

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

The Electronic Structure of (La, Ce)Te₂ System: Interplay between different degrees of freedom DANIEL GARCIA, SHUYUN ZHOU, Department of Physics UC Berkeley, GEY-HONG GWEON, Department of Physics UC Berkeley, MSD Lawrence Berkeley National Lab CA 94720, JEFF GRAF, MSD Lawrence Berkeley National Lab CA 94720, CHRIS JOZWIAK, Department of Physics UC Berkeley, MYUNG-HWA JUNG, National Research Laboratory for Material Science, Korea Basic Science Institute, Korea, ALESSANDRA LANZARA, Department of Physics UC Berkeley, MSD Lawrence Berkeley National Lab CA 94720 — Rare earth tellurides (La,Ce)Te₂ are interesting layered materials showing Charge Density Wave (CDW) formation with transition temperature of the order of 1000K. By substituting La with Ce, coexistence between magnetism and CDW is observed. Angle resolved photoemission spectroscopy (ARPES) is an ideal tool to study the competition and coexistence of these two phases, since it directly probes quasiparticles and many-body interaction. Here we report a detailed ARPES study as a function of momentum, temperature and composition of the (La, Ce)Te₂ system. The Fermi surface geometry in the CDW phase, the formation of the CDW gap and its anisotropy, as well as the ARPES lineshapes will be presented. The competition and cooperation between different degrees of freedom will be discussed.

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Date submitted: 03 Dec 2004

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