

Advanced concepts: Antiferromagnetic spintronics

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Spintronics is enabling the virtually unlimited storage space on the internet and is among the leading candidates for the “beyond Moore” information technologies. The most advanced principles of spintronic devices developed over the past decade have brought an unexpected turn in their research. They allowed for including antiferromagnets as candidate materials for spintronics. Among the unique features of antiferromagnets is the absence of stray fields and the terahertz speed of writing information. We will give a taste in the lecture of the quantum-relativistic tricks behind antiferromagnetic spintronics and of the steps already made towards antiferromagnetic memories.

P. Wadley et al. Science 351, 587 (2016); T. Jungwirth et al. Nature Nanotech. 11, 231 (2016)