Luminescence Properties of Rare Earth Doped Yttrium Disilicate Composites Prepared by the Sol-Gel Method

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Synthesis of the glass ceramics of yttrium disilicates (Y2Si2O7) doped with Tb3+ and Eu3+ ions prepared by the sol-gel method is presented. Its structural properties were determined by XRD measurements. The emission spectra and luminescence decays of Eu3+ and Tb3+ doped Y2Si2O7 nanocrystals and the glass ceramics were measured and analyzed. The influence of glass host on the luminescence properties of the embedded nanocrystals was discussed.