

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Gilbert Damping in (Ga, Mn) As ION GARATE, ALLAN MACDONALD, University of Texas at Austin — We examine Gilbert damping in (Ga,Mn)As by using a p-d mean-field theory model for the ferromagnetic ground state and a four-band spherical model for the host semiconductor band structure. Within this model it is possible to calculate impurity vertex- corrections to the long-wavelength spin-spin response functions to all orders. Because of spin-orbit coupling in the band structure, beyond leading order vertex corrections make significant contribution to the damping. We comment on the non-monotonic dependence of damping on impurity strength.

Ion Garate
University of Texas at Austin

Date submitted: 10 Jan 2008

Electronic form version 1.4