

Seminar: Hard Condensed Matter Theory

Room: Galilei room, 01-128 (Staudingerweg 9)

Time: July 12, 2018 at 14:00

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Probing antiferromagnets with currents

In my presentation I will discuss the applicability of spin pumping as a technique to probe spin fluctuations. We examined temperature-dependent ferromagnetic relaxation in thin NiFe films and how it was affected by spin fluctuations in adjacent spin-sinks with a range of ordered and electrical states: ferromagnets (Tb); antiferromagnets (NiO, NiFeOx, BiFeO3, exchange-biased IrMn, and unbiased IrMn); superconductors (NbN); metals (Tb, IrMn); and insulators (NiO, NiFeOx, BiFeO3). Our results show that the technique is generic and functions regardless of whether the probe involves spin-wave-like or electronic-like transport.

Beyond spin currents, I will finally present a stimulating example of how antiferromagnetic and superconducting spintronics may envision a common future by showing how it is possible to infer some essential information about antiferromagnetic domain walls using Cooper pair currents and interface proximity effects in IrMn/NbN heterostructures.

All interested are cordially welcome!