

Supplementary Information

Managing optical heating via Al³⁺-doping in Er³⁺:SrF₂ powder phosphor prepared by combustion synthesis

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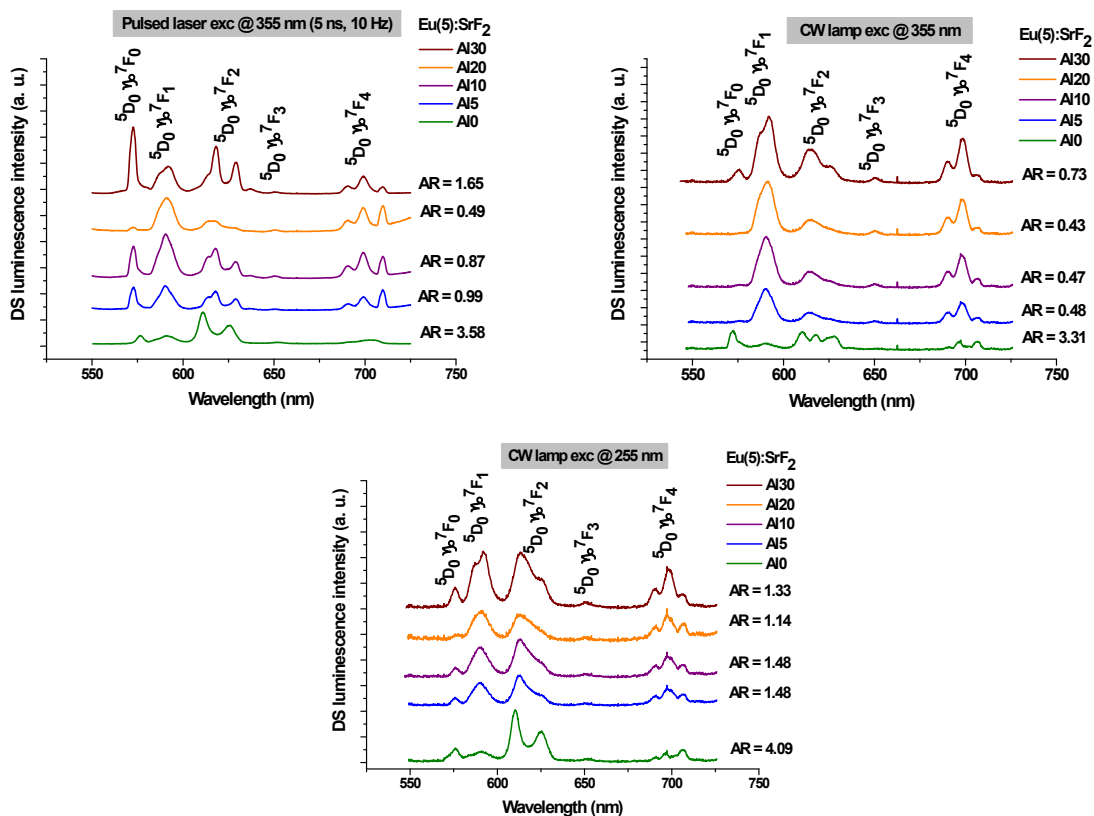


Fig. S1. Down-shifted (DS) luminescence spectra of Eu³⁺-doped SrF₂ powders for different doping concentrations of Al³⁺ (shown in units of weight percent) and obtained under different excitation conditions. AR is the asymmetry ratio defined as the ratio between the integrated signal intensities of ⁵D₀ → ⁷F₂ (range: 603-633 nm) and ⁵D₀ → ⁷F₁ (range: 580-603 nm).

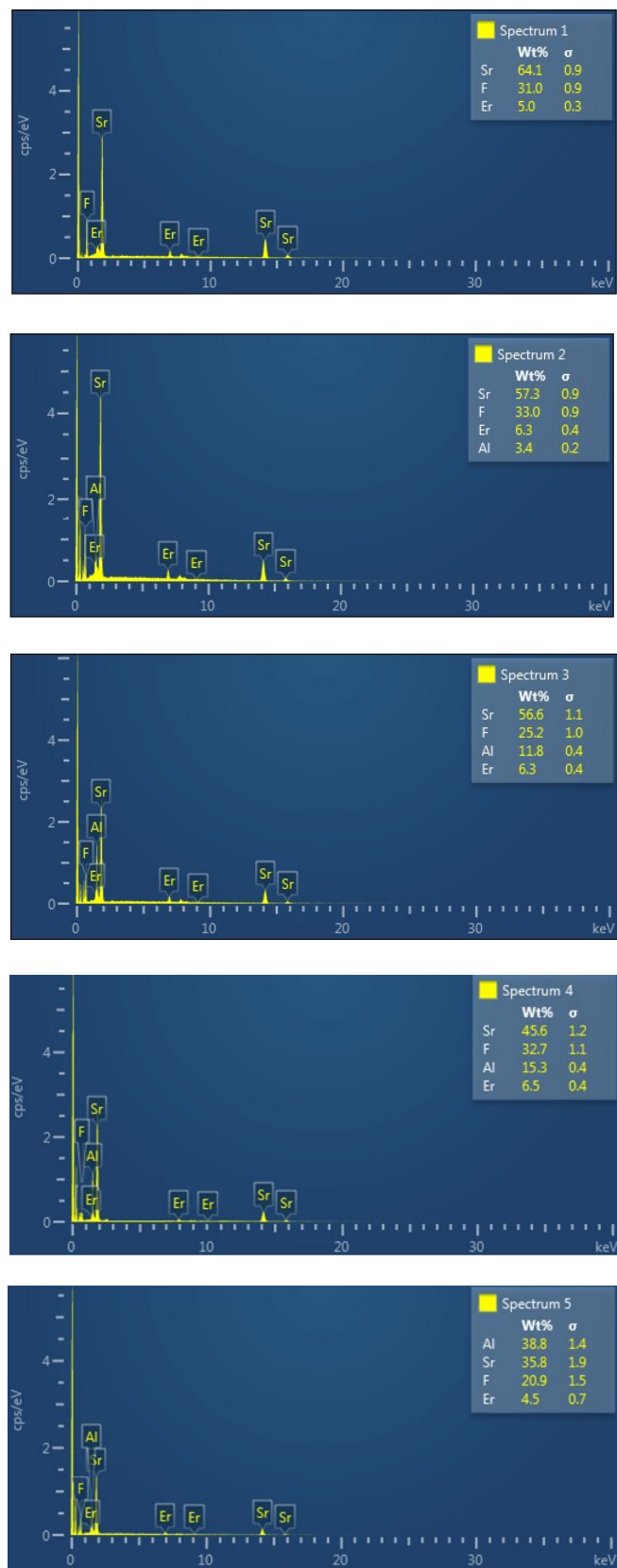


Fig. S2. EDX spectra of SrF₂ powder samples containing 5 wt. % doping concentration of Er³⁺ and 0 (Spectrum 1), 5 (Spectrum 2), 10 (Spectrum 3), 20 (Spectrum 4) and 30 (Spectrum 5) wt. % doping concentrations of Al³⁺. The insets of the EDX data show results of a semi-quantitative view of the elemental composition (in units of weight percent).