

Abstract Submitted  
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**Combining Dynamical Mean Field and Local Density Approximations in the study of GaMnAs** J. MORENO, Univ. of North Dakota, M. A. MAJIDI, PAUL KENT, M. JARRELL, Univ. Cincinnati, R. S. FISHMAN, Oak Ridge Nat. Lab. — We use the band structure predicted by the Local Density Approximation as the starting point for a self consistent Dynamical Mean Field treatment of the ferromagnetic order in GaAs doped with Mn. Our model is an effective eight-band model including the heavy and light valence bands, the split-off valence band and the conduction band of the host material. The exchange interaction between the randomly distributed magnetic ions and the itinerant carriers is modeled using a modified double-exchange coupling. We compare our results with the ones predicted by more simplified models.

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