

Claudio Altafini

List of Publications by Year in descending order

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134
papers

4,284
citations

218677

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docs citations

137
times ranked

2646
citing authors

#	ARTICLE	IF	CITATIONS
1	Signed Social Networks With Biased Assimilation. IEEE Transactions on Automatic Control, 2022, 67, 5134-5149.	5.7	4
2	The Role of Frustration in Collective Decision-Making Dynamical Processes on Multiagent Signed Networks. IEEE Transactions on Automatic Control, 2022, 67, 5191-5206.	5.7	3
3	Multi-omics protein-coding units as massively parallel Bayesian networks: Empirical validation of causality structure. IScience, 2022, 25, 104048.	4.1	5
4	Centrality Measures and the Role of Non-Normality for Network Control Energy Reduction. , 2021, 5, 1013-1018.		11
5	A signed network perspective on the government formation process in parliamentary democracies. Scientific Reports, 2021, 11, 5134.	3.3	8
6	Using high-throughput multi-omics data to investigate structural balance in elementary gene regulatory network motifs. Bioinformatics, 2021, 38, 173-178.	4.1	5
7	Achieving consensus in spite of stubbornness: time-varying concatenated Friedkin-Johnsen models. , 2021, , .		2
8	On the properties of Laplacian pseudoinverses. , 2021, , .		2
9	Achieving consensus in multilateral international negotiations: The case study of the 2015 Paris Agreement on climate change. Science Advances, 2021, 7, eabg8068.	10.3	12
10	Interval Consensus for Multiagent Networks. IEEE Transactions on Automatic Control, 2020, 65, 1855-1869.	5.7	23
11	A system-theoretic framework for privacy preservation in continuous-time multiagent dynamics. Automatica, 2020, 122, 109253.	5.0	34
12	A biased assimilation model on signed graphs. , 2020, , .		3
13	On the impact of edge modifications for networked control systems. IFAC-PapersOnLine, 2020, 53, 10969-10974.	0.9	2
14	Combining centrality measures for control energy reduction in network controllability problems. , 2019, , .		11
15	Thermodynamic model of gene regulation for the Or59b olfactory receptor in Drosophila. PLoS Computational Biology, 2019, 15, e1006709.	3.2	10
16	Dynamics over Signed Networks. SIAM Review, 2019, 61, 229-257.	9.5	66
17	Investigating stability of Laplacians on signed digraphs via eventual positivity. , 2019, , .		5
18	Signed bounded confidence models for opinion dynamics. Automatica, 2018, 93, 114-125.	5.0	44

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19	Minimum energy control for complex networks. Scientific Reports, 2018, 8, 3188.	3.3	53
20	Spectral Conditions for Stability and Stabilization of Positive Equilibria for a Class of Nonlinear Cooperative Systems. IEEE Transactions on Automatic Control, 2018, 63, 402-417.	5.7	9
21	Modeling wireless power transfer in a network of smart devices: a compartmental system approach. , 2018, , .		0
22	Achieving a decision in antagonistic multi agent networks: frustration determines commitment strength. , 2018, , .		8
23	Multiequilibria Analysis for a Class of Collective Decision-Making Networked Systems. IEEE Transactions on Control of Network Systems, 2018, 5, 1931-1940.	3.7	18
24	Qualitative and quantitative responses to press perturbations in ecological networks. Scientific Reports, 2017, 7, 11378.	3.3	13
25	Controllability of complex networks with unilateral inputs. Scientific Reports, 2017, 7, 1824.	3.3	7
26	Involutive flows and discretization errors for nonlinear driftless control systems. Systems and Control Letters, 2017, 110, 29-37.	2.3	1
27	A driver node selection strategy for minimizing the control energy in complex networks 1 1Work supported in part by a grant from the Swedish Research Council (grant n. 2015-04390 to C.A.).. IFAC-PapersOnLine, 2017, 50, 8309-8314.	0.9	9
28	Topological aspects of controlling large scale networks with unilateral inputs * *Work supported in part by a grant from the Swedish Research Council (grant n. 2015-04390 to C.A.). IFAC-PapersOnLine, 2017, 50, 8315-8320.	0.9	0
29	Minimum energy control for networks of coupled harmonic oscillators * *Work supported in part by a grant from the Swedish Research Council (grant n. 2015-04390 to C.A.). IFAC-PapersOnLine, 2017, 50, 8321-8326.	0.9	1
30	Investigating mixed-sign equilibria for nonlinear collective decision-making systems. , 2017, , .		1
31	Interval consensus: A novel class of constrained consensus problems for multiagent networks. , 2017, , .		4
32	Algebraic-graphical approach for signed dynamical networks. , 2017, , .		1
33	Interaction sign patterns in biological networks: From qualitative to quantitative criteria. , 2017, , .		4
34	A bounded confidence model that preserves the signs of the opinions. , 2016, , .		8
35	Positive controllability of large-scale networks. , 2016, , .		4
36	Nonintegrable discrete-time driftless control systems: Geometric phases beyond the area rule. , 2016, , .		3

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37	An infinitesimal characterization of nonlinear contracting interference functions. , 2016, , .		1
38	Drug combinatorics and side effect estimation on the signed human drug-target network. BMC Systems Biology, 2016, 10, 74.	3.0	20
39	Minimal eventually positive realizations of externally positive systems. Automatica, 2016, 68, 140-147.	5.0	25
40	The Geometric Phase of Stock Trading. PLoS ONE, 2016, 11, e0161538.	2.5	2
41	Representing externally positive systems through minimal eventually positive realizations. , 2015, , .		3
42	Existence, uniqueness and stability properties of positive equilibria for a class of nonlinear cooperative systems. , 2015, , .		4
43	Predictable Dynamics of Opinion Forming for Networks With Antagonistic Interactions. IEEE Transactions on Automatic Control, 2015, 60, 342-357.	5.7	169
44	The phototransduction machinery in the rod outer segment has a strong efficacy gradient. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2715-24.	7.1	25
45	Metabolic Adaptation Processes That Converge to Optimal Biomass Flux Distributions. PLoS Computational Biology, 2015, 11, e1004434.	3.2	2
46	A continuous-time dynamical system that can sort agents through distributed protocols. , 2014, , .		0
47	Achieving unanimous opinions in signed social networks. , 2014, , .		2
48	Restricted Spots of Light Reveal an Efficacy Gradient of the Phototransduction Cascade Along the Rod Outer Segment. Biophysical Journal, 2014, 106, 20a.	0.5	0
49	Partial inhibition and bilevel optimization in flux balance analysis. BMC Bioinformatics, 2013, 14, 344.	2.6	5
50	Stability analysis of diagonally equipotent matrices. Automatica, 2013, 49, 2780-2785.	5.0	21
51	Stabilization of Stochastic Quantum Dynamics via Open- and Closed-Loop Control. IEEE Transactions on Automatic Control, 2013, 58, 74-85.	5.7	27
52	Consensus Problems on Networks With Antagonistic Interactions. IEEE Transactions on Automatic Control, 2013, 58, 935-946.	5.7	1,342
53	A rate-distortion theory for gene regulatory networks and its application to logic gate consistency. Bioinformatics, 2013, 29, 1166-1173.	4.1	2
54	Common dynamical features of sensory adaptation in photoreceptors and olfactory sensory neurons. Scientific Reports, 2013, 3, 1251.	3.3	32

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55	Early Phase of Plasticity-Related Gene Regulation and SRF Dependent Transcription in the Hippocampus. PLoS ONE, 2013, 8, e68078.	2.5	10
56	Guest Editorial: Special Issue on Control of Quantum Mechanical Systems. IEEE Transactions on Automatic Control, 2012, 57, 1893-1895.	5.7	1
57	Exploring the low-energy landscape of large-scale signed social networks. Physical Review E, 2012, 86, 036116.	2.1	29
58	Environment-assisted and feedback-assisted stabilization of quantum stochastic evolutions. , 2012, , .		0
59	Detection of transcriptional triggers in the dynamics of microbial growth: application to the respiratorily versatile bacterium <i>Shewanella oneidensis</i> . Nucleic Acids Research, 2012, 40, 7132-7149.	14.5	20
60	Achieving consensus on networks with antagonistic interactions. , 2012, , .		5
61	Dynamics of opinion forming in structurally balanced social networks. , 2012, , .		12
62	Modeling and Control of Quantum Systems: An Introduction. IEEE Transactions on Automatic Control, 2012, 57, 1898-1917.	5.7	187
63	A Dynamical Feedback Model for Adaptation in the Olfactory Transduction Pathway. Biophysical Journal, 2012, 102, 2677-2686.	0.5	19
64	Predicting and characterizing selective multiple drug treatments for metabolic diseases and cancer. BMC Systems Biology, 2012, 6, 115.	3.0	26
65	Dynamics of Opinion Forming in Structurally Balanced Social Networks. PLoS ONE, 2012, 7, e38135.	2.5	194
66	Decompositions of large-scale biological systems based on dynamical properties. Bioinformatics, 2012, 28, 76-83.	4.1	8
67	Adaptation as a genome-wide autoregulatory principle in the stress response of yeast. IET Systems Biology, 2011, 5, 269-279.	1.5	1
68	Erratum for “Feedback Stabilization of Isospectral Control Systems on Complex Flag Manifolds: Application to Quantum Ensembles” [Nov 07 2019-2028]. IEEE Transactions on Automatic Control, 2011, 56, 1232-1232.	5.7	0
69	A system-level approach for deciphering the transcriptional response to prion infection. Bioinformatics, 2011, 27, 3407-3414.	4.1	10
70	Computing global structural balance in large-scale signed social networks. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20953-20958.	7.1	305
71	Sequential steps underlying neuronal plasticity induced by a transient exposure to gabazine. Journal of Cellular Physiology, 2010, 222, 713-728.	4.1	19
72	Average frustration and phase transition in large-scale biological networks: a statistical physics approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 320-325.	0.4	0

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73	Determining the distance to monotonicity of a biological network: a graph-theoretical approach. IET Systems Biology, 2010, 4, 223-235.	1.5	47
74	Feedback schemes for radiation damping suppression in NMR: A control-theoretical perspective. Systems and Control Letters, 2010, 59, 782-786.	2.3	5
75	Monotonicity, frustration, and ordered response: an analysis of the energy landscape of perturbed large-scale biological networks. BMC Systems Biology, 2010, 4, 83.	3.0	17
76	A kinetic mechanism inducing oscillations in simple chemical reactions networks. Mathematical Biosciences and Engineering, 2010, 7, 301-312.	1.9	1
77	Feedback schemes for radiation damping suppression in NMR: a control-theoretical perspective. , 2009, , .		0
78	Short- and long-term adaptation in olfactory transduction as a leaky integral feedback. , 2009, , .		0
79	Investigating the Conformational Stability of Prion Strains through a Kinetic Replication Model. PLoS Computational Biology, 2009, 5, e1000420.	3.2	15
80	mRNA stability and the unfolding of gene expression in the long-period yeast metabolic cycle. BMC Systems Biology, 2009, 3, 18.	3.0	6
81	Characterization of the time course of changes of the evoked electrical activity in a model of a chemically-induced neuronal plasticity. BMC Research Notes, 2009, 2, 13.	1.4	6
82	Controllability and simultaneous controllability of isospectral bilinear control systems on complex flag manifolds. Systems and Control Letters, 2009, 58, 213-216.	2.3	14
83	ERNEST: a toolbox for chemical reaction network theory. Bioinformatics, 2009, 25, 2853-2854.	4.1	19
84	Discerning static and causal interactions in genome-wide reverse engineering problems. Bioinformatics, 2008, 24, 1510-1515.	4.1	31
85	A kinetic mechanism inducing oscillations in simple chemical reactions networks. , 2008, , .		2
86	Modeling the genome-wide transient response to stimuli in yeast: Adaptation through integral feedback. , 2008, , .		0
87	Origin of Co-Expression Patterns in E.coli and S.cerevisiae Emerging from Reverse Engineering Algorithms. PLoS ONE, 2008, 3, e2981.	2.5	11
88	Comparing association network algorithms for reverse engineering of large-scale gene regulatory networks: synthetic versus real data. Bioinformatics, 2007, 23, 1640-1647.	4.1	100
89	LINEAR AND NONLINEAR METHODS FOR GENE REGULATORY NETWORK INFERENCE. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 533-538.	0.4	1
90	CONTROLLABILITY OF ISOSPECTRAL BILINEAR CONTROL SYSTEMS ON COMPLEX FLAG MANIFOLDS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 894-897.	0.4	0

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91	Feedback Stabilization of Isospectral Control Systems on Complex Flag Manifolds: Application to Quantum Ensembles. IEEE Transactions on Automatic Control, 2007, 52, 2019-2028.	5.7	66
92	Feedback Control of Spin Systems. Quantum Information Processing, 2007, 6, 9-36.	2.2	35
93	Homogeneous Polynomial Forms for Simultaneous Stabilizability of Families of Linear Control Systems: a Tensor Product Approach. , 2006, , .		1
94	Homogeneous Polynomial Forms for Simultaneous Stabilizability of Families of Linear Control Systems: A Tensor Product Approach. IEEE Transactions on Automatic Control, 2006, 51, 1566-1571.	5.7	5
95	Feedback stabilization of quantum ensembles: a global convergence analysis on complex flag manifolds. , 2006, , .		2
96	Reflection symmetries for multiqubit density operators. Journal of Mathematical Physics, 2006, 47, 032104.	1.1	4
97	Explicit Wei's Norm form formulae for matrix Lie groups via Putzer's method. Systems and Control Letters, 2005, 54, 1121-1130.	2.3	2
98	Commuting multiparty quantum observables and local compatibility. Physical Review A, 2005, 72, .	2.5	2
99	Representing multiqubit unitary evolutions via Stokes tensors. Physical Review A, 2004, 70, .	2.5	13
100	Tensor of coherences parametrization of multiqubit density operators for entanglement characterization. Physical Review A, 2004, 69, .	2.5	18
101	Reduction by group symmetry of second order variational problems on a semidirect product of Lie groups with positive definite Riemannian metric. ESAIM - Control, Optimisation and Calculus of Variations, 2004, 10, 526-548.	1.3	15
102	Coherent control of open quantum dynamical systems. Physical Review A, 2004, 70, .	2.5	77
103	Redundant Robotic Chains on Riemannian Submersions. IEEE Transactions on Automation Science and Engineering, 2004, 20, 335-340.	2.3	20
104	Geometric Motion Control for a Kinematically Redundant Robotic Chain: Application to a Holonomic Mobile Manipulator. Journal of Field Robotics, 2003, 20, 211-227.	0.7	2
105	Motion on submanifolds of noninvariant holonomic constraints for a kinematic control system evolving on a matrix Lie group. Systems and Control Letters, 2003, 50, 241-250.	2.3	1
106	Parameter differentiation and quantum state decomposition for time varying Schrödinger equations. Reports on Mathematical Physics, 2003, 52, 381-400.	0.8	8
107	Controllability properties for finite dimensional quantum Markovian master equations. Journal of Mathematical Physics, 2003, 44, 2357.	1.1	126
108	Path following with reduced off-tracking for multibody wheeled vehicles. IEEE Transactions on Control Systems Technology, 2003, 11, 598-605.	5.2	50

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109	Following a path of varying curvature as an output regulation problem. IEEE Transactions on Automatic Control, 2002, 47, 1551-1556.	5.7	56
110	Controllability of quantum mechanical systems by root space decomposition of $su(N)$. Journal of Mathematical Physics, 2002, 43, 2051.	1.1	148
111	Hybrid Control of a Truck and Trailer Vehicle. Lecture Notes in Computer Science, 2002, , 21-34.	1.3	29
112	The reachable set of a linear endogenous switching system. Systems and Control Letters, 2002, 47, 343-353.	2.3	18
113	Title is missing!. Quantum Information Processing, 2002, 1, 207-224.	2.2	11
114	The de casteljau algorithm on $SE(3)$. , 2001, , 23-34.		19
115	A feedback control scheme for reversing a truck and trailer vehicle. IEEE Transactions on Automation Science and Engineering, 2001, 17, 915-922.	2.3	99
116	Some properties of the general n-trailer. International Journal of Control, 2001, 74, 409-424.	1.9	100
117	Motion on Constrained Submanifolds for a Kinematic Control System Evolving on a Matrix Lie Group. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 185-190.	0.4	1
118	A Path-Tracking Criterion for an LHD Articulated Vehicle. International Journal of Robotics Research, 1999, 18, 435-441.	8.5	10
119	Inverse kinematics along a geometric spline for a holonomic mobile manipulator. , 0, , .		6
120	Robust control of a flash dryer plant. , 0, , .		3
121	Path following with reduced off-tracking for the n-trailer system. , 0, , .		14
122	The general n-trailer problem: conversion into chained form. , 0, , .		8
123	General n-trailer, differential flatness and equivalence. , 0, , .		4
124	Why to use an articulated vehicle in underground mining operations?. , 0, , .		13
125	Zero dynamics and off-tracking bounds for the path following problem of wheeled vehicles. , 0, , .		1
126	Observing the load dynamic of an overhead crane with minimal sensor equipment. , 0, , .		3

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127	Autonomous landing by computer vision: an application of path following in $SE(3)$. , 0, , .		14
128	Backward line tracking control of a radio-controlled truck and trailer. , 0, , .		8
129	Redundant robotic chains on Riemannian manifolds. , 0, , .		1
130	On the generation of discrete unitary gates from continuous time forced Schrodinger equations. , 0, , .		0
131	Explicit Wei-Norman formulae for matrix Lie groups. , 0, , .		2
132	Controllability of open quantum systems: The two level case. , 0, , .		4
133	Quantum markovian master equation driven by coherent controls: a controllability analysis. , 0, , .		1
134	Feedback stabilization of spin systems. , 0, , .		0