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Thermoluminescent properties of CaAL₂O₄:Eu³⁺, (Dy³⁺,Sm³⁺) phosphors prepared by solid state reaction

Thursday, 12 July 2012 17:30 (2 hours)

Abstract content
   (Max 300 words)

Long persistent phosphors were prepared by solid state reaction method. The samples were annealed for three hours at 1000-1200 degree celcius in a reducing atmosphere of N2/H2. The crystallinity of the phosphors was investigated by using X- ray diffraction (XRD) and the morphology was determined by a scanning electron microscope (SEM). The thermoluminescent and phosphorescent properties of the phosphors were investigated using an integral PC based thermoluminescence system reader (TL 1009I) supplied by Nucleonix. The samples were irradiated by a 254 nm UV lamp for 5 min and the decay curves were recorded at room temperature. The glow curves of the samples were recorded at a linear heating rate of 2 degree celcius per second. Photoluminescence (PL) properties were investigated by using a He-Cd laser and the broad band emission spectra observed can be attributed to the 4f65d1 t4o 4f7 transition of Eu²⁺ ions.

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yes

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MSc

Main supervisor (name and email)
and his / her institution

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No

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