DOPING CONCENTRATION DEPENDENCE OF LUMINESCENT PROPERTIES OF SR6B5PO20:EU3+ PREPARED VIA CO-PRECIPITATION METHOD

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TÓM TẮT:

The Eu3+-doped Sr6B5PO20 phosphor powders have been synthesized via co-precipitation method with the concentration of Eu ions varying from 2 to 15%. This method is advantage to make the phosphor powders with uniform particle size and quite high purity samples. The samples have been annealed from 600 to 1300 0C. There is strong red emission intensity from 570 to 700 nm in photoluminescence spectra. These emissions are attributed to the 5D07Fj transitions of Eu3+ ion (where j gets the values of 1 to 6). The highest intensity is at 605 nm wavelength corresponding to 5D07F2 transition. The 605 nm emission intensity changes when changing the concentration of Eu ion. The results lead to applications for tricolor fluorescent lamps with emission components controlled.