

Two Types of Weyl Semimetals

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I will present new developments in the theory of topological metal. A Weyl semimetal phase has been predicted to exist in TaAs and related families of compounds and has recently been discovered experimentally. In WTe₂ and MoTe₂, a new type of Weyl semimetal, missed by Weyl, was predicted and awaits discovery. I will present a general theoretical route to obtain Weyl semimetals, I also present experimental evidence of the nonlocal nature of the electron motion in the Fermi arcs of a Weyl semimetal - evidence that an electron injected on one surface travels through the bulk (onto the other surface).