

**NANO-SEMINÁŘ**  
**a seminář projektu NANOCENT**  
**čtvrtek, 2. 3. 2023, 14:00,**  
**posluchárna F2, MFF UK, Ke Karlovu 5**

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## **Magneto transport phenomena in altermagnets**

In altermagnets [1], spin polarization in both crystal-structure real space and electronic-structure momentum space alternates and, consequently, it enables effects that were believed to be exclusive to ferromagnets. Many of the predicted altermagnetic phenomena [2] await their experimental confirmation.

In this seminar, we will introduce the concept of altermagnets. We will present a magnetotransport characterization of two altermagnetic materials – semiconducting MnTe [3] and metallic RuO<sub>2</sub>. Furthermore, we will discuss which contributions to the measured transversal and longitudinal signals can be signatures of the unconventional altermagnetic phase. Finally, we will refer to ongoing transport experiments in these materials.

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### References

- [1] L. Šmejkal et al., Phys. Rev. X. 12.031042 (2022)
- [2] L. Šmejkal et al., Phys. Rev. X. 12.011028 (2022)
- [3] R. D. Gonzalez Betancourt et al., Phys. Rev. Lett. 130, 036702