Lorenza Viola

List of Publications by Year in descending order

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95 papers	7,660 citations	71102 41 h-index	49909 87 g-index
96 all docs	96 docs citations	96 times ranked	3244 citing authors

#	Article	IF	Citations
1	Frame-Based Filter-Function Formalism for Quantum Characterization and Control. PRX Quantum, 2021, 2, .	9.2	14
2	Floquet graphene antidot lattices. Physical Review B, 2021, 104, .	3.2	3
3	Topology by Dissipation: Majorana Bosons in Metastable Quadratic Markovian Dynamics. Physical Review Letters, 2021, 127, 245701.	7.8	34
4	Simultaneous Spectral Estimation of Dephasing and Amplitude Noise on a Qubit Sensor via Optimally Band-Limited Control. Physical Review Applied, 2020, 14, .	3.8	18
5	Squaring the fermion: The threefold way and the fate of zero modes. Physical Review B, 2020, 102, .	3.2	19
6	Restoring number conservation in quadratic bosonic Hamiltonians with dualities. Europhysics Letters, 2020, 131, 40006.	2.0	8
7	Deconstructing effective non-Hermitian dynamics in quadratic bosonic Hamiltonians. New Journal of Physics, 2020, 22, 083004.	2.9	27
8	Two-Qubit Spectroscopy of Spatiotemporally Correlated Quantum Noise in Superconducting Qubits. PRX Quantum, 2020, 1, .	9.2	42
9	Extending comb-based spectral estimation to multiaxis quantum noise. Physical Review A, 2019, 100, .	2.5	14
10	Mathematical models of Markovian dephasing. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 385301.	2.1	8
11	Non-Gaussian noise spectroscopy with a superconducting qubit sensor. Nature Communications, 2019, 10, 3715.	12.8	52
12	Uniquely determined pure quantum states need not be unique ground states of quasi-local Hamiltonians. Physical Review A, 2019, 99, .	2.5	5
13	The whole from the parts: Markovian stabilizing dynamics and ground-state cooling under locality constraints. , 2019, , .		0
14	Quantum Information Encoding from Stabilizing Dynamics. , 2019, , .		3
15	Generic pure quantum states as steady states of quasi-local dissipative dynamics. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 145304.	2.1	3
16	Alternating Projections Methods for Discrete-Time Stabilization of Quantum States. IEEE Transactions on Automatic Control, 2018, 63, 819-826.	5.7	11
17	Generalization of Bloch's theorem for arbitrary boundary conditions: Interfaces and topological surface band structure. Physical Review B, 2018, 98, .	3.2	25
18	Optimally band-limited spectroscopy of control noise using a qubit sensor. Physical Review A, 2018, 98, .	2.5	26

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19	Ramsey interferometry in correlated quantum noise environments. Physical Review A, 2018, 98, .	2.5	11
20	Exact solution of corner-modified banded block-Toeplitz eigensystems. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 195204.	2.1	18
21	Multiqubit spectroscopy of Gaussian quantum noise. Physical Review A, 2017, 95, .	2.5	71
22	Quantum and classical resources for unitary design of open-system evolutions. Quantum Science and Technology, 2017, 2, 034001.	5.8	10
23	Generalization of Bloch's theorem for arbitrary boundary conditions: Theory. Physical Review B, 2017, 96, .	3.2	42
24	Exact stabilization of entangled states in finite time by dissipative quantum circuits. Physical Review A, 2017, 96, .	2.5	10
25	Optimal digital dynamical decoupling for general decoherence via Walsh modulation. Quantum Information Processing, 2017, 16, 1.	2.2	7
26	Dynamical decoupling sequences for multi-qubit dephasing suppression and long-time quantum memory. New Journal of Physics, 2016, 18, 073020.	2.9	27
27	Exact Solution of Quadratic Fermionic Hamiltonians for Arbitrary Boundary Conditions. Physical Review Letters, 2016, 117, 076804.	7.8	33
28	Qubit Noise Spectroscopy for Non-Gaussian Dephasing Environments. Physical Review Letters, 2016, 116, 150503.	7.8	93
29	General Transfer-Function Approach to Noise Filtering in Open-Loop Quantum Control. Physical Review Letters, 2014, 113, 250501.	7.8	75
30	Hamiltonian quantum simulation with bounded-strength controls. New Journal of Physics, 2014, 16, 045021.	2.9	10
31	Robustness of composite pulses to time-dependent control noise. Physical Review A, 2014, 90, .	2.5	71
32	Majorana flat bands ins-wave gapless topological superconductors. Physical Review B, 2014, 89, .	3.2	26
33	Quantum resources for purification and cooling: fundamental limits and opportunities. Scientific Reports, 2014, 4, 5192.	3.3	38
34	Designing a practical high-fidelity long-time quantum memory. Nature Communications, 2013, 4, 2045.	12.8	50
35	Multiband<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>s</mml:mi></mml:math>-wave topological superconductors: Role of dimensionality and magnetic field response. Physical Review B, 2013, 87, .	3.2	27
36	Automated synthesis of dynamically corrected quantum gates. Physical Review A, 2012, 86, .	2.5	43

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37	Quantum state preparation by controlled dissipation in finite time: From classical to quantum controllers. , 2012, , .		7
38	Majorana Modes in Time-Reversal Invariant<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>s</mml:mi></mml:math>-Wave Topological Superconductors. Physical Review Letters, 2012, 108, 036803.	7.8	99
39	On the Role of Hamiltonians for Dissipative Entanglement Engineering* *F.T. acknowledges support by the QUINTET and the QFuture projects of the University of Padova, Italy.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 220-225.	0.4	0
40	Stabilizing entangled states with quasi-local quantum dynamical semigroups. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 5259-5269.	3.4	54
41	Hamiltonian Control of Quantum Dynamical Semigroups: Stabilization and Convergence Speed. IEEE Transactions on Automatic Control, 2012, 57, 1931-1944.	5.7	26
42	The Size of Exponential Sums on Intervals of the Real Line. Constructive Approximation, 2012, 35, 123-136.	3.0	0
43	Coherent-state transfer via highly mixed quantum spin chains. Physical Review A, 2011, 83, .	2.5	53
44	Experimental characterization of coherent magnetization transport in a one-dimensional spin system. New Journal of Physics, 2011, 13, 103015.	2.9	46
45	Reducing sequencing complexity in dynamical quantum error suppression by Walsh modulation. Physical Review A, 2011, 84, .	2.5	29
46	Pointer states via engineered dissipation. Physical Review A, 2011, 84, .	2.5	13
47	Limits on preserving quantum coherence using multipulse control. Physical Review A, 2011, 83, .	2.5	38
48	Dynamical critical scaling and effective thermalization in quantum quenches: Role of the initial state. Physical Review B, 2011, 83, .	3.2	26
49	Convergence Rates for Arbitrary Statistical Moments of Random Quantum Circuits. Physical Review Letters, 2010, 104, 250501.	7.8	57
50	Information-preserving structures: A general framework for quantum zero-error information. Physical Review A, 2010, 82, .	2.5	72
51	Towards optimized suppression of dephasing in systems subject to pulse timing constraints. Physical Review A, 2010, 81, .	2.5	32
52	Quantum information encoding, protection, and correction from trace-norm isometries. Physical Review A, 2010, 81, .	2.5	18
53	Arbitrarily Accurate Dynamical Control in Open Quantum Systems. Physical Review Letters, 2010, 104, 090501.	7.8	144
54	Anomalous nonergodic scaling in adiabatic multicritical quantum quenches. Physical Review B, 2009, 80, .	3.2	30

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55	Dynamically Error-Corrected Gates for Universal Quantum Computation. Physical Review Letters, 2009, 102, 080501.	7.8	180
56	Dynamical quantum error correction of unitary operations with bounded controls. Physical Review A, 2009, 80, .	2.5	82
57	Analysis and synthesis of attractive quantum Markovian dynamics. Automatica, 2009, 45, 2002-2009.	5.0	86
58	NMR multiple quantum coherences in quasi-one-dimensional spin systems: Comparison with ideal spin-chain dynamics. Physical Review A, 2009, 80, .	2.5	38
59	Quantum Markovian Subsystems: Invariance, Attractivity, and Control. IEEE Transactions on Automatic Control, 2008, 53, 2048-2063.	5.7	108
60	Characterizing the Structure of Preserved Information in Quantum Processes. Physical Review Letters, 2008, 100, 030501.	7.8	67
61	Quantum chaos, delocalization, and entanglement in disordered Heisenberg models. Physical Review E, 2008, 77, 021106.	2.1	57
62	Advantages of randomization in coherent quantum dynamical control. New Journal of Physics, 2008, 10, 083009.	2.9	31
63	Parameters of pseudorandom quantum circuits. Physical Review A, 2008, 78, .	2.5	20
64	Quantum pseudorandomness from cluster-state quantum computation. Physical Review A, 2008, 77, .	2.5	18
65	Decoherence-protected storage of exciton qubits through ultrafast multipulse control. Physical Review B, 2008, 78, .	3.2	28
66	Long-time electron spin storage via dynamical suppression of hyperfine-induced decoherence in a quantum dot. Physical Review B, 2008, 77, .	3.2	52
67	GENERALIZED ENTANGLEMENT IN STATIC AND DYNAMIC QUANTUM PHASE TRANSITIONS. , 2008, , .		2
68	Generalized entanglement as a framework for complex quantum systems: purity versus delocalization measures. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 8109-8125.	2.1	29
69	Suppression of electron spin decoherence in a quantum dot. Journal of Modern Optics, 2007, 54, 2629-2640.	1.3	9
70	Dynamical control of electron spin coherence in a quantum dot: A theoretical study. Physical Review B, 2007, 75, .	3.2	49
71	Single-bit feedback and quantum-dynamical decoupling. Physical Review A, 2006, 74, .	2.5	17
72	Enhanced Convergence and Robust Performance of Randomized Dynamical Decoupling. Physical Review Letters, 2006, 97, 150501.	7.8	47

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73	Multipartite entanglement generation and fidelity decay in disordered qubit systems. Physical Review A, 2006, 73, .	2.5	17
74	A Generalization of Entanglement to Convex Operational Theories: Entanglement Relative to a Subspace of Observables. International Journal of Theoretical Physics, 2005, 44, 2127-2145.	1.2	34
75	Experimental Implementation of a Concatenated Quantum Error-Correcting Code. Physical Review Letters, 2005, 94, 130501.	7.8	41
76	Dynamical control of qubit coherence: Random versus deterministic schemes. Physical Review A, 2005, 72, .	2.5	48
77	Random Decoupling Schemes for Quantum Dynamical Control and Error Suppression. Physical Review Letters, 2005, 94, 060502.	7.8	134
78	Dynamical Suppression of1/fNoise Processes in Qubit Systems. Physical Review Letters, 2004, 92, 117905.	7.8	84
79	A Subsystem-Independent Generalization of Entanglement. Physical Review Letters, 2004, 92, 107902.	7.8	249
80	Nature and measure of entanglement in quantum phase transitions. Physical Review A, 2004, 70, .	2.5	97
81	Advances in decoherence control. Journal of Modern Optics, 2004, 51, 2357-2367.	1.3	47
82	Generalizations of entanglement based on coherent states and convex sets. Physical Review A, 2003, 68, .	2.5	107
83	Robust Dynamical Decoupling of Quantum Systems with Bounded Controls. Physical Review Letters, 2003, 90, 037901.	7.8	199
84	Exploring noiseless subsystems via nuclear magnetic resonance. Physical Review A, 2003, 67, .	2.5	25
85	Verification procedures for quantum noiseless subsystems. Physical Review A, 2003, 68, .	2.5	6
86	Quantum control via encoded dynamical decoupling. Physical Review A, 2002, 66, .	2.5	72
87	Implementation of universal control on a decoherence-free qubit. New Journal of Physics, 2002, 4, 5-5.	2.9	93
88	Constructing qubits in physical systems. Journal of Physics A, 2001, 34, 7067-7079.	1.6	52
89	Engineering quantum dynamics. Physical Review A, 2001, 65, .	2.5	150
90	Theory of Quantum Error Correction for General Noise. Physical Review Letters, 2000, 84, 2525-2528.	7.8	604

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91	Dynamical Generation of Noiseless Quantum Subsystems. Physical Review Letters, 2000, 85, 3520-3523.	7.8	130
92	Dynamical Decoupling of Open Quantum Systems. Physical Review Letters, 1999, 82, 2417-2421.	7.8	1,323
93	Universal Control of Decoupled Quantum Systems. Physical Review Letters, 1999, 83, 4888-4891.	7.8	284
94	Dynamical suppression of decoherence in two-state quantum systems. Physical Review A, 1998, 58, 2733-2744.	2.5	1,209
95	Dynamics of decoherence in continuous atom-optical quantum nondemolition measurements. Physical Review A, 1998, 58, 69-76.	2.5	17