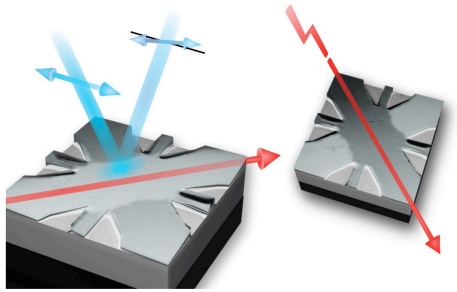
Physikalisches Kolloquium

SFB 1432

Universität Konstanz

Di 01.02.22
15:15 Uhr
A 701

Prof. Dr. Mathias Kläui
Johannes Gutenberg-Universität Mainz



Antiferromagnetic Insulatronics: Spintronics without magnetic fields

While known for a long time, antiferromagnetically ordered systems have previously been considered, as “interesting but useless”. However, since antiferromagnets potentially promises faster operation, enhanced stability and higher integration densities, they could potentially become a game changer for new spintronic devices. Here I will show how antiferromagnets can be used as active spintronics devices by demonstrating the key operations of “reading” [1], “writing” [2], and “transporting information” [3] in antiferromagnets.

[1] S. Bodnar et al., Nature Commun. 9, 348 (2018); L. Baldrati et al., Phys. Rev. Lett. 125, 077201 (2020)
[2] L. Baldrati et al., Phys. Rev. Lett. 123, 177201 (2019); H. Meer et al., Nano Lett. 21, 114 (2020); S. P. Bommanaboyena et al., Nature Commun. 12, 6539 (2021);
[3] R. Lebrun et al., Nature 561, 222 (2018). R. Lebrun et al., Nature Commun. 11, 6332 (2020).