Jr-Shin Li

List of Publications by Year
in descending order

81 papers	1,712 citations	331670 21 h-index	289244 40 g-index
81 all docs	81 docs citations	81 times ranked	835 citing authors

#	Article	IF	Citations
1	Control of inhomogeneous quantum ensembles. Physical Review A, 2006, 73, .	2.5	173
2	Ensemble Control of Bloch Equations. IEEE Transactions on Automatic Control, 2009, 54, 528-536.	5.7	170
3	Optimal trajectories for efficient atomic transport without final excitation. Physical Review A, 2011, 84, .	2.5	119
4	Optimal pulse design in quantum control: A unified computational method. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 1879-1884.	7.1	101
5	Ensemble Control of Finite-Dimensional Time-Varying Linear Systems. IEEE Transactions on Automatic Control, 2011, 56, 345-357.	5.7	94
6	Frictionless atom cooling in harmonic traps: A time-optimal approach. Physical Review A, 2010, 82, .	2.5	90
7	Optimal Waveform for Fast Entrainment of Weakly Forced Nonlinear Oscillators. Physical Review Letters, 2013, 111, 024102.	7.8	68
8	Control and Synchronization of Neuron Ensembles. IEEE Transactions on Automatic Control, 2013, 58, 1919-1930.	5.7	67
9	Phase-selective entrainment of nonlinear oscillator ensembles. Nature Communications, 2016, 7, 10788.	12.8	61
10	Broadband relaxation-optimized polarization transfer in magnetic resonance. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 14742-14747.	7.1	56
11	Optimal design of minimum-power stimuli for phase models of neuron oscillators. Physical Review E, 2011, 83, 061916.	2.1	54
12	Optimal Control of Inhomogeneous Ensembles. IEEE Transactions on Automatic Control, 2012, 57, 2021-2032.	5.7	51
13	Optimal entrainment of neural oscillator ensembles. Journal of Neural Engineering, 2012, 9, 046015.	3.5	43
14	Real-time Inference and Detection of Disruptive EEG Networks for Epileptic Seizures. Scientific Reports, 2020, 10, 8653.	3.3	42
15	Inferring dynamic topology for decoding spatiotemporal structures in complex heterogeneous networks. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9300-9305.	7.1	36
16	Sensitivity enhancement in NMR of macromolecules by application of optimal control theory. Journal of Biomolecular NMR, 2005, 32, 23-30.	2.8	35
17	A pseudospectral method for optimal control of open quantum systems. Journal of Chemical Physics, 2009, 131, 164110.	3.0	31
18	A multidimensional pseudospectral method for optimal control of quantum ensembles. Journal of Chemical Physics, 2011, 134, 044128.	3.0	31

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19	Minimum-Time Frictionless Atom Cooling in Harmonic Traps. SIAM Journal on Control and Optimization, 2011, 49, 2440-2462.	2.1	30
20	Ensemble Control of Time-Invariant Linear Systems with Linear Parameter Variation. IEEE Transactions on Automatic Control, 2016, 61, 2808-2820.	5.7	29
21	A phase model approach for thermostatically controlled load demand response. Applied Energy, 2018, 228, 667-680.	10.1	23
22	Free-endpoint optimal control of inhomogeneous bilinear ensemble systems. Automatica, 2018, 95, 306-315.	5.0	20
23	Exact broadband excitation of two-level systems by mapping spins to springs. Nature Communications, 2017, 8, 446.	12.8	19
24	Constrained charge-balanced minimum-power controls for spiking neuron oscillators. Systems and Control Letters, 2015, 75, 124-130.	2.3	18
25	Fixed-Endpoint Optimal Control of Bilinear Ensemble Systems. SIAM Journal on Control and Optimization, 2017, 55, 3039-3065.	2.1	18
26	Diffusion Histology Imaging Combining Diffusion Basis Spectrum Imaging (DBSI) and Machine Learning Improves Detection and Classification of Glioblastoma Pathology. Clinical Cancer Research, 2020, 26, 5388-5399.	7.0	18
27	Synthesis of optimal ensemble controls for linear systems using the singular value decomposition. , 2012, , .		17
28	Minimum-Time Quantum Transport With Bounded Trap Velocity. IEEE Transactions on Automatic Control, 2014, 59, 733-738.	5.7	17
29	Optimal Subharmonic Entrainment of Weakly Forced Nonlinear Oscillators. SIAM Journal on Applied Dynamical Systems, 2014, 13, 1654-1693.	1.6	15
30	Design of Charge-Balanced Time-Optimal Stimuli for Spiking Neuron Oscillators. Neural Computation, 2014, 26, 2223-2246.	2.2	14
31	Ensemble Controllability of the Bloch Equations. , 2006, , .		10
32	Constrained minimum-energy optimal control of the dissipative Bloch equations. Systems and Control Letters, 2010, 59, 601-607.	2.3	10
33	Control of a Network of Spiking Neurons. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 314-319.	0.4	9
34	Optimal ensemble control of stochastic time-varying linear systems. Systems and Control Letters, 2013, 62, 1057-1064.	2.3	9
35	Ensemble control of linear systems. , 2007, , .		7
36	On Separating Points for Ensemble Controllability. SIAM Journal on Control and Optimization, 2020, 58, 2740-2764.	2.1	7

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37	Analyzing Controllability of Bilinear Systems on Symmetric Groups: Mapping Lie Brackets to Permutations. IEEE Transactions on Automatic Control, 2020, 65, 4895-4901.	5.7	7
38	Optimization of periodic input waveforms for global entrainment of weakly forced limit-cycle oscillators. Nonlinear Dynamics, 2021, 105, 2247-2263.	5.2	7
39	Fixed-endpoint minimum-energy control of bilinear ensemble systems. , 2015, , .		6
40	A new perspective on control of uncertain complex systems. , 2009, , .		5
41	Constrained minimum-power control of spiking neuron oscillators. , 2011, , .		5
42	Ensemble controllability of time-invariant linear systems. , 2013, , .		5
43	Uniform and selective excitations of spin ensembles with rf inhomogeneity. , 2015, , .		5
44	Control of ensemble systems on special orthogonal groups. , 2016, , .		5
45	Model Learning and Knowledge Sharing for Cooperative Multiagent Systems in Stochastic Environment. IEEE Transactions on Cybernetics, 2021, 51, 5717-5727.	9.5	5
46	Optimal Asymptotic Entrainment of Phase-Reduced Oscillators. , 2011, , .		5
47	On controllability of discrete-time linear ensemble systems with linear parameter variation. , 2016, , .		4
48	Optimal Phase-to-Phase Control of Chemical Oscillations. Industrial & Engineering Chemistry Research, 2018, 57, 7764-7770.	3.7	4
49	On controllability of time-varying linear population systems with parameters in unbounded sets. Systems and Control Letters, 2018, 118, 94-100.	2.3	4
50	An iterative method for computing optimal controls for bilinear quadratic tracking problems. , 2016, , .		3
51	Real-time dynamic Pricing for multiproduct models with time-dependent customer arrival rates. , 2009, , .		2
52	Charge-balanced time-optimal control for spiking neuron oscillators. , 2012, , .		2
53	Optimal control of neurons using the homotopy perturbation method. , 2013, , .		2
54	Explicit Input Signal Design for Stable Linear Ensemble Systems * *This work was supported in part by the National Natural Science Foundation of China under the grant 61573044, the National Science Foundation under the awards ECCS-1509342 and CMMI-1462796, and the Air Force Office of Scientific Research under the award FA9550-17-1-0166.. IFAC-PapersOnLine, 2017, 50, 3051-3056.	0.9	2

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55	Computing controllability of systems on SO(n) over graphs. , 2017, , .		2
56	On the Computation of Control Inputs for Linear Ensembles. , 2018, , .		2
57	Dynamics reconstruction and classification via Koopman features. Data Mining and Knowledge Discovery, 2019, 33, 1710-1735.	3.7	2
58	Biophysically interpretable inference of single neuron dynamics. Journal of Computational Neuroscience, 2019, 47, 61-76.	1.0	2
59	Learning to Control Neurons using Aggregated Measurements. , 2020, , .		2
60	Ensemble Control on Lie Groups. SIAM Journal on Control and Optimization, 2021, 59, 3805-3827.	2.1	2
61	Interpretable Design of Reservoir Computing Networks Using Realization Theory. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 6379-6389.	11.3	2
62	Controllability and Accessibility on Graphs for Bilinear Systems Over Lie Groups. IEEE Transactions on Automatic Control, 2023, 68, 2277-2292.	5.7	2
63	Optimal ensemble control of stochastic linear systems. , 2013, , .		1
64	Optimal Control and Stochastic Synchronization of Phase Oscillators**This work was supported by the National Science Foundation under the award 1301148.. IFAC-PapersOnLine, 2015, 48, 83-88.	0.9	1
65	Parallel residual projection: a new paradigm for solving linear inverse problems. Scientific Reports, 2020, 10, 12846.	3.3	1
66	A Nested Two-Stage Clustering Method for Structured Temporal Sequence Data. Knowledge and Information Systems, 2021, 63, 1627-1662.	3.2	1
67	On Numerical Examination of Uniform Ensemble Controllability for Linear Ensemble Systems. , 2021, , .		1
68	Combinatorics-Based Approaches to Controllability Characterization for Bilinear Systems. SIAM Journal on Control and Optimization, 2021, 59, 3574-3599.	2.1	1
69	Constrained Kalman filtering for IMRT optimization. , 2010, , .		0
70	Time-optimal adiabatic-like expansion of Bose-Einstein condensates. , 2012, , .		0
71	Optimal control in molecular-level gene manipulation. , 2012, , .		0
72	Time-optimal frictionless atom cooling in harmonic traps. , 2012, , .		0

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73	Minimum energy subharmonic synchronization of an uncertain nonlinear oscillator. , 2015, , .		0
74	Controllability of linear ensemble systems with constant drift and linear parameter variation. , 2017, , .		0
75	A Phase Model Based Control of Periodic Deferrable Loads in Demand Response Programs. , 2018, , .		0
76	Optimal Control of Bilinear Ensembles with Free-Endpoint Constraints. , 2018, , .		0
77	Pattern Formation in Spin Ensembles. , 2021, , 1691-1697.		0
78	On Numerical Examination of Uniform Ensemble Controllability for Linear Ensemble Systems. , 2021, 5, 1898-1903.		0
79	Pattern Formation in Spin Ensembles. , 2020, , 1-7.		0
80	Controllability of Sobolev-Type Linear Ensemble Systems. , 2021, , .		0
81	Graphical Characterizations for Structural Controllability of Drifted Bilinear Systems. , 2021, , .		0