

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Electron Transport in Nanogranular Ferromagnets IGOR BELOBORODOV, University of Chicago, ANDREAS GLATZ, VALERII VINOKUR, Argonne National Laboratory — I will discuss electronic transport properties of ferromagnetic nanoparticle arrays and nanodomain materials near the Curie temperature in the limit of weak coupling between the grains. The conductivity is calculated in the Ohmic and non-Ohmic regimes and the magnetoresistance jump in the resistivity at the transition temperature is estimated. The results are applicable for many emerging materials, including artificially self-assembled nanoparticle arrays and a certain class of manganites, where localization effects within the clusters can be neglected.

Igor Beloborodov
University of Chicago

Date submitted: 14 Nov 2007

Electronic form version 1.4