

Abstract Submitted  
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**Linear- $T$  resistivity at the pseudogap critical point of the cuprate superconductor Bi2212** A. LEGROS, L. TAILLEFER, Sherbrooke University, Sherbrooke, Canada, S. BENHABIB, W. TABIS, B. VIGNOLLE, D. VIGNOLLES, C. PROUST, LNCMI, Toulouse, France, H. RAFFY, Z. Z. LI, LPS, Orsay, France, D. COLSON, A. FORGET, SPEC, CEA, Gif sur Yvette, France — We report high-field measurements of the electrical resistivity on a highly overdoped thin film of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$  ( $T_c = 50$  K), one of the archetypal cuprate superconductors, with a high maximal  $T_c$  (90 K). Measurements up to 55 T enabled us to suppress superconductivity and track the normal-state behavior down to low temperature. We observe a linear temperature dependence of the resistivity as  $T \rightarrow 0$ , at a doping  $p = 0.23$  just above  $p^* \simeq 0.22$ , the critical doping where the pseudogap phase ends [1,2]. Our data on Bi2212 are in excellent agreement with previous data on cuprates with lower maximal  $T_c$ , namely LSCO [3] and Nd-LSCO [4]. This shows that a linear- $T$  resistivity is a universal signature of the pseudogap critical point in cuprates, reminiscent of the linear- $T$  resistivity found at the quantum critical point of heavy-fermion, pnictide and organic superconductors [5].

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