Contribution ID: **248** Type: **poster**

Surface and Bulk Rashba Splittings In Noncentrosymmetric BiTeI

Thursday, 19 September 2013 12:30 (2 hours)

In systems lacking bulk inversion symmetry the Kramer's degeneracy can be lifted by spin-orbit interaction giving rise to Dresselhaus or Rashba effects. Materials in the class of layered bismuth tellurohalides, such as BiTeI, have a layered and noncentrosymmetric structure with a giant Rashba-type splitting of the bulk bands. We present direct measurements of the bulk band structure of BiTeI measured with soft x-ray angle-resolved photoemission (ARPES), revealing the three-dimensional Fermi surface. The observed spindle torus shape bears the potential for a topological transition in the bulk by doping. Moreover, the bulk electronic structure is clearly disentangled from the two-dimensional surface electronic structure by means of high-resolution and spin-resolved ARPES measurements in the ultra-violet regime.

Primary author: LANDOLT, Gabriel (Paul Scherrer Institut)

Presenter: LANDOLT, Gabriel (Paul Scherrer Institut)

Session Classification: Poster session II and lunch