Special Issue

Hybrid Quantum Magnonics

Message from the Guest Editors

The past decade has witnessed rapid and significant development in the field of cavity magnonics and hybrid systems based on magnons. This Special Issue is devoted to covering a variety of currently hot topics in hybrid systems based on magnons. These include the coupling between magnons and microwave cavity photons (electromagnonics), optical photons (optomagnonics), phonons (magnomechanics), superconducting qubits, etc. Topics include but are not limited to the following:

- Non-classical states of microwave and optical fields;
- Macroscopic quantum states of magnons and phonons;
- Microwave-to-optics conversion;
- Nonreciprocal microwave and optical transmission;
- Kerr nonlinearity, including magnon self-Kerr and magnon–phonon cross-Kerr;
- Magnomechanically induced transparency and absorption;
- Magnon/photon blockade, antibunching, and frequency combs;
- Magnon/phonon laser and chaos;
- Magnetometry and thermometry;
- Magnon-based weak field sensing;
- Non-Hermitian and parity-time related physics;
- Connection between magnomechanics, optomagnonics and optomechanics.

Guest Editors

Prof. Dr. Jie Li

Prof. Dr. Huatang Tan

Prof. Dr. Hao Xiong

Deadline for manuscript submissions

closed (15 June 2025)

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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.

Editor-in-Chief

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