

Special Issue

Optically-Enhanced Atomic Spin Sensors

Message from the Guest Editors

Atomic spin sensors, leveraging the quantum properties of atomic spins, have emerged as a transformative technology for precision measurements in fields such as magnetometry, inertial navigation, and timekeeping.

This Special Issue highlights the latest advancements in optically enhanced atomic spin sensors, showcasing innovative methodologies, novel materials, and cutting-edge applications. This Special Issue aims to “Optically-Enhanced Atomic Spin Sensors”. All theoretical, numerical, and experimental papers are accepted. Topics include, but are not limited to, the following:

- Theoretical studies on atomic spin dynamics and optical interactions;
- Optical pumping and detection;
- High-performance laser systems;
- Design and optimization of atomic vapor cells;
- Magnetic field control and shielding techniques;
- Temperature control and atomic density regulation techniques;
- Multi-atomic ensemble synergistic enhancement methods;
- Noise suppression and signal enhancement techniques;
- Improvements in sensitivity, resolution and dynamic range.

We look forward to receiving your contributions.

Guest Editor

Guest Editors

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About the Journal

Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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