

Abstract Submitted
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Electrical Resistance of Quasi-1D $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$ at Very High Magnetic Field¹ CARLOS A.M. DOS SANTOS, Escola de Engenharia de Lorena - USP, J. MORENO, NAMS, The Richard Stockton College of New Jersey, B.D. WHITE, J.J. NEUMEIER, Montana State University, L. BALICAS, NHMFL-Tallahassee — Recently, photoemission experiments, band structure calculations, tunneling, and the description of the electrical resistivity by two power-law terms suggest that $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$ is an excellent example of a metallic Luttinger-liquid (LL) [a,b]. The crossover from metallic to insulating-like behavior near $T_M = 28$ K was addressed by thermal expansion experiments which suggest that a dimensional crossover sets the stage for superconductivity [b]. To obtain more information about the crossover at T_M , magnetoresistance measurements were performed under very high magnetic field ($0 < H < 23$ tesla). The results show that the minimum at T_M increases with increasing H . The power-law temperature dependence of the electrical resistance at $T_M(H)$ is also evaluated. [a] C. A. M. dos Santos, M. S. da Luz, Yi-Kuo Yu, J. J. Neumeier, J. Moreno, and B. D. White. Submitted to Phys. Rev. Let. (2007). [b] C. A. M. dos Santos, B. D. White, Yi-Kuo Yu, J. J. Neumeier, and J. A. Souza, Phys. Rev. Let. **98**, 266405 (2007).

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