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Perspectives of Bulk and Nanosized II-VI Compounds for Light-emission Application

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Activation of II-VI semiconductors with transition metals (Cr) and rare-earths elements (Yb) results in interaction of the doping ions with the native defects (e.g., zinc vacancies). This interaction has the most significant influence on formation of emission properties of the wide bandgap semiconductors. Effects of defect-impurity interaction on emission spectra of bulk ZnSe:Cr and ZnSe:Yb crystals are shown. Possibility to use nanosized materials to control this interaction is discussed.