



# EINLADUNG zum IFP-SEMINAR

## **$\text{EuCd}_2\text{As}_2$ : from Weyl semimetal to magnetic semiconductor**

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Host: Andrej Pustogow  
Termin: Mittwoch, 26.06.2024, 16:00 Uhr  
Ort: TU Wien, Freihausgebäude  
Wiedner Hauptstraße 8-10, 1040 Wien  
Seminarraum DC rot 07 (roter Bereich, 7. OG)

### **Abstract:**

$\text{EuCd}_2\text{As}_2$  was widely accepted as a topological semimetal in which a Weyl phase is induced by an external magnetic field. In recent PRL 131, 186704 (2023), we challenged this view through firm experimental evidence using a combination of electronic transport, optical spectroscopy, and excited-state photoemission spectroscopy. We show that the  $\text{EuCd}_2\text{As}_2$  is, in fact, a magnetic semiconductor with a gap of 0.77 eV in contrast to many *ab initio* computations carried out within the local spin-density approximation. In this talk, among others I will present our recent work on magnetotransport measurements, which shows colossal negative magnetoresistance and anomalous Hall effect in the insulating samples of  $\text{EuCd}_2\text{As}_2$ .

### **Supported by:**

