



Contribution ID: 61

Type: Poster

【136】 Dimensional crossover during charge density wave formation in quasi-one-dimensional NbSe₃

Wednesday 29 August 2018 18:37 (1 minute)

One-dimensional (1D) materials are important model systems. We present a high energy resolution ARPES study of NbSe₃, a quasi-1D bulk material exhibiting three-dimensional charge density wave (CDW) phases at low temperature. Synchrotron measurements reveal CDW gaps in the electronic structure at energies well below the Fermi level (E_F) [1], while ultra-high energy resolution laser ARPES at 6 eV uncovers previously obscured gaps at E_F . A comparison to spectral function calculations highlights the importance of inter-chain coupling in the CDW formation. Concurrently we observe a change in the dimensional behavior of NbSe₃ with temperature and extract the crossover energy scale [1]. Such considerations are generally applicable to low-dimensional materials.

1. C. W. Nicholson *et al.*, Phys. Rev. Lett. 118, 206401 (2017).

Authors: Dr NICHOLSON, Christopher W. (University of Fribourg); Prof. MONNEY, Claude (University of Fribourg)

Co-authors: Dr BERTHOD, Christophe (University of Geneva); Dr SCHWIER, Eike (Hiroshima Synchrotron Radiation Centre); Dr PUPPIN, Michele (EPFL); Prof. WOLF, Martin (Fritz Haber Institute of the Max Planck Society); Dr HOESCH, Moritz (Deutsches Elektronen-Synchrotron)

Presenter: Dr NICHOLSON, Christopher W. (University of Fribourg)

Session Classification: Poster Session

Track Classification: Condensed Matter Physics (KOND)