Abstract for an Invited Paper
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Quantum Oscillations in underdoped YBCO: the nature of Fermi surface reconstruction and evolution toward the Mott insulating regime

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I will present results of quantum oscillation measurements we have measured in underdoped $YBCO_{6+x}$ that reveal a small Fermi surface. Results of angular dependent measurements enable us to obtain clues as to the nature of order that reconstructs the Fermi surface. I will also present results of doping-dependent measurements that enable us to trace Fermi surface evolution as the insulating regime is approached. Work was performed in collaboration with N. Harrison, G. G. Lonzarich, C. Mielke, R. Liang, D. Bonn and W. Hardy