Europium2+

Time-resolved fluorescence measurements on Eu$^{3+}$- and Eu$^{2+}$-doped glasses

*Journal of Non-Crystalline Solids*


Fig. 4. Fluorescence excitation and emission spectra of Eu$^{2+}$ in FP10 (Europium concentration $1 \times 10^{20}$ cm$^{-3}$) and Duran glass samples (Europium concentration $1 \times 10^{19}$ cm$^{-3}$).
Photoluminescent behavior of SrB$_4$O$_7$:RE$^{2+}$ ($RE=$Sm and Eu) prepared by Pechini, combustion and ceramic methods

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Fig. 1. Partial energy level diagram of free divalent and trivalent rare earth ions (Sm$^{2+}$, Sm$^{3+}$, Eu$^{2+}$, Eu$^{3+}$ and Gd$^{3+}$) containing the lowest energy $f$-$d$ levels.
Optik 124 (2013) 1466–1468

Optical properties and irradiation effects of Cu+ and Eu2+ doped alkali halide single crystals grown from melt using Czochralski technique

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Fig. 1. Optical absorption bands of (a) NaCl:Cu+ (b) NaCl:Eu (c) KCl:Cu+ and (d) KBr:Cu+.

Fig. 2. PL spectra of KCl:Cu+ (a) unirradiated (b) irradiated to γ-dose of $1.96 \times 10^2$ Gy (c) after F-bleaching (d) KCl:Eu2+ unirradiated (e) irradiated to γ-dose of $1.96 \times 10^2$ Gy.
3.2. Irradiation effects of PL spectra

The crystals were irradiated at room temperature with the 2.5 MeV gamma rays of a 60Co. Exposures of the crystals to dosages up to $1.96 \times 10^2$ Gy produced measurable changes in the PL spectrum, showing the crystals to coloration by gamma rays. The excitation wavelength was determined from the optical absorption data where peak absorption was seen. The PL emission spectra of Cu+ and Eu2+ doped KCl crystals are shown in Fig. 2. In the case of KCl:Cu the emission was at 396 nm on exciting with 260 nm.