

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Electronic properties of two inequivalent surfaces in MoTe₂ studied by quasi-particle interference¹ DAVIDE IAIA, YAN SHICHAO, VIDYA MADHAVAN , Department of Physics, University of Illinois — MoTe₂ has received renewed interest due to its topological properties. At a temperature below 250 K, MoTe₂ is a type II Weyl semimetal hosting three-dimensional (3D) linearly dispersing states with well defined chirality. Nodes in this 3D dispersion are called Weyl points. Weyl points of opposite chirality are expected to be connected by topologically protected Fermi arcs. In this talk we discuss low temperature scanning tunneling microscopy studies of the electronic structure of MoTe₂. The electronic properties are studied using quasi-particle interference technique which allows us to resolve Fermi arcs features and to clearly distinguish between two inequivalent MoTe₂ surfaces. Our results provide important contributions to further our understanding of the electronic properties of this new and exotic class of materials.

¹National Science Foundation (NSF)

DAVIDE IAIA
Department of Physics, University of Illinois

Date submitted: 10 Nov 2016

Electronic form version 1.4