

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Anomalous transport measurements in overdoped high-temperature superconductors AGUSTO GALVIS, HECTOR CASTRO — A fundamental question in understanding the phenomenon of superconductivity in the high temperature superconductors (HTSC) is the possibility of describing the electrons in these materials in the frame of the Fermi Liquid theory. In the phase diagram of temperature vs. doping we find four different phases: Antiferromagnetic, Pseudogap, Marginal Fermi Liquid and Fermi Liquid. This work is focused in the study of Fermi Liquid zone, which appears at high doping (overdoped region). It has been generally assumed, without much study, that the behaviour of this zone is that of a normal metal. Nevertheless, our measurements, and data from other researchers show different behaviour. We have measured resistivity and Hall effect vs. temperature in overdoped YBaCaCuO thin films. The anomalous transport properties presented in this region is argued in our conclusions to be evidence of a non Fermi Liquid behavior.

Augusto Galvis

Date submitted: 27 Nov 2007

Electronic form version 1.4