

## Arcs versus Pockets – To d-wave or not to d-wave, that is the question

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Upon underdoping, cuprates undergo a dramatic breaking apart of the Fermi surface that is a prelude to the Mott insulating phase. The nature of this “Fermi surface”, though, is the subject of much debate. Some photoemission experiments reveal the presence of temperature dependent Fermi arcs, consistent with lifetime broadened d-wave nodes. Others indicate the formation of a nodal hole pocket. Quantum oscillation experiments instead reveal the presence of a small electron pocket. STM data are consistent with an umklapp boundary, which has also been invoked in certain pocket scenarios. In this talk, I will discuss the ins and outs of the various data and the theories meant to explain them, and what this tells us about the physics of doped Mott insulators.