



Optical properties of Eu^{3+} : CsGd_2F_7 downconversion phosphor.

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Luminescence spectra and excitation spectra in 150–420 nm spectral region have been recorded at room temperature for polycrystalline sample of $(0.5\%)\text{Eu}^{3+}:\text{CsGd}_2\text{F}_7$. The relatively intense emission has been observed from $^5\text{D}_3$, $^5\text{D}_2$ and $^5\text{D}_1$ levels. Emission and excitation spectra prove that the excitation energy is efficiently transferred from the $^6\text{G}_J$ and $^6\text{I}_J$ levels of Gd^{3+} ions to Eu^{3+} ions. The visible quantum cutting via downconversion has been detected, with efficiency of the cross-relaxation step of $\sim 50\%$.

Adres publiczny

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