



Contribution ID: 13

Type: **Talk**

【602】 Investigating the ultrafast dynamics of the charge-ordered states in IrTe₂

Wednesday 29 June 2022 15:00 (15 minutes)

The material 1T-IrTe₂ is a transition-metal dichalcogenide with a substantial coupling across the planes. Upon cooling, it undergoes a first-order phase transition at about 278 K from a $1 \times 1 \times 1$ phase into a $5 \times 1 \times 5$ phase. Here, we present a time-resolved x-ray photoemission spectroscopy (tr-XPS) and a time-resolved angle resolved photoemission spectroscopy (tr-ARPES) studies using the FLASH free electron laser combined with an optical laser. We reveal the dynamics of the first phase transition and highlight that there exists a threshold fluence above which a partial phase transition takes place. In parallel, we perform a tr-ARPES study, which allows us to support our deductions.

Authors: RUMO, Maxime; NICHOLSON, Christopher (University of Fribourg); KREMER, Geoffroy (Université de Fribourg); SALZMANN, Björn (Universität Fribourg); PULKKINEN, Aki; HEBER, Michael; WIND, Nils; SCHOLZ, Markus; PRESSACCO, Federico; KUTNYAKHOV, Dmytro; MA, Keyuan; BRENNER, Guenter; VON ROHR, Fabian (University of Zurich); MONNEY, Claude (University of Fribourg)

Presenter: RUMO, Maxime

Session Classification: Nonequilibrium properties of quantum materials

Track Classification: Nonequilibrium properties of quantum materials