HYP*MOL

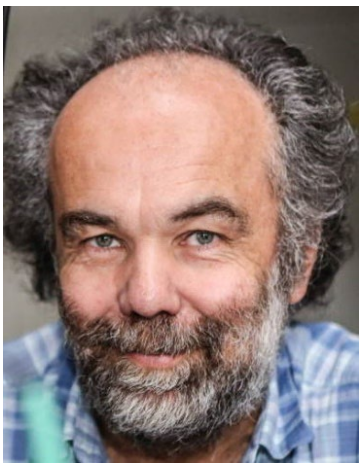
HYPERPOLARIZATION
IN MOLECULAR SYSTEMS

TRR-386

DFG Deutsche Forschungsgemeinschaft

Joint Colloquium of the TRR-386 and the Institute of Physics

Hörsaalgebäude, TU Chemnitz, Reichenhainer Straße 90
8 May 2025, 15:30 h, N013



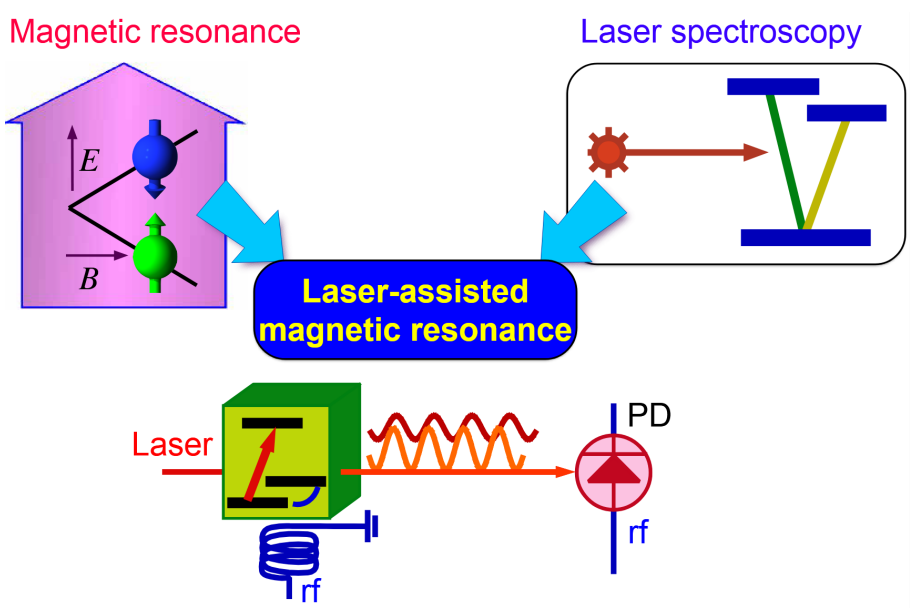
Prof. Dr. Dieter Suter

TU Dortmund

Magnetic Resonance at the Limit : High-sensitivity magnetic resonance of small samples

Magnetic resonance is generally acknowledged for its universality and its high information content. One of the main limitations is its low sensitivity, compared to other modalities. Various lines of research have improved this sensitivity over time, reaching the ultimate limit with experiments on individual spins - electronic as well as nuclear ones. The systems that allow such experiments include molecular as well as inorganic systems. A particularly popular case is the nitrogen-vacancy (NV) center in diamond, which consists of an electronic spin S=1 and nuclear spins 14N and 13C.

This system has interesting properties for many applications in emerging quantum technologies like sensing, communication and information processing. Among the different contributions to this achievement, the transfer of polarization between different reservoirs is arguably the most important one. Beyond this, the experimental apparatus can be optimized to the specific tasks and samples, using e.g. custom-designed resonators.



15.00 h pm there will be coffee and cookies in front of the lecture hall. For more information about this event, please ask Prof. Dr. G. Salvan, salvan@physik.tu-chemnitz.de or 0371-531-38319