

Dongning Sheng

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7783069/publications.pdf>

Version: 2024-02-01

105
papers

4,871
citations

109264

35
h-index

95218

68
g-index

105
all docs

105
docs citations

105
times ranked

2883
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Quantum Spin-Hall Effect and Topologically Invariant Chern Numbers. Physical Review Letters, 2006, 97, 036808. | 2.9 | 515 |
| 2 | Fractional quantum Hall effect in the absence of Landau levels. Nature Communications, 2011, 2, 389. | 5.8 | 398 |
| 3 | Density Matrix Renormalization Group Numerical Study of the Kagome Antiferromagnet. Physical Review Letters, 2008, 101, 117203. | 2.9 | 216 |
| 4 | Plaquette Ordered Phase and Quantum Phase Diagram in the Spin- $\frac{1}{2}$ Kagome Heisenberg Model. Physical Review Letters, 2014, 113, 027201. | 2.9 | 194 |
| 5 | Emergent Chiral Spin Liquid: Fractional Quantum Hall Effect in a Kagome Heisenberg Model. Scientific Reports, 2014, 4, 6317. | 1.6 | 192 |
| 6 | Critical Properties of the Many-Body Localization Transition. Physical Review X, 2017, 7, . | 2.8 | 174 |
| 7 | Two Universality Classes for the Many-Body Localization Transition. Physical Review Letters, 2017, 119, 075702. | 2.9 | 170 |
| 8 | Chiral Spin Liquid in a Frustrated Anisotropic Kagome Heisenberg Model. Physical Review Letters, 2014, 112, 137202. | 2.9 | 152 |
| 9 | Quantum Hall effect in graphene: Disorder effect and phase diagram. Physical Review B, 2006, 73, . | 1.1 | 132 |
| 10 | Fractional quantum Hall effect in topological flat bands with Chern number two. Physical Review B, 2012, 86, . | 1.1 | 119 |
| 11 | Spin Bose-metal phase in a spin- $\frac{1}{2}$ Kagome Heisenberg model with ring exchange on a two-leg triangular strip. Physical Review B, 2009, 79, . | 1.1 | 116 |
| 12 | Global phase diagram of competing ordered and quantum spin-liquid phases on the kagome lattice. Physical Review B, 2015, 91, . | 1.1 | 109 |
| 13 | Phase string effect in the t-J model: General theory. Physical Review B, 1997, 55, 3894-3906. | 1.1 | 103 |
| 14 | Phase diagram of the spin- $\frac{1}{2}$ Kagome Heisenberg model. Physical Review B, 2010, 82, . | 1.1 | 91 |
| 15 | Disappearance of Integer Quantum Hall Effect. Physical Review Letters, 1997, 78, 318-321. | 2.9 | 90 |
| 16 | Chern number of thin films of the topological insulator Bi_2Te_3 . Physical Review B, 2010, 82, . | 1.1 | 86 |
| 17 | Robust non-Abelian spin liquid and a possible intermediate phase in the antiferromagnetic Kitaev model with magnetic field. Physical Review B, 2018, 97, . | 1.1 | 82 |
| 18 | Spin-liquid phase in an anisotropic triangular-lattice Heisenberg model: Exact diagonalization and density-matrix renormalization group calculations. Physical Review B, 2006, 74, . | 1.1 | 77 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Phase Diagram for Quantum Hall Bilayers at $\nu=1$. Physical Review Letters, 2003, 91, 116802. | 2.9 | 70 |
| 20 | Quantum paramagnetic ground states on the honeycomb lattice and field-induced Néel order. Physical Review B, 2011, 83, . | 1.1 | 68 |
| 21 | Disorder-Driven Collapse of the Mobility Gap and Transition to an Insulator in the Fractional Quantum Hall Effect. Physical Review Letters, 2003, 90, 256802. | 2.9 | 65 |
| 22 | Global phase diagram and quantum spin liquids in a spin-1/2 antiferromagnet. Physical Review B, 2017, 96, . | 2.9 | 64 |
| 23 | Fractional Quantum Hall States at $\nu=1/2$. Physical Review Letters, 2005, 94, 146805. | 1.1 | 56 |
| 24 | Interaction-Driven Spontaneous Quantum Hall Effect on a Kagome Lattice. Physical Review Letters, 2016, 117, 096402. | 2.9 | 52 |
| 25 | Time-reversal symmetry breaking superconducting ground state in the doped Mott insulator on the honeycomb lattice. Physical Review B, 2013, 88, . | 1.1 | 51 |
| 26 | Phase diagram of the frustrated spatially-anisotropic S=1 antiferromagnet on a square lattice. Physical Review B, 2009, 79, . | 1.1 | 48 |
| 27 | Variational Monte Carlo study of a chiral spin liquid in the extended Heisenberg model on the kagome lattice. Physical Review B, 2015, 91, . | 1.1 | 47 |
| 28 | Mobility gap in fractional quantum Hall liquids: Effects of disorder and layer thickness. Physical Review B, 2005, 72, . | 1.1 | 42 |
| 29 | Numerical Evidences of Fractionalization in an Easy-Axis Two-Spin Heisenberg Antiferromagnet. Physical Review Letters, 2005, 94, 146805. | 2.9 | 41 |
| 30 | Fractional Quantum Hall States at $\nu=1/2$. Physical Review Letters, 2005, 94, 146805. | 2.9 | 41 |
| 31 | Strong-coupling phases of frustrated bosons on a two-leg ladder with ring exchange. Physical Review B, 2008, 78, . | 1.1 | 40 |
| 32 | SU(4) Chiral Spin Liquid, Exciton Supersolid, and Electric Detection in Moiré Bilayers. Physical Review Letters, 2021, 127, 247701. | 2.9 | 39 |
| 33 | Variational Monte Carlo study of chiral spin liquid in quantum antiferromagnet on the triangular lattice. Physical Review B, 2016, 94, . | 1.1 | 38 |
| 34 | Robust d-Wave Superconductivity in the Square-Lattice t-J Model. Physical Review Letters, 2021, 127, 097003. | 2.9 | 38 |
| 35 | Spin Hall effect and spin transfer in a disordered Rashba model. Physical Review B, 2005, 72, . | 1.1 | 37 |
| 36 | Minimal entangled states and modular matrix for fractional quantum Hall effect in topological flat bands. Physical Review B, 2013, 88, . | 1.1 | 35 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 37 | Obtaining topological degenerate ground states by the density matrix renormalization group. Physical Review B, 2014, 89, . | 1.1 | 35 |
| 38 | Float-up picture of extended levels in the integer quantum Hall effect: A numerical study. Physical Review B, 2001, 64, . | 1.1 | 31 |
| 39 | Supersolid order of frustrated hard-core bosons in a triangular lattice system. Physical Review B, 2009, 79, . | 1.1 | 31 |
| 40 | Nature of strong hole pairing in doped Mott antiferromagnets. Scientific Reports, 2015, 4, 5419. | 1.6 | 31 |
| 41 | Fractional quantum Hall bilayers at half filling: Tunneling-driven non-Abelian phase. Physical Review B, 2016, 94, . | 1.1 | 31 |
| 42 | Bose metals and insulators on multileg ladders with ring exchange. Physical Review B, 2011, 84, . | 1.1 | 30 |
| 43 | Chiral spin liquid with spinon Fermi surfaces in the spin- $\frac{1}{2}$ triangular Heisenberg model. Physical Review B, 2019, 100, . | 1.1 | 29 |
| 44 | Randomness-induced spin-liquid-like phase in the spin- $\frac{1}{2}$ Å triangular Heisenberg model. Physical Review B, 2019, 99, . | 1.1 | 27 |
| 45 | Spin-1 Kitaev-Heisenberg model on a honeycomb lattice. Physical Review B, 2020, 102, . | 1.1 | 27 |
| 46 | Identifying Non-Abelian Topological Order through Minimal Entangled States. Physical Review Letters, 2014, 112, 096803. | 2.9 | 24 |
| 47 | Topological characterization of the non-Abelian Moore-Read state using density-matrix renormalization group. Physical Review B, 2015, 92, . | 1.1 | 23 |
| 48 | Spin Chern pumping from the bulk of two-dimensional topological insulators. Physical Review B, 2015, 91, . | 1.1 | 23 |
| 49 | Interaction-driven fractional quantum Hall state of hard-core bosons on kagome lattice at one-third filling. Physical Review B, 2016, 94, . | 1.1 | 23 |
| 50 | Possible nematic spin liquid in spin-1 antiferromagnetic system on the square lattice: Implications for the nematic paramagnetic state of FeSe. Physical Review B, 2017, 95, . | 1.1 | 23 |
| 51 | Thermoelectric and thermal transport in bilayer graphene systems. Physical Review B, 2011, 84, . | 1.1 | 22 |
| 52 | Doped Mott insulators in the triangular-lattice Hubbard model. Physical Review B, 2022, 105, . | 1.1 | 22 |
| 53 | Quantum Hall effect in bilayer graphene: Disorder effect and quantum phase transition. Physical Review B, 2009, 80, . | 1.1 | 20 |
| 54 | Two-component quantum Hall effects in topological flat bands. Physical Review B, 2017, 95, . | 1.1 | 20 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 55 | Topologically protected extended states in disordered quantum spin-Hall systems without time-reversal symmetry. Physical Review B, 2012, 85, . | 1.1 | 19 |
| 56 | Proposal for a topological spin Chern pump. Physical Review B, 2014, 90, . | 1.1 | 19 |
| 57 | Magnetic field induced spin liquids in $S=1$ Kitaev honeycomb model. Physical Review Research, 2020, 2, . | | |
| 58 | Emergent quasi-one-dimensionality in a kagome magnet: A simple route to complexity. Physical Review B, 2016, 94, . | 1.1 | 18 |
| 59 | Anisotropy-driven transition from the Moore-Read state to quantum Hall stripes. Physical Review B, 2017, 95, . | 1.1 | 18 |
| 60 | Pairing versus phase coherence of doped holes in distinct quantum spin backgrounds. Physical Review B, 2018, 97, . | 1.1 | 18 |
| 61 | Topological Interface between Pfaffian and Anti-Pfaffian Order in $5/2$ Quantum Hall Effect. Physical Review Letters, 2009, 103, 146802. | 2.9 | 18 |
| 62 | Numerical Study of Quantum Hall Bilayers at Total Filling $\nu=17$: A New Phase at Intermediate Layer Distances. Physical Review Letters, 2017, 119, 177601. | 2.9 | 17 |
| 63 | Quantum phase diagram of spin-1 $J_1\hat{z}J_2$ Heisenberg model on the square lattice: An infinite projected entangled-pair state and density matrix renormalization group study. Physical Review B, 2018, 97, . | 1.1 | 17 |
| 64 | Fractional quantum spin Hall effect in flat-band checkerboard lattice model. Physical Review B, 2014, 90, . | 1.1 | 16 |
| 65 | Hidden spin current in doped Mott antiferromagnets. Physical Review B, 2018, 98, . | 1.1 | 16 |
| 66 | Disorder-Driven Transition in the $5/2$ Fractional Quantum Hall Effect. Physical Review Letters, 2019, 123, 056804. | 2.9 | 16 |
| 67 | Theory of the zero-bias anomaly in magnetic tunnel junctions: Inelastic tunneling via impurities. Physical Review B, 2004, 70, . | 1.1 | 15 |
| 68 | Identifying spinon excitations from dynamic structure factor of spin-1/2 Heisenberg antiferromagnet on the Kagome lattice. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5437-5441. | 3.3 | 15 |
| 69 | Theory of impurity resonant tunnel magnetoresistance. Physical Review B, 2004, 69, . | 1.1 | 14 |
| 70 | Numerical study of spin Hall transport in a two-dimensional hole-gas system. Physical Review B, 2005, 72, . | 1.1 | 14 |
| 71 | Single-layer tensor network study of the Heisenberg model with chiral interactions on a kagome lattice. Physical Review B, 2019, 99, . | 1.1 | 14 |
| 72 | Possible non-Abelian Moore-Read state in double-layer bosonic fractional quantum Hall system. Physical Review B, 2015, 91, . | 1.1 | 13 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 73 | SU(N) fractional quantum Hall effect in topological flat bands. Physical Review B, 2018, 97, . | 1.1 | 12 |
| 74 | Intrinsic translational symmetry breaking in a doped Mott insulator. Physical Review B, 2018, 98, . | 1.1 | 12 |
| 75 | Quantum Phases of Transition Metal Dichalcogenide Moiré Systems. Physical Review Letters, 2022, 128, 157602. | 2.9 | 12 |
| 76 | Stacking-order dependence in thermoelectric transport of biased trilayer graphene. Physical Review B, 2012, 86, . | 1.1 | 11 |
| 77 | Single-hole wave function in two dimensions: A case study of the doped Mott insulator. Physical Review B, 2019, 99, . | 1.1 | 11 |
| 78 | Continuous phase transition between bosonic integer quantum Hall liquid and a trivial insulator: Evidence for deconfined quantum criticality. Physical Review B, 2020, 101, . | 1.1 | 10 |
| 79 | Thermoelectric transport in thin films of three-dimensional topological insulators. Physical Review B, 2013, 87, . | 1.1 | 9 |
| 80 | Quantum anomalous Hall phase stabilized via realistic interactions on a kagome lattice. Physical Review B, 2018, 98, . | 1.1 | 9 |
| 81 | Valley Stoner instability of the composite Fermi sea. Physical Review B, 2018, 98, . | 1.1 | 9 |
| 82 | Spin-Orbital Density Wave and a Mott Insulator in a Two-Orbital Hubbard Model on a Honeycomb Lattice. Physical Review Letters, 2019, 123, 087602. | 2.9 | 9 |
| 83 | Topological characterization of hierarchical fractional quantum Hall effects in topological flat bands with SU(N) symmetry. Physical Review B, 2019, 100, . | 1.1 | 9 |
| 84 | Three-dimensional quantum Hall effect and magnetothermoelectric properties in Weyl semimetals. Physical Review B, 2021, 104, . | 1.1 | 9 |
| 85 | Topological Chiral and Nematic Superconductivity by Doping Mott Insulators on Triangular Lattice. Physical Review X, 2022, 12, . | 2.8 | 9 |
| 86 | Widely Tunable Quantum Phase Transition from Moore-Read to Composite Fermi Liquid in Bilayer Graphene. Physical Review Letters, 2020, 124, 097604. | 2.9 | 8 |
| 87 | Quantum phase diagram and chiral spin liquid in the extended spin-12 honeycomb XY model. Physical Review B, 2021, 103, . | 1.1 | 8 |
| 88 | Nature of continuous phase transitions in interacting topological insulators. Physical Review B, 2017, 96, . | 1.1 | 7 |
| 89 | High-temperature fractional quantum Hall state in the Floquet kagome flat band. Physical Review B, 2022, 105, . | 1.1 | 7 |
| 90 | Magnetothermoelectric transport properties in phosphorene. Physical Review B, 2018, 97, . | 1.1 | 6 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 91 | Microscopic diagnosis of universal geometric responses in fractional quantum Hall liquids. Physical Review B, 2021, 103, . | 1.1 | 6 |
| 92 | Role of disorder in half-filled high Landau levels. Physical Review B, 2002, 66, . | 1.1 | 5 |
| 93 | Spectral function of the electron in a superconducting resonating valence-band state. Physical Review B, 2002, 65, . | 1.1 | 5 |
| 94 | Variational Monte Carlo study of a gapless spin liquid in the spin- $\frac{1}{2}$ antiferromagnetic model on the kagome lattice. Physical Review B, 2015, 92, . | 1.1 | 5 |
| 95 | Charge density wave in a doped Kondo chain. Physical Review B, 2019, 99, . | 1.1 | 5 |
| 96 | Orbital Chern Insulator and Quantum Phase Diagram of a Kagome Electron System with Half-Filled Flat Bands. Physical Review Letters, 2021, 126, 117602. | 2.9 | 4 |
| 97 | Kinetic magnetism at the interface between Mott and band insulators. Physical Review B, 2016, 93, . | 1.1 | 3 |
| 98 | Quantum Hall effects of exciton condensate in topological flat bands. Physical Review B, 2020, 101, . | 1.1 | 3 |
| 99 | Coexistence of non-Abelian chiral spin liquid and magnetic order in a spin-1 antiferromagnet. Physical Review B, 2022, 105, . | 1.1 | 3 |
| 100 | Exciton condensation in quantum Hall bilayers at total filling $\nu = \frac{1}{2}$. Physical Review B, 2019, 99, . | 1.1 | 3 |
| 101 | Thermoelectric response and entropy of fractional quantum Hall systems. Physical Review B, 2020, 101, . | 1.1 | 2 |
| 102 | Coupled dimer and bond-order-wave order in the quarter-filled one-dimensional Kondo lattice model. Physical Review B, 2020, 102, . | 1.1 | 2 |
| 103 | Unconventional quantum phase transitions in a one-dimensional Lieb-Schultz-Mattis system. Physical Review B, 2022, 105, . | 1.1 | 2 |
| 104 | Analytical theory and possible detection of the ac quantum spin Hall effect. Scientific Reports, 2017, 7, 5078. | 1.6 | 1 |
| 105 | Random walk simulation of magnetotransport in magnetic granular systems. Physical Review B, 2003, 68, . | 1.1 | 0 |