diffraction (XRD), small angle x-ray scattering (SAXS), transmission electron microscopy (TEM), photoluminescence (PL) spectra were used to characterize the final product. XRD shows particle size 25-30 nm in the sample.

Figures

