



# EINLADUNG zum IFP-SEMINAR

## Magneto-optical infrared studies of the Weyl semimetals TaAs, TaP and NbP

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Host: A. Pimenov  
Termin: Mittwoch, 17. Mai 2017, 16:00 Uhr  
Ort: Institut für Festkörperphysik, TU Wien  
Wiedner Hauptstraße 8-10, 1040 Wien  
Seminarraum DC rot 07 (roter Bereich, 7. OG)

### Abstract:

We report on infrared and magnetotransport measurements of the Weyl semimetals TaAs, TaP, and NbP in zero magnetic field and in fields of up to 30 T. In all compounds, we can reliably trace the optical transitions between different Landau levels. The transition frequencies demonstrate a square-root field dependence, typical for the linearly dispersed bands. In TaP, we can also see a sizeable shift of the plasma edge in magnetic field and interplay between this plasma-edge shift and the Landau-level transitions. We compare the optical spectra of the three compounds, describe the spectra by the recent models for the (magneto)optical response of Weyl semimetals, and extract such parameters as the Fermi velocities of the carriers in the Weyl bands and the positions of the Fermi levels relative to the Weyl points.