

Mircea Lazar

List of Publications by Year in descending order

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113
papers

2,289
citations

304602

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42
g-index

114
all docs

114
docs citations

114
times ranked

1530
citing authors

#	ARTICLE	IF	CITATIONS
1	Stabilizing Model Predictive Control of Hybrid Systems. IEEE Transactions on Automatic Control, 2006, 51, 1813-1818.	3.6	190
2	Min-max Model Predictive Control of Nonlinear Systems: A Unifying Overview on Stability. European Journal of Control, 2009, 15, 5-21.	1.6	163
3	On input-to-state stability of min-max nonlinear model predictive control. Systems and Control Letters, 2008, 57, 39-48.	1.3	134
4	Real-time control of power systems using nodal prices. International Journal of Electrical Power and Energy Systems, 2009, 31, 522-530.	3.3	108
5	On polytopic inclusions as a modeling framework for systems with time-varying delays. Automatica, 2010, 46, 615-619.	3.0	94
6	Lyapunov based predictive control of vehicle drivetrains over CAN. Control Engineering Practice, 2013, 21, 1884-1898.	3.2	81
7	Predictive control of hybrid systems: Input-to-state stability results for sub-optimal solutions. Automatica, 2009, 45, 180-185.	3.0	76
8	Comparison of overapproximation methods for stability analysis of networked control systems. , 2010, , .		60
9	A neural predictive controller for non-linear systems. Mathematics and Computers in Simulation, 2002, 60, 315-324.	2.4	56
10	Lyapunov Functions, Stability and Input-to-State Stability Subtleties for Discrete-Time Discontinuous Systems. IEEE Transactions on Automatic Control, 2009, 54, 2421-2425.	3.6	55
11	Assessment of non-centralised model predictive control techniques for electrical power networks. International Journal of Control, 2012, 85, 1162-1177.	1.2	53
12	LTL receding horizon control for finite deterministic systems. Automatica, 2014, 50, 399-408.	3.0	52
13	An alternative converse Lyapunov theorem for discrete-time systems. Systems and Control Letters, 2014, 70, 49-59.	1.3	49
14	Heterogeneously parameterized tube model predictive control for LPV systems. Automatica, 2020, 111, 108622.	3.0	40
15	Stabilizing tube-based model predictive control: Terminal set and cost construction for LPV systems. Automatica, 2017, 85, 137-144.	3.0	36
16	On infinity norms as Lyapunov functions: Alternative necessary and sufficient conditions. , 2010, , .		31
17	A predictive control solution for driveline oscillations damping. , 2011, , .		30
18	Language-Guided Controller Synthesis for Linear Systems. IEEE Transactions on Automatic Control, 2014, 59, 1163-1176.	3.6	29

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19	On stability analysis methods for large-scale discrete-time systems. <i>Automatica</i> , 2015, 55, 66-72.	3.0	28
20	Stabilization of Bilinear Power Converters by Affine State Feedback Under Input and State Constraints. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2012, 59, 520-524.	2.2	26
21	Stabilization of polytopic delay difference inclusions via the Razumikhin approach. <i>Automatica</i> , 2011, 47, 2562-2570.	3.0	25
22	Further Input-to-State Stability Subtleties for Discrete-Time Systems. <i>IEEE Transactions on Automatic Control</i> , 2013, 58, 1609-1613.	3.6	25
23	On integration of event-based estimation and robust MPC in a feedback loop. , 2010, , .		24
24	On robustness of constrained discrete-time systems to state measurement errors. <i>Automatica</i> , 2008, 44, 1161-1165.	3.0	23
25	Input-to-state stability analysis for interconnected difference equations with delay. <i>Mathematics of Control, Signals, and Systems</i> , 2012, 24, 33-54.	1.4	23
26	Computation of Lyapunov Functions for Nonlinear Differential Equations via a Massera-Type Construction. <i>IEEE Transactions on Automatic Control</i> , 2018, 63, 1259-1272.	3.6	23
27	Squaring the circle: An algorithm for generating polyhedral invariant sets from ellipsoidal ones. <i>Automatica</i> , 2007, 43, 2096-2103.	3.0	22
28	Stabilizing Dynamic Controllers for Hybrid Systems: A Hybrid Control Lyapunov Function Approach. <i>IEEE Transactions on Automatic Control</i> , 2014, 59, 2629-2643.	3.6	22
29	Driveline oscillations damping: A tractable predictive control solution based on a piecewise affine model. <i>Nonlinear Analysis: Hybrid Systems</i> , 2016, 19, 168-185.	2.1	22
30	Global input-to-state stability and stabilization of discrete-time piecewise affine systems. <i>Nonlinear Analysis: Hybrid Systems</i> , 2008, 2, 721-734.	2.1	21
31	Tractable Razumikhin-type conditions for input-to-state stability analysis of delay difference inclusions. <i>Automatica</i> , 2013, 49, 619-625.	3.0	21
32	Automated-Sampling-Based Stability Verification and DOA Estimation for Nonlinear Systems. <i>IEEE Transactions on Automatic Control</i> , 2018, 63, 3659-3674.	3.6	21
33	Necessary and Sufficient Razumikhin-Type Conditions for Stability of Delay Difference Equations. <i>IEEE Transactions on Automatic Control</i> , 2013, 58, 2637-2642.	3.6	20
34	Stability analysis of switched linear systems defined by graphs. , 2014, , .		20
35	Chemotherapy followed by anti-CD137 mAb immunotherapy improves disease control in a mouse myeloma model. <i>JCI Insight</i> , 2019, 4, .	2.3	20
36	Infinity Norms as Lyapunov Functions for Model Predictive Control of Constrained PWA Systems. <i>Lecture Notes in Computer Science</i> , 2005, , 417-432.	1.0	19

#	ARTICLE	IF	CITATIONS
37	On positive invariance for delay difference equations. , 2011, , .		19
38	A sampling approach to finding Lyapunov functions for nonlinear discrete-time systems. , 2016, , .		19
39	FPGA implementation of optimal and approximate model predictive control for a buck-boost DC-DC converter. , 2012, , .		18
40	The Minkowski Lyapunov equation for linear dynamics: Theoretical foundations. Automatica, 2014, 50, 2015-2024.	3.0	18
41	Alternative Stability Conditions for Switched Discrete Time Linear Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6007-6012.	0.4	18
42	Tube-based anticipative model predictive control for linear parameter-varying systems. , 2016, , .		18
43	Stabilization of networked control systems via non-monotone control Lyapunov functions. , 2009, , .		17
44	Finite Bisimulations for Switched Linear Systems. IEEE Transactions on Automatic Control, 2014, 59, 3122-3134.	3.6	16
45	Construction of invariant polytopic sets with specified complexity. International Journal of Control, 2014, 87, 1681-1693.	1.2	16
46	Temporal logic model predictive control. Automatica, 2015, 56, 78-85.	3.0	16
47	Finite-step Terminal Ingredients for Stabilizing Model Predictive Control. IFAC-PapersOnLine, 2015, 48, 9-15.	0.5	15
48	A Relaxed Small-Gain Theorem for Interconnected Discrete-Time Systems. IEEE Transactions on Automatic Control, 2015, 60, 812-817.	3.6	15
49	A hybrid MPC approach to the design of a Smart adaptive cruise controller. , 2006, , .		14
50	Minkowski terminal cost functions for MPC. Automatica, 2012, 48, 2721-2725.	3.0	14
51	Stability of periodically time-varying systems: Periodic Lyapunov functions. Automatica, 2012, 48, 2663-2669.	3.0	11
52	Driving Mode Optimization for Hybrid Trucks Using Road and Traffic Preview Data. Energies, 2020, 13, 5341.	1.6	11
53	On infinity norms as Lyapunov functions for piecewise affine systems. , 2010, , .		11
54	On Polytopic Approximations of Systems with Time-Varying Input Delays. Lecture Notes in Control and Information Sciences, 2009, , 225-233.	0.6	10

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55	Stabilizing linear model predictive control: On the enlargement of the terminal set. , 2013, , .		10
56	Cancellation of normal parasitic forces in coreless linear motors. , 2015, , .		10
57	Stabilizing model predictive control: On the enlargement of the terminal set. International Journal of Robust and Nonlinear Control, 2015, 25, 2646-2670.	2.1	10
58	Receding horizon temporal logic control for finite deterministic systems. , 2012, , .		9
59	Non-conservative dissipativity and small-gain conditions for stability analysis of interconnected systems. , 2012, , .		9
60	Finite bisimulations for switched linear systems. , 2012, , .		9
61	Domain of attraction computation for tumor dynamics. , 2014, , .		9
62	Computation of Lyapunov functions for nonlinear differential equations via a Yoshizawaâ€”type construction. IFAC-PapersOnLine, 2016, 49, 29-34.	0.5	9
63	A switching control law approach for cancer immunotherapy of an evolutionary tumor growth model. Mathematical Biosciences, 2017, 284, 40-50.	0.9	9
64	Stabilizing nonâ€”linear model predictive control using linear parameterâ€”varying embeddings and tubes. IET Control Theory and Applications, 2021, 15, 1404-1421.	1.2	9
65	Pieceâ€”wise ellipsoidal setâ€”based model predictive control of linear parameter varying systems with application to a tower crane. Asian Journal of Control, 2021, 23, 1324-1339.	1.9	9
66	Synthesis of Trajectory-Dependent Control Lyapunov Functions by a Single Linear Program. Lecture Notes in Computer Science, 2009, , 237-251.	1.0	9
67	On infinity norms as Lyapunov functions for continuous-time dynamical systems. , 2011, , .		8
68	On the computation of Lyapunov functions for discrete-time nonlinear systems. , 2014, , .		8
69	On Data-Driven Control: Informativity of Noisy Input-Output Data With Cross-Covariance Bounds. , 2022, 6, 2192-2197.		8
70	On stability and stabilization of periodic discrete-time systems with an application to satellite attitude control. Automatica, 2014, 50, 3190-3196.	3.0	7
71	A tube-based approach to nonlinear explicit MPC. , 2016, , .		7
72	Formal Abstraction of Linear Systems via Polyhedral Lyapunov Functions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 88-93.	0.4	6

#	ARTICLE	IF	CITATIONS
73	A real-time control system architecture for industrial power amplifiers. , 2013, , .		6
74	A delta-sampling verification theorem for discrete-time, possibly discontinuous systems. , 2015, , .		6
75	Stabilizing non-linear MPC using linear parameter-varying representations. , 2017, , .		6
76	Real-time Driving Mode Advice for Eco-driving using MPC. IFAC-PapersOnLine, 2020, 53, 13830-13835.	0.5	6
77	On parameterized Lyapunov and control Lyapunov functions for discrete-time systems. , 2010, , .		5
78	Lyapunov-based constrained engine torque control using electronic throttle and variable cam timing. , 2012, , .		5
79	An explicit solution to constrained stabilization via polytopic tubes. , 2013, , .		5
80	Feedback stabilization via rational control Lyapunov functions. , 2015, , .		5
81	Stabilizing Model Predictive Control based on flexible set-membership constraints. , 2015, , .		5
82	A switched systems approach to cancer therapy. , 2015, , .		5
83	Efficient State Reference Generation for Torque Control in Externally Excited Synchronous Machines. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2015, 137, .	0.9	5
84	Feedback stabilization of positive nonlinear systems with applications to biological systems. , 2018, , .		5
85	Driving Mode Advice for Eco-Driving Assistance System With Driver Reaction Delay Compensation. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 134-138.	2.2	5
86	Set-Induced Stability Results for Delay Difference Equations. Lecture Notes in Control and Information Sciences, 2012, , 73-84.	0.6	5
87	A dissipativity-based framework for analyzing stability of predictive controllers. IFAC-PapersOnLine, 2021, 54, 159-165.	0.5	4
88	A relaxation of Lyapunov conditions and controller synthesis for discrete-time periodic systems. , 2010, , .		3
89	Constrained stabilization of a two-input buck-boost DC/DC converter using a set-theoretic method. , 2011, , .		3
90	Horizon-1 Predictive Control of Automotive Electromagnetic Actuators. IEEE Transactions on Control Systems Technology, 2013, 21, 1652-1665.	3.2	3

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91	On constrained stabilization of discrete-time linear systems. , 2013, , .		3
92	Stabilizing Model Predictive Control of a Gantry Crane Based on Flexible Set-Membership Constraints. IFAC-PapersOnLine, 2015, 48, 248-253.	0.5	3
93	Construction of continuous and piecewise affine Lyapunov functions via a finite-time converse. IFAC-PapersOnLine, 2016, 49, 13-18.	0.5	3
94	Analysis of Power Amplifier Contribution to the Precision of Motion Systems. , 2022, , .		3
95	A sampling approach to constructing Lyapunov functions for nonlinear continuous-time systems. , 2016, , .		2
96	MPC for linear parameter-varying systems in input-output representation. , 2016, , .		2
97	A method to guarantee local convergence for sequential quadratic programming with poor Hessian approximation. , 2017, , .		2
98	An instrumental variable method for closed-loop identification of coreless linear motors. , 2018, , .		2
99	Long-Horizon Nonlinear Model Predictive Control of Modular Multilevel Converters. Energies, 2022, 15, 1376.	1.6	2
100	Constrained state-feedback control of an externally excited synchronous machine. , 2013, , .		1
101	Constrained stabilization of periodic discrete-time systems via periodic Lyapunov functions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 17-22.	0.4	1
102	On controlled-invariance and stabilization of time-delay systems. , 2014, , .		1
103	Low-complexity constrained control of the opposed current converter using quadratic control contractive sets. , 2014, , .		1
104	Construction of Continuous and Piecewise Affine Feedback Stabilizers for Nonlinear Systems. IEEE Transactions on Automatic Control, 2021, 66, 4059-4068.	3.6	1
105	Stabilization of polytopic delay difference inclusions: Time-varying control Lyapunov functions. , 2010, , .		0
106	Small-gain results for discrete-time networks of systems with delay. , 2011, , .		0
107	A hybrid polytopic partition approach to constrained stabilization of bilinear systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 430-435.	0.4	0
108	Complexity-driven construction of controlled invariant polytopic sets. , 2013, , .		0

#	ARTICLE	IF	CITATIONS
109	Constrained reference tracking for a high-speed buck converter. , 2014, , .		0
110	Computation of piecewise affine terminal cost functions for model predictive control. , 2014, , .		0
111	From non-homogeneous stabilizing control laws to tracking of constrained discrete-time linear systems. , 2015, , .		0
112	Fast and scalable constrained reference tracking for discrete-time linear systems. , 2015, , .		0
113	Stabilization of discrete-time nonlinear systems based on control dissipation functions. , 2021, , .		0