

Abstract Submitted  
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**Quantum oscillations and Fermi surface in underdoped  $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$**  NICOLAS DOIRON-LEYRAUD, Universite de Sherbrooke, CYRIL PROUST, LNCMP Toulouse, DAVID LEBOEUF, Universite de Sherbrooke, JULIEN LEVALLOIS, LNCMP Toulouse, JEAN-BAPTISTE BONNEMAISON, Universite de Sherbrooke, RUIXING LIANG, DOUG BONN, WALTER HARDY, University of British Columbia and CIAR, LOUIS TAILLEFER, Universite de Sherbrooke and CIAR — We report quantum oscillations in the transport properties of  $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$  at 10% doping, showing that a well-defined Fermi surface with closed orbits is a fundamental property of underdoped cuprates. In contrast with the large Fermi surface seen on the overdoped side, we observe a very small orbit whose area is only 1.9% of the Brillouin zone. Such a small Fermi surface does not come from the band structure of  $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$  and is most likely the result of a reconstruction.

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