

Michael Margaliot

List of Publications by Year in descending order

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103
papers

3,070
citations

185998

28
h-index

168136

53
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106
all docs

106
docs citations

106
times ranked

1189
citing authors

#	ARTICLE	IF	CITATIONS
1	Diagonal Stability of Discrete-Time k -Positive Linear Systems With Applications to Nonlinear Systems. IEEE Transactions on Automatic Control, 2022, 67, 4308-4313.	3.6	7
2	k -contraction: Theory and applications. Automatica, 2022, 136, 110048.	3.0	16
3	Large-scale mRNA translation and the intricate effects of competition for the finite pool of ribosomes. Journal of the Royal Society Interface, 2022, 19, 20220033.	1.5	10
4	Minimum Effort Decentralized Control Design for Contracting Network Systems. , 2022, 6, 2731-2736.		1
5	Discrete-Time k -Positive Linear Systems. IEEE Transactions on Automatic Control, 2021, 66, 399-405.	3.6	10
6	Is My System of ODEs k -Cooperative?. , 2021, 5, 73-78.		8
7	On the exponent of several classes of oscillatory matrices. Linear Algebra and Its Applications, 2021, 608, 363-386.	0.4	1
8	A generalization of linear positive systems with applications to nonlinear systems: Invariant sets and the Poincaré-Bendixson property. Automatica, 2021, 123, 109358.	3.0	15
9	Random Attraction in the TASEP Model. SIAM Journal on Applied Dynamical Systems, 2021, 20, 65-93.	0.7	5
10	Variability in mRNA translation: a random matrix theory approach. Scientific Reports, 2021, 11, 5300.	1.6	11
11	Maximizing average throughput in oscillatory biochemical synthesis systems: an optimal control approach. Royal Society Open Science, 2021, 8, 210878.	1.1	6
12	Compound matrices in systems and control theory. , 2021, , .		6
13	Behavior of Totally Positive Differential Systems Near a Periodic Solution. , 2021, , .		1
14	Serial interconnections of 1-contracting and 2-contracting systems. , 2021, , .		4
15	Dynamical Systems With a Cyclic Sign Variation Diminishing Property. IEEE Transactions on Automatic Control, 2020, 65, 941-954.	3.6	14
16	Entrainment to subharmonic trajectories in oscillatory discrete-time systems. Automatica, 2020, 116, 108919.	3.0	10
17	Ribosome Flow Model with Different Site Sizes. SIAM Journal on Applied Dynamical Systems, 2020, 19, 541-576.	0.7	16
18	On Totally Positive Discrete- Time Systems. , 2019, , .		0

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19	No Switching Policy Is Optimal for a Positive Linear System With a Bottleneck Entrance. , 2019, 3, 889-894.		7
20	A Generalization of Linear Positive Systems. , 2019, , .		4
21	Approximating the Steady-State Periodic Solutions of Contractive Systems. IEEE Transactions on Automatic Control, 2019, 64, 847-853.	3.6	1
22	Networks of ribosome flow models for modeling and analyzing intracellular traffic. Scientific Reports, 2019, 9, 1703.	1.6	16
23	A Polynomial-Time Algorithm for Solving the Minimal Observability Problem in Conjunctive Boolean Networks. IEEE Transactions on Automatic Control, 2019, 64, 2727-2736.	3.6	38
24	Ribosome flow model with nonhomogeneous site sizes. , 2019, , .		0
25	Revisiting totally positive differential systems: A tutorial and new results. Automatica, 2019, 101, 1-14.	3.0	37
26	Output Selection and Observer Design for Boolean Control Networks: A Sub-Optimal Polynomial-Complexity Algorithm. , 2019, 3, 210-215.		16
27	On the spectral properties of nonsingular matrices that are strictly sign-regular for some order with applications to totally positive discrete-time systems. Journal of Mathematical Analysis and Applications, 2019, 474, 524-543.	0.5	12
28	Controllability Analysis and Control Synthesis for the Ribosome Flow Model. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 1351-1364.	1.9	11
29	Entrainment in the master equation. Royal Society Open Science, 2018, 5, 172157.	1.1	11
30	A Generalization of Smillie's Theorem on Strongly Cooperative Tridiagonal Systems. , 2018, , .		3
31	Analysis of Nonlinear Tridiagonal Cooperative Systems using Totally Positive Linear Differential Systems. , 2018, , .		1
32	Modeling and Analyzing the Flow of Molecular Machines in Gene Expression. RNA Technologies, 2018, , 275-300.	0.2	5
33	Minimal controllability of conjunctive Boolean networks is NP-complete. Automatica, 2018, 92, 56-62.	3.0	37
34	Optimal Down Regulation of mRNA Translation. Scientific Reports, 2017, 7, 41243.	1.6	19
35	On Approximating Contractive Systems. IEEE Transactions on Automatic Control, 2017, 62, 6451-6457.	3.6	6
36	Optimal Translation Along a Circular mRNA. Scientific Reports, 2017, 7, 9464.	1.6	14

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37	Ribosome flow model with extended objects. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170128.	1.5	16
38	Approximating periodic trajectories of contractive systems. , 2017, , .		2
39	A deterministic mathematical model for bidirectional excluded flow with Langmuir kinetics. <i>PLoS ONE</i> , 2017, 12, e0182178.	1.1	13
40	Checkable Conditions for Contraction After Small Transients in Time and Amplitude. <i>Lecture Notes in Control and Information Sciences</i> , 2017, , 279-305.	0.6	10
41	A deterministic model for one-dimensional excluded flow with local interactions. <i>PLoS ONE</i> , 2017, 12, e0182074.	1.1	5
42	On the Ribosomal Density that Maximizes Protein Translation Rate. <i>PLoS ONE</i> , 2016, 11, e0166481.	1.1	35
43	High-order maximum principles for the stability analysis of positive bilinear control systems. <i>Optimal Control Applications and Methods</i> , 2016, 37, 1056-1073.	1.3	2
44	Controlling the ribosomal density profile in mRNA translation. , 2016, , .		1
45	A model for competition for ribosomes in the cell. <i>Journal of the Royal Society Interface</i> , 2016, 13, 20151062.	1.5	94
46	Contraction after small transients. <i>Automatica</i> , 2016, 67, 178-184.	3.0	31
47	Sensitivity of mRNA Translation. <i>Scientific Reports</i> , 2015, 5, 12795.	1.6	31
48	Ribosome Flow Model on a Ring. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2015, 12, 1429-1439.	1.9	34
49	Knowledge Extraction from Support Vector Machines: A Fuzzy Logic Approach. <i>Studies in Fuzziness and Soft Computing</i> , 2015, , 361-385.	0.6	0
50	On Boolean control networks with maximal topological entropy. <i>Automatica</i> , 2014, 50, 2924-2928.	3.0	13
51	Maximizing Protein Translation Rate in the Ribosome Flow Model: The Homogeneous Case. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2014, 11, 1184-1195.	1.9	12
52	On three generalizations of contraction. , 2014, , .		8
53	Maximizing protein translation rate in the non-homogeneous ribosome flow model: a convex optimization approach. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140713.	1.5	45
54	Minimum-time control of Boolean networks: An algebraic approach. , 2014, , .		1

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55	Entrainment to Periodic Initiation and Transition Rates in a Computational Model for Gene Translation. PLoS ONE, 2014, 9, e96039.	1.1	65
56	Mathematical analysis of a flying capacitor converter: a sampled-data modeling approach. International Journal of Circuit Theory and Applications, 2013, 41, 682-700.	1.3	6
57	Observability of Boolean networks: A graph-theoretic approach. Automatica, 2013, 49, 2351-2362.	3.0	182
58	Symbolic dynamics of Boolean control networks. Automatica, 2013, 49, 2525-2530.	3.0	45
59	Minimum-Time Control of Boolean Networks. SIAM Journal on Control and Optimization, 2013, 51, 2869-2892.	1.1	140
60	Optimal switching between two linear consensus protocols. , 2013, , .		0
61	Explicit Expression for the Steady-State Translation Rate in the Infinite-Dimensional Homogeneous Ribosome Flow Model. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2013, 10, 1322-1328.	1.9	28
62	Ribosome flow model with positive feedback. Journal of the Royal Society Interface, 2013, 10, 20130267.	1.5	47
63	Stability analysis of positive bilinear control systems: A variational approach. , 2013, , .		3
64	Stability Analysis of the Ribosome Flow Model. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2012, 9, 1545-1552.	1.9	68
65	A Maximum Principle for the Stability Analysis of Positive Bilinear Control Systems with Applications to Positive Linear Switched Systems. SIAM Journal on Control and Optimization, 2012, 50, 2193-2215.	1.1	28
66	On the Steady-State Distribution in the Homogeneous Ribosome Flow Model. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2012, 9, 1724-1736.	1.9	26
67	Nice-reachability results for discrete-time linear switched systems with applications to stability under arbitrary switching laws. , 2012, , .		0
68	Explicit construction of a Barabanov norm for a class of positive planar discrete-time linear switched systems. Automatica, 2012, 48, 95-101.	3.0	10
69	Controllability of Boolean control networks via the Perron-Frobenius theory. Automatica, 2012, 48, 1218-1223.	3.0	305
70	A Maximum Principle for Single-Input Boolean Control Networks. IEEE Transactions on Automatic Control, 2011, 56, 913-917.	3.6	238
71	Knowledge extraction from a class of support vector machines using the fuzzy all-permutations rule-base. , 2011, , .		2
72	Analysis of Discrete-Time Linear Switched Systems: A Variational Approach. SIAM Journal on Control and Optimization, 2011, 49, 808-829.	1.1	29

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73	A second-order maximum principle for discrete-time bilinear control systems with applications to discrete-time linear switched systems. <i>Automatica</i> , 2011, 47, 1489-1495.	3.0	26
74	Nice Reachability Results for Discrete-Time Linear Switched Systems*. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2010, 43, 173-178.	0.4	0
75	A Second-Order Optimality Condition for the Most Destabilizing Control of a Discrete-Time Bilinear Control System*. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2010, 43, 272-277.	0.4	1
76	Analysis of artificial neural network learning near temporary minima: A fuzzy logic approach. <i>Fuzzy Sets and Systems</i> , 2010, 161, 2569-2584.	1.6	7
77	A simplification of the Agrachev-Gamkrelidze second-order variation for bang-bang controls. <i>Systems and Control Letters</i> , 2010, 59, 25-32.	1.3	8
78	The Low-Frequency Distortion in D-Class Amplifiers. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2010, 57, 772-776.	2.2	15
79	Mathematical modeling of the lambda switch: A fuzzy logic approach. <i>Journal of Theoretical Biology</i> , 2009, 260, 475-489.	0.8	8
80	Extracting symbolic knowledge from recurrent neural networks: A fuzzy logic approach. <i>Fuzzy Sets and Systems</i> , 2009, 160, 145-161.	1.6	17
81	On the analysis of nonlinear nilpotent switched systems using the Hall-Sussmann system. <i>Systems and Control Letters</i> , 2009, 58, 766-772.	1.3	9
82	On the Stability of Positive Linear Switched Systems Under Arbitrary Switching Laws. <i>IEEE Transactions on Automatic Control</i> , 2009, 54, 897-899.	3.6	163
83	Stability Analysis of Positive Linear Switched Systems: A Variational Approach. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2009, 42, 31-35.	0.4	5
84	Root-mean-square gains of switched linear systems: A variational approach. <i>Automatica</i> , 2008, 44, 2398-2402.	3.0	66
85	Biomimicry and Fuzzy Modeling: A Match Made in Heaven. <i>IEEE Computational Intelligence Magazine</i> , 2008, 3, 38-48.	3.4	18
86	A New Approach to Knowledge-Based Design of Recurrent Neural Networks. <i>IEEE Transactions on Neural Networks</i> , 2008, 19, 1389-1401.	4.8	10
87	A Counterexample to a Conjecture of Gurvits on Switched Systems. <i>IEEE Transactions on Automatic Control</i> , 2007, 52, 1123-1126.	3.6	18
88	Knowledge Extraction From Neural Networks Using the All-Permutations Fuzzy Rule Base: The LED Display Recognition Problem. <i>IEEE Transactions on Neural Networks</i> , 2007, 18, 925-931.	4.8	19
89	Nicholson's blowflies revisited: A fuzzy modeling approach. <i>Fuzzy Sets and Systems</i> , 2007, 158, 1083-1096.	1.6	12
90	Third-order nilpotency, nice reachability and asymptotic stability. <i>Journal of Differential Equations</i> , 2007, 233, 136-150.	1.1	39

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91	The Fuzzy Ant. IEEE Computational Intelligence Magazine, 2007, 2, 18-28.	3.4	17
92	Mathematical Modeling of Natural Phenomena: A Fuzzy Logic Approach. , 2007, , 113-134.		3
93	Stability analysis of switched systems using variational principles: An introduction. Automatica, 2006, 42, 2059-2077.	3.0	236
94	Lie-algebraic stability conditions for nonlinear switched systems and differential inclusions. Systems and Control Letters, 2006, 55, 8-16.	1.3	99
95	A Counter Example to a Conjecture of Gurvits on Switched Systems. , 2006, , .		2
96	How does the Dendrocoleum lacteum orient to light? A fuzzy modeling approach. Fuzzy Sets and Systems, 2005, 155, 236-251.	1.6	11
97	Are Artificial Neural Networks White Boxes?. IEEE Transactions on Neural Networks, 2005, 16, 844-852.	4.8	79
98	Mathematical modeling of observed natural behavior: a fuzzy logic approach. Fuzzy Sets and Systems, 2004, 146, 437-450.	1.6	45
99	The problem of absolute stability: a dynamic programming approach. Automatica, 2004, 40, 1247-1252.	3.0	17
100	NEURAL NETWORKS=FUZZY RULE BASES. , 2004, , .		2
101	Stability Analysis of Second-Order Switched Homogeneous Systems. SIAM Journal on Control and Optimization, 2002, 41, 1609-1625.	1.1	56
102	Some nonlinear optimal control problems with closed-form solutions. International Journal of Robust and Nonlinear Control, 2001, 11, 1365-1374.	2.1	13
103	Fuzzy Lyapunov-based approach to the design of fuzzy controllers. Fuzzy Sets and Systems, 1999, 106, 49-59.	1.6	89