

## O 42: Invited talk (Rossnagel, Kai)

Time: Wednesday 9:30–10:15

Location: H36

**Invited Talk**

O 42.1 Wed 9:30 H36

**Electrons in quasi two dimensions: Revelations from photoemission mapping, microscopy, and filming** — •KAI ROSSNAGEL  
— Christian-Albrechts-Universität zu Kiel, D-24098 Kiel, Germany

Layered transition-metal dichalcogenides are quasi-two-dimensional solids—consisting of three-atom-thick hexagonal crystal sandwiches—that are particularly famous for three things: a strong electron-phonon coupling leading to various charge-density-wave phases as well as superconductivity, the intercalation by foreign atoms and molecules which enter the van der Waals gaps between the sandwiches, and the formation of misfit layer compounds which result from alternate stack-

ing with cubic monochalcogenide slabs and lack full three-dimensional periodicity. All three phenomena are intimately connected to the electronic structure of the host dichalcogenide sandwiches and can result in profound changes of their electronic properties. In this talk, these changes will be explored for selected systems using synchrotron-based photoemission spectroscopy techniques with high momentum, position, and time resolution. The questions discussed include: Does angle-resolved photoemission spectroscopy measure bulk electronic properties for layered compounds? Why do charge-density waves occur, and how fast are they formed? How can the surface electronic properties be tuned in a controlled and non-destructive way? What binds the slabs together in misfit layer compounds?