

On-line SPICE-SPIN+X Seminars



Wednesday, 24st March 2021, 15:00 (German Time)

The seminar will be via Zoom ([Meeting ID: 841 4174 5448](#)) and live streamed in the SPICE YouTube Channel.

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Optical and Electrical Detection of Spin-Orbit Fields



Interfacial spin-orbit fields enable the manipulation of the magnetization through in-plane charge currents in e.g. bilayers of ferromagnets and heavy metals. To obtain a detailed understanding of the origin of the acting spin orbit fields – i.e. the spin Hall effect vs. the inverse spin galvanic effect – one needs to be able to unambiguously separate field-like and damping like torques. We use a ferromagnet/semiconductor model system to determine spin orbit fields using optical and electrical detection techniques. In this talk I will review the mechanisms we have identified to be responsible for exciting magnetization dynamics in this model system and show how the measurement of the time resolved magnetization trajectory may further provide information concerning the underlying microscopic mechanisms.