

Einladung zu einem Kolloquium

Datum/Zeit: **Dienstag, 22.10.2024, 16.45 Uhr**

Referent: **Dr. Nino Wili**
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Titel: Pulsed control of electron-nuclear spin systems: Potential and limitations

Ort: **HCI G7**

Dynamic Nuclear Polarisation (DNP) enhances the sensitivity of NMR experiments by transferring the much higher spin polarisation of electron spins to surrounding nuclear spins. Typical DNP experiments use continuous-wave microwave irradiation to drive the polarisation transfer, but recently, pulsed DNP caught some attention. I will show some recent results from a home-built pulse EPR/DNP spectrometer, and discuss under which conditions pulsed DNP can be expected to outperform CW operation (and where not).

Additionally, I will show some intriguing methods and observations that use pulsed DNP for „more“than pure NMR signal enhancement. For example, the improved excitation of „forbidden“ electron-nuclear coherences, or the coherent inversion of the DNP process where the spin system appears to evolve backwards in time.

Gäste sind willkommen