

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Fermi-surface instabilities in the presence of spin-orbit coupling

CHRISTIAN PLATT, MARIO FINK, WERNER HANKE, RONNY THOMALE,
University of Wuerzburg — Besides its relevance in the formation of topological insulators, the effect of spin-orbit coupling also gives rise to novel types of superconductivity and unprecedented spin- and charge orders. Due to the progress in the fabrication of tailored materials and surfaces, these novel states-of-matter now become accessible and can be investigated by different experimental probes. Within the theoretical framework of functional renormalization group, we study the effect of spin-orbit coupling on the emergence of Fermi-surface instabilities. Starting from an ab-initio model input, we compare our results with recent experiments performed on the metallic surface states of half-Heusler compounds.

Christian Platt
University of Wuerzburg

Date submitted: 14 Nov 2014

Electronic form version 1.4