

Matthew M Peet

List of Publications by Year in descending order

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76
papers

732
citations

840585

11
h-index

677027

22
g-index

78
all docs

78
docs citations

78
times ranked

410
citing authors

#	ARTICLE	IF	CITATIONS
1	Efficient Data Structures for Representation of Polynomial Optimization Problems: Implementation in SOSTOOLS. , 2022, , 1-1.		0
2	Extensions of the Dynamic Programming Framework: Battery Scheduling, Demand Charges, and Renewable Integration. IEEE Transactions on Automatic Control, 2021, 66, 1602-1617.	3.6	2
3	The orbital mechanics of space elevator launch systems. Acta Astronautica, 2021, 179, 153-171.	1.7	3
4	Heterogeneous Hydrogel Structures with Spatiotemporal Reconfigurability using Addressable and Tunable Voxels. Advanced Materials, 2021, 33, e2005906.	11.1	37
5	A Partial Integral Equation (PIE) representation of coupled linear PDEs and scalable stability analysis using LMI. Automatica, 2021, 125, 109473.	3.0	8
6	A generalization of Bellman's equation with application to path planning, obstacle avoidance and invariant set estimation. Automatica, 2021, 127, 109510.	3.0	14
7	Representation of networks and systems with delay: DDEs, DDFs, ODE's PDEs and PIEs. Automatica, 2021, 127, 109508.	3.0	12
8	Minimal Differential Difference Realizations of Delay Differential, Differential Difference, and Neutral Delay Systems. , 2021, 5, 1471-1476.		2
9	Converse Lyapunov Functions and Converging Inner Approximations to Maximal Regions of Attraction of Nonlinear Systems. , 2021, , .		4
10	PIETOOLS: A Matlab Toolbox for Manipulation and Optimization of Partial Integral Operators. , 2020, , .		10
11	A Convex Solution of the H_∞ -Optimal Controller Synthesis Problem for Multidelay Systems. SIAM Journal on Control and Optimization, 2020, 58, 1547-1578.	1.1	4
12	Kinematic Modeling and Trajectory Tracking Control of an Octopus-Inspired Hyper-Redundant Robot. IEEE Robotics and Automation Letters, 2020, 5, 3460-3467.	3.3	30
13	New Insights on the Control and Function of Octopus Suckers. Advanced Intelligent Systems, 2020, 2, 1900154.	3.3	11
14	Duality and H_∞ -Optimal Control Of Coupled ODE-PDE Systems. , 2020, , .		7
15	Robust Analysis of Uncertain ODE-PDE Systems Using PI Multipliers, PIEs and LPIs. , 2020, , .		5
16	Relaxing The Hamilton Jacobi Bellman Equation To Construct Inner And Outer Bounds On Reachable Sets. , 2019, , .		5
17	Estimator-Based Output-Feedback Stabilization of Linear Multi-Delay Systems using SOS. , 2019, , .		4
18	Using SDP to Parameterize Universal Kernel Functions. , 2019, , .		0

#	ARTICLE	IF	CITATIONS
19	A Generalized LMI Formulation for Input-Output Analysis of Linear Systems of ODEs Coupled with PDEs. , 2019, , .		5
20	â„‹sub>âˆž</sub> Optimal Estimation for Linear Coupled PDE Systems. , 2019, , .		1
21	SOS for Systems with Multiple Delays: Part 1. H_{âˆž}-Optimal Control. , 2019, , .		2
22	SOS for Systems with Multiple Delays: Part 2. H_{âˆž}-Optimal Estimation. , 2019, , .		2
23	A Dual to Lyapunov's Second Method for Linear Systems With Multiple Delays and Implementation Using SOS. IEEE Transactions on Automatic Control, 2019, 64, 944-959.	3.6	11
24	Inversion of Separable Kernel Operator and Its Application in Control Synthesis. Advances in Delays and Dynamics, 2019, , 265-280.	0.4	1
25	Computing Input-Output Properties of Coupled Linear PDE systems. , 2019, , .		4
26	Decentralized Control of Distributed Actuation in a Segmented Soft Robot Arm. , 2018, , .		9
27	Using Trajectory Measurements to Estimate the Region of Attraction of Nonlinear Systems. , 2018, , .		5
28	A New State-Space Representation for Coupled PDEs and Scalable Lyapunov Stability Analysis in the SOS Framework. , 2018, , .		4
29	A Convex Reformulation of the Controller Synthesis Problem for Infinite-Dimensional Systems using Linear Operator Inequalities (LOIs) with Application to MIMO Multi-Delay Systems. , 2018, , .		1
30	Solving dynamic programming with supremum terms in the objective and application to optimal battery scheduling for electricity consumers subject to demand charges. , 2017, , .		5
31	Inversion of Separable Kernel Operators in Coupled Differential-Functional Equations and Application to Controller Synthesis * *This work was supported by National Natural Science Foundation of PR China under Grant 61374090, 61503189, the Natural Science Foundation of Jiangsu Province under Grant BK20150926. This work was also supported by NSF Grants 1538374, 1301660, 1301851. IFAC PapersOnline, 2017, 50, 6512-6518.	0.5	4
32	Estimating the region of attraction using polynomial optimization: A converse Lyapunov result. , 2017, , .		13
33	A convex reformulation of the controller synthesis problem for MIMO single-delay systems with implementation in SOS. , 2017, , .		2
34	Multi-objective dynamic programming for constrained optimization of non-separable objective functions with application in energy storage. , 2016, , .		4
35	Optimal state feedback boundary control of parabolic PDEs using SOS polynomials. , 2016, , .		2
36	Stability analysis of parabolic linear PDEs with two spatial dimensions using Lyapunov method and SOS. , 2015, , .		3

#	ARTICLE	IF	CITATIONS
37	Optimal thermostat programming and optimal electricity rates for customers with demand charges. , 2015, , .		3
38	Polynomial optimization with applications to stability analysis and control - Alternatives to sum of squares. Discrete and Continuous Dynamical Systems - Series B, 2015, 20, 2383-2417.	0.5	26
39	Global Stability Analysis of Nonlinear Sampled-Data Systems Using Convex Methods. Advances in Delays and Dynamics, 2014, , 215-227.	0.4	2
40	Constructing piecewise-polynomial lyapunov functions for local stability of nonlinear systems using Handelman's theorem. , 2014, , .		4
41	LMI parametrization of Lyapunov functions for infinite-dimensional systems: A framework. , 2014, , .		13
42	Solving Large-Scale Robust Stability Problems by Exploiting the Parallel Structure of Polya's Theorem. IEEE Transactions on Automatic Control, 2013, 58, 1931-1947.	3.6	10
43	Stability Analysis of Sampled-Data Systems Using Sum of Squares. IEEE Transactions on Automatic Control, 2013, 58, 1620-1625.	3.6	48
44	Decentralized Polya's algorithm for stability analysis of large-scale nonlinear systems. , 2013, , .		2
45	Full-State Feedback of Delayed Systems using SOS: A New Theory of Duality. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 24-29.	0.4	9
46	Stability of State-Dependent Delay System. , 2013, , .		2
47	A sum-of-squares approach to the analysis of Zeno stability in polynomial hybrid systems. , 2013, , .		1
48	Decentralized computation for robust stability analysis of large state-space systems using Polya's theorem. , 2012, , .		3
49	A Converse Sum of Squares Lyapunov Result With a Degree Bound. IEEE Transactions on Automatic Control, 2012, 57, 2281-2293.	3.6	33
50	Decentralized computation for robust stability of large-scale systems with parameters on the hypercube. , 2012, , .		4
51	Reducing the Complexity of the Sum-of-Squares Test for Stability of Delayed Linear Systems. IEEE Transactions on Automatic Control, 2011, 56, 229-234.	3.6	17
52	Biological circuit models of immune regulatory response: A decentralized control system. , 2011, , .		0
53	SOS for sampled-data systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 1441-1446.	0.4	2
54	On the conservatism of the sum-of-squares method for analysis of time-delayed systems. Automatica, 2011, 47, 2406-2411.	3.0	9

#	ARTICLE	IF	CITATIONS
55	Designing observer-based controllers for PDE systems: A heat-conducting rod with point observation and boundary control. , 2011, , .		7
56	Accelerating Convergence of Sum-of-Square Stability Analysis of Coupled Differential-Difference Equations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 138-143.	0.4	0
57	A parallel-computing solution for optimization of polynomials. , 2010, , .		6
58	A converse sum-of-squares Lyapunov result: An existence proof based on the Picard iteration. , 2010, , .		12
59	Reducing the computational cost of the sum-of-squares stability test for time-delayed systems. , 2010, , .		1
60	A generalized chain rule and a bound on the continuity of solutions and converse Lyapunov functions. , 2009, , .		1
61	New Computational Tools for Modeling Chronic Myelogenous Leukemia. Mathematical Modelling of Natural Phenomena, 2009, 4, 119-139.	0.9	8
62	Analysis of Polynomial Systems With Time Delays via the Sum of Squares Decomposition. IEEE Transactions on Automatic Control, 2009, 54, 1058-1064.	3.6	40
63	Exponentially Stable Nonlinear Systems Have Polynomial Lyapunov Functions on Bounded Regions. IEEE Transactions on Automatic Control, 2009, 54, 979-987.	3.6	56
64	Positive Forms and Stability of Linear Time-Delay Systems. SIAM Journal on Control and Optimization, 2009, 47, 3237-3258.	1.1	78
65	Inverses of Positive Linear Operators and State Feedback Design for Time-Delay Systems*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 278-283.	0.4	6
66	SOS for Nonlinear Delayed Models in Biology and Networking. Lecture Notes in Control and Information Sciences, 2009, , 133-143.	0.6	0
67	SOS Methods for Stability Analysis of Neutral Differential Systems. Lecture Notes in Control and Information Sciences, 2009, , 97-107.	0.6	0
68	Using polynomial semi-separable kernels to construct infinite-dimensional Lyapunov functions. , 2008, , .		2
69	Global Stability Analysis of Primal Internet Congestion Control Schemes with Heterogeneous Delays. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 2913-2918.	0.4	0
70	Positivity of kernel functions for systems with communication delay. , 2007, , .		2
71	Stability analysis of linear systems with time-varying delays: Delay uncertainty and quenching. , 2007, , .		34
72	Global Stability Analysis of a Nonlinear Model of Internet Congestion Control With Delay. IEEE Transactions on Automatic Control, 2007, 52, 553-559.	3.6	16

#	ARTICLE	IF	CITATIONS
73	An extension of the weierstrass approximation theorem to linear varieties: application to delay systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 152-155.	0.4	6
74	Using the Positivstellensatz for Stability Analysis of Neutral Delay Systems in the Frequency Domain. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 156-161.	0.4	1
75	Positive Forms and Stability of Linear Time-Delay Systems. , 2006, , .		27
76	Constructing Lyapunov Functions for nonlinear delay-differential equations using semidefinite programming. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 1235-1239.	0.4	5