Valerio Scarani

List of Publications by Year
in descending order

163 papers	15,804 citations	28190 55 h-index	17055 122 g-index
166 all docs	166 docs citations	166 times ranked	5967 citing authors

#	Article	IF	Citations
1	Device-independent quantum key distribution with random key basis. Nature Communications, 2021, 12, 2880.	5.8	49
2	Entanglement for any definition of two subsystems. Physical Review A, 2021, 103, .	1.0	2
3	Fluctuation theorems from Bayesian retrodiction. Physical Review E, 2021, 103, 052111.	0.8	20
4	Optimal single-shot discrimination of optical modes. Physical Review A, 2021, 103, .	1.0	0
5	Absolutely entangled sets of pure states for bipartitions and multipartitions. Physical Review A, 2021, 104, .	1.0	0
6	Fluctuation theorems with retrodiction rather than reverse processes. AVS Quantum Science, 2021, 3, .	1.8	15
7	Surpassing the thermal CramÃ©r-Rao bound with collisional thermometry. Physical Review A, 2020, 102, .	1.0	11
8	Maxwellâ€™s Lesser Demon: A Quantum Engine Driven by Pointer Measurements. Physical Review Letters, 2020, 124, 100603.	2.9	22
9	Knowledge by direct measurement versus inference from steering. Quantum Studies: Mathematics and Foundations, 2020, 7, 247-254.	0.4	2
10	Experimental comparison of tomography and self-testing in certifying entanglement. Physical Review A, 2019, 100, .	1.0	8
11	Almost thermal operations: Inhomogeneous reservoirs. Physical Review A, 2019, 100, .	1.0	4
12	Collisional Quantum Thermometry. Physical Review Letters, 2019, 123, 180602.	2.9	56
13	Quantum absorption refrigerator with trapped ions. Nature Communications, 2019, 10, 202.	5.8	157
14	Nonequilibrium dynamics with finite-time repeated interactions. Physical Review E, 2019, 99, 042103.	0.8	38
15	Quantum gears from planar rotors. Physical Review E, 2019, 99, 042202.	0.8	4
16	Bell Nonlocality. , 2019, , .		85
17	Geometry of the set of quantum correlations. Physical Review A, 2018, 97, .	1.0	71
18	Quantum Rotor Engines. Fundamental Theories of Physics, 2018, , 227-245.	0.1	0

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19	Work production of quantum rotor engines. New Journal of Physics, 2018, 20, 043045.	1.2	40
20	Self-testing using only marginal information. Physical Review A, 2018, 98, .	1.0	6
21	Randomness Extraction from Bell Violation with Continuous Parametric Down-Conversion. Physical Review Letters, 2018, 121, 150402.	2.9	39
22	Refrigeration beyond weak internal coupling. Physical Review E, 2018, 98, 012131.	0.8	43
23	Randomness extraction from CHSH violation without fair sampling assumptions with a continuous wave source. , 2018, , .		0
24	All pure bipartite entangled states can be self-tested. Nature Communications, 2017, 8, 15485.	5.8	122
25	Power of an optical Maxwell's demon in the presence of photon-number correlations. Physical Review A, 2017, 95, .	1.0	8
26	Witnessing Irreducible Dimension. Physical Review Letters, 2017, 119, 080401.	2.9	27
27	Experimental many-pairs nonlocality. Physical Review A, 2017, 96, .	1.0	4
28	Many-box locality. Physical Review A, 2017, 96, .	1.0	6
29	Autonomous rotor heat engine. Physical Review E, 2017, 95, 062131.	0.8	59
30	The Universe Would Not Be Perfect Without Randomness: A Quantum Physicistâ€™s Reading of Aquinas. The Frontiers Collection, 2017, , 167-174.	0.1	0
31	Publisher's Note: Nonlocal games and optimal steering at the boundary of the quantum set [Phys. Rev. A94, 022116 (2016)]. Physical Review A, 2016, 94, .	1.0	0
32	Measurement-device-independent quantification of entanglement for given Hilbert space dimension. New Journal of Physics, 2016, 18, 045022.	1.2	24
33	Randomness in post-selected events. New Journal of Physics, 2016, 18, 035007.	1.2	14
34	All the self-testings of the singlet for two binary measurements. New Journal of Physics, 2016, 18, 025021.	1.2	41
35	Focus on device independent quantum information. New Journal of Physics, 2016, 18, 100202.	1.2	26
36	A new device-independent dimension witness and its experimental implementation. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 305301.	0.7	16

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37	Measurement-dependent locality beyond independent and identically distributed runs. Physical Review A, 2016, 94, .	1.0	4
38	Covert Quantum Communication. Physical Review Letters, 2016, 117, 250503.	2.9	27
39	Bell correlations in a Bose-Einstein condensate. Science, 2016, 352, 441-444.	6.0	141
40	Nonlocal games and optimal steering at the boundary of the quantum set. Physical Review A, 2016, 94, .	1.0	10
41	Rabi oscillation in a quantum cavity: Markovian and non-Markovian dynamics. Physical Review A, 2016, 93, .	1.0	39
42	Device-independent parallel self-testing of two singlets. Physical Review A, 2016, 93, .	1.0	47
43	Two photons on an atomic beam splitter: Nonlinear scattering and induced correlations. Physical Review A, 2016, 93, .	1.0	13
44	Solving the scattering ofNphotons on a two-level atom without computation. New Journal of Physics, 2016, 18, 093035.	1.2	30
45	Rectification of light in the quantum regime. Physical Review A, 2015, 92, .	1.0	23
46	Physical characterization of quantum devices from nonlocal correlations. Physical Review A, 2015, 91, .	1.0	62
47	State complexity and quantum computation. Annalen Der Physik, 2015, 527, 684-700.	0.9	8
48	More randomness from the same data. New Journal of Physics, 2014, 16, 033011.	1.2	67
49	Maximal tree size of few-qubit states. Physical Review A, 2014, 89, .	1.0	2
50	Robust and Versatile Black-Box Certification of Quantum Devices. Physical Review Letters, 2014, 113, 040401.	2.9	96
51	The black paper of quantum cryptography: Real implementation problems. Theoretical Computer Science, 2014, 560, 27-32.	0.5	53
52	Proposal for monitoring and heralding position states of atoms in a one-dimensional waveguide. Physical Review A, 2014, 90, .	1.0	2
53	Bell nonlocality. Reviews of Modern Physics, 2014, 86, 419-478.	16.4	1,792
54	Robust self-testing of the three-qubit<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>W</mml:mi></mml:math>state. Physical Review A, 2014, 90, .	1.0	53

#	Article	IF	Citations
55	Publisherâ€™s Note: Bell nonlocality [Rev. Mod. Phys.86, 419 (2014)]. Reviews of Modern Physics, 2014, 86, 839-840.	16.4	53
56	Quantum randomness extraction for various levels of characterization of the devices. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 424028.	0.7	92
57	Strong Constraints on Models that Explain the Violation of Bell Inequalities with Hidden Superluminal Influences. Foundations of Physics, 2014, 44, 523-531.	0.6	9
58	Oblivious transfer and quantum channels as communication resources. Natural Computing, 2013, 12, 13-17.	1.8	4
59	Realistic loophole-free Bell test with atomâ€“photon entanglement. Nature Communications, 2013, 4, 2104.	5.8	18
60	Cross time-bin photonic entanglement for quantum key distribution. Physical Review A, 2013, 87, .	1.0	20
61	Device-independent certification of the teleportation of a qubit. Physical Review A, 2013, 88, .	1.0	8
62	Excitation of a single atom with a temporally shaped light pulses. , 2013, , .		0
63	Analysis of a proposal for a realistic loophole-free Bell test with atom-light entanglement. Physical Review A, 2013, 88, .	1.0	2
64	Bell tests with min-entropy sources. Physical Review A, 2013, 87, .	1.0	25
65	Excitation of a Single Atom with Exponentially Rising Light Pulses. Physical Review Letters, 2013, 111, 103001.	2.9	50
66	Tree-size complexity of multiqubit states. Physical Review A, 2013, 88, .	1.0	1
67	Information-causality and extremal tripartite correlations. New Journal of Physics, 2012, 14, 013061.	1.2	28
68	Effects of Reduced Measurement Independence on Bell-Based Randomness Expansion. Physical Review Letters, 2012, 109, 160404.	2.9	47
69	Ultrafast Quantum Gates in Circuit QED. Physical Review Letters, 2012, 108, 120501.	2.9	170
70	State-dependent atomic excitation by multiphoton pulses propagating along two spatial modes. Physical Review A, 2012, 86, .	1.0	8
71	Quantum memory with a single two-level atom in a half cavity. Physical Review A, 2012, 85, .	1.0	16
72	Nonlocality Tests Enhanced by a Third Observer. Physical Review Letters, 2012, 108, 040402.	2.9	27

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73	Robust self-testing of the singlet. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 455304.	0.7	128
74	One-sided device-independent quantum key distribution: Security, feasibility, and the connection with steering. Physical Review A, 2012, 85, .	1.0	564
75	Device-Independent Bounds for Hardyâ€™s Experiment. Physical Review Letters, 2012, 109, 180401.	2.9	50
76	Quantum non-locality based on finite-speed causal influences leads to superluminal signalling. Nature Physics, 2012, 8, 867-870.	6.5	93
77	TOMOGRAPHIC QUANTUM CRYPTOGRAPHY PROTOCOLS ARE REFERENCE FRAME INDEPENDENT. International Journal of Quantum Information, 2012, 10, 1250035.	0.6	13
78	Validity of resonant two-qubit gates in the ultrastrong coupling regime of circuit quantum electrodynamics. Physica Scripta, 2012, T147, 014031.	1.2	6
79	Extremal correlations of the tripartite no-signaling polytope. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 065303.	0.7	59
80	Experimentally Faking the Violation of Bellâ€™s Inequalities. Physical Review Letters, 2011, 107, 170404.	2.9	153
81	Quantum networks reveal quantum nonlocality. Nature Communications, 2011, 2, 184.	5.8	93
82	Device-Independent Certification of Entangled Measurements. Physical Review Letters, 2011, 107, 050502.	2.9	61
83	Efficient excitation of a two-level atom by a single photon in a propagating mode. Physical Review A, 2011, 83, .	1.0	92
84	Lenses as an atomâ€“photon interface: A semiclassical model. Optics Communications, 2011, 284, 4485-4490.	1.0	9
85	Large violation of Bell inequalities using both particle andwave measurements. Physical Review A, 2011, 84, .	1.0	29
86	Quantum Bell inequalities from macroscopic locality. Physical Review A, 2011, 83, .	1.0	10
87	Time-bin entanglement of quasiparticles in semiconductor devices. Physical Review B, 2011, 84, .	1.1	5
88	Comment on â€œLoophole-Free Bell Test for Continuous Variables via Wave and Particle Correlationsâ€• Physical Review Letters, 2011, 106, 208901; author reply 208902.	2.9	6
89	Reference-frame-independent quantum key distribution. Physical Review A, 2010, 82, .	1.0	163
90	Guaranteed randomness. Nature, 2010, 464, 988-989.	13.7	6

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91	Security proof for quantum key distribution using qudit systems. Physical Review A, 2010, 82, .	1.0	186
92	Evaluation of two different entanglement measures on a bound entangled state. Physical Review A, 2010, 82, .	1.0	5
93	Multipartite fully nonlocal quantum states. Physical Review A, 2010, 81, .	1.0	29
94	Local content of bipartite qubit correlations. Physical Review A, 2010, 81, .	1.0	10
95	Finite-key security against coherent attacks in quantum key distribution. New Journal of Physics, 2010, 12, 123019.	1.2	48
96	The non-locality ofnnoisy Popescuâ€“Rohrlich boxes. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 465305.	0.7	12
97	Macroscopically local correlations can violate information causality. Nature Communications, 2010, 1, 136.	5.8	27
98	Phase Shift of a Weak Coherent Beam Induced by a Single Atom. Physical Review Letters, 2009, 103, 153601.	2.9	69
99	Finite-key analysis for practical implementations of quantum key distribution. New Journal of Physics, 2009, 11, 045024.	1.2	108
100	How Non-Local are n Noisy Popescu-Rohrlich Machines?. , 2009, , .		0
101	Finite-key analysis for practical implementations of quantum key distribution. New Journal of Physics, 2009, 11, 109801-109801.	1.2	2
102	Interfacing light and single atoms with a lens. New Journal of Physics, 2009, 11, 043011.	1.2	57
103	Information causality as a physical principle. Nature, 2009, 461, 1101-1104.	13.7	545
104	The security of practical quantum key distribution. Reviews of Modern Physics, 2009, 81, 1301-1350.	16.4	2,489
105	Device-independent quantum key distribution secure against collective attacks. New Journal of Physics, 2009, 11, 045021.	1.2	379
106	Device-independent state estimation based on Bellâ€™s inequalities. Physical Review A, 2009, 80, .	1.0	91
107	Recovering part of the boundary between quantum and nonquantum correlations from information causality. Physical Review A, 2009, 80, .	1.0	63
108	Testing quantum correlations versus single-particle properties within Leggettâ€™sÂmodel and beyond. Nature Physics, 2008, 4, 681-685.	6.5	80

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109	Testing the Dimension of Hilbert Spaces. Physical Review Letters, 2008, 100, 210503.	2.9	208
110	Local and nonlocal content of bipartite qubit and qutrit correlations. Physical Review A, 2008, 77, .	1.0	18
111	Upper bounds for the security of two distributed-phase reference protocols of quantum cryptography. New Journal of Physics, 2008, 10, 013031.	1.2	55
112	Simulation of partial entanglement with nonsignaling resources. Physical Review A, 2008, 78, .	1.0	24
113	Experimental quantum key distribution based on a Bell test. Physical Review A, 2008, 78, .	1.0	37
114	Quantum Cryptography with Finite Resources: Unconditional Security Bound for Discrete-Variable Protocols with One-Way Postprocessing. Physical Review Letters, 2008, 100, 200501.	2.9	249
115	Security Bounds for Quantum Cryptography with Finite Resources. Lecture Notes in Computer Science, 2008, , 83-95.	1.0	19
116	PSEUDO-TELEPATHY: INPUT CARDINALITY AND BELL-TYPE INEQUALITIES. International Journal of Quantum Information, 2007, 05, 525-534.	0.6	15
117	Fidelity of an Optical Memory Based on Stimulated Photon Echoes. Physical Review Letters, 2007, 98, 113601.	2.9	80
118	Experimental Falsification of Leggettâ€™s Nonlocal Variable Model. Physical Review Letters, 2007, 99, 210407.	2.9	84
119	Detection Loophole in Asymmetric Bell Experiments. Physical Review Letters, 2007, 98, 220403.	2.9	95
120	Device-Independent Security of Quantum Cryptography against Collective Attacks. Physical Review Letters, 2007, 98, 230501.	2.9	1,221
121	Entangling independent photons by timeÂmeasurement. Nature Physics, 2007, 3, 692-695.	6.5	221
122	Entanglement and irreversibility in the approach to thermal equilibrium. European Physical Journal: Special Topics, 2007, 151, 41-49.	1.2	3
123	Bell-type inequalities for nonlocal resources. Journal of Mathematical Physics, 2006, 47, 112101.	0.5	8
124	Feats, Features and Failures of the PR-box. AIP Conference Proceedings, 2006, , .	0.3	13
125	Secrecy extraction from no-signaling correlations. Physical Review A, 2006, 74, .	1.0	76
126	Four-photon correction in two-photon Bell experiments. European Physical Journal D, 2005, 32, 129-138.	0.6	39

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127	Superluminal hidden communication as the underlying mechanism for quantum correlations: constraining models. Brazilian Journal of Physics, 2005, 35, 328.	0.7	12
128	Photon-number-splitting versus cloning attacks in practical implementations of the Bennett-Brassard 1984 protocol for quantum cryptography. Physical Review A, 2005, 71, .	1.0	31
129	Entanglement and non-locality are different resources. New Journal of Physics, 2005, 7, 88-88.	1.2	97
130	Fast and simple one-way quantum key distribution. Applied Physics Letters, 2005, 87, 194108.	1.5	229
131	Nonlocality of cluster states of qubits. Physical Review A, 2005, 71, .	1.0	148
132	Security of two quantum cryptography protocols using the same four qubit states. Physical Review A, 2005, 72, .	1.0	98
133	Quantum cloning. Reviews of Modern Physics, 2005, 77, 1225-1256.	16.4	482
134	Coherent-pulse implementations of quantum cryptography protocols resistant to photon-number-splitting attacks. Physical Review A, 2004, 69, .	1.0	100
135	Proposal for Energy-Time Entanglement of Quasiparticles in a Solid-State Device. Physical Review Letters, 2004, 92, 167901.	2.9	8
136	Tailoring photonic entanglement in high-dimensional Hilbert spaces. Physical Review A, 2004, 69, .	1.0	87
137	Two independent photon pairs versus four-photon entangled states in parametric down conversion. Journal of Modern Optics, 2004, 51, 1637-1649.	0.6	75
138	BELL'S INEQUALITIES DETECT EFFICIENT ENTANGLEMENT. International Journal of Quantum Information, 2004, 02, 23-31.	0.6	29
139	Quantum Cryptography Protocols Robust against Photon Number Splitting Attacks for Weak Laser Pulse Implementations. Physical Review Letters, 2004, 92, 057901.	2.9	582
140	Direct Measurement of Superluminal Group Velocity and Signal Velocity in an Optical Fiber. Physical Review Letters, 2004, 93, 203902.	2.9	179
141	Optical Telecom Networks as Weak Quantum Measurements with Postselection. Physical Review Letters, 2003, 91, 180402.	2.9	73
142	Violation of BellÂs inequalities and distillability forNqubits. Journal of Physics A, 2003, 36, L21-L29.	1.6	13
143	Thermalizing Quantum Machines: Dissipation and Entanglement. Physical Review Letters, 2002, 88, 097905.	2.9	237
144	Bell-Type Inequalities to Detect Truen-Body Nonseparability. Physical Review Letters, 2002, 88, 170405.	2.9	252

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145	Bellâ€™s inequalities and distillability inN-quantum-bit systems. Physical Review A, 2002, 66, .	1.0	26
146	Quantum Cloning with an Optical Fiber Amplifier. Physical Review Letters, 2002, 89, 107901.	2.9	84
147	Superluminal influences, hidden variables, and signaling. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 295, 167-174.	0.9	16
148	Quantum key distribution betweenNpartners: Optimal eavesdropping and Bellâ€™s inequalities. Physical Review A, 2001, 65, .	1.0	55
149	Spectral decomposition of Bell's operators for qubits. Journal of Physics A, 2001, 34, 6043-6053.	1.6	109
150	Quantum Communication betweenNPartners and Bell's Inequalities. Physical Review Letters, 2001, 87, 117901.	2.9	202
151	The speed of quantum information and the preferred frame: analysis of experimental data. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 276, 1-7.	0.9	59
152	Effect of oxidation of cobalt-based nanowires on NMR spin-lattice relaxation. Applied Magnetic Resonance, 2000, 19, 439-445.	0.6	1
153	59Co nuclear magnetic resonance studies of magnetic excitations in ferromagnetic nanowires. Applied Physics Letters, 2000, 76, 903-905.	1.5	10
154	The microstructure of electrodeposited cobalt-based nanowires and its effect on their magnetic and transport properties. Journal of Magnetism and Magnetic Materials, 1999, 205, 241-248.	1.0	50
155	Introducing quantum mechanics: One-particle interferences. American Journal of Physics, 1998, 66, 718-721.	0.3	24
156	Magnetic and transport properties of electrodeposited nanostructured nanowires. IEEE Transactions on Magnetics, 1998, 34, 968-972.	1.2	24
157	Does entanglement depend on the timing of the impacts at the beam-splitters?. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 232, 9-14.	0.9	60
158	Reply to â€œLorentz and CPT invariances and the EPR correlationsâ€•by Costa de Beauregard. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 236, 605-606.	0.9	2
159	Oblivious Transfer and Quantum Channels. , 0, , .		1
160	Two independent photon pairs versus four-photon entangled states in parametric down conversion. , 0, .		11
161	Quantum and classical dynamics of a three-mode absorption refrigerator. Quantum - the Open Journal for Quantum Science, 0, 1, 37.	0.0	23
162	Extension of the Alberti-Ulhmann criterion beyond qubit dichotomies. Quantum - the Open Journal for Quantum Science, 0, 4, 233.	0.0	7

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163	Worst-case Quantum Hypothesis Testing with Separable Measurements. Quantum - the Open Journal for Quantum Science, 0, 4, 320.	0.0	2