

Abstract Submitted  
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**Angle resolved photoemission study on the electronic structure of potential 3D Dirac semimetal, KMgBi** BINBIN FU, JUNZHANG MA, Chinese Academy of Sciences (CAS), NAN XU, CHRISTIAN MATT, Paul Scherrer Institut, TIAN QIAN, Chinese Academy of Sciences (CAS), MING SHI, Paul Scherrer Institut, DING HONG, Chinese Academy of Sciences (CAS), HONG DING TEAM, MING SHI COLLABORATION — Three dimensional Dirac semimetal is a new topological quantum state with discrete touching points, hosting Dirac fermion, in momentum space. Both type-I and type-II Dirac semimetals have already been predicted and verified by angle resolved photoemission spectroscopy (ARPES). However, experimental evidences of topological phase transitions between various topological semimetal states are still deficient. KMgBi is supposed to be a perfect Dirac semimetal candidate lying on the boundary of type-I and type-II phases. In this talk will present some interesting results of ARPES study on KMgBi, by changing the elements composition and doping level.

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