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LUMINESCENT PROPERTIES AND ELECTRONIC STRUCTURE OF ZnSe CRYSTALS

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Abstract

The set of pure and doped with aluminum and tellurium ZnSe crystals were grown by the Bridgman method. The studied samples under X-ray and photoexcitation reveal visible luminescence related with excitons and emission centers created on the base of zinc and selenium vacancies. The electronic band structures of ideal and defect-containing crystals were calculated by the Full-Potential Linear Augmented Plane Wave (FLAPW) method. The Al and Te dopants have different impact on band edges regions of ZnSe electronic structure.

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