

# Animesh Datta

## List of Publications by Year in descending order

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Version: 2024-02-01

106  
papers

7,604  
citations

94269

37  
h-index

56606

83  
g-index

107  
all docs

107  
docs citations

107  
times ranked

4028  
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum Discord and the Power of One Qubit. Physical Review Letters, 2008, 100, 050502.	2.9	1,111
2	Boson Sampling on a Photonic Chip. Science, 2013, 339, 798-801.	6.0	686
3	Highly efficient energy excitation transfer in light-harvesting complexes: The fundamental role of noise-assisted transport. Journal of Chemical Physics, 2009, 131, .	1.2	527
4	Quantum versus Classical Correlations in Gaussian States. Physical Review Letters, 2010, 105, 030501.	2.9	424
5	Interpreting quantum discord through quantum state merging. Physical Review A, 2011, 83, .	1.0	311
6	Entanglement and the power of one qubit. Physical Review A, 2005, 72, .	1.0	301
7	Quantum Enhanced Multiple Phase Estimation. Physical Review Letters, 2013, 111, 070403.	2.9	266
8	Noise-assisted energy transfer in quantum networks and light-harvesting complexes. New Journal of Physics, 2010, 12, 065002.	1.2	262
9	Spin-based all-optical quantum computation with quantum dots: Understanding and suppressing decoherence. Physical Review A, 2003, 68, .	1.0	224
10	Role of entanglement and correlations in mixed-state quantum computation. Physical Review A, 2007, 75, .	1.0	219
11	Entanglement and entangling power of the dynamics in light-harvesting complexes. Physical Review A, 2010, 81, .	1.0	181
12	Quantum Metrology: Dynamics versus Entanglement. Physical Review Letters, 2008, 101, 040403.	2.9	176
13	Quantum Enhanced Estimation of a Multidimensional Field. Physical Review Letters, 2016, 116, 030801.	2.9	159
14	Joint estimation of phase and phase diffusion for quantum metrology. Nature Communications, 2014, 5, 3532.	5.8	150
15	Quantum discord between relatively accelerated observers. Physical Review A, 2009, 80, .	1.0	149
16	Signatures of nonclassicality in mixed-state quantum computation. Physical Review A, 2009, 79, .	1.0	148
17	Multi-parameter quantum metrology. Advances in Physics: X, 2016, 1, 621-639.	1.5	148
18	Precision Metrology Using Weak Measurements. Physical Review Letters, 2015, 114, 210801.	2.9	127

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19	Optimal Measurements for Simultaneous Quantum Estimation of Multiple Phases. Physical Review Letters, 2017, 119, 130504.	2.9	119
20	Quantum metrology with imperfect states and detectors. Physical Review A, 2011, 83, .	1.0	106
21	Tradeoff in simultaneous quantum-limited phase and loss estimation in interferometry. Physical Review A, 2014, 89, .	1.0	101
22	Real-World Quantum Sensors: Evaluating Resources for Precision Measurement. Physical Review Letters, 2011, 107, 113603.	2.9	93
23	Quantum-limited metrology with product states. Physical Review A, 2008, 77, .	1.0	84
24	Mapping coherence in measurement via full quantum tomography of a hybrid optical detector. Nature Photonics, 2012, 6, 364-368.	15.6	74
25	Gaussian systems for quantum-enhanced multiple phase estimation. Physical Review A, 2016, 94, .	1.0	70
26	Multiphoton state engineering by heralded interference between single photons and coherent states. Physical Review A, 2012, 86, .	1.0	69
27	Evaluating the Holevo Cram�r-Rao Bound for Multiparameter Quantum Metrology. Physical Review Letters, 2019, 123, 200503.	2.9	66
28	QUANTUM DISCORD AS A RESOURCE IN QUANTUM COMMUNICATION. International Journal of Modern Physics B, 2013, 27, 1345041.	1.0	57
29	Direct Observation of Sub-Binomial Light. Physical Review Letters, 2013, 110, 173602.	2.9	57
30	Compact Continuous-Variable Entanglement Distillation. Physical Review Letters, 2012, 108, 060502.	2.9	54
31	Strategies for enhancing quantum entanglement by local photon subtraction. Physical Review A, 2013, 87, .	1.0	54
32	Vanishing quantum discord is not necessary for completely positive maps. Physical Review A, 2013, 87, .	1.0	54
33	Quantum-limited metrology and Bose-Einstein condensates. Physical Review A, 2009, 80, .	1.0	53
34	Quantum estimation of the Schwarzschild spacetime parameters of the Earth. Physical Review D, 2014, 90, .	1.6	53
35	Continuous-Variable Quantum Computing in Optical Time-Frequency Modes Using Quantum Memories. Physical Review Letters, 2014, 113, 130502.	2.9	53
36	Tomography of photon-number resolving continuous-output detectors. New Journal of Physics, 2015, 17, 103044.	1.2	45

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37	Approaching Quantum-Limited Metrology with Imperfect Detectors by Using Weak-Value Amplification. Physical Review Letters, 2020, 125, 080501.	2.9	41
38	QUANTUM DISCORD AND QUANTUM COMPUTING – AN APPRAISAL. International Journal of Quantum Information, 2011, 09, 1787-1805.	0.6	39
39	Recursive quantum detector tomography. New Journal of Physics, 2012, 14, 115005.	1.2	38
40	Quantum Semiparametric Estimation. Physical Review X, 2020, 10, .	2.8	38
41	Observing optical coherence across Fock layers with weak-field homodyne detectors. Nature Communications, 2014, 5, 5584.	5.8	34
42	Quantum correlations of light mediated by gravity. Physical Review A, 2020, 101, .	1.0	34
43	Quantum-enhanced stimulated emission detection for label-free microscopy. Applied Physics Letters, 2020, 117, .	1.5	31
44	Quantifying the Nonclassicality of Operations. Physical Review Letters, 2013, 110, 070502.	2.9	30
45	Quantum limits of localisation microscopy. New Journal of Physics, 2019, 21, 123032.	1.2	28
46	Reaching for the quantum limits in the simultaneous estimation of phase and phase diffusion. Quantum Science and Technology, 2017, 2, 044004.	2.6	27
47	Nonlinear interferometry with Bose-Einstein condensates. Physical Review A, 2010, 82, .	1.0	26
48	Ferromagnetism in a dilute magnetic semiconductor: Generalized RKKY interaction and spin-wave excitations. Physical Review B, 2003, 68, .	1.1	25
49	Information transfer through a one-atom micromaser. Europhysics Letters, 2004, 67, 934-940.	0.7	25
50	Klein paradox for bosons. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 315, 23-27.	0.9	24
51	Integrated photonic sensing. New Journal of Physics, 2011, 13, 055024.	1.2	23
52	Accrediting outputs of noisy intermediate-scale quantum computing devices. New Journal of Physics, 2019, 21, 113038.	1.2	19
53	Subtleties of witnessing quantum coherence in nonisolated systems. Physical Review A, 2018, 98, .	1.0	17
54	QUANTUM METROLOGY WITHOUT QUANTUM ENTANGLEMENT. Modern Physics Letters B, 2012, 26, 1230010.	1.0	16

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55	Signatures of the quantum nature of gravity in the differential motion of two masses. Quantum Science and Technology, 2021, 6, 045014.	2.6	16
56	On decoherence in quantum clock synchronization. Laser Physics, 2006, 16, 1525-1532.	0.6	14
57	Entanglement quantification from incomplete measurements: applications using photon-number-resolving weak homodyne detectors. New Journal of Physics, 2010, 12, 033042.	1.2	14
58	Structure-Dynamics Relation in Physically-Plausible Multi-Chromophore Systems. Journal of Physical Chemistry Letters, 2017, 8, 2328-2333.	2.1	14
59	Bounding the quantum limits of precision for phase estimation with loss and thermal noise. Physical Review A, 2017, 96, .	1.0	14
60	Fundamental Quantum Limits of Multicarrier Optomechanical Sensors. Physical Review Letters, 2018, 121, 110505.	2.9	14
61	Covert sensing using floodlight illumination. Physical Review A, 2019, 99, .	1.0	12
62	Advantage of Coherent States in Ring Resonators over Any Quantum Probe Single-Pass Absorption Estimation Strategy. Physical Review Letters, 2022, 128, .	2.9	12
63	Negativity of random pure states. Physical Review A, 2010, 81, .	1.0	11
64	Fundamental limits of quantum-secure covert optical sensing. , 2017, , .		11
65	Constrained bounds on measures of entanglement. Physical Review A, 2007, 75, .	1.0	10
66	The von Neumann Theil index: characterizing graph centralization using the von Neumann index. Journal of Complex Networks, 2018, 6, 859-876.	1.1	10
67	Quantum leakage detection using a model-independent dimension witness. Physical Review A, 2019, 99, .	1.0	10
68	Quantum enhanced estimation of diffusion. Physical Review A, 2019, 100, .	1.0	9
69	Fault-tolerant quantum metrology. Physical Review A, 2019, 100, .	1.0	9
70	Symmetric Laplacians, quantum density matrices and their Von-Neumann entropy. Linear Algebra and Its Applications, 2017, 532, 534-549.	0.4	8
71	Experimental accreditation of outputs of noisy quantum computers. Physical Review A, 2021, 104, .	1.0	8
72	Reducing resources for verification of quantum computations. Physical Review A, 2018, 98, .	1.0	7

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73	Towards a spectroscopic protocol for unambiguous detection of quantum coherence in excitonic energy transport. Faraday Discussions, 2020, 221, 110-132.	1.6	7
74	Discord in the ranks. Nature Photonics, 2012, 6, 724-725.	15.6	6
75	Nonadaptive fault-tolerant verification of quantum supremacy with noise. Quantum - the Open Journal for Quantum Science, 0, 3, 164.	0.0	6
76	Compact entanglement distillery using realistic quantum memories. Physical Review A, 2013, 88, .	1.0	5
77	Emerging opportunities and future directions: general discussion. Faraday Discussions, 2019, 221, 564-581.	1.6	5
78	Quantum coherence in complex environments: general discussion. Faraday Discussions, 2019, 221, 168-201.	1.6	5
79	Bohmian picture of Rydberg atoms. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 322, 277-281.	0.9	4
80	Quantum metrology from an information theory perspective. , 2009, , .		2
81	Quantum metrology with Bose-Einstein condensates. , 2009, , .		2
82	Requirements for two-source entanglement concentration. Quantum Measurements and Quantum Metrology, 2013, 1, 5-11.	3.3	2
83	Quantum enhanced estimation of optical detector efficiencies. Quantum Measurements and Quantum Metrology, 2016, 3, .	3.3	2
84	Spectroscopic signatures of quantum effects: general discussion. Faraday Discussions, 2019, 221, 322-349.	1.6	2
85	Model-Independent Simulation Complexity of Complex Quantum Dynamics. Physical Review Letters, 2021, 126, 150402.	2.9	2
86	Covert sensing using floodlight illumination. , 2019, , .		2
87	Joint Photon Statistics of Photon-Subtracted Squeezed Light. , 2009, , .		1
88	Energy and charge-transfer in natural photosynthesis: general discussion. Faraday Discussions, 2019, 216, 133-161.	1.6	1
89	Quantum multiparameter estimation and metrologyâ€”preface. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 460301.	0.7	1
90	Bohmian picture of Rydberg atoms. Pramana - Journal of Physics, 2002, 59, 425-428.	0.9	0

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91	Complete Characterization of Weak-Homodyne Photon-Number-Resolving Detectors: Applications to Non-Classical Photonic State Reconstructions. , 2010, , .		0
92	Turning classical states quantum with linear optics and photon counting. , 2012, , .		0
93	Quantum Detector Tomography. Experimental Methods in the Physical Sciences, 2013, 45, 283-313.	0.1	0
94	Measuring nonlocal coherence with weak-field homodyne detection. , 2013, , .		0
95	Direct observation of sub-binomial light. , 2013, , .		0
96	Quantum Enhanced Classical Sensor Networks. , 2017, , .		0
97	Photo-induced electron transfer: general discussion. Faraday Discussions, 2019, 216, 434-459.	1.6	0
98	Getting a Handle on Timing. Physics Magazine, 0, 14, .	0.1	0
99	Scalable Photonic Quantum Networks. , 2013, , .		0
100	Surpassing the conventional Heisenberg limit using classical resources. , 2013, , .		0
101	Scalable Photonic Quantum Networks. , 2013, , .		0
102	Quantum Discord in Quantum Information Theory “ From Strong Subadditivity to the Mother Protocol. Lecture Notes in Computer Science, 2014, , 188-197.	1.0	0
103	Identifying nonclassicality of multiphoton and multimode quantum states directly from experimental detector outcomes. , 2014, , .		0
104	Quantum limits of sensing and imaging: Fundamental science while developing technology. , 2017, , .		0
105	Trade-offs in the simultaneous quantum-limited estimation of phase and phase diffusion. , 2017, , .		0
106	Quantum Discord in Quantum Communication Protocols. Quantum Science and Technology, 2017, , 241-255.	1.5	0