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Electron Paramagnetic Resonance II

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Message from the Guest Editors

Dear Colleagues,

Electron paramagnetic resonance (EPR) is the tool of choice to probe the dynamics, interactions, and structure of electron spin. Structural, electric, and magnetic changes during phase transitions immediately affect the EPR line of materials for nanotechnology. High field/frequency EPR can probe the large anisotropy of single molecular magnets, as well as the integer spins resonance. Modern pulsed EPR techniques, provide the ability to access the near nuclear environment, through measurements of super-hyperfine interactions, but also long-range electron–electron dipolar (ELDOR) interactions. EPR imaging provides a high sensitivity of electron spins' spatial and spectral/spatial distribution. Coherent manipulation of the spin by EPR is an open-access to the quantum computation science and manipulation of qubits. In this Special Issue, we are hoping to offer the possibility to present new achievements using this technique.

Keywords

- CW EPR, pulsed EPR
- hyperfine probing (ESEEM, HYSCORE, etc.)
- distance probing (DEER)
- EPR imaging
- broadband EPR (AWG)
- high field/frequency EPR
- single molecule magnets
- MOFs
- quantum information processing

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Special Issue