Michael Margaliot

List of Publications by Year
in descending order

103 papers	3,070 citations	186265 28 h-index	168389 53 g-index
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.	5.7	7
2	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e142" altimg="si7.svg"><mml:mi>k</mml:mi></mml:math>-contraction: Theory and applications. Automatica, 2022, 136, 110048.	5.0	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.	3.4	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.	5.7	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.	0.9	1
8	A generalization of linear positive systems with applications to nonlinear systems: Invariant sets and the PoincarÃ©â€“Bendixson property. Automatica, 2021, 123, 109358.	5.0	15
9	Random Attraction in the TASEP Model. SIAM Journal on Applied Dynamical Systems, 2021, 20, 65-93.	1.6	5
10	Variability in mRNA translation: a random matrix theory approach. Scientific Reports, 2021, 11, 5300.	3.3	11
11	Maximizing average throughput in oscillatory biochemical synthesis systems: an optimal control approach. Royal Society Open Science, 2021, 8, 210878.	2.4	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.	5.7	14
16	Entrainment to subharmonic trajectories in oscillatory discrete-timeÂsystems. Automatica, 2020, 116, 108919.	5.0	10
17	Ribosome Flow Model with Different Site Sizes. SIAM Journal on Applied Dynamical Systems, 2020, 19, 541-576.	1.6	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.	5.7	1
22	Networks of ribosome flow models for modeling and analyzing intracellular traffic. Scientific Reports, 2019, 9, 1703.	3.3	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.	5.7	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.	5.0	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.	1.0	12
28	Controllability Analysis and Control Synthesis for the Ribosome Flow Model. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 1351-1364.	3.0	11
29	Entrainment in the master equation. Royal Society Open Science, 2018, 5, 172157.	2.4	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.	0.3	5
33	Minimal controllability of conjunctive Boolean networks is NP-complete. Automatica, 2018, 92, 56-62.	5.0	37
34	Optimal Down Regulation of mRNA Translation. Scientific Reports, 2017, 7, 41243.	3.3	19
35	On Approximating Contractive Systems. IEEE Transactions on Automatic Control, 2017, 62, 6451-6457.	5.7	6
36	Optimal Translation Along a Circular mRNA. Scientific Reports, 2017, 7, 9464.	3.3	14

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37	Ribosome flow model with extended objects. Journal of the Royal Society Interface, 2017, 14, 20170128.	3.4	16
38	Approximating periodic trajectories of contractive systems. , 2017, , .		2
39	A deterministic mathematical model for bidirectional excluded flow with Langmuir kinetics. PLoS ONE, 2017, 12, e0182178.	2.5	13
40	Checkable Conditions for Contraction After Small Transients in Time and Amplitude. Lecture Notes in Control and Information Sciences, 2017, , 279-305.	1.0	10
41	A deterministic model for one-dimensional excluded flow with local interactions. PLoS ONE, 2017, 12, e0182074.	2.5	5
42	On the Ribosomal Density that Maximizes Protein Translation Rate. PLoS ONE, 2016, 11, e0166481.	2.5	35
43	High-order maximum principles for the stability analysis of positive bilinear control systems. Optimal Control Applications and Methods, 2016, 37, 1056-1073.	2.1	2
44	Controlling the ribosomal density profile in mRNA translation. , 2016, , .		1
45	A model for competition for ribosomes in the cell. Journal of the Royal Society Interface, 2016, 13, 20151062.	3.4	94
46	Contraction after small transients. Automatica, 2016, 67, 178-184.	5.0	31
47	Sensitivity of mRNA Translation. Scientific Reports, 2015, 5, 12795.	3.3	31
48	Ribosome Flow Model on a Ring. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2015, 12, 1429-1439.	3.0	34
49	Knowledge Extraction from Support Vector Machines: A Fuzzy Logic Approach. Studies in Fuzziness and Soft Computing, 2015, , 361-385.	0.8	0
50	On Boolean control networks with maximal topological entropy. Automatica, 2014, 50, 2924-2928.	5.0	13
51	Maximizing Protein Translation Rate in the Ribosome Flow Model: The Homogeneous Case. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2014, 11, 1184-1195.	3.0	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. Journal of the Royal Society Interface, 2014, 11, 20140713.	3.4	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.	2.5	65
56	Mathematical analysis of a flying capacitor converter: a sampledâ€data modeling approach. International Journal of Circuit Theory and Applications, 2013, 41, 682-700.	2.0	6
57	Observability of Boolean networks: A graph-theoretic approach. Automatica, 2013, 49, 2351-2362.	5.0	182
58	Symbolic dynamics of Boolean control networks. Automatica, 2013, 49, 2525-2530.	5.0	45
59	Minimum-Time Control of Boolean Networks. SIAM Journal on Control and Optimization, 2013, 51, 2869-2892.	2.1	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.	3.0	28
62	Ribosome flow model with positive feedback. Journal of the Royal Society Interface, 2013, 10, 20130267.	3.4	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.	3.0	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.	2.1	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.	3.0	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.	5.0	10
69	Controllability of Boolean control networks via the Perronâ€“Frobenius theory. Automatica, 2012, 48, 1218-1223.	5.0	305
70	A Maximum Principle for Single-Input Boolean Control Networks. IEEE Transactions on Automatic Control, 2011, 56, 913-917.	5.7	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.	2.1	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. Automatica, 2011, 47, 1489-1495.	5.0	26
74	Nice Reachability Results for Discreteâ€“Time Linear Switched Systems*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 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*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 272-277.	0.4	1
76	Analysis of artificial neural network learning near temporary minima: A fuzzy logic approach. Fuzzy Sets and Systems, 2010, 161, 2569-2584.	2.7	7
77	A simplification of the Agrachevâ€“Gamkrelidze second-order variation for bangâ€“bang controls. Systems and Control Letters, 2010, 59, 25-32.	2.3	8
78	The Low-Frequency Distortion in D-Class Amplifiers. IEEE Transactions on Circuits and Systems II: Express Briefs, 2010, 57, 772-776.	3.0	15
79	Mathematical modeling of the lambda switch: A fuzzy logic approach. Journal of Theoretical Biology, 2009, 260, 475-489.	1.7	8
80	Extracting symbolic knowledge from recurrent neural networksâ€”A fuzzy logic approach. Fuzzy Sets and Systems, 2009, 160, 145-161.	2.7	17
81	On the analysis of nonlinear nilpotent switched systems using the Hallâ€“Sussmann system. Systems and Control Letters, 2009, 58, 766-772.	2.3	9
82	On the Stability of Positive Linear Switched Systems Under Arbitrary Switching Laws. IEEE Transactions on Automatic Control, 2009, 54, 897-899.	5.7	163
83	Stability Analysis of Positive Linear Switched Systems: A Variational Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 31-35.	0.4	5
84	Root-mean-square gains of switched linear systems: A variational approach. Automatica, 2008, 44, 2398-2402.	5.0	66
85	Biomimicry and Fuzzy Modeling: A Match Made in Heaven. IEEE Computational Intelligence Magazine, 2008, 3, 38-48.	3.2	18
86	A New Approach to Knowledge-Based Design of Recurrent Neural Networks. IEEE Transactions on Neural Networks, 2008, 19, 1389-1401.	4.2	10
87	A Counterexample to a Conjecture of Gurvits on Switched Systems. IEEE Transactions on Automatic Control, 2007, 52, 1123-1126.	5.7	18
88	Knowledge Extraction From Neural Networks Using the All-Permutations Fuzzy Rule Base: The LED Display Recognition Problem. IEEE Transactions on Neural Networks, 2007, 18, 925-931.	4.2	19
89	Nicholson's blowflies revisited: A fuzzy modeling approach. Fuzzy Sets and Systems, 2007, 158, 1083-1096.	2.7	12
90	Third-order nilpotency, nice reachability and asymptotic stability. Journal of Differential Equations, 2007, 233, 136-150.	2.2	39

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91	The Fuzzy Ant. IEEE Computational Intelligence Magazine, 2007, 2, 18-28.	3.2	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.	5.0	236
94	Lie-algebraic stability conditions for nonlinear switched systems and differential inclusions. Systems and Control Letters, 2006, 55, 8-16.	2.3	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.	2.7	11
97	Are Artificial Neural Networks White Boxes?. IEEE Transactions on Neural Networks, 2005, 16, 844-852.	4.2	79
98	Mathematical modeling of observed natural behavior: a fuzzy logic approach. Fuzzy Sets and Systems, 2004, 146, 437-450.	2.7	45
99	The problem of absolute stability: a dynamic programming approach. Automatica, 2004, 40, 1247-1252.	5.0	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.	2.1	56
102	Some nonlinear optimal control problems with closed-form solutions. International Journal of Robust and Nonlinear Control, 2001, 11, 1365-1374.	3.7	13
103	Fuzzy Lyapunov-based approach to the design of fuzzy controllers. Fuzzy Sets and Systems, 1999, 106, 49-59.	2.7	89