David Angeli

List of Publications by Year
in descending order

167 papers	8,043 citations	81900 39 h-index	51608 86 g-index
169 all docs	169 docs citations	169 times ranked	3824 citing authors

#	ARTICLE	IF	CITATIONS
1	Detection of multistability, bifurcations, and hysteresis in a large class of biological positive-feedback systems. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 1822-1827.	7.1	879
2	A Lyapunov approach to incremental stability properties. IEEE Transactions on Automatic Control, 2002, 47, 410-421.	5.7	532
3	A characterization of integral input-to-state stability. IEEE Transactions on Automatic Control, 2000, 45, 1082-1097.	5.7	526
4	Monotone control systems. IEEE Transactions on Automatic Control, 2003, 48, 1684-1698.	5.7	503
5	On Average Performance and Stability of Economic Model Predictive Control. IEEE Transactions on Automatic Control, 2012, 57, 1615-1626.	5.7	457
6	Economic optimization using model predictive control with a terminal cost. Annual Reviews in Control, 2011, 35, 178-186.	7.9	331
7	Forward completeness, unboundedness observability, and their Lyapunov characterizations. Systems and Control Letters, 1999, 38, 209-217.	2.3	307
8	Nonlinear norm-observability notions and stability of switched systems. IEEE Transactions on Automatic Control, 2005, 50, 154-168.	5.7	270
9	Fundamentals of economic model predictive control. , 2012, , .		183
10	A Petri net approach to the study of persistence in chemical reaction networks. Mathematical Biosciences, 2007, 210, 598-618.	1.9	154
11	An ellipsoidal off-line MPC scheme for uncertain polytopic discrete-time systems. Automatica, 2008, 44, 3113-3119.	5.0	146
12	A Stochastic Approach to â€œDynamic-Demandâ€•Refrigerator Control. IEEE Transactions on Control Systems Technology, 2012, 20, 581-592.	5.2	143
13	Multi-stability in monotone input/output systems. Systems and Control Letters, 2004, 51, 185-202.	2.3	142
14	Almost global stabilization of the inverted pendulum via continuous state feedback. Automatica, 2001, 37, 1103-1108.	5.0	128
15	A Unifying Integral ISS Framework for Stability of Nonlinear Cascades. SIAM Journal on Control and Optimization, 2002, 40, 1888-1904.	2.1	127
16	Robust command governors for constrained linear systems. IEEE Transactions on Automatic Control, 2000, 45, 2071-2077.	5.7	125
17	An Almost Global Notion of Input-to-State Stability. IEEE Transactions on Automatic Control, 2004, 49, 866-874.	5.7	118
18	Economic and Environmental Benefits of Dynamic Demand in Providing Frequency Regulation. IEEE Transactions on Smart Grid, 2013, 4, 2036-2048.	9.0	109

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19	Input-to-state stability of PD-controlled robotic systems. Automatica, 1999, 35, 1285-1290.	5.0	102
20	On Necessity and Robustness of Dissipativity in Economic Model Predictive Control. IEEE Transactions on Automatic Control, 2015, 60, 1671-1676.	5.7	98
21	Monotone Chemical Reaction Networks. Journal of Mathematical Chemistry, 2007, 41, 295-314.	1.5	97
22	A Tutorial on Chemical Reaction Network Dynamics. European Journal of Control, 2009, 15, 398-406.	2.6	94
23	Lyapunov-based switching supervisory control of nonlinear uncertain systems. IEEE Transactions on Automatic Control, 2002, 47, 500-505.	5.7	93
24	Stability of leaderless discrete-time multi-agent systems. Mathematics of Control, Signals, and Systems, 2006, 18, 293-322.	2.3	82
25	Separation Principles for Input-Output and Integral-Input-to-State Stability. SIAM Journal on Control and Optimization, 2004, 43, 256-276.	2.1	78
26	Systems With Counterclockwise Input–Output Dynamics. IEEE Transactions on Automatic Control, 2006, 51, 1130-1143.	5.7	76
27	Command governors for constrained nonlinear systems. IEEE Transactions on Automatic Control, 1999, 44, 816-820.	5.7	75
28	Further Equivalences and Semiglobal Versions of Integral Input to State Stability. Journal of Dynamical and Control Systems, 2000, 10, 127-149.	0.4	75
29	Economic model predictive control with self-tuning terminal cost. European Journal of Control, 2013, 19, 408-416.	2.6	74
30	A tight small-gain theorem for not necessarily ISS systems. Systems and Control Letters, 2007, 56, 87-91.	2.3	70
31	Combining iISS and ISS With Respect to Small Inputs: The Strong iISS Property. IEEE Transactions on Automatic Control, 2014, 59, 2518-2524.	5.7	70
32	Graph-theoretic characterizations of monotonicity of chemical networks in reaction coordinates. Journal of Mathematical Biology, 2010, 61, 581-616.	1.9	62
33	Intrinsic robustness of global asymptotic stability. Systems and Control Letters, 1999, 38, 297-307.	2.3	54
34	Integral Input to State Stable systems in cascade. Systems and Control Letters, 2008, 57, 519-527.	2.3	54
35	Translation-invariant monotone systems, and a global convergence result for enzymatic futile cycles. Nonlinear Analysis: Real World Applications, 2008, 9, 128-140.	1.7	53
36	New Approach to the Stability of Chemical Reaction Networks: Piecewise Linear in Rates Lyapunov Functions. IEEE Transactions on Automatic Control, 2016, 61, 76-89.	5.7	51

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37	Persistence Results for Chemical Reaction Networks with Time-Dependent Kinetics and No Global Conservation Laws. SIAM Journal on Applied Mathematics, 2011, 71, 128-146.	1.8	45
38	Characterizations of Input-to-State Stability for Systems With Multiple Invariant Sets. IEEE Transactions on Automatic Control, 2015, 60, 3242-3256.	5.7	45
39	Price-Based Schemes for Distributed Coordination of Flexible Demand in the Electricity Market. IEEE Transactions on Smart Grid, 2017, 8, 3104-3116.	9.0	43
40	A Mean Field Game Approach for Distributed Control of Thermostatic Loads Acting in Simultaneous Energy-Frequency Response Markets. IEEE Transactions on Smart Grid, 2019, 10, 5987-5999.	9.0	43
41	On the performance of economic model predictive control with self-tuning terminal cost. Journal of Process Control, 2014, 24, 1179-1186.	3.3	42
42	Stability Robustness in the Presence of Exponentially Unstable Isolated Equilibria. IEEE Transactions on Automatic Control, 2011, 56, 1582-1592.	5.7	41
43	On feasible set-membership state estimators in constrained command governor control. Automatica, 2001, 37, 151-156.	5.0	39
44	Convergence in economic model predictive control with average constraints. Automatica, 2014, 50, 3100-3111.	5.0	39
45	Further Results on Incremental Input-to-State Stability. IEEE Transactions on Automatic Control, 2009, 54, 1386-1391.	5.7	38
46	Chemical networks with inflows and outflows: A positive linear differential inclusions approach. Biotechnology Progress, 2009, 25, 632-642.	2.6	36
47	Strong iISS is preserved under cascade interconnection. Automatica, 2014, 50, 2424-2427.	5.0	36
48	Integral versions of iss for sampled-data nonlinear systems via their approximate discrete-time models. IEEE Transactions on Automatic Control, 2002, 47, 2033-2037.	5.7	35
49	A small-gain theorem for almost global convergence of monotone systems. Systems and Control Letters, 2004, 52, 407-414.	2.3	35
50	Oscillations in I/O Monotone Systems Under Negative Feedback. IEEE Transactions on Automatic Control, 2008, 53, 166-176.	5.7	35
51	On convergence of averagely constrained economic MPC and necessity of dissipativity for optimal steady-state operation. , 2013, , .		34
52	Predictive PI-control of linear plants under positional and incremental input saturations. Automatica, 2000, 36, 1505-1516.	5.0	33
53	Shaping pulses to control bistable systems: Analysis, computation and counterexamples. Automatica, 2016, 63, 254-264.	5.0	30
54	Uniform Global Asymptotic Stability of Differential Inclusions. Journal of Dynamical and Control Systems, 2004, 10, 391-412.	0.8	28

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55	Adaptive switching supervisory control of nonlinear systems with no prior knowledge of noise bounds. Automatica, 2004, 40, 449-457.	5.0	28
56	Multistability in Systems With Counter-Clockwise Inputâ€"Output Dynamics. IEEE Transactions on Automatic Control, 2007, 52, 596-609.	5.7	28
57	Crowding effects promote coexistence in the chemostat. Journal of Mathematical Analysis and Applications, 2006, 319, 48-60.	1.0	26
58	Scheduling of Wind Farms for Optimal Frequency Response and Energy Recovery. IEEE Transactions on Control Systems Technology, 2016, 24, 1764-1778.	5.2	24
59	Transient average constraints in economic model predictive control. Automatica, 2014, 50, 2943-2950.	5.0	23
60	A Petri Net Approach to Persistence Analysis in Chemical Reaction Networks. Lecture Notes in Control and Information Sciences, 2007, , 181-216.	1.0	23
61	A small-gain result for orthant-monotone systems under mixed feedback. Systems and Control Letters, 2014, 68, 9-19.	2.3	21
62	Robust stabilization via saturated feedback. IEEE Transactions on Automatic Control, 2005, 50, 1997-2014.	5.7	20
63	Frozen state conditions for exponential consensus of time-varying cooperative nonlinear networks. Automatica, 2016, 64, 182-189.	5.0	19
64	Analysis of economic model predictive control with terminal penalty functions on generalized optimal regimes of operation. International Journal of Robust and Nonlinear Control, 2018, 28, 4790-4815.	3.7	19
65	Theoretical advances on Economic Model Predictive Control with time-varying costs. Annual Reviews in Control, 2016, 41, 218-224.	7.9	18
66	Necessary and sufficient conditions for consensus in nonlinear monotone networks with unilateral interactions. Automatica, 2017, 77, 51-60.	5.0	18
67	Minimizing Unserved Energy Using Heterogeneous Storage Units. IEEE Transactions on Power Systems, 2019, 34, 3647-3656.	6.5	18
68	Tight estimates for convergence of some non-stationary consensus algorithms. Systems and Control Letters, 2008, 57, 996-1004.	2.3	17
69	Attractors in coherent systems of differential equations. Journal of Differential Equations, 2009, 246, 3058-3076.	2.2	17
70	Enforcing convergence in nonlinear economic MPC. , 2011, , .		17
71	On Path-Complete Lyapunov Functions: Geometry and Comparison. IEEE Transactions on Automatic Control, 2019, 64, 1947-1957.	5.7	15
72	Combinatorial approaches to Hopf bifurcations in systems of interacting elements. Communications in Mathematical Sciences, 2014, 12, 1101-1133.	1.0	15

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73	Some remarks on density functions for dual Lyapunov methods. , 0, , .		14
74	Robust Lyapunov functions for Complex Reaction Networks: An uncertain system framework. , 2014, , .		14
75	A Graphical Measure of Aggregate Flexibility for Energy-Constrained Distributed Resources. IEEE Transactions on Smart Grid, 2020, 11, 106-117.	9.0	14
76	A computational framework for a Lyapunov-enabled analysis of biochemical reaction networks. PLoS Computational Biology, 2020, 16, e1007681.	3.2	14
77	Convergence in Strongly Monotone Systems with an Increasing First Integral. SIAM Journal on Mathematical Analysis, 2010, 42, 334-353.	1.9	13
78	Distributed Control of Micro-Storage Devices With Mean Field Games. IEEE Transactions on Smart Grid, 2015, , 1-1.	9.0	13
79	Homothetic Tube-Based Robust Economic MPC With Integrated Moving Horizon Estimation. IEEE Transactions on Automatic Control, 2021, 66, 64-75.	5.7	13
80	Cooperative economic model predictive control for linear systems with convex objectives. European Journal of Control, 2014, 20, 141-151.	2.6	12
81	Input-to-state stability for cascade systems with multiple invariant sets. Systems and Control Letters, 2016, 98, 97-110.	2.3	12
82	Perturbation Theory and Singular Perturbations for Input-to-State Multistable Systems on Manifolds. IEEE Transactions on Automatic Control, 2019, 64, 3555-3570.	5.7	12
83	Piecewise Linear in rates Lyapunov functions for Complex Reaction Networks. , 2013, , .		11
84	Frozen state conditions for asymptotic consensus of time-varying cooperative nonlinear networks. , 2013, , .		11
85	Characterizations of Integral Input-to-State Stability for Systems With Multiple Invariant Sets. IEEE Transactions on Automatic Control, 2017, 62, 3729-3743.	5.7	11
86	Power characterizations of input-to-state stability and integral input-to-state stability. IEEE Transactions on Automatic Control, 2001, 46, 1298-1303.	5.7	10
87	Robustly Maximal Utilisation of Energy-Constrained Distributed Resources. , 2018, , .		10
88	Remarks on the invalidation of biological models using monotone systems theory. , 2012, , .		9
89	The ISS approach to the stability and robustness properties of nonautonomous systems with decomposable invariant sets: An overview. European Journal of Control, 2016, 30, 50-60.	2.6	9
90	Tube-Based Robust Economic Model Predictive Control on Dissipative Systems with Generalized Optimal Regimes of Operation. , 2018, , .		9

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91	A game-theoretic approach for price-based coordination of flexible devices operating in integrated energy-reserve markets. Energy, 2019, 189, 116153.	8.8	9
92	Approximate computation of storage functions for discrete-time systems using sum-of-squares techniques. IFAC-PapersOnLine, 2019, 52, 508-513.	0.9	9
93	Homothetic tube-based robust offset-free economic Model Predictive Control. Automatica, 2020, 119, 109105.	5.0	9
94	Convergence in Networks With Counterclockwise Neural Dynamics. IEEE Transactions on Neural Networks, 2009, 20, 794-804.	4.2	8
95	A Criterion for Exponential Consensus of Time-Varying Non-Monotone Nonlinear Networks. IEEE Transactions on Automatic Control, 2017, 62, 2483-2489.	5.7	8
96	Investigating the Social Efficiency of Merchant Transmission Planning Through a Non-cooperative Game-Theoretic Framework. IEEE Transactions on Power Systems, 2018, 33, 4831-4841.	6.5	8
97	A Petri Net approach to consensus in networks with joint-agent interactions. Automatica, 2019, 110, 108466.	5.0	8
98	A tight small gain theorem for not necessarily ISS systems. , 0, , .		7
99	Strong iISS: Combination of iISS and ISS with respect to small inputs. , 2012, , .		7
100	Continuous-time switched systems with switching frequency constraints: Path-complete stability criteria. Automatica, 2022, 137, 110099.	5.0	7
101	Boundedness analysis for open Chemical Reaction Networks with mass-action kinetics. Natural Computing, 2011, 10, 751-774.	3.0	6
102	Convergence and optimality of a new iterative price-based scheme for distributed coordination of flexible loads in the electricity market. , 2017, , .		6
103	Integration of Price-Responsive Appliances in the Energy Market Through Flexible Demand Saturation. IEEE Transactions on Control of Network Systems, 2018, 5, 154-166.	3.7	6
104	On piecewise quadratic Lyapunov functions for piecewise affine models of gene regulatory networks. , 2018, , .		6
105	Distributed Coordination of Flexible Loads Using Locational Marginal Prices. IEEE Transactions on Control of Network Systems, 2019, 6, 1097-1110.	3.7	6
106	Criteria for asymptotic clustering of opinion dynamics towards bimodal consensus. Automatica, 2019, 103, 230-238.	5.0	6
107	A Robust Lyapunov Criterion for Nonoscillatory Behaviors in Biological Interaction Networks. IEEE Transactions on Automatic Control, 2022, 67, 3305-3320.	5.7	6
108	A Trajectory-Based Approach for the Stability Robustness of Nonlinear Systems with Inputs. Mathematics of Control, Signals, and Systems, 2002, 15, 336-355.	2.3	5

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109	A small-gain result for orthant-monotone systems in feedback: The non sign-definite case. , 2011, , .		5
110	Addendum to "Convergence in Strongly Monotone Systems with an Increasing First Integral" SIAM Journal on Mathematical Analysis, 2012, 44, 536-537.	1.9	5
111	Economic Model Predictive Control with parameter-varying cost and guaranteed average performance. , 2015, , .		5
112	Analysis of Nash equilibria in energy markets with large populations of price-responsive flexible appliances. , 2015, , .		5
113	On average performance of Economic Model Predictive Control with time-varying cost and terminal constraints. , 2015, , .		5
114	A generalized approach to Economic Model Predictive Control with terminal penalty functions. IFAC-PapersOnLine, 2017, 50, 518-523.	0.9	5
115	A framework for receding-horizon control in infinite-horizon aggregative games. Annual Reviews in Control, 2018, 45, 191-204.	7.9	5
116	Scheduling of energy storage. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190435.	3.4	5
117	Theoretical advances on Economic Model Predictive Control with time-varying costs. IFAC-PapersOnLine, 2015, 48, 272-277.	0.9	4
118	Asymptotic Consensus on the Average of a Field for Time-Varying Nonlinear Networks Under Almost Periodic Connectivity. IEEE Transactions on Automatic Control, 2018, 63, 2389-2404.	5.7	4
119	On Distributed Scheduling of Flexible Demand and Nash Equilibria in the Electricity Market. Dynamic Games and Applications, 2018, 8, 761-798.	1.9	4
120	Distributed Coordination of Price-Responsive Electric Loads: A Receding Horizon Approach. , 2018, , .		4
121	Economic Model Predictive Control: Some Design Tools and Analysis Techniques. Control Engineering, 2019, , 145-167.	0.3	4
122	On Convergence for Piecewise Affine Models of Gene Regulatory Networks via a Lyapunov Approach. IEEE Transactions on Automatic Control, 2020, 65, 3333-3348.	5.7	4
123	Data-based supervisory control of uncertain systems with application to automatic drug delivery for anesthesia. Automatica, 2007, 43, 1289-1295.	5.0	3
124	A Modular Criterion for Persistence of Chemical Reaction Networks. IEEE Transactions on Automatic Control, 2010, 55, 1674-1679.	5.7	3
125	A stochastic approach to distributed power frequency control by means of smart appliances. , 2012, , .		3
126	On exponential consensus for time-varying non-cooperative nonlinear networks. , 2015, , .		3

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127	Construction of robust Lyapunov functions for reaction networks. , 2016, , .		3
128	A linear program to compare path-complete Lyapunov functions. , 2017, , .		3
129	A Semi-Decentralized Scheme for Integration of Price-Responsive Appliances in the Electricity Market. IFAC-PapersOnLine, 2017, 50, 6729-6736.	0.9	3
130	Chance-Constrained Ancillary Service Specification for Heterogeneous Storage Devices. , 2019, , .		3
131	Robust Distributed Estimation of the Maximum of a Field. IEEE Transactions on Control of Network Systems, 2020, 7, 372-383.	3.7	3
132	On Adversary Robust Consensus Protocols Through Joint-Agent Interactions. IEEE Transactions on Automatic Control, 2021, 66, 1646-1657.	5.7	3
133	On convergence for hybrid models of gene regulatory networks under polytopic uncertainties: a Lyapunov approach. Journal of Mathematical Biology, 2021, 83, 64.	1.9	3
134	On modularity and persistence of chemical reaction networks. , 2008, , .		2
135	Consensus for nonlinear monotone networks with unilateral interactions. , 2016, , .		2
136	Output-to-State Stability for systems on manifolds with multiple invariant sets. , 2016, , .		2
137	Smooth Lyapunov functions for multistable hybrid systems on manifolds. , 2017, , .		2
138	On consensus protocols allowing joint-agent interactions. , 2018, , .		2
139	A Distributed Price-based Strategy for Flexible Demand Coordination in Multi-area Systems. , 2018, , .		2
140	Economic Model Predictive Control. , 2019, , 1-7.		2
141	Oscillations in I/O Monotone Systems Under Negative Feedback. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2009, , .	0.1	2
142	Input-output instability patterns of Chemical Reaction Networks. , 2008, , .		1
143	Performance analysis of economic MPC with self-tuning terminal cost. , 2014, , .		1
144	Cascades of iISS and Strong iISS systems with multiple invariant sets. , 2016, , .		1

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145	Decentralized coordination of large populations of flexible electrical appliances through demand saturation. , 2016, , .		1
146	Consensus-based algorithm for distributed estimation of the maximum of a field. , 2017, , .		1
147	Distributed schemes for efficient deployment of price-responsive demand with partial flexibility. Journal of Control and Decision, 2018, 5, 169-194.	1.6	1
148	An iterative algorithm for regret minimization in flexible demand scheduling problems. Advanced Control for Applications, 2021, 3, e92.	1.7	1
149	A Resilient Consensus Protocol for Networks With Heterogeneous Confidence and Byzantine Adversaries. , 2022, 6, 494-499.		1
150	A tutorial on Chemical Reaction Networks dynamics. , 2009, , .		1
151	Flexibility Framework With Recovery Guarantees for Aggregated Energy Storage Devices. IEEE Transactions on Smart Grid, 2022, 13, 3519-3531.	9.0	1
152	Ruling Out Positive Lyapunov Exponents by Using the Jacobianâ€™s Second Additive Compound Matrix. , 2022, 6, 2924-2928.		1
153	Discussion on:â€˜Variable Horizon Robust Predictive Control via Adjustable Controllability Setsâ€™ by M. N. Demenkov and N. B. Filimonov. European Journal of Control, 2001, 7, 605-608.	2.6	0
154	Global Regulation of Input-Saturated Discrete-Time Linear Systems Subject to Persistent Disturbances. European Journal of Control, 2004, 10, 228-236.	2.6	0
155	Nonlinear control systems analysis and design, Horacio J. Marquez; John Wiley & Sons, Inc., ISBN: 0-471-42799-3.. Automatica, 2006, 42, 189-190.	5.0	0
156	Distributed frequency control by means of responsive wind generation. , 2012, , .		0
157	On detachable maps and flows. Journal of Difference Equations and Applications, 2013, 19, 146-161.	1.1	0
158	Integral ISS for systems with multiple invariant sets. , 2015, , .		0
159	Smooth Lyapunov Functions for Multistable Differential Inclusions. IFAC-PapersOnLine, 2017, 50, 1661-1666.	0.9	0
160	Coordination of Micro-Storage Devices in Power Grids: A Multi-Agent System Approach for Energy Arbitrage. , 2018, , .		0
161	A Game-Theoretic Modeling Approach for Merchant Transmission Planning. , 2018, , .		0
162	On second order consensus protocols allowing joint-agent interactions. , 2019, , .		0

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163	Economic Model Predictive Control. , 2021, , 665-671.		0
164	Correction to â€œMinimizing Unserved Energy Using Heterogeneous Storage Unitsâ€•[Sep 19 3647-3656]. IEEE Transactions on Power Systems, 2020, 35, 4144-4144.	6.5	0
165	Study of Piecewise Multi-affine models for Genetic Regulatory Networks via a Lyapunov approach: an LMI framework. IFAC-PapersOnLine, 2020, 53, 16739-16744.	0.9	0
166	Heterogeneous network flow and Petri nets characterize multilayer complex networks. Scientific Reports, 2022, 12, 3513.	3.3	0
167	Smooth output-to-state stability for multistable systems on compact manifolds. ESAIM - Control, Optimisation and Calculus of Variations, 0, , .	1.3	0