Liang Jiang

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Nanoscale magnetic sensing with an individual electronic spin in diamond. Nature, 2008, 455, 644-647.	27.8	1,554
2	High-sensitivity diamond magnetometer with nanoscale resolution. Nature Physics, 2008, 4, 810-816.	16.7	1,409
3	Quantum entanglement between an optical photon and a solid-state spin qubit. Nature, 2010, 466, 730-734.	27.8	968
4	Parity–time symmetry and variable optical isolation in active–passive-coupled microresonators. Nature Photonics, 2014, 8, 524-529.	31.4	910
5	Room-Temperature Quantum Bit Memory Exceeding One Second. Science, 2012, 336, 1283-1286.	12.6	707
6	Strongly Coupled Magnons and Cavity Microwave Photons. Physical Review Letters, 2014, 113, 156401.	7.8	693
7	Majorana Fermions in Equilibrium and in Driven Cold-Atom Quantum Wires. Physical Review Letters, 2011, 106, 220402.	7.8	606
8	Extending the lifetime of a quantum bit with error correction in superconducting circuits. Nature, 2016, 536, 441-445.	27.8	603
9	A quantum network of clocks. Nature Physics, 2014, 10, 582-587.	16.7	435
10	Cavity magnomechanics. Science Advances, 2016, 2, e1501286.	10.3	395
11	Dynamically protected cat-qubits: a new paradigm for universal quantum computation. New Journal of Physics, 2014, 16, 045014.	2.9	394
12	Strong magnetic coupling between an electronic spin qubit and a mechanical resonator. Physical Review B, 2009, 79, .	3.2	329
13	Anti-parity–time symmetry with flying atoms. Nature Physics, 2016, 12, 1139-1145.	16.7	298
14	Magnon dark modes and gradient memory. Nature Communications, 2015, 6, 8914.	12.8	293
15	Repetitive Readout of a Single Electronic Spin via Quantum Logic with Nuclear Spin Ancillae. Science, 2009, 326, 267-272.	12.6	277
16	Optimal architectures for long distance quantum communication. Scientific Reports, 2016, 6, 20463.	3.3	262
17	A Schrödinger cat living in two boxes. Science, 2016, 352, 1087-1091.	12.6	244
18	Quantum memory with millisecond coherence in circuit QED. Physical Review B, 2016, 94, .	3.2	237

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19	Symmetries and conserved quantities in Lindblad master equations. Physical Review A, 2014, 89, .	2.5	231
20	Quantum repeater with encoding. Physical Review A, 2009, 79, .	2.5	224
21	Topological Properties of Linear Circuit Lattices. Physical Review Letters, 2015, 114, 173902.	7.8	210
22	Cavity QED with atomic mirrors. New Journal of Physics, 2012, 14, 063003.	2.9	205
23	Ultrafast and Fault-Tolerant Quantum Communication across Long Distances. Physical Review Letters, 2014, 112, 250501.	7.8	204
24	New Class of Quantum Error-Correcting Codes for a Bosonic Mode. Physical Review X, 2016, 6, .	8.9	198
25	Robust Quantum State Transfer in Random Unpolarized Spin Chains. Physical Review Letters, 2011, 106, 040505.	7.8	194
26	Scalable architecture for a room temperature solid-state quantum information processor. Nature Communications, 2012, 3, 800.	12.8	190
27	Distributed quantum computation based on small quantum registers. Physical Review A, 2007, 76, .	2.5	188
28	Implementing a universal gate set on a logical qubit encoded in an oscillator. Nature Communications, 2017, 8, 94.	12.8	183
29	Performance and structure of single-mode bosonic codes. Physical Review A, 2018, 97, .	2.5	172
30	Development of Quantum Interconnects (QuICs) for Next-Generation Information Technologies. PRX Quantum, 2021, 2, .	9.2	172
31	Routing entanglement in the quantum internet. Npj Quantum Information, 2019, 5, .	6.7	169
32	Electromagnetically induced transparency at a chiral exceptional point. Nature Physics, 2020, 16, 334-340.	16.7	156
33	Deterministic teleportation of a quantum gate between two logical qubits. Nature, 2018, 561, 368-373.	27.8	154
34	Unconventional Josephson Signatures of Majorana Bound States. Physical Review Letters, 2011, 107, 236401.	7.8	143
35	On-demand quantum state transfer and entanglement between remote microwave cavity memories. Nature Physics, 2018, 14, 705-710.	16.7	143
36	Far-field optical imaging and manipulation of individual spins with nanoscale resolution. Nature Physics, 2010, 6, 912-918.	16.7	142

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37	Quantum Noise Theory of Exceptional Point Amplifying Sensors. Physical Review Letters, 2019, 123, 180501.	7.8	140
38	Achieving the Heisenberg limit in quantum metrology using quantum error correction. Nature Communications, 2018, 9, 78.	12.8	139
39	Coherent Quantum Optical Control with Subwavelength Resolution. Physical Review Letters, 2008, 100, 093005.	7.8	135
40	Cavity State Manipulation Using Photon-Number Selective Phase Gates. Physical Review Letters, 2015, 115, 137002.	7.8	121
41	Fault-tolerant detection of a quantum error. Science, 2018, 361, 266-270.	12.6	113
42	Bias-preserving gates with stabilized cat qubits. Science Advances, 2020, 6, .	10.3	105
43	Controlled release of multiphoton quantum states from a microwave cavity memory. Nature Physics, 2017, 13, 882-887.	16.7	101
44	Building a Fault-Tolerant Quantum Computer Using Concatenated Cat Codes. PRX Quantum, 2022, 3, .	9.2	101
45	Quantum Capacity Bounds of Gaussian Thermal Loss Channels and Achievable Rates With Gottesman-Kitaev-Preskill Codes. IEEE Transactions on Information Theory, 2019, 65, 2563-2582.	2.4	100
46	Universal control of an oscillator with dispersive coupling to a qubit. Physical Review A, 2015, 92, .	2.5	99
47	Anyonic interferometry and protected memories in atomic spin lattices. Nature Physics, 2008, 4, 482-488.	16.7	97
48	A CNOT gate between multiphoton qubits encoded in two cavities. Nature Communications, 2018, 9, 652.	12.8	95
49	Geometry and Response of Lindbladians. Physical Review X, 2016, 6, .	8.9	94
50	Coherence and Control of Quantum Registers Based on Electronic Spin in a Nuclear Spin Bath. Physical Review Letters, 2009, 102, 210502.	7.8	92
51	Heisenberg-Limited Atom Clocks Based on Entangled Qubits. Physical Review Letters, 2014, 112, 190403.	7.8	92
52	Demonstration of a chip-based optical isolator with parametric amplification. Nature Communications, 2016, 7, 13657.	12.8	89
53	Interface between Topological and Superconducting Qubits. Physical Review Letters, 2011, 106, 130504.	7.8	88
54	Entanglement of bosonic modes through an engineered exchange interaction. Nature, 2019, 566, 509-512.	27.8	88

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55	Hardware-Efficient Quantum Random Access Memory with Hybrid Quantum Acoustic Systems. Physical Review Letters, 2019, 123, 250501.	7.8	86
56	Waveguide cavity optomagnonics for microwave-to-optics conversion. Optica, 2020, 7, 1291.	9.3	84
57	Imaging mesoscopic nuclear spin noise with a diamond magnetometer. Journal of Chemical Physics, 2010, 133, 124105.	3.0	82
58	Microwave-optical quantum frequency conversion. Optica, 2021, 8, 1050.	9.3	81
59	Holonomic Quantum Control with Continuous Variable Systems. Physical Review Letters, 2016, 116, 140502.	7.8	77
60	Cavity piezo-mechanics for superconducting-nanophotonic quantum interface. Nature Communications, 2020, 11, 3237.	12.8	76
61	Environment-Assisted Precision Measurement. Physical Review Letters, 2011, 106, 140502.	7.8	75
62	Modern description of Rayleigh's criterion. Physical Review A, 2019, 99, .	2.5	73
63	Efficient Multiphoton Sampling of Molecular Vibronic Spectra on a Superconducting Bosonic Processor. Physical Review X, 2020, 10, .	8.9	73
64	Cat Codes with Optimal Decoherence Suppression for a Lossy Bosonic Channel. Physical Review Letters, 2017, 119, 030502.	7.8	69
65	Topologically protected quantum state transfer in a chiral spin liquid. Nature Communications, 2013, 4, 1585.	12.8	67
66	Stabilized Cat in a Driven Nonlinear Cavity: A Fault-Tolerant Error Syndrome Detector. Physical Review X, 2019, 9, .	8.9	64
67	Superstrong coupling of thin film magnetostatic waves with microwave cavity. Journal of Applied Physics, 2016, 119, .	2.5	62
68	Intracity Quantum Communication via Thermal Microwave Networks. Physical Review X, 2017, 7, .	8.9	58
69	Deep Neural Network Probabilistic Decoder for Stabilizer Codes. Scientific Reports, 2017, 7, 11003.	3.3	58
70	Slow Light Beam Splitter. Physical Review Letters, 2008, 101, 043601.	7.8	57
71	Proposal for Heralded Generation and Detection of Entangled Microwave–Optical-Photon Pairs. Physical Review Letters, 2020, 124, 010511.	7.8	57
72	Programmable Interference between Two Microwave Quantum Memories. Physical Review X, 2018, 8, .	8.9	56

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73	Efficient Generation of a Near-visible Frequency Comb via Cherenkov-like Radiation from a Kerr Microcomb. Physical Review Applied, 2018, 10, .	3.8	54
74	Optimal approach to quantum communication using dynamic programming. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 17291-17296.	7.1	53
75	Encoding an Oscillator into Many Oscillators. Physical Review Letters, 2020, 125, 080503.	7.8	53
76	Coherence of an Optically Illuminated Single Nuclear Spin Qubit. Physical Review Letters, 2008, 100, 073001.	7.8	51
77	Nonequilibrium Steady State of a Nanometric Biochemical System:Â Determining the Thermodynamic Driving Force from Single Enzyme Turnover Time Traces. Nano Letters, 2005, 5, 2373-2378.	9.1	50
78	Error-corrected gates on an encoded qubit. Nature Physics, 2020, 16, 822-826.	16.7	50
79	Ancilla-Free Quantum Error Correction Codes for Quantum Metrology. Physical Review Letters, 2019, 122, 040502.	7.8	49
80	Quantum-limited measurements of atomic scattering properties. Physical Review A, 2007, 76, .	2.5	48
81	Efficient classical simulation of noisy random quantum circuits in one dimension. Quantum - the Open Journal for Quantum Science, 0, 4, 318.	0.0	47
82	Many-body protected entanglement generation in interacting spin systems. Physical Review A, 2008, 77, .	2.5	46
83	Characterizing entanglement of an artificial atom and a cavity cat state with Bell's inequality. Nature Communications, 2015, 6, 8970.	12.8	46
84	Pair-cat codes: autonomous error-correction with low-order nonlinearity. Quantum Science and Technology, 2019, 4, 035007.	5.8	46
85	Parity-time symmetry in optical microcavity systems. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 222001.	1.5	45
86	High-Fidelity Measurement of Qubits Encoded in Multilevel Superconducting Circuits. Physical Review X, 2020, 10, .	8.9	45
87	Quantum control of bosonic modes with superconducting circuits. Science Bulletin, 2021, 66, 1789-1805.	9.0	45
88	Distributed quantum sensing enhanced by continuous-variable error correction. New Journal of Physics, 2020, 22, 022001.	2.9	44
89	Magneto-Josephson effects in junctions with Majorana bound states. Physical Review B, 2013, 87, .	3.2	43
90	Optimized Entanglement Purification. Quantum - the Open Journal for Quantum Science, 0, 3, 123.	0.0	43

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91	High-fidelity fast quantum transport with imperfect controls. Physical Review A, 2009, 79, .	2.5	42
92	Unforgeable noise-tolerant quantum tokens. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 16079-16082.	7.1	42
93	Cavity piezomechanical strong coupling and frequency conversion on an aluminum nitride chip. Physical Review A, 2016, 94, .	2.5	40
94	Quantum channel construction with circuit quantum electrodynamics. Physical Review B, 2017, 95, .	3.2	40
95	Overcoming erasure errors with multilevel systems. New Journal of Physics, 2017, 19, 013026.	2.9	40
96	Floquet Cavity Electromagnonics. Physical Review Letters, 2020, 125, 237201.	7.8	39
97	Overcoming lossy channel bounds using a single quantum repeater node. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	37
98	Quantum logic between remote quantum registers. Physical Review A, 2013, 87, .	2.5	35
99	Subwavelength-width optical tunnel junctions for ultracold atoms. Physical Review A, 2016, 94, .	2.5	35
100	Engineering bilinear mode coupling in circuit QED: Theory and experiment. Physical Review A, 2019, 99, .	2.5	34
101	Error-Detected State Transfer and Entanglement in a Superconducting Quantum Network. PRX Quantum, 2021, 2, .	9.2	34
102	Diffusion-induced decoherence of stored optical vortices. Physical Review A, 2008, 77, .	2.5	32
103	Microwave-assisted coherent and nonlinear control in cavity piezo-optomechanical systems. Physical Review A, 2014, 90, .	2.5	32
104	Direct Measurement of Topological Numbers with Spins in Diamond. Physical Review Letters, 2016, 117, 060503.	7.8	32
105	Radiative Cooling of a Superconducting Resonator. Physical Review Letters, 2020, 124, 033602.	7.8	32
106	Electromagnetically induced transparency with noisy lasers. Physical Review A, 2009, 80, .	2.5	31
107	Chipâ€Based Optical Isolator and Nonreciprocal Parityâ€Time Symmetry Induced by Stimulated Brillouin Scattering. Laser and Photonics Reviews, 2020, 14, 1900278.	8.7	31
108	Quantum Coding with Low-Depth Random Circuits. Physical Review X, 2021, 11, .	8.9	28

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109	Implementing and Characterizing Precise Multiqubit Measurements. Physical Review X, 2016, 6, .	8.9	27
110	Resilience of Quantum Random Access Memory to Generic Noise. PRX Quantum, 2021, 2, .	9.2	27
111	Quantum repeaters based on concatenated bosonic and discrete-variable quantum codes. Npj Quantum Information, 2021, 7, .	6.7	27
112	Detuning-enhanced cavity spin squeezing. Physical Review A, 2015, 91, .	2.5	26
113	Path-Independent Quantum Gates with Noisy Ancilla. Physical Review Letters, 2020, 125, 110503.	7.8	26
114	Cavity electro-optic circuit for microwave-to-optical conversion in the quantum ground state. Physical Review A, 2021, 103, .	2.5	26
115	One-shot entanglement generation over long distances in noisy quantum networks. Physical Review A, 2008, 78, .	2.5	25
116	Asymptotic Theory of Quantum Channel Estimation. PRX Quantum, 2021, 2, .	9.2	25
117	Universal dynamical decoupling of multiqubit states from environment. Physical Review A, 2011, 84, .	2.5	23
118	Quantum repeater architecture with hierarchically optimized memory buffer times. Quantum Science and Technology, 2019, 4, 025010.	5.8	23
119	Optimal probes and error-correction schemes in multi-parameter quantum metrology. Quantum - the Open Journal for Quantum Science, 0, 4, 288.	0.0	23
120	One-way quantum repeaters with quantum Reed-Solomon codes. Physical Review A, 2018, 97, .	2.5	22
121	Preparation of decoherence-free cluster states with optical superlattices. Physical Review A, 2009, 79,	2.5	21
122	Entanglement of microwave-optical modes in a strongly coupled electro-optomechanical system. Physical Review A, 2020, 101, .	2.5	21
123	Quantum Limits of Superresolution in a Noisy Environment. Physical Review Letters, 2021, 126, 120502.	7.8	21
124	Optimal approximate quantum error correction for quantum metrology. Physical Review Research, 2020, 2, .	3.6	21
125	Engineering fast bias-preserving gates on stabilized cat qubits. Physical Review Research, 2022, 4,	3.6	21
126	New perspectives on covariant quantum error correction. Quantum - the Open Journal for Quantum Science, 0, 5, 521.	0.0	20

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127	Classical simulation of lossy boson sampling using matrix product operators. Physical Review A, 2021, 104, .	2.5	20
128	Environment-assisted metrology with spin qubits. Physical Review A, 2012, 85, .	2.5	19
129	Magneto-Josephson effects and Majorana bound states in quantum wires. New Journal of Physics, 2013, 15, 115001.	2.9	19
130	Demonstrating non-Abelian statistics of Majorana fermions using twist defects. Physical Review B, 2015, 92, .	3.2	19
131	Role of syndrome information on a one-way quantum repeater using teleportation-based error correction. Physical Review A, 2016, 94, .	2.5	19
132	All-Optical Control of Linear and Nonlinear Energy Transfer via the Zeno Effect. Physical Review Letters, 2018, 120, 203902.	7.8	19
133	Quantum Transduction with Adaptive Control. Physical Review Letters, 2018, 120, 020502.	7.8	18
134	Stochastic estimation of dynamical variables. Quantum Science and Technology, 2019, 4, 035003.	5.8	18
135	Induced transparency by interference or polarization. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	18
136	Fast entanglement distribution with atomic ensembles and fluorescent detection. Physical Review A, 2010, 81, .	2.5	16
137	Experimental Realization of High-Efficiency Counterfactual Computation. Physical Review Letters, 2015, 115, 080501.	7.8	16
138	Coherent Gate Operations in Hybrid Magnonics. Physical Review Letters, 2021, 126, 207202.	7.8	16
139	Robust readout of bosonic qubits in the dispersive coupling regime. Physical Review A, 2018, 98, .	2.5	15
140	Enhanced energy-constrained quantum communication over bosonic Gaussian channels. Nature Communications, 2020, 11, 457.	12.8	15
141	On-chip interaction-free measurements via the quantum Zeno effect. Physical Review A, 2014, 90, .	2.5	14
142	Quantum repeaters based on two species trapped ions. New Journal of Physics, 2019, 21, 073002.	2.9	14
143	Perfect coherent transfer in an on-chip reconfigurable nanoelectromechanical network. Physical Review B, 2020, 101, .	3.2	14
144	Sub-Hertz resonance by weak measurement. Nature Communications, 2020, 11, 1752.	12.8	14

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145	Stabilizing a Bosonic Qubit Using Colored Dissipation. Physical Review Letters, 2022, 128, 110502.	7.8	14
146	Multimode photon blockade. Nature Physics, 2022, 18, 879-884.	16.7	14
147	Topological phase transitions, Majorana modes, and quantum simulation of the Su–Schrieffer–Heeger model with nearest-neighbor interactions. Physical Review B, 2020, 101, .	3.2	13
148	Deterministic Grover search with a restricted oracle. Physical Review Research, 2022, 4, .	3.6	12
149	Classical Simulation of Boson Sampling Based on Graph Structure. Physical Review Letters, 2022, 128, .	7.8	12
150	Modeling of On-Chip Optical Nonreciprocity with an Active Microcavity. Photonics, 2015, 2, 498-508.	2.0	11
151	Measurement-only topological quantum computation without forced measurements. New Journal of Physics, 2016, 18, 123027.	2.9	11
152	Coherent Pulse Echo in Hybrid Magnonics with Multimode Phonons. Physical Review Applied, 2021, 16, .	3.8	11
153	Quantum advantages for Pauli channel estimation. Physical Review A, 2022, 105, .	2.5	11
154	Coherence-Assisted Resonance with Sub-Transit-Limited Linewidth. Physical Review Letters, 2012, 109, 233006.	7.8	10
155	Remote Entanglement by Coherent Multiplication of Concurrent Quantum Signals. Physical Review Letters, 2015, 115, 150503.	7.8	10
156	Complex Kinetics of Fluctuating Enzymes: Phase Diagram Characterization of a Minimal Kinetic Scheme. Chemistry - an Asian Journal, 2010, 5, 1129-1138.	3.3	9
157	Optimized tomography of continuous variable systems using excitation counting. Physical Review A, 2016, 94, .	2.5	9
158	Photon Pair Condensation by Engineered Dissipation. Physical Review Letters, 2019, 123, 063602.	7.8	9
159	Single-shot number-resolved detection of microwave photons with error mitigation. Physical Review A, 2021, 103, .	2.5	9
160	Phonon-induced spin squeezing based on geometric phase. Physical Review A, 2015, 92, .	2.5	8
161	Universal quantum computing with parafermions assisted by a half-fluxon. Physical Review B, 2019, 100, .	3.2	8
162	Saturating the quantum Cramér–Rao bound using LOCC. Quantum Science and Technology, 2020, 5, 025005.	5.8	8

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163	Photon-Number-Dependent Hamiltonian Engineering for Cavities. Physical Review Applied, 2021, 15, .	3.8	7
164	Quantum Metrological Power of Continuous-Variable Quantum Networks. Physical Review Letters, 2022, 128, 180503.	7.8	7
165	Concurrent remote entanglement with quantum error correction against photon losses. Physical Review A, 2016, 94, .	2.5	6
166	Key Device and Materials Specifications for a Repeater Enabled Quantum Internet. IEEE Transactions on Quantum Engineering, 2021, 2, 1-9.	4.9	6
167	Distributed quantum phase sensing for arbitrary positive and negative weights. Physical Review Research, 2022, 4, .	3.6	6
168	Phase-engineered bosonic quantum codes. Physical Review A, 2021, 103, .	2.5	5
169	Coherent manipulation of graph states composed of finite-energy Gottesman-Kitaev-Preskill-encoded qubits. Physical Review A, 2022, 105, .	2.5	4
170	SCALABLE QUANTUM NETWORKS BASED ON FEW-QUBIT REGISTERS. International Journal of Quantum Information, 2010, 08, 93-104.	1.1	3
171	Spin correlations and entanglement in partially magnetised ensembles of fermions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 214002.	1.5	3
172	Filtration and extraction of quantum states from classical inputs. Physical Review A, 2016, 94, .	2.5	3
173	Nanoscale magnetic sensing using spin qubits in diamond. , 2009, , .		2
174	Quantum Repeaters Based on Two-Species Trapped lons. , 2018, , .		2
175	Field-gradient measurement using a Stern-Gerlach atomic interferometer with butterfly geometry. Physical Review A, 2020, 102, .	2.5	2
176	Engineering Kerr-cat qubits for hardware efficient quantum error correction. , 2022, , .		2
177	Universal interference-based construction of Gaussian operations in hybrid quantum systems. Npj Quantum Information, 2022, 8, .	6.7	2
178	Error-corrected quantum sensing. , 2019, , .		1
179	PT-Symmetry and on-Chip Optical Nonreciprocity in Active-Passive-Coupled Microtoroids. , 2014, , .		1
180	Adaptive Circuit Learning for Quantum Metrology. , 2021, , .		1

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181	Algebraic structure of path-independent quantum control. Physical Review Research, 2022, 4, .	3.6	1
182	Parity-time symmetry and nonreciprocal light transmission in high-Q microcavity systems. , 2015, , .		0
183	Optimized architectures for long distance quantum communication. , 2017, , .		0
184	Optimized Access-Time Scheduling in Quantum Networks Using Realistic Quantum Memories. , 2018, , .		0
185	Trapped Ion Implementation of Memory-Assisted Extended Quantum Key Distribution. , 2014, , .		0
186	Observation of parity-time symmetry in an optical system formed by moving atoms. , 2014, , .		0
187	Efficient visible frequency microcomb generation with 22% conversion efficiency. , 2017, , .		0
188	Sub-Hertz Resonance by Weak Measurement. , 2019, , .		0
189	Quantum repeaters based on two species trapped ions. , 2019, , .		0
190	Quantum memory decoherence-mitigating architecture for quantum repeaters. , 2019, , .		0
191	Entanglement as a resource for quantum networking 2019		0