

Special Issue

Quantum Magnetic Sensors and Magnetochemistry

Message from the Guest Editors

Many sophisticated research experiments and applications rely on the measurement of extremely weak magnetic fields (biomagnetism, nanomagnetism, molecular magnetism, magnetic microscopy, etc.). Hence, in recent decades, many efforts have been devoted toward the development of different ultrasensitive magnetic sensors, such as the atomic magnetometer based on the detection of the Larmor spin precession of optically pumped atoms, hybrid magnetometers based on giant magnetoresistance spin valves, diamond magnetometers based on nitrogen-vacancy centers in room-temperature diamond, and micro and nano superconducting quantum interference devices (SQUIDS). In addition, in the last years, molecular magnetism with the re-introduction of lanthanide ions as spin carriers in magnetic molecules is very promising in view of the applications to spintronic devices, qubit, and multifunctional materials. The aim of this Special Issue is to present an overview of the development of magnetic quantum sensor and their applications. Both original research articles and reviews are encouraged.

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