Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Magnetic and electrical transport properties of $Fe_{1-x}Cr_xSb_2$ RONGWEI HU, Condensed Matter Physics Department Brookhaven National Laboratory, VESNA MITROVIC, Physics Department Brown University, CEDOMIR PETROVIC, Condensed Matter Physics Department Brookhaven National Laboratory — We have investigated magnetic, thermodynamic and electrical transport properties of $Fe_{1-}xCr_xSb_2$ ($0 \leq x \leq 1$) single crystals. Ground state of the system evolves from nonmagnetic semiconductor for x = 0 to antiferromagnetic semiconductor for x = 1. In contrast to Co substitution, Cr doping in $FeSb_2$ does not result in metallic state and magnetoresistance is negligible. Magnetic phase diagram and conduction mechanism will be discussed.

Rongwei Hu
Condensed Matter Physics Department Brookhaven National Laboratory

Date submitted: 17 Nov 2006 Electronic form version 1.4