Sougato Bose

List of Publications by Year in descending order

109 papers	4,398 citations	101543 36 h-index	106344 65 g-index
109 all docs	109 docs citations	109 times ranked	2524 citing authors

#	Article	IF	Citations
1	Photon-blockade-induced Mott transitions and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>X</mml:mi><mml:mi>Y</mml:mi></mml:mrow></mml:math>spin models in coupled cavity arrays. Physical Review A, 2007, 76, .	2.5	497
2	Quantum communication through spin chain dynamics: an introductory overview. Contemporary Physics, 2007, 48, 13-30.	1.8	442
3	Spin Entanglement Witness for Quantum Gravity. Physical Review Letters, 2017, 119, 240401.	7.8	415
4	Conclusive and arbitrarily perfect quantum-state transfer using parallel spin-chain channels. Physical Review A, 2005, 71, .	2.5	216
5	Perfect state transfer, effective gates, and entanglement generation in engineered bosonic and fermionic networks. Physical Review A, 2005, 71, .	2.5	166
6	Perfect quantum state transfer with randomly coupled quantum chains. New Journal of Physics, 2005, 7, 135-135.	2.9	138
7	Locality and entanglement in table-top testing of the quantum nature of linearized gravity. Physical Review A, 2020, 101, .	2.5	104
8	Nonperturbative Entangling Gates between Distant Qubits Using Uniform Cold Atom Chains. Physical Review Letters, 2011, 106, 140501.	7.8	102
9	Negativity as the entanglement measure to probe the Kondo regime in the spin-chain Kondo model. Physical Review B, 2010, 81, .	3.2	89
10	Engineering an interaction and entanglement between distant atoms. Physical Review A, 2004, 70, .	2.5	73
11	Local controllability of quantum networks. Physical Review A, 2009, 79, .	2.5	72
12	Universality of the negativity in the Lipkin-Meshkov-Glick model. Physical Review A, 2010, 81, .	2.5	72
13	Heralded generation of entanglement with coupled cavities. Physical Review A, 2008, 78, .	2.5	71
14	Machine-Learning-Assisted Many-Body Entanglement Measurement. Physical Review Letters, 2018, 121, 150503.	7.8	69
15	Optimal quantum-chain communication by end gates. Physical Review A, 2007, 75, .	2.5	68
16	Quantum gravity witness via entanglement of masses: Casimir screening. Physical Review A, 2020, 102, .	2.5	65
17	Quantum resources for hybrid communication via qubit-oscillator states. Physical Review A, 2012, 86, .	2.5	60
18	An order parameter for impurity systems at quantum criticality. Nature Communications, 2014, 5, 3784.	12.8	60

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19	Efficient and perfect state transfer in quantum chains. Journal of Physics A, 2005, 38, 6793-6802.	1.6	59
20	Gravimetry through non-linear optomechanics. Nature Communications, 2018, 9, 3690.	12.8	56
21	Realization of a complete Stern-Gerlach interferometer: Toward a test of quantum gravity. Science Advances, 2021, 7, .	10.3	55
22	Many-body localization transition: Schmidt gap, entanglement length, and scaling. Physical Review B, 2018, 97, .	3.2	54
23	Quantum gate learning in qubit networks: Toffoli gate without time-dependent control. Npj Quantum Information, 2016, 2, .	6.7	53
24	Information-transferring ability of the different phases of a finiteXXZspin chain. Physical Review A, 2010, 81, .	2.5	49
25	Exploiting quench dynamics in spin chains for distant entanglement and quantum communication. Physical Review A, 2009, 79, .	2.5	48
26	Robust entanglement in antiferromagnetic Heisenberg chains by single-spin optimal control. Physical Review A, 2010, 81, .	2.5	48
27	Photonic simulation of entanglement growth and engineering after a spin chain quench. Nature Communications, 2017, 8, 1569.	12.8	48
28	Simulation of high-spin Heisenberg models in coupled cavities. Physical Review A, 2008, 78, .	2.5	47
29	Universal destabilization and slowing of spin-transfer functions by a bath of spins. Physical Review A, 2006, 73, .	2.5	44
30	Memory effects in spin-chain channels for information transmission. Physical Review A, 2008, 77, .	2.5	43
31	Adiabatic many-body state preparation and information transfer in quantum dot arrays. Physical Review B, 2015, 91, .	3.2	43
32	COMMUNICATION IN XYZ ALL-TO-ALL QUANTUM NETWORKS WITH A MISSING LINK. International Journal of Quantum Information, 2009, 07, 713-723.	1.1	42
33	Mechanism for the quantum natured gravitons to entangle masses. Physical Review D, 2022, 105, .	4.7	41
34	Kondo cloud mediated long-range entanglement after local quench in a spin chain. Physical Review B, 2010, 81, .	3.2	40
35	Transfer of a polaritonic qubit through a coupled cavity array. Journal of Modern Optics, 2007, 54, 2307-2314.	1.3	39
36	Quantum state transfer in optomechanical arrays. Physical Review A, 2016, 93, .	2.5	39

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37	Entanglement structure of the two-channel Kondo model. Physical Review B, 2016, 93, .	3.2	36
38	Initializing an unmodulated spin chain to operate as a high-quality quantum data bus. Physical Review A, 2011, 83, .	2.5	30
39	From quantum optics to quantum technologies. Progress in Quantum Electronics, 2017, 54, 2-18.	7.0	30
40	Relative acceleration noise mitigation for nanocrystal matter-wave interferometry: Applications to entangling masses via quantum gravity. Physical Review Research, 2021, 3, .	3.6	29
41	Separation-dependent localization in a two-impurity spin-boson model. Physical Review B, 2010, 81, .	3.2	28
42	Qudits for witnessing quantum-gravity-induced entanglement of masses under decoherence. Physical Review A, 2021, 104, .	2.5	28
43	Spin-state transfer in laterally coupled quantum-dot chains with disorders. Physical Review A, 2010, 82, .	2.5	27
44	Global control methods for Greenberger-Horne-Zeilinger-state generation on a one-dimensional Ising chain. Physical Review A, 2010, 82, .	2.5	27
45	Mesoscopic entanglement through centralâ€“potential interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 235501.	1.5	27
46	Perfect wave-packet splitting and reconstruction in a one-dimensional lattice. Physical Review A, 2015, 91, .	2.5	25
47	Nonequilibrium critical scaling in quantum thermodynamics. Physical Review B, 2016, 93, .	3.2	25
48	Improving resilience of quantum-gravity-induced entanglement of masses to decoherence using three superpositions. Physical Review A, 2022, 105, .	2.5	23
49	Constructing nano-object quantum superpositions with a Stern-Gerlach interferometer. Physical Review Research, 2022, 4, .	3.6	23
50	Entanglement Transfer through an Antiferromagnetic Spin Chain. Advances in Mathematical Physics, 2010, 2010, 1-11.	0.8	22
51	Mesoscopic interference for metric and curvature & gravitational wave detection. New Journal of Physics, 2020, 22, 083012.	2.9	21
52	Entanglement-enhanced information transfer through strongly correlated systems and its application to optical lattices. Physical Review A, 2011, 84, .	2.5	20
53	Measurement Quench in Many-Body Systems. Physical Review Letters, 2018, 121, 030601.	7.8	19
54	Reconstructing the quantum state of oscillator networks with a single qubit. Physical Review A, 2012, 85, .	2.5	16

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55	Quantum communication via a continuously monitored dual spin chain. Physical Review A, 2007, 75, .	2.5	15
56	Generation and verification of high-dimensional entanglement from coupled-cavity arrays. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 266.	2.1	15
57	Supervised learning of time-independent Hamiltonians for gate design. New Journal of Physics, 2020, 22, 065001.	2.9	15
58	Boundary effects on entropy and two-site entanglement of the spin-1 valence-bond solid. Physical Review B, 2007, 76, .	3.2	14
59	Coherently Opening a High-QCavity. Physical Review Letters, 2014, 112, 133605.	7.8	14
60	Quantum dot spin cellular automata for realizing a quantum processor. Semiconductor Science and Technology, 2015, 30, 105025.	2.0	14
61	EFFICIENT AND PERFECT STATE TRANSFER IN QUANTUM CHAINS. International Journal of Quantum Information, 2006, 04, 405-414.	1.1	13
62	Qubit Assisted Probing of Coherence between Mesoscopic States of an Apparatus. Physical Review Letters, 2006, 96, 060402.	7.8	13
63	Oscillator state reconstruction via tunable qubit coupling in Markovian environments. Physical Review A, 2011, 83, .	2.5	12
64	Entanglement entropy scaling in solid-state spin arrays via capacitance measurements. Physical Review B, 2016, 94, .	3.2	12
65	NOON states via a quantum walk of bound particles. Physical Review A, 2017, 95, .	2.5	12
66	Optimal quench for distance-independent entanglement and maximal block entropy. Physical Review A, 2014, 90, .	2.5	11
67	Universal single-frequency oscillations in a quantum impurity system after a local quench. Physical Review B, 2015, 92, .	3.2	11
68	End-to-end entanglement in Bose-Hubbard chains. Physical Review A, 2009, 80, .	2.5	10
69	Teleportation between distant qudits via scattering of mobile qubits. Physical Review A, 2010, 81, .	2.5	10
70	Nonlinearity-induced entanglement stability in a qubit-oscillator system. Physical Review A, 2014, 90, .	2.5	10
71	Unravelling quantum dot array simulators via singlet-triplet measurements. Physical Review B, 2016, 94, .	3.2	9
72	Gating Classical Information Flow via Equilibrium Quantum Phase Transitions. Physical Review Letters, 2017, 118, 147203.	7.8	7

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73	Enabling entanglement distillation via optomechanics. Physical Review A, 2019, 100, .	2.5	7
74	Information-theoretic memory scaling in the many-body localization transition. Physical Review B, 2022, 105, .	3.2	7
75	Optimal Quantum Spatial Search with One-Dimensional Long-Range Interactions. Physical Review Letters, 2021, 126, 240502.	7.8	6
76	Entanglement creation and distribution on a graph of exchange-coupled qutrits. Physical Review A, 2005, 72, .	2.5	5
77	Quench-induced growth of distant entanglement from product and locally entangled states in spin chains. Physical Review A, 2013, 88, .	2.5	5
78	Toolbox for linear optics in a one-dimensional lattice via minimal control. Physical Review A, 2015, 92, .	2.5	5
79	Self-Assembled Wigner Crystals as Mediators of Spin Currents and Quantum Information. Physical Review Letters, 2015, 115, 216804.	7.8	5
80	Spin Chains as Data Buses, Logic Buses and Entanglers. , 2014, , 1-37.		5
81	Standard quantum mechanics with environment induced decoherence and wavefunction collapse: Possibility of an empirical discrimination using neutron interferometry. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 217, 209-214.	2.1	4
82	Multilevel multiparty singlets as ground states and their role in entanglement distribution. Physical Review A, 2008, 77, .	2.5	4
83	Qubit-mediated time-robust entangling of oscillators in thermal environments. Physical Review A, 2009, 80, .	2.5	4
84	Integrated information storage and transfer with a coherent magnetic device. Scientific Reports, 2015, 5, 13665.	3.3	4
85	Gravitons in a box. Physical Review D, 2021, 104, .	4.7	4
86	Voltage-controlled Hubbard spin transistor. Physical Review Research, 2021, 3, .	3.6	4
87	Unconditional measurement-based quantum computation with optomechanical continuous variables. Physical Review A, 2022, 105, .	2.5	4
88	Exploiting Kondo spin chains for generating long range distance independent entanglement. Quantum Information Processing, 2012, 11, 89-112.	2.2	3
89	Quantum phase transition detected through one-dimensional ballistic conductance. Physical Review B, 2017, 96, .	3.2	3
90	Hydrogenic entanglement. New Journal of Physics, 2020, 22, 093062.	2.9	3

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91	Tippe top paradox in relativity. European Journal of Physics, 2002, 23, 295-305.	0.6	2
92	PURE STATE ENTANGLEMENT BETWEEN SEPARATED REGIONS USING IMPENETRABLE BOSONS. International Journal of Quantum Information, 2008, 06, 739-744.	1.1	2
93	Quantum arithmetics via computation with minimized external control: The half-adder. Physical Review A, 2018, 97, .	2.5	2
94	Vacuum induced Berry phase: theory and experimental proposal. Journal of Modern Optics, 2003, 50, 1175-1181.	1.3	2
95	Engineering Long Range Distance Independent Entanglement through Kondo Impurities in Spin Chains. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 26, 33-46.	0.8	2
96	Infrared scaling for a graviton condensate. Nuclear Physics B, 2022, 977, 115730.	2.5	2
97	Photonic phase transitions, spin models, and QIP in coupled cavity arrays. , 2007, , .		1
98	Entanglement in bipartite pure states of an interacting boson gas obtained by local projective measurements. Physical Review A, 2011, 84, .	2.5	1
99	Mechanical qubit-light entanglers in hybrid nonlinear qubit optomechanics. Physical Review A, 2019, 100, .	2.5	1
100	Quantum gates between distant qubits via spin-independent scattering. Quantum - the Open Journal for Quantum Science, 0, 1, 36.	0.0	1
101	ENGINEERING LONG RANGE DISTANCE INDEPENDENT ENTANGLEMENT VIA LOCAL MANIPULATION OF A KONDO SPIN CHAIN. International Journal of Quantum Information, 2011, 09, 49-62.	1.1	0
102	ENTANGLEMENT FROM THE DYNAMICS OF AN IDEAL BOSE GAS IN A LATTICE. International Journal of Modern Physics B, 2012, 26, 1243003.	2.0	0
103	Quantum simulation of spin chain dynamics via integrated photonics. , 2017, , .		0
104	Approximate supervised learning of quantum gates via ancillary qubits. International Journal of Quantum Information, 2018, 16, 1840004.	1.1	0
105	Certification of spin-based quantum simulators. Physical Review A, 2020, 101, .	2.5	0
106	Five Lectures on Quantum Information Applications of Complex Many-Body Systems. Lecture Notes in Physics, 2010, , 97-124.	0.7	0
107	ENTANGLEMENT FROM THE DYNAMICS OF AN IDEAL BOSE GAS IN A LATTICE. , 2013, , 29-36.		0
108	Photonic Simulation of Entanglement Generation and Transfer in a Spin Chain. , 2016, , .		0

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109	Entanglement Content of Many-Body States via Concurrence, Negativity and Schmidt Gap. Springer Proceedings in Physics, 2020, , 91-107.	0.2	0