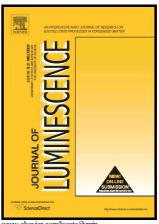
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Tuning red emission and photocatalytic properties of highly active ZnO nanosheets by Eu addition

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Tuning red emission and photocatalytic properties of highly active ZnO nanosheets by Eu addition

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Abstract: Eu-doped ZnO nanosheets were synthesized via a facile and surfactant-free chemical solution deposition method. The detailed characterizations revealed that the as-synthesized samples were well-crystalline which assembled by nanosheets with 25 nm thickness. The Eu ions were successfully doped into the ZnO nanosheets, and the red emissions of Eu³⁺ ions attributed to the energy of ${}^5D_0 \rightarrow {}^7F_0$, ${}^5D_0 \rightarrow {}^7F_1$ and ${}^5D_0 \rightarrow {}^7F_2$ 4f–4f intrashell transitions were observed in PL spectra. The appropriate Eu doping would increase the separation efficiency of electron-hole pairs and promote

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