

# Dongning Sheng

## List of Publications by Year in descending order

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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	Unconventional quantum phase transitions in a one-dimensional Lieb-Schultz-Mattis system. Physical Review B, 2022, 105, .	1.1	2
2	Coexistence of non-Abelian chiral spin liquid and magnetic order in a spin-1 antiferromagnet. Physical Review B, 2022, 105, .	1.1	3
3	Quantum Phases of Transition Metal Dichalcogenide Moiré Systems. Physical Review Letters, 2022, 128, 157602.	2.9	12
4	High-temperature fractional quantum Hall state in the Floquet kagome flat band. Physical Review B, 2022, 105, .	1.1	7
5	Doped Mott insulators in the triangular-lattice Hubbard model. Physical Review B, 2022, 105, .	1.1	22
6	Topological Chiral and Nematic Superconductivity by Doping Mott Insulators on Triangular Lattice. Physical Review X, 2022, 12, .	2.8	9
7	Quantum phase diagram and chiral spin liquid in the extended spin-12 honeycomb XY model. Physical Review B, 2021, 103, .	1.1	8
8	Microscopic diagnosis of universal geometric responses in fractional quantum Hall liquids. Physical Review B, 2021, 103, .	1.1	6
9	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
10	Three-dimensional quantum Hall effect and magnetothermoelectric properties in Weyl semimetals. Physical Review B, 2021, 104, .	1.1	9
11	Robust $d$ -Wave Superconductivity in the Square-Lattice $t$ -J Model. Physical Review Letters, 2021, 127, 097003.	2.9	38
12	SU(4) Chiral Spin Liquid, Exciton Supersolid, and Electric Detection in Moiré Bilayers. Physical Review Letters, 2021, 127, 247701.	2.9	39
13	Topological Interface between Praffian and Anti-Praffian Order in $\mathbb{Z}_2$ Quantum Hall Effect. Physical Review Letters, 2020, 125, 146802.	2.9	18
14	Spin-1 Kitaev-Heisenberg model on a honeycomb lattice. Physical Review B, 2020, 102, .	1.1	27
15	Thermoelectric response and entropy of fractional quantum Hall systems. Physical Review B, 2020, 101, .	1.1	2
16	Quantum Hall effects of exciton condensate in topological flat bands. Physical Review B, 2020, 101, .	1.1	3
17	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
18	Widely Tunable Quantum Phase Transition from Moore-Read to Composite Fermi Liquid in Bilayer Graphene. Physical Review Letters, 2020, 124, 097604.	2.9	8

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19	Magnetic field induced spin liquids in $S=1$ Kitaev honeycomb model. Physical Review Research, 2020, 2, .		
20	Coupled dimer and bond-order-wave order in the quarter-filled one-dimensional Kondo lattice model. Physical Review B, 2020, 102, .	1.1	2
21	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
22	Disorder-Driven Transition in the $S=1/2$ Fractional Quantum Hall Effect. Physical Review Letters, 2019, 123, 056804.	2.9	16
23	Topological characterization of hierarchical fractional quantum Hall effects in topological flat bands with $SU(N)$ symmetry. Physical Review B, 2019, 100, .	1.1	9
24	Single-layer tensor network study of the Heisenberg model with chiral interactions on a kagome lattice. Physical Review B, 2019, 99, .	1.1	14
25	Charge density wave in a doped Kondo chain. Physical Review B, 2019, 99, .	1.1	5
26	Exciton condensation in quantum Hall bilayers at total filling $\nu=1$ . Physical Review B, 2019, 99, .		
27	Single-hole wave function in two dimensions: A case study of the doped Mott insulator. Physical Review B, 2019, 99, .	1.1	11
28	Randomness-induced spin-liquid-like phase in the spin-1/2 triangular Heisenberg model. Physical Review B, 2019, 99, .	1.1	27
29	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
30	Chiral spin liquid with spinon Fermi surfaces in the spin-1/2 triangular Heisenberg model. Physical Review B, 2019, 100, .	1.1	19
31	$SU(N)$ fractional quantum Hall effect in topological flat bands. Physical Review B, 2018, 97, .	1.1	12
32	Magnetothermoelectric transport properties in phosphorene. Physical Review B, 2018, 97, .	1.1	6
33	Pairing versus phase coherence of doped holes in distinct quantum spin backgrounds. Physical Review B, 2018, 97, .	1.1	18
34	Quantum anomalous Hall phase stabilized via realistic interactions on a kagome lattice. Physical Review B, 2018, 98, .	1.1	9
35	Valley Stoner instability of the composite Fermi sea. Physical Review B, 2018, 98, .	1.1	9
36	Hidden spin current in doped Mott antiferromagnets. Physical Review B, 2018, 98, .	1.1	16

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37	Intrinsic translational symmetry breaking in a doped Mott insulator. Physical Review B, 2018, 98, .	1.1	12
38	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
39	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
40	Two-component quantum Hall effects in topological flat bands. Physical Review B, 2017, 95, .	1.1	20
41	Anisotropy-driven transition from the Moore-Read state to quantum Hall stripes. Physical Review B, 2017, 95, .	1.1	18
42	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
43	Analytical theory and possible detection of the ac quantum spin Hall effect. Scientific Reports, 2017, 7, 5078.	1.6	1
44	Two Universality Classes for the Many-Body Localization Transition. Physical Review Letters, 2017, 119, 075702.	2.9	170
45	Global phase diagram and quantum spin liquids in a spin- $\frac{1}{2}$ antiferromagnet. Physical Review B, 2017, 96, .	2.9	17
46	Critical Properties of the Many-Body Localization Transition. Physical Review X, 2017, 7, .	2.8	174
47	Numerical Study of Quantum Hall Bilayers at Total Filling $\nu = \frac{1}{2}$ : A New Phase at Intermediate Layer Distances. Physical Review Letters, 2017, 119, 177601.	2.9	17
48	Nature of continuous phase transitions in interacting topological insulators. Physical Review B, 2017, 96, .	1.1	7
49	Interaction-Driven Spontaneous Quantum Hall Effect on a Kagome Lattice. Physical Review Letters, 2016, 117, 096402.	2.9	52
50	Variational Monte Carlo study of chiral spin liquid in quantum antiferromagnet on the triangular lattice. Physical Review B, 2016, 94, .	1.1	38
51	Emergent quasi-one-dimensionality in a kagome magnet: A simple route to complexity. Physical Review B, 2016, 94, .	1.1	18
52	Kinetic magnetism at the interface between Mott and band insulators. Physical Review B, 2016, 93, .	1.1	3
53	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
54	Fractional quantum Hall bilayers at half filling: Tunneling-driven non-Abelian phase. Physical Review B, 2016, 94, .	1.1	31

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55	Global phase diagram of competing ordered and quantum spin-liquid phases on the kagome lattice. Physical Review B, 2015, 91, .	1.1	109
56	Possible non-Abelian Moore-Read state in double-layer bosonic fractional quantum Hall system. Physical Review B, 2015, 91, .	1.1	13
57	Topological characterization of the non-Abelian Moore-Read state using density-matrix renormalization group. Physical Review B, 2015, 92, .	1.1	23
58	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, .		
59	Fractional Quantum Hall States at $\nu = \frac{13}{5}$ and Their Non-Abelian Nature. Physical Review Letters, 2015, 115, 126805.	2.9	41
60	Nature of strong hole pairing in doped Mott antiferromagnets. Scientific Reports, 2015, 4, 5419.	1.6	31
61	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
62	Spin Chern pumping from the bulk of two-dimensional topological insulators. Physical Review B, 2015, 91, .	1.1	23
63	Obtaining topological degenerate ground states by the density matrix renormalization group. Physical Review B, 2014, 89, .	1.1	35
64	Proposal for a topological spin Chern pump. Physical Review B, 2014, 90, .	1.1	19
65	Identifying Non-Abelian Topological Order through Minimal Entangled States. Physical Review Letters, 2014, 112, 096803.	2.9	24
66	Fractional quantum spin Hall effect in flat-band checkerboard lattice model. Physical Review B, 2014, 90, .	1.1	16
67	Chiral Spin Liquid in a Frustrated Anisotropic Kagome Heisenberg Model. Physical Review Letters, 2014, 112, 137202.	2.9	152
68	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
69	Emergent Chiral Spin Liquid: Fractional Quantum Hall Effect in a Kagome Heisenberg Model. Scientific Reports, 2014, 4, 6317.	1.6	192
70	Phase diagram of the spin- $\frac{1}{2}$ Kagome Heisenberg Model. Physical Review Letters, 2014, 113, 027201.	1.1	91
71	Thermoelectric transport in thin films of three-dimensional topological insulators. Physical Review B, 2013, 87, .	1.1	9
72	Time-reversal symmetry breaking superconducting ground state in the doped Mott insulator on the honeycomb lattice. Physical Review B, 2013, 88, .	1.1	51

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73	Minimal entangled states and modular matrix for fractional quantum Hall effect in topological flat bands. Physical Review B, 2013, 88, .	1.1	35
74	Topologically protected extended states in disordered quantum spin-Hall systems without time-reversal symmetry. Physical Review B, 2012, 85, .	1.1	19
75	Fractional quantum Hall effect in topological flat bands with Chern number two. Physical Review B, 2012, 86, .	1.1	119
76	Stacking-order dependence in thermoelectric transport of biased trilayer graphene. Physical Review B, 2012, 86, .	1.1	11
77	Thermoelectric and thermal transport in bilayer graphene systems. Physical Review B, 2011, 84, .	1.1	22
78	Quantum paramagnetic ground states on the honeycomb lattice and field-induced Néel order. Physical Review B, 2011, 83, .	1.1	68
79	Bose metals and insulators on multileg ladders with ring exchange. Physical Review B, 2011, 84, .	1.1	30
80	Fractional quantum Hall effect in the absence of Landau levels. Nature Communications, 2011, 2, 389.	5.8	398
81	Chern number of thin films of the topological insulator $\text{Bi}_2\text{Te}_3$ . Physical Review B, 2011, 83, .	1.1	86
82	Particle-hole symmetry breaking and the fractional quantum Hall effect. Physical Review B, 2009, 80, .	1.1	56
83	Quantum Hall effect in bilayer graphene: Disorder effect and quantum phase transition. Physical Review B, 2009, 80, .	1.1	20
84	Spin Bose-metal phase in a spin- $\frac{1}{2}$ model with ring exchange on a two-leg triangular strip. Physical Review B, 2009, 79, .	1.1	116
85	Supersolid order of frustrated hard-core bosons in a triangular lattice system. Physical Review B, 2009, 79, .	1.1	31
86	Phase diagram of the frustrated spatially-anisotropic S=1 antiferromagnet on a square lattice. Physical Review B, 2009, 79, .	1.1	48
87	Strong-coupling phases of frustrated bosons on a two-leg ladder with ring exchange. Physical Review B, 2008, 78, .	1.1	40
88	Density Matrix Renormalization Group Numerical Study of the Kagome Antiferromagnet. Physical Review Letters, 2008, 101, 117203.	2.9	216
89	Quantum Spin-Hall Effect and Topologically Invariant Chern Numbers. Physical Review Letters, 2006, 97, 036808.	2.9	515
90	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

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91	Quantum Hall effect in graphene: Disorder effect and phase diagram. Physical Review B, 2006, 73, .	1.1	132
92	Numerical study of spin Hall transport in a two-dimensional hole-gas system. Physical Review B, 2005, 72, .	1.1	14
93	Numerical Evidences of Fractionalization in an Easy-Axis Two-Spin Heisenberg Antiferromagnet. Physical Review Letters, 2005, 94, 146805.	2.9	41
94	Spin Hall effect and spin transfer in a disordered Rashba model. Physical Review B, 2005, 72, .	1.1	37
95	Mobility gap in fractional quantum Hall liquids: Effects of disorder and layer thickness. Physical Review B, 2005, 72, .	1.1	42
96	Theory of impurity resonant tunnel magnetoresistance. Physical Review B, 2004, 69, .	1.1	14
97	Theory of the zero-bias anomaly in magnetic tunnel junctions: Inelastic tunneling via impurities. Physical Review B, 2004, 70, .	1.1	15
98	Random walk simulation of magnetotransport in magnetic granular systems. Physical Review B, 2003, 68, .	1.1	0
99	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
100	Phase Diagram for Quantum Hall Bilayers at $\nu=1$ . Physical Review Letters, 2003, 91, 116802.	2.9	70
101	Role of disorder in half-filled high Landau levels. Physical Review B, 2002, 66, .	1.1	5
102	Spectral function of the electron in a superconducting resonating valence-band state. Physical Review B, 2002, 65, .	1.1	5
103	Float-up picture of extended levels in the integer quantum Hall effect: A numerical study. Physical Review B, 2001, 64, .	1.1	31
104	Disappearance of Integer Quantum Hall Effect. Physical Review Letters, 1997, 78, 318-321.	2.9	90
105	Phase string effect in the t-J model: General theory. Physical Review B, 1997, 55, 3894-3906.	1.1	103