Abstract Submitted
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Anisotropic physical properties and pressure dependent magnetic ordering of $CrAuTe_4$[1] NA HYUN JO, YUN WU, DAIXIANG MOU, LUNAN HUANG, VALENTIN TAUFOUR, ADAM KAMINSKI, SERGEY BUD'KO, PAUL CANFIELD, Ames Laboratory/Iowa State University — Systematic measurements of temperature dependent magnetization, resistivity and angle-resolved photoemission spectroscopy (ARPES) at ambient pressure as well as resistivity under pressures up to 5.25 GPa were conducted on single crystals of $CrAuTe_4$. Magnetization data suggest that magnetic moments are aligned antiferromagnetically along the crystallographic c-axis below $T_N = 255\,K$. Magnetoresistance data show clear anisotropy, and, at high fields, quantum oscillations. The Neel temperature decreases monotonically under pressure, down to $T_N = 236\,K$ at 5.22 GPa. The pressure dependence of transport properties show anomalies near 2 GPa suggesting that there is a phase transition (structural, magnetic, and/or electronic) induced by pressure. For pressures higher than 2 GPa a significantly different quantum oscillation frequency emerges, consistent with a pressure induced change in the electronic states.

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