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Investigation Of Eugan's, Optical Properties With Dft

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Abstract : Europium-doped gallium nitride (EuGaN) is a promising material for optoelectronic and thermoelectric devices. This study investigates its optical properties using density functional theory (DFT) with the FP-LAPW method and MBJ+U correction. The simulation substitutes a gallium atom with europium in a hexagonal GaN lattice (6% doping). Distinct absorption peaks are observed in the optical analysis. These results highlight EuGaN's potential for various applications and pave the way for further research on rare earth-doped materials.

Keywords : eugan, fp-lapw, dft, wien2k, mbj hubbard
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