

Susana F Huelga

List of Publications by Year in descending order

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58
papers

7,322
citations

136740

32
h-index

143772

57
g-index

58
all docs

58
docs citations

58
times ranked

3950
citing authors

#	ARTICLE	IF	CITATIONS
1	Improvement of Frequency Standards with Quantum Entanglement. <i>Physical Review Letters</i> , 1997, 79, 3865-3868.	2.9	782
2	Entanglement and Non-Markovianity of Quantum Evolutions. <i>Physical Review Letters</i> , 2010, 105, 050403.	2.9	765
3	Dephasing-assisted transport: quantum networks and biomolecules. <i>New Journal of Physics</i> , 2008, 10, 113019.	1.2	762
4	Quantum non-Markovianity: characterization, quantification and detection. <i>Reports on Progress in Physics</i> , 2014, 77, 094001.	8.1	702
5	The role of non-equilibrium vibrational structures in electronic coherence and recoherence in pigment-protein complexes. <i>Nature Physics</i> , 2013, 9, 113-118.	6.5	481
6	Quantum Metrology in Non-Markovian Environments. <i>Physical Review Letters</i> , 2012, 109, 233601.	2.9	477
7	Open Quantum Systems. <i>SpringerBriefs in Physics</i> , 2012, , .	0.2	460
8	Efficient Simulation of Strong System-Environment Interactions. <i>Physical Review Letters</i> , 2010, 105, 050404.	2.9	348
9	Noise-assisted energy transfer in quantum networks and light-harvesting complexes. <i>New Journal of Physics</i> , 2010, 12, 065002.	1.2	262
10	Exact mapping between system-reservoir quantum models and semi-infinite discrete chains using orthogonal polynomials. <i>Journal of Mathematical Physics</i> , 2010, 51, .	0.5	214
11	Tracking the coherent generation of polaron pairs in conjugated polymers. <i>Nature Communications</i> , 2016, 7, 13742.	5.8	149
12	Vibronic origin of long-lived coherence in an artificial molecular light harvester. <i>Nature Communications</i> , 2015, 6, 7755.	5.8	129
13	Origin of long-lived oscillations in 2D-spectra of a quantum vibronic model: Electronic versus vibrational coherence. <i>Journal of Chemical Physics</i> , 2013, 139, 235102.	1.2	119
14	Ultimate Precision Limits for Noisy Frequency Estimation. <i>Physical Review Letters</i> , 2016, 116, 120801.	2.9	114
15	Violation of a Temporal Bell Inequality for Single Spins in a Diamond Defect Center. <i>Physical Review Letters</i> , 2011, 107, 090401.	2.9	113
16	Nonperturbative Treatment of non-Markovian Dynamics of Open Quantum Systems. <i>Physical Review Letters</i> , 2018, 120, 030402.	2.9	101
17	Generalized Polaron Ansatz for the Ground State of the Sub-Ohmic Spin-Boson Model: An Analytic Theory of the Localization Transition. <i>Physical Review Letters</i> , 2011, 107, 160601.	2.9	95
18	Mappings of open quantum systems onto chain representations and Markovian embeddings. <i>Journal of Mathematical Physics</i> , 2014, 55, .	0.5	89

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19	Efficient Simulation of Finite-Temperature Open Quantum Systems. <i>Physical Review Letters</i> , 2019, 123, 090402.	2.9	83
20	Enhancing light-harvesting power with coherent vibrational interactions: A quantum heat engine picture. <i>Journal of Chemical Physics</i> , 2015, 143, 155102.	1.2	75
21	Bloch-Redfield equations for modeling light-harvesting complexes. <i>Journal of Chemical Physics</i> , 2015, 142, 064104.	1.2	68
22	Efficient simulation of non-Markovian system-environment interaction. <i>New Journal of Physics</i> , 2016, 18, 023035.	1.2	60
23	Experimental Detection of Quantum Coherent Evolution through the Violation of Leggett-Garg-Type Inequalities. <i>Physical Review Letters</i> , 2015, 115, 113002.	2.9	56
24	Proposed test for realist theories using Rydberg atoms coupled to a high-Q-resonator. <i>Physical Review A</i> , 1995, 52, R2497-R2500.	1.0	47
25	Optimized auxiliary oscillators for the simulation of general open quantum systems. <i>Physical Review A</i> , 2020, 101, .	1.0	47
26	Fundamental limits to frequency estimation: a comprehensive microscopic perspective. <i>New Journal of Physics</i> , 2018, 20, 053009.	1.2	43
27	A trapped-ion simulator for spin-boson models with structured environments. <i>New Journal of Physics</i> , 2018, 20, 073002.	1.2	42
28	Coherence and non-classicality of quantum Markov processes. <i>Quantum Science and Technology</i> , 2019, 4, 01LT01.	2.6	39
29	Criticality-Enhanced Quantum Sensing via Continuous Measurement. <i>PRX Quantum</i> , 2022, 3, .	3.5	39
30	Controllable Non-Markovianity for a Spin Qubit in Diamond. <i>Physical Review Letters</i> , 2018, 121, 060401.	2.9	38
31	Precision Limits in Quantum Metrology with Open Quantum Systems. <i>Quantum Measurements and Quantum Metrology</i> , 2016, 5, 13-39.	3.3	36
32	When Is a Non-Markovian Quantum Process Classical?. <i>Physical Review X</i> , 2020, 10, .	2.8	36
33	A Complex Comprising a Cyanine Dye Rotaxane and a Porphyrin Nanoring as a Model Light-Harvesting System. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 16455-16458.	7.2	36
34	Dissipation-Assisted Matrix Product Factorization. <i>Physical Review Letters</i> , 2019, 123, 100502.	2.9	35
35	Quantum dynamics in photonic crystals. <i>Physical Review A</i> , 2013, 87, .	1.0	33
36	Focus on quantum effects and noise in biomolecules. <i>New Journal of Physics</i> , 2011, 13, 115002.	1.2	30

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37	Temporal Bell-type inequalities for two-level Rydberg atoms coupled to a high-Q-resonator. <i>Physical Review A</i> , 1996, 54, 1798-1807.	1.0	29
38	Phase-dependent exciton transport and energy harvesting from thermal environments. <i>Physical Review A</i> , 2016, 93, .	1.0	28
39	Efficient simulation of open quantum systems coupled to a fermionic bath. <i>Physical Review B</i> , 2020, 101, .	1.1	28
40	Universal Anti-Kibble-Zurek Scaling in Fully Connected Systems. <i>Physical Review Letters</i> , 2020, 124, 230602.	2.9	27
41	Sensing in the presence of an observed environment. <i>Physical Review A</i> , 2016, 93, .	1.0	26
42	Regulating the Energy Flow in a Cyanobacterial Light-Harvesting Antenna Complex. <i>Journal of Physical Chemistry B</i> , 2017, 121, 1240-1247.	1.2	23
43	Open Systems with Error Bounds: Spin-Boson Model with Spectral Density Variations. <i>Physical Review Letters</i> , 2017, 118, 100401.	2.9	23
44	A vibrant environment. <i>Nature Physics</i> , 2014, 10, 621-622.	6.5	21
45	Theory of Excitonic Delocalization for Robust Vibronic Dynamics in LH2. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 3446-3453.	2.1	20
46	Exact simulation of pigment-protein complexes unveils vibronic renormalization of electronic parameters in ultrafast spectroscopy. <i>Nature Communications</i> , 2022, 13, .	5.8	14
47	Quantum Redirection of Antenna Absorption to Photosynthetic Reaction Centers. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 6015-6021.	2.1	13
48	Multicolor Quantum Control for Suppressing Ground State Coherences in Two-Dimensional Electronic Spectroscopy. <i>Physical Review Letters</i> , 2019, 123, 233201.	2.9	9
49	Improving the precision of frequency estimation via long-time coherences. <i>Quantum Science and Technology</i> , 2019, 4, 025004.	2.6	9
50	Experimental control of the degree of non-classicality via quantum coherence. <i>Quantum Science and Technology</i> , 2020, 5, 04LT01.	2.6	9
51	Capacity of non-Markovianity to boost the efficiency of molecular switches. <i>Physical Review A</i> , 2022, 105, .	1.0	9
52	A Complex Comprising a Cyanine Dye Rotaxane and a Porphyrin Nanoring as a Model Light-Harvesting System. <i>Angewandte Chemie</i> , 2020, 132, 16597-16600.	1.6	8
53	Accessible coherence in open quantum system dynamics. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 4, 249.	0.0	7
54	Transfer-tensor description of memory effects in open-system dynamics and multi-time statistics. <i>Quantum Science and Technology</i> , 2022, 7, 025005.	2.6	6

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55	Optical Signatures of Quantum Delocalization over Extended Domains in Photosynthetic Membranes. Journal of Physical Chemistry A, 2015, 119, 9043-9050.	1.1	3
56	Limited-control metrology approaching the Heisenberg limit without entanglement preparation. Physical Review A, 2020, 101, .	1.0	3
57	Efficient construction of matrix-product representations of many-body Gaussian states. Physical Review A, 2021, 104, .	1.0	1
58	Entanglement spectrum in general free fermionic systems. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 135001.	0.7	1