

## **Fermiology and order parameter of iron-based superconductors from ARPES**

Sergey Borisenko  
Institut fuer Festkoerper - und Werkstofforschung

We use angle-resolved photoemission spectroscopy at very low temperatures to study many families of iron-based superconducting materials. The electron dynamics at low energies is described by band structure calculations only on a very qualitative level. Fermi surface seen in ARPES strongly deviates from the convenient simple model with nested circular double sheets of different topology in the center and corners of the Brillouin zone. In spite of clear signatures of coupling to the magnetic resonant mode in some of the compounds, the structure and symmetry of the order parameter in some of the members of the family cannot be easily explained by the conventional spin-fluctuations.