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Nichtgleichgewichtsdynamik kondensierter
Materie in der Zeitdomäne

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Spin and Magnetization Dynamics due to Spin-Orbit Coupling and Electron-Phonon Scattering

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This talk will start with an introduction to the basic problems involved in the ultrafast demagnetization of ferromagnets and the deterministic magnetic switching in multi-sublattice magnets.

It will then focus on simple model systems, such as the ferromagnetic Rashba model, which contain spin-orbit coupling, mean-field ferromagnetism, and a realistic electron-phonon coupling. Using these model system, it is possible to obtain a comprehensive picture of electronic spin dynamics due to electron-phonon scattering. It is shown that, if spin dynamics occur due to electron-phonon coupling, this can be visualized as incoherent spin-flip scattering processes, but is really determined by 'coherent' precessional dynamics around internal fields in ferromagnets.

Für diese Zeit steht eine Kinderbetreuung nach vorheriger Anmeldung zur Verfügung.

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