

Pinaki Sengupta

List of Publications by Year in descending order

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85
papers

2,515
citations

201674

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all docs

86
docs citations

86
times ranked

2951
citing authors

#	ARTICLE	IF	CITATIONS
1	Raman spectroscopy of atomically thin two-dimensional magnetic iron phosphorus trisulfide (FePS ₂). Physical Review Letters, 2014, 112, 075702.	10.7	1499
2	Supersolids versus Phase Separation in Two-Dimensional Lattice Bosons. Physical Review Letters, 2005, 94, 207202.	7.8	196
3	Bond-order-wave phase and quantum phase transitions in the one-dimensional extended Hubbard model. Physical Review B, 2002, 65, .	3.2	180
4	Specific heat of quasi-two-dimensional antiferromagnetic Heisenberg models with varying interplanar couplings. Physical Review B, 2003, 68, .	3.2	111
5	Experimentally determining the exchange parameters of quasi-two-dimensional Heisenberg magnets. New Journal of Physics, 2008, 10, 083025.	2.9	106
6	The role of electron-electron interactions in two-dimensional Dirac fermions. Science, 2018, 361, 570-574.	12.6	82
7	Strong Hydrogen Bonds as Synthons in Polymeric Quantum Magnets: Structural, Magnetic, and Theoretical Characterization of [Cu(HF ₂ (pyrazine) ₂)]SbF ₆ , [Cu ₂ F(HF)(HF ₂ (pyrazine) ₄)](SbF ₆) ₂ , and [CuAg(H ₃ F ₄ (pyrazine) ₅)](SbF ₆) ₂ . Journal of the American Chemical Society, 2009, 131, 6733-6747.	13.7	76
8	Field-Induced Supersolid Phase in Spin-One Heisenberg Models. Physical Review Letters, 2007, 98, 227201.	7.8	74
9	Fractalization drives crystalline states in a frustrated spin system. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20157-20160.	7.1	73
10	Thermal Transport and Strong Mass Renormalization in NiCl ₂ SCNH ₂ . Physical Review Letters, 2014, 112, 075702.	7.8	57
11	Direct Observation of Magnon-Phonon Strong Coupling in Two-Dimensional Antiferromagnet at High Magnetic Fields. Physical Review Letters, 2021, 127, 097401.	7.8	54
12	Nonmonotonic field dependence of the Néel temperature in the quasi-two-dimensional magnet Cu ₂ OHCl. Physical Review B, 2009, 79, .	3.2	52
13	Interaction-Driven Metal-Insulator Transition in Strained Graphene. Physical Review Letters, 2015, 115, 186602.	7.8	52
14	Quenching the Haldane Gap in Spin-1 Heisenberg Antiferromagnets. Physical Review Letters, 2014, 112, 247203.	7.8	46
15	Dimensionality Selection in a Molecule-Based Magnet. Physical Review Letters, 2012, 108, 077208.	7.8	45
16	Geometric Frustration and Dimensional Reduction at a Quantum Critical Point. Physical Review Letters, 2007, 98, 257201.	7.8	44
17	Direct measurement of spin correlations using magnetostriction. Physical Review B, 2008, 77, .	3.2	43
18	Phase diagram and magnetic excitations of anisotropic spin-one magnets. Physical Review B, 2013, 87, .	3.2	43

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37	Second-order shaped pulses for solid-state quantum computation. <i>Physical Review A</i> , 2008, 78, .	2.5	19
38	Magnetic and nematic orderings in spin-1 antiferromagnets with single-ion anisotropy. <i>Physical Review B</i> , 2012, 86, .	3.2	19
39	Tailoring magnetic order via atomically stacking $3d/5d$ electrons to achieve high-performance spintronic devices. <i>Applied Physics Reviews</i> , 2020, 7, .	11.3	18
40	Critical Properties at the Field-Induced Bose-Einstein Condensation in $\text{NiCl}_2\cdot 4\text{SC}(\text{NH}_2)_2$. <i>Physical Review Letters</i> , 2009, 102, 077204.	7.8	17
41	Quantum kinetics of an open system in the presence of periodic refocusing fields. <i>Physical Review B</i> , 2006, 73, .	3.2	16
42	Columnar Antiferromagnetic Order and Spin Supersolid Phase on the Extended Shastry-Sutherland Lattice. <i>Physical Review Letters</i> , 2013, 110, 207207.	7.8	15
43	High-energy magnon dispersion in the half-filled Hubbard model: A comparison with La_2CuO_4 . <i>Physical Review B</i> , 2002, 66, .	3.2	14
44	Disorder-enhanced phase coherence in trapped bosons on optical lattices. <i>New Journal of Physics</i> , 2007, 9, 103-103.	2.9	14
45	Unusual Magneto-Optical Phenomenon Reveals Low Energy Spin Dispersion in the Spin-1 Anisotropic Heisenberg Antiferromagnetic Chain System $\text{NiCl}_2\cdot 4\text{SC}(\text{NH}_2)_2$. <i>Physical Review Letters</i> , 2008, 101, 087602.	7.8	14
46	Strange correlations in spin-1 Heisenberg antiferromagnets. <i>Physical Review B</i> , 2014, 90, .	3.2	12
47	NMR relaxation in the spin-1 Heisenberg chain. <i>Physical Review B</i> , 2019, 100, .	3.2	12
48	Berry curvature of interacting bosons in a honeycomb lattice. <i>Physical Review A</i> , 2015, 92, .	2.5	11
49	Time-of-flight observables and the formation of Mott domains of fermions and bosons on optical lattices. <i>Physical Review B</i> , 2006, 73, .	3.2	10
50	Quadratic to linear magnetoresistance tuning in TmB_4 . <i>Physical Review B</i> , 2019, 99, .		
51	Pairing correlations in the two-layer attractive Hubbard model. <i>New Journal of Physics</i> , 2014, 16, 013004.	2.9	8
52	Noncollinear magnetic ordering in a frustrated magnet: Metallic regime and the role of frustration. <i>Physical Review B</i> , 2017, 96, .	3.2	8
53	Ground state and thermal transitions in field-induced spin-supersolid phase. <i>Journal of Applied Physics</i> , 2008, 103, 07C709.	2.5	7
54	Robust pairing mechanism from repulsive interactions. <i>Physical Review B</i> , 2009, 80, .	3.2	7

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55	Magnons in a two-dimensional transverse-field XXZ model. Physical Review B, 2017, 96, .	3.2	7
56	Noncollinear magnetic ordering in the Shastry-Sutherland Kondo lattice model: Insulating regime and the role of Dzyaloshinskii-Moriya interaction. Physical Review B, 2017, 96, .	3.2	7
57	Electronic ground state in bilayer graphene with realistic Coulomb interactions. Physical Review B, 2019, 100, .	3.2	7
58	Topological magnon bands in the flux state of Shastry-Sutherland lattice model. Physical Review B, 2020, 101, .	3.2	7
59	Weyl triplons in SrCu_2O_2 . Physical Review B, 2021, 104, .	3.2	7
60	Lateral organization of cholesterol molecules in lipid-cholesterol assemblies. Physical Review E, 2004, 70, 021902.	2.1	6
61	Spin fluctuations and orbital ordering in quasi-one-dimensional $\hat{I}_{\pm}\text{-Cu}(\text{dca})_2(\text{pyz})$ {dca=dicyanamide= $\text{N}(\text{CN})_2$; pyz=pyrazine}, a molecular analogue of KCuF_3 . Polyhedron, 2010, 29, 514-520.	2.2	6
62	Thermal and magnetic properties of the low-temperature antiferromagnet Ce_4O_2 . Physical Review B, 2010, 82, .	3.2	6
63	Dimensional crossover in spin-1 Heisenberg antiferromagnets: a quantum Monte Carlo study. Journal of Physics: Conference Series, 2012, 400, 032112.	0.4	6
64	Dimer-induced heavy-fermion superconductivity in the Shastry-Sutherland Kondo lattice model. Physical Review B, 2015, 92, .	3.2	6
65	Magnetization plateaus and supersolid phases in an extended Shastry-Sutherland model. European Physical Journal B, 2018, 91, 1.	1.5	6
66	Skyrmion-driven topological Hall effect in a Shastry-Sutherland magnet. Physical Review B, 2021, 104, .	3.2	6
67	Critical behavior of the magnetization in the spin-gapped system $\text{NiCl}_2\text{4SC}(\text{NH}_2)_2$. Journal of Applied Physics, 2009, 105, 07D501.	2.5	5
68	Magnetic phases in the $S=1$ Shastry-Sutherland model with uniaxial anisotropy. Physical Review B, 2014, 89, .	3.2	5
69	Quantum Hall bilayer as pseudospin magnet. Europhysics Letters, 2015, 109, 57003.	2.0	4
70	Phase diagram of the Shastry-Sutherland Kondo lattice model with classical localized spins: a variational calculation study. Journal of Physics Condensed Matter, 2017, 29, 305802.	1.8	4
71	Pair hopping in systems of strongly interacting hard-core bosons. Physical Review B, 2019, 100, .	3.2	4
72	Nonclassicality of spin structures in condensed matter: An analysis of Sr_4O . Physical Review B, 2019, 100, .	3.2	4

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73	Induced magnetism versus Kondo screening in alternating Mott-metal layers. Physical Review B, 2013, 88, .	3.2	3
74	Topological Hall effect in the Shastry-Sutherland lattice. Physical Review B, 2020, 102, .	3.2	3
75	Criticality in coupled quantum spin chains with competing ladderlike and two-dimensional couplings: Contrasting SrCu ₂ O ₃ with CaCu ₂ O ₃ . Physical Review B, 2004, 69, .	3.2	2
76	Néel to spin-Peierls transition in a quasi-one-dimensional Heisenberg model coupled to bond phonons. Physical Review B, 2013, 88, .	3.2	2
77	Phase diagram of spin-1 chains with Dzyaloshinskii-Moriya interaction. Physical Review B, 2019, 100, .	3.2	2
78	Effects of staggered Dzyaloshinskii-Moriya interactions in a quasi-two-dimensional Shastry-Sutherland model. Physical Review B, 2020, 101, .	3.2	2
79	Thermal and magnetic properties of a low-temperature antiferromagnet Ce ₄ Pt ₁₂ Sn ₂₅ . Journal of Physics: Conference Series, 2011, 273, 012045.	0.4	1
80	Magnetization plateaus in generalized Shastry-Sutherland models. Journal of the Korean Physical Society, 2013, 63, 486-488.	0.7	1
81	Generalized plaquette state in the anisotropic Shastry-Sutherland model. Physical Review B, 2015, 92, .	3.2	1
82	Response to Comment on "The role of electron-electron interactions in two-dimensional Dirac fermions". Science, 2019, 366, .	12.6	1
83	Sign-problem free quantum stochastic series expansion algorithm on a quantum computer. Npj Quantum Information, 2022, 8, .	6.7	1
84	Phase Diagram and Visibility of Optically Trapped Bosons. AIP Conference Proceedings, 2006, , .	0.4	0
85	Critical properties of generalized four-state clock model on square lattices. Journal of Physics: Conference Series, 2011, 320, 012012.	0.4	0