Abstract Submitted
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Measurement of DC resistivity of new quasi-one-dimensional conducting platinate[1] A.A. GAPUD, U. of South Alabama Dept of Physics, J. ALEXANDER, R.I. LEATHERBURY, O. GAFAROV, U. of South Alabama Dept. of Physics, A.P. WEBER, L. PHAM, R.E. SYKORA, U. of South Alabama Dept. of Chemistry, A. KHAN, U. of South Alabama Dept. of Electrical and Computer Engineering — $Cs_4[Pt(CN)_4](CF_3SO_3)_2$ (TCP) is the newest palatinate, quasi-one-dimensional conductors with parallel "chains" of Pt maintained by peripheral materials and with well known properties, especially in the potassium-containing material, KCP. Unlike KCP, however, we are finding properties unique to TCP. First, we discuss technical difficulties in measuring the DC resistivity of this material: Unlike with KCP, the samples of TCP were relatively small and very fragile, their contact surface had an insulating film, and the crystal had a very sensitive pressure dependence, coupled with significant thermal contraction/expansion. These issues were addressed with reasonable success, using proper handling methods, sputtered electrical contacts, and a floating sample mount, as will be discussed. The resulting temperature dependence of resistivity is radically different from KCP, showing an anomalous "peak" at around 150 K.

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