

ELECTRONIC STRUCTURE OF CHROMIUM-
AND HYDROGEN-DOPED GaInN
SOLID SOLUTIONS

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S u m m a r y

Electronic and magnetic properties of GaInN solid solutions doped with chromium and hydrogen impurities have been calculated with the use of the Green's function method. The obtained partial and total spin-polarized densities of states (DOS) point to a fundamental restructuring of the electronic structure in the crystals, which is induced by Cr substitutional and hydrogen interstitial impurity atoms. The changes are associated with the appearance of narrow hybridized states with s -, p -, and d -symmetries in the energy gap, which are absent from GaInN solid solutions.