



UNIVERSITÄT
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Fakultät für Physik und
Erdsystemwissenschaften

Prof. Dr. J. Deiglmayr
Prof. Dr. I. Sodemann

Physics Colloquium

Tuesday, 18 June 2024 at 16:30

Prof. Dr. Amit Finkler

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Weizmann Institute of Science

Building blocks for nanoscale magnetic resonance imaging

Telling apart two spins in a single molecule is a daunting task, and yet this is precisely the goal of nanoscale magnetic resonance imaging (nanoMRI), with the ultimate aim of determining structure, function and dynamics.

In this talk I will first outline the potential benefits of this capability, from fundamental physics to drug discovery. Then, I will describe the overarching scientific dogma of my research group, making use of a quantum emitter in the form of the nitrogen-vacancy center in diamond as its central sensor. Finally, I will describe our work on the building blocks necessary to achieve our nanoMRI aim.

These span magnetic tomography of electron spins with sub-angstrom precision, Bayesian inference for a boost in acquisition time, and strong driving of nuclear spins going beyond the rotating frame approximation.



Venue: Universität Leipzig, Faculty of Physics and Earth Sciences
04103 Leipzig, Linnéstraße 5, Small Lecture Hall

Everyone is welcome to a reception with coffee, drinks and cookies in the Aula following the talk.

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