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Theoretical Study of Electronic Properties of the Semi-Conductors AlN and GaN With the Empirical Pseudopotential Method EPM

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Abstract: The electronic structure of binary compounds AlN and GaN are presented. We have used the empirical pseudo-potential method. Good agreement between the calculated results and experiment is obtained. The charge densities are presented for the sum of the four valence bands of both AlN and GaN.

Key Words: Empirical Pseudo-potential Method (EPM), nitride aluminium, nitride gallium compounds, III-N semi-conductors, wide band gap semi-conductors, energy gap, charge density

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