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## Tuning Emission Spectrum of $\text{KSrPO}_4:\text{Eu}^{2+}$ Phosphor by Co-doping with $\text{Y}^{3+}$

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Received: February 3, 2021

Revised: February 11, 2021

Accepted: February 12, 2021

A series of co-doped  $\text{KSrPO}_4:\text{Eu}^{2+}, \text{Y}^{3+}$  phosphors have been prepared through a high-temperature solid-state reaction at various temperatures. Luminescence spectroscopic characterization allowed to demonstrate that emission spectrum of original  $\text{KSrPO}_4:\text{Eu}^{2+}$  phosphor that is typically dominated by  $\text{Eu}^{2+} 4f^6 5d^1 \rightarrow 4f^7$  emission can be significantly modified by co-doping with  $\text{Y}^{3+}$  ions, which results in appearance of a broad defect emission. The latter makes the phosphor potential for WLED application. The  $\text{Y}^{3+}$  co-doping related defect emission was found to get enhanced with the increase of  $\text{Y}^{3+}$  content and synthesis temperature. The nature and peculiarities of the new defect emission are discussed.

**Keywords:** phosphors, solid-state reaction, defect emission,  $\text{KSrPO}_4:\text{Eu}^{2+}$ ,  $\text{Eu}^{2+}$  5d-4f emission.