



Hybrid Quantum Magnonics

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Message from the Guest Editors

Dear Colleagues,

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.

Special Issue