



Jahanfar Abouie

Associate Professor

IASBS, Department of Physics

Publications

Journals

- J. Abouie, and M. H. Zarei, "Partially topological phase in a quantum loop gas model with tension and pressure", Phys. Rev. B, Vol. 108, pp. 165133-2023, doi: [10.1103/PhysRevB.108.165133](https://doi.org/10.1103/PhysRevB.108.165133)
- M. Rezaei, J. Abouie, and F. Nazari, "MN4 embedded graphene layers: Tunable decay rate of the RKKY interaction", Phys. Rev. B, Vol. 106, NO. 64407, 2022, doi: [10.1103/PhysRevB.106.064407](https://doi.org/10.1103/PhysRevB.106.064407)
- S. Seyedi, F. Heydarinasab, and J. Abouie, "Frustrated mixed-spin chains: Three-site interactions and flat-band magnons", Phys. Rev. B, Vol. 106, pp. 1-11, 2022, doi: [10.1103/PhysRevB.106.104412](https://doi.org/10.1103/PhysRevB.106.104412)
- N. Ahmadi, J. Abouie, R. Haghshenas, and D. Baeriswyl, "Frustrated mixed-spin ladders: Evidence for a bond-order wave phase between rung-singlet and Haldane phases", Phys. Rev. B, Vol. 106, NO. 174419, 2022, doi: [10.1103/PhysRevB.106.174419](https://doi.org/10.1103/PhysRevB.106.174419)
- M. H. Zarei, and J. Abouie, "Topological line in frustrated toric code models", Phys. Rev. B, Vol. 104, 2021, doi: [10.1103/PhysRevB.104.115141](https://doi.org/10.1103/PhysRevB.104.115141)
- S. Abdizadeh, J. Abouie, and Kh. Zakeri, "Dynamical switching



of confined skyrmions under circular magnetic field", Phys. Rev. B, Vol. 101, NO. 24409, 1, 2020, doi:

[10.1103/PhysRevB.101.024409](https://doi.org/10.1103/PhysRevB.101.024409)

- F. Heydarinasab and J. Abouie, "Mixed-spin system with supersolid phases: Magnetocaloric effect and thermal properties", Journal of Physics: Condensed Matter, Vol. 32, NO. 16, 1, 2020, doi: [10.1088/1361-648X/ab61ca](https://doi.org/10.1088/1361-648X/ab61ca)
- A. N. Zarezad, and J. Abouie, "Transport in two-dimensional Rashba electron systems doped with interacting magnetic impurities", Phys. Rev. B, Vol. 101, NO. 115412, 3, 2020, doi: [10.1103/PhysRevB.101.115412](https://doi.org/10.1103/PhysRevB.101.115412)
- N. Ahmadi, J. Abouie, and D. Baeriswyl, "Topological and nontopological features of generalized Su-Schrieffer-Heeger models", Phys. Rev. B, Vol. 101, NO. 195117, 5, 2020, doi: [10.1103/PhysRevB.101.195117](https://doi.org/10.1103/PhysRevB.101.195117)
- M. Pouranvari and J. Abouie, "Entanglement conductance as a characterization of a delocalized-localized phase transition in free fermion models", Phys. Rev. B, Vol. 100, -11, 2019, doi: [10.1103/PhysRevB.100.195109](https://doi.org/10.1103/PhysRevB.100.195109)
- F. Heydarinasab and J. Abouie, "Spin supersolid phase in coupled alternating spin chains", Scientific REPORTS, Vol. 8, NO. 7955, 2018, doi: [10.1038/s41598-018-26169-y](https://doi.org/10.1038/s41598-018-26169-y)
- J. Abouie, M. Mogharrar Jahromi and S. Abedinpour, "Magnetic properties of three-dimensional magnetic topological insulators: the effects of hexagonal warping", IJPR, Vol. 17, NO. 5, 7955, 2018
- A. N. Zarezad and J. Abouie, "Transport in magnetically doped topological insulators: Effects of magnetic clusters", Phys. Rev. B, Vol. 98, NO. 155413, 2018, doi: [10.1103/PhysRevB.98.155413](https://doi.org/10.1103/PhysRevB.98.155413)
- F. Heydarinasab and J. Abouie, "Inhomogeneous hard-core



bosonic mixture with checkerboard supersolid phase: Quantum and thermal phase diagram", Phys. Rev. B, Vol. 96, NO. 104406, 2017, doi: [10.1103/PhysRevB.96.104406](https://doi.org/10.1103/PhysRevB.96.104406)

- Z. Moradi and J. Abouie, "Entanglement spectrum of fermionic bilayer honeycomb lattice: Hofstadter butterfly", Journal of Statistical Mechanics: Theory and Experiment, Vol. 2016, NO. 113101, 2016, doi: [10.1088/1742-5468/2016/11/113101](https://doi.org/10.1088/1742-5468/2016/11/113101)
- J. Abouie and R. Sepehrinia, "Quantum-classical equivalence and ground state factorization ", EPL, Vol. 113, NO. 37005, , doi: [10.1209/0295-5075/113/37005](https://doi.org/10.1209/0295-5075/113/37005)