Abstract Submitted
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Electronic and magnetic properties of single-crystalline $UNi_{0.5}Sb_2$.[1] B. K. DAVIS, M. S. TORIKACHVILI, Dep. of Physics, San Diego State U., E. D. MUN, J. C. FREDERICK, G. J. MILLER, S. THIMMAIAH, S. L. BUD'KO, P. C. CANFIELD, Ameslab and Iowa State U., G. M. SCHMIEDESHOFF, Dep. of Physics, Occidental C. — We studied the electronic and magnetic properties of antiferromagnetic $UNi_{0.5}Sb_2$ ($T_N \approx 161$ K) by means of measurements of magnetic susceptibility, thermal expansion, and electrical resistivity (ρ) at ambient pressure, and ρ under hydrostatic pressures up to 20 kbar, in the temperature range from 1.9 to 300 K. The value of $d\rho/dT$ changes drastically from positive below T_N to negative above it, reflecting the loss of spin-disorder scattering in the ordered phase. Two small features in the ρ *vs* T data centered near 40 and 85 K, which are quite hysteretic in temperature, correlate well in temperature with features in the magnetic susceptibility, and thermal expansion. The effect of pressure is to suppress the amplitude of the small features in ρ *vs* T at lower temperatures, and to raise T_N at the rate of ≈ 0.76 K/kbar.

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