MAR17-2016-001534

Abstract for an Invited Paper for the MAR17 Meeting of the American Physical Society

Quantum oscillations from surface Fermi arcs and bulk chiral modes in Weyl semimetals YI ZHANG, Cornell University

I will discuss our results on the quantum oscillations in generic Weyl semimetals from exotic cyclotron orbits that consist of surface Fermi arcs and bulk chiral modes. The semiclassical quantization conditions are consistent with numerical implementation of a layered construction of Weyl semimetals. Interesting experimental implications will also be discussed, including magic magnetic-field angles where quantum oscillations become independent of the sample thickness and the persistence of these quantum oscillations to disorder as the sample thickness exceeds the quantum mean free path.