



Optically Pumped Magnetometer and Its Application

Guest Editors:

Dr. Jixi Lu

Associate Professor, School of
Instrumentation and
Optoelectronic Engineering,
Beihang University, Beijing
100191, China

Dr. Yao Chen

Assistant Professor, School of
Mechanical Engineering, Xi'an
Jiaotong University, Xi'an 710049,
China

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Message from the Guest Editors

Optically pumped magnetometers (OPMs) are a class of atomic devices that rely on the measurement of the Larmor precession of atoms' spin in the magnetic field. They need the specific frequency light to complete the pumping and detection process. OPMs operating in zero-field can realize the spin-exchange relaxation-free (SERF) regime, thereby promoting a substantial increase in sensitivity, which has developed rapidly in recent years. There are a large number of groups engaged in the research of relevant mechanisms, devices, technologies and applications. More importantly, supported by MEMS technology and micro/nano optics, OPMs have the potential to move toward chip-scale sensors. This Special Issue is expected to advance OPMs and address related scientific and technological problems common to atomic magnetometers.

Potential topics include, but are not limited to: Novel principles and technology for OPMs; Advanced manufacturing and integration technologies; Effective means in low-noise magnetic fields; Research and design of core components of OPMs; Applications of OPMs in advanced fields.

