

Susana F Huelga

List of Publications by Year in descending order

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58
papers

7,322
citations

136950

32
h-index

144013

57
g-index

58
all docs

58
docs citations

58
times ranked

3950
citing authors

#	ARTICLE	IF	CITATIONS
1	Capacity of non-Markovianity to boost the efficiency of molecular switches. <i>Physical Review A</i> , 2022, 105, .	2.5	9
2	Transfer-tensor description of memory effects in open-system dynamics and multi-time statistics. <i>Quantum Science and Technology</i> , 2022, 7, 025005.	5.8	6
3	Criticality-Enhanced Quantum Sensing via Continuous Measurement. <i>PRX Quantum</i> , 2022, 3, .	9.2	39
4	Entanglement spectrum in general free fermionic systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2022, 55, 135001.	2.1	1
5	Exact simulation of pigment-protein complexes unveils vibronic renormalization of electronic parameters in ultrafast spectroscopy. <i>Nature Communications</i> , 2022, 13, .	12.8	14
6	Efficient construction of matrix-product representations of many-body Gaussian states. <i>Physical Review A</i> , 2021, 104, .	2.5	1
7	When Is a Non-Markovian Quantum Process Classical?. <i>Physical Review X</i> , 2020, 10, .	8.9	36
8	Optimized auxiliary oscillators for the simulation of general open quantum systems. <i>Physical Review A</i> , 2020, 101, .	2.5	47
9	Universal Anti-Kibble-Zurek Scaling in Fully Connected Systems. <i>Physical Review Letters</i> , 2020, 124, 230602.	7.8	27
10	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.	2.0	8
11	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.	13.8	36
12	Efficient simulation of open quantum systems coupled to a fermionic bath. <i>Physical Review B</i> , 2020, 101, .	3.2	28
13	Limited-control metrology approaching the Heisenberg limit without entanglement preparation. <i>Physical Review A</i> , 2020, 101, .	2.5	3
14	Experimental control of the degree of non-classicality via quantum coherence. <i>Quantum Science and Technology</i> , 2020, 5, 04LT01.	5.8	9
15	Efficient Simulation of Finite-Temperature Open Quantum Systems. <i>Physical Review Letters</i> , 2019, 123, 090402.	7.8	83
16	Dissipation-Assisted Matrix Product Factorization. <i>Physical Review Letters</i> , 2019, 123, 100502.	7.8	35
17	Multicolor Quantum Control for Suppressing Ground State Coherences in Two-Dimensional Electronic Spectroscopy. <i>Physical Review Letters</i> , 2019, 123, 233201.	7.8	9
18	Improving the precision of frequency estimation via long-time coherences. <i>Quantum Science and Technology</i> , 2019, 4, 025004.	5.8	9

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19	Coherence and non-classicality of quantum Markov processes. <i>Quantum Science and Technology</i> , 2019, 4, 01LT01.	5.8	39
20	Nonperturbative Treatment of non-Markovian Dynamics of Open Quantum Systems. <i>Physical Review Letters</i> , 2018, 120, 030402.	7.8	101
21	Fundamental limits to frequency estimation: a comprehensive microscopic perspective. <i>New Journal of Physics</i> , 2018, 20, 053009.	2.9	43
22	Controllable Non-Markovianity for a Spin Qubit in Diamond. <i>Physical Review Letters</i> , 2018, 121, 060401.	7.8	38
23	Theory of Excitonic Delocalization for Robust Vibronic Dynamics in LH2. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 3446-3453.	4.6	20
24	A trapped-ion simulator for spin-boson models with structured environments. <i>New Journal of Physics</i> , 2018, 20, 073002.	2.9	42
25	Regulating the Energy Flow in a Cyanobacterial Light-Harvesting Antenna Complex. <i>Journal of Physical Chemistry B</i> , 2017, 121, 1240-1247.	2.6	23
26	Open Systems with Error Bounds: Spin-Boson Model with Spectral Density Variations. <i>Physical Review Letters</i> , 2017, 118, 100401.	7.8	23
27	Quantum Redirection of Antenna Absorption to Photosynthetic Reaction Centers. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 6015-6021.	4.6	13
28	Precision Limits in Quantum Metrology with Open Quantum Systems. <i>Quantum Measurements and Quantum Metrology</i> , 2016, 5, 13-39.	3.3	36
29	Efficient simulation of non-Markovian system-environment interaction. <i>New Journal of Physics</i> , 2016, 18, 023035.	2.9	60
30	Tracking the coherent generation of polaron pairs in conjugated polymers. <i>Nature Communications</i> , 2016, 7, 13742.	12.8	149
31	Phase-dependent exciton transport and energy harvesting from thermal environments. <i>Physical Review A</i> , 2016, 93, .	2.5	28
32	Sensing in the presence of an observed environment. <i>Physical Review A</i> , 2016, 93, .	2.5	26
33	Ultimate Precision Limits for Noisy Frequency Estimation. <i>Physical Review Letters</i> , 2016, 116, 120801.	7.8	114
34	Experimental Detection of Quantum Coherent Evolution through the Violation of Leggett-Garg-Type Inequalities. <i>Physical Review Letters</i> , 2015, 115, 113002.	7.8	56
35	Enhancing light-harvesting power with coherent vibrational interactions: A quantum heat engine picture. <i>Journal of Chemical Physics</i> , 2015, 143, 155102.	3.0	75
36	Vibronic origin of long-lived coherence in an artificial molecular light harvester. <i>Nature Communications</i> , 2015, 6, 7755.	12.8	129

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37	Optical Signatures of Quantum Delocalization over Extended Domains in Photosynthetic Membranes. <i>Journal of Physical Chemistry A</i> , 2015, 119, 9043-9050.	2.5	3
38	Bloch-Redfield equations for modeling light-harvesting complexes. <i>Journal of Chemical Physics</i> , 2015, 142, 064104.	3.0	68
39	Mappings of open quantum systems onto chain representations and Markovian embeddings. <i>Journal of Mathematical Physics</i> , 2014, 55, .	1.1	89
40	Quantum non-Markovianity: characterization, quantification and detection. <i>Reports on Progress in Physics</i> , 2014, 77, 094001.	20.1	702
41	A vibrant environment. <i>Nature Physics</i> , 2014, 10, 621-622.	16.7	21
42	Quantum dynamics in photonic crystals. <i>Physical Review A</i> , 2013, 87, .	2.5	33
43	The role of non-equilibrium vibrational structures in electronic coherence and recoherence in pigment-protein complexes. <i>Nature Physics</i> , 2013, 9, 113-118.	16.7	481
44	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.	3.0	119
45	Quantum Metrology in Non-Markovian Environments. <i>Physical Review Letters</i> , 2012, 109, 233601.	7.8	477
46	Open Quantum Systems. <i>SpringerBriefs in Physics</i> , 2012, , .	0.7	460
47	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.	7.8	95
48	Violation of a Temporal Bell Inequality for Single Spins in a Diamond Defect Center. <i>Physical Review Letters</i> , 2011, 107, 090401.	7.8	113
49	Focus on quantum effects and noise in biomolecules. <i>New Journal of Physics</i> , 2011, 13, 115002.	2.9	30
50	Entanglement and Non-Markovianity of Quantum Evolutions. <i>Physical Review Letters</i> , 2010, 105, 050403.	7.8	765
51	Noise-assisted energy transfer in quantum networks and light-harvesting complexes. <i>New Journal of Physics</i> , 2010, 12, 065002.	2.9	262
52	Exact mapping between system-reservoir quantum models and semi-infinite discrete chains using orthogonal polynomials. <i>Journal of Mathematical Physics</i> , 2010, 51, .	1.1	214
53	Efficient Simulation of Strong System-Environment Interactions. <i>Physical Review Letters</i> , 2010, 105, 050404.	7.8	348
54	Dephasing-assisted transport: quantum networks and biomolecules. <i>New Journal of Physics</i> , 2008, 10, 113019.	2.9	762

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55	Improvement of Frequency Standards with Quantum Entanglement. Physical Review Letters, 1997, 79, 3865-3868.	7.8	782
56	Temporal Bell-type inequalities for two-level Rydberg atoms coupled to a high-Qresonator. Physical Review A, 1996, 54, 1798-1807.	2.5	29
57	Proposed test for realist theories using Rydberg atoms coupled to a high-Qresonator. Physical Review A, 1995, 52, R2497-R2500.	2.5	47
58	Accessible coherence in open quantum system dynamics. Quantum - the Open Journal for Quantum Science, 0, 4, 249.	0.0	7