

Tunable luminescence of $\text{Sr}_2\text{CeO}_4:\text{M}^{2+}$ ($\text{M}=\text{Ca}, \text{Mg}, \text{Ba}, \text{Zn}$) and $\text{Sr}_2\text{CeO}_4:\text{Ln}^{3+}$ ($\text{Ln}=\text{Eu}, \text{Dy}, \text{Tm}$) nanophosphors.

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Nanophosphors based on cerium–strontium oxide (Sr_2CeO_4), doped with M^{2+} or Ln^{3+} ($\text{M} = \text{Ca}, \text{Mg}, \text{Ba}, \text{Zn}$; $\text{Ln} = \text{Eu}, \text{Dy}, \text{Tm}$) were successfully prepared using a modified Pechini method. The structure of prepared materials has been confirmed and characterized using several techniques such as X-ray powder diffraction (XRD), scanning and transmission electron microscopy (SEM and TEM). The obtained materials were composed of nanocrystals with an average size around ~ 50 nm. The luminescence properties of synthesized nanophosphors were characterized by excitation or emission spectra and luminescence lifetimes. The chromaticity coordinates were also calculated to demonstrate changes of the luminescence color.

Adres publiczny

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<https://www.acs.org/content/acs/en.html>