Meng Sun (孙孟)

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Born: December 30, 1989—Beijing, P.R. China
Nationality: Chinese
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Areas of specialization

- Exciton polaritons loaded in artificial lattices; Topological and non-Hermitian properties;
- Numerical simulation of Gross–Pitaevskii equation;
- Hybrid Bose-Fermi systems;

Education & Work History

2023–Now Lecturer, Beijing University of Technology, Beijing, China
2019–2023 Postdoc, Institute for Basic Science, Deajeon, South Korea
2015–2019 PhD in Physics, University of Science and Technology, Daejeon, South Korea
Supervisors: Prof. Ivan Savenko and Prof. Sergej Flach;
2019–2023 Researcher, Institute for Basic Science, Center for Theoretical Physics of Complex System, Daejeon, South Korea
2012–2015 Msc in Physics, Beijing University of Technology, Beijing, China
2008–2012 Bsc in Applied Physics, Beijing University of Technology, Beijing, China

Publications

H. Shan et al., 2023, Second-Order Temporal Coherence of Polariton Lasers Based on an Atomically Thin Crystal in a Microcavity. **Phys. Rev. Lett. 2023, 131 (20), 206901**.
D. Ko, M. Sun, V. Kovalev, and I. Savenko, Bogolon-Mediated Light Absorption in Atomic Condensates of Different Dimensionality, **Sci Rep 13, 1 (2023)**.
D. Choi et al., 2022, Observation of a Single Quantized Vortex Vanishment in Exciton-Polariton Superfluids, **Phys. Rev. B 105, L060502 (2022)**.
M. Sun, A. V. Parafilo, K. H. A. Villegas, V. M. Kovalev, and I. G. Savenko, Theory of BCS-like Bogolon-Mediated Superconductivity in Transition Metal Dichalcogenides, **New Journal of Physics**

23, 023023 (2021).

T. H. Harder et al., Coherent Topological Polariton Laser, **ACS Photonics 8, 1377 (2021)**.

M. Sun, A. V. Parafilo, K. H. A. Villegas, V. M. Kovalev, and I. G. Savenko, Bose–Einstein Condensate-Mediated Superconductivity in Graphene, **2D Materials 8, 031004 (2021)**.

M. Sun, A. V. Parafilo, V. M. Kovalev, and I. G. Savenko, Strong-Coupling Theory of Condensate-Mediated Superconductivity in Two-Dimensional Materials, **Phys. Rev. Research 3, 033166 (2021)**.

D. Ko, M. Sun, A. Andreanov, Y. G. Rubo, and I. G. Savenko, Partial Quantum Revivals of Localized Condensates in Distorted Lattices, **Opt. Lett. 45, 1571 (2020)**.

K. H. A. Villegas, M. Sun, V. M. Kovalev, and I. G. Savenko, Unconventional Bloch-Grüneisen scattering in hybrid Bose-Fermi systems, **Phys. Rev. Lett. 123, 095301 (2019)**.

M. Sun, K. H. A. Villegas, V. M. Kovalev, and I. G. Savenko, Bogolon-mediated electron scattering in graphene in hybrid Bose-Fermi systems, **Phys. Rev. B 99, 115408 (2019)**.

S. Yoon, M. Sun, Y. G. Rubo, I. G. Savenko, Phase selection and intermittency of exciton-polariton condensates in one-dimensional periodic structures, **Phys. Rev. A 100, 023609 (2019)**.

M. Sun, I. G. Savenko, S. Flach and Y. G. Rubo, Excitation of localized states in flat band of exciton-polariton Lieb Lattice, **Phys. Rev. B Rapid Communications 98, 161204(R) (2018)**.

M. Sun, I. G. Savenko, H. Flayac and T. C. H. Liew, Multivalley engineering in semiconductor microcavities, **Scientific Reports, 7, 45234 (2017)**.

M. Sun and Y. C. Huang, Thermodynamic Fluctuation In Black String Flow, arXiv: 1505.02512[gr-qc]

M. Sun and Y. C. Huang , Kerr Black String Flow, **Nucl. Phys. B 897, 98 (2015)**.

Workshops, Conferences & Meetings

2023.7 The 41st SPP Physics Conference and Annual Meeting; Philippines, Siargao Island, Surigao del Norte; **Invited talk (online)**

2019.5 International Workshop Spintronics and Valleytronics of Two-dimensional Materials; IBS Center for Theoretical Physics of Complex Systems, Daejeon, South Korea; **Contributed talk**

2018.12 The Excitonics and Polaritonics International Conference;
Nanyang Technological University (NTU), Singapore; **Contributed talk**

2018.11 Second ICTP-Asian Network School on Condensed Matter and Complex Systems;
SUT, Nakhon Ratchasima, Thailand; **Poster**

2018.3 APS March Meeting;
Los Angeles, California, America; **Contributed poster**

2017.5 International Workshop Physics of Exciton-Polaritons in Artificial Lattices;
IBS Center for Theoretical Physics of Complex Systems, Daejeon, South Korea; **Participant**

2016.9 The International Workshop on Functional and Nanostructured Materials;
Georgian Technical University, Georgia; **Contributed talk**

2016.7 STATPHYS26;
Palais des congres, Lyon, France; **Poster**

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