

Silviu-Iulian Niculescu

List of Publications by Year in descending order

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127
papers

2,569
citations

279798

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128
docs citations

128
times ranked

1109
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterizing some improperly posed problems in proportional-derivative control. International Journal of Robust and Nonlinear Control, 2022, 32, 9452-9474.	3.7	6
2	Conditions for stabilizability of time-delay systems with real-rooted plant. International Journal of Robust and Nonlinear Control, 2022, 32, 3206-3224.	3.7	21
3	Some remarks on the location of non-asymptotic zeros of Whittaker and Kummer hypergeometric functions. Bulletin Des Sciences Mathematiques, 2022, 174, 103093.	1.0	7
4	PID control design for first-order delay systems via MID pole placement: Performance vs. robustness. Automatica, 2022, 137, 110102.	5.0	20
5	Analysis and Design of Strongly Stabilizing PID Controllers for Time-Delay Systems. SIAM Journal on Control and Optimization, 2022, 60, 124-146.	2.1	7
6	Comparing Advanced Control Strategies to Eliminate Stick-Slip Oscillations in Drillstrings. IEEE Access, 2022, 10, 10949-10969.	4.2	5
7	The generic multiplicity-induced-dominancy property from retarded to neutral delay-differential equations: When delay-systems characteristics meet the zeros of Kummer functions. Comptes Rendus Mathematique, 2022, 360, 349-369.	0.3	15
8	Stabilizing Output-Feedback Control Law for Hyperbolic Systems Using a Fredholm Transformation. IEEE Transactions on Automatic Control, 2022, 67, 6651-6666.	5.7	2
9	Characterizing PID Controllers for Linear Time-Delay Systems: A Parameter-Space Approach. IEEE Transactions on Automatic Control, 2021, 66, 4499-4513.	5.7	16
10	Torsional-vibrations Damping in Drilling Systems: Multiplicity-Induced-Dominancy based design. IFAC-PapersOnLine, 2021, 54, 428-433.	0.9	2
11	Multiplicity-induced-dominancy for delay-differential equations of retarded type. Journal of Differential Equations, 2021, 286, 84-118.	2.2	38
12	Output-feedback control of an underactuated network of interconnected hyperbolic PDE-ODE systems. Systems and Control Letters, 2021, 154, 104984.	2.3	15
13	Effects of Roots of Maximal Multiplicity on the Stability of Some Classes of Delay Differential-Algebraic Systems: The Lossless Propagation Case. IFAC-PapersOnLine, 2021, 54, 764-769.	0.9	7
14	Stability Analysis of Car-Following Systems With Uniformly Distributed Delays Using Frequency-Sweeping Approach. IEEE Access, 2021, 9, 69747-69755.	4.2	3
15	Insights into the multiplicity-induced-dominancy for scalar delay-differential equations with two delays. IFAC-PapersOnLine, 2021, 54, 108-114.	0.9	1
16	Insights on Pole-Placement of Dynamical Systems by PID Control with Guaranteed Delay Robustness. IFAC-PapersOnLine, 2021, 54, 115-120.	0.9	1
17	Active vibration control of axisymmetric membrane through partial pole placement. IFAC-PapersOnLine, 2021, 54, 58-63.	0.9	3
18	Stability, Delays and Multiple Characteristic Roots in Dynamical Systems: A Guided Tour. IFAC-PapersOnLine, 2021, 54, 222-239.	0.9	6

#	ARTICLE	IF	CITATIONS
19	New Features of P3 software: Partial Pole Placement via Delay Action. IFAC-PapersOnLine, 2021, 54, 215-221.	0.9	4
20	Stabilizing Integral Delay Dynamics and Hyperbolic Systems using a Fredholm Transformation. , 2021, , .		2
21	From Obstacle-Based Space Partitioning to Corridors and Path Planning. A Convex Lifting Approach. , 2020, 4, 79-84.		8
22	Stability and Stabilization Through Envelopes for Retarded and Neutral Time-Delay Systems. IEEE Transactions on Automatic Control, 2020, 65, 1640-1646.	5.7	10
23	A Current Sensorless Delay-Based Control Scheme for MPPT-Based Boost Converters in Photovoltaic Systems. IEEE Access, 2020, 8, 174449-174462.	4.2	21
24	Multiplicity-induced-dominancy in parametric second-order delay differential equations: Analysis and application in control design. ESAIM - Control, Optimisation and Calculus of Variations, 2020, 26, 57.	1.3	37
25	Sampled-Data Estimator for Nonlinear Systems with Arbitrarily Fast Rate of Convergence. , 2020, , .		1
26	Low-complexity controller for active vibration damping of thin mechanical structures. , 2020, , 91-106.		1
27	Real spectral values coexistence and their effect on the stability of time-delay systems: Vandermonde matrices and exponential decay. Comptes Rendus Mathematique, 2020, 358, 1011-1032.	0.3	10
28	Spectral dominance of complex roots for single-delay linear equations. IFAC-PapersOnLine, 2020, 53, 4357-4362.	0.9	12
29	Towards an MID-based Delayed Design for Arbitrary-order Dynamical Systems with a Mechanical Application. IFAC-PapersOnLine, 2020, 53, 4375-4380.	0.9	7
30	On qualitative properties of single-delay linear retarded differential equations: Characteristic roots of maximal multiplicity are necessarily dominant. IFAC-PapersOnLine, 2020, 53, 4345-4350.	0.9	8
31	Partial Pole Placement via Delay Action: A Python Software for Delayed Feedback Stabilizing Design. , 2020, , .		5
32	Navigation in cluttered environments with feasibility guarantees. IFAC-PapersOnLine, 2020, 53, 5487-5492.	0.9	2
33	Some Remarks on the Regular Splitting of Quasi-Polynomials with Two Delays. Characterization of Double Roots in Degenerate Cases. IFAC-PapersOnLine, 2020, 53, 4386-4391.	0.9	0
34	A Review on Multiple Purely Imaginary Spectral Values of Time-Delay Systems. Advances in Delays and Dynamics, 2020, , 239-258.	0.4	0
35	Some insights on rightmost spectral values assignment for time delay systems. IFAC-PapersOnLine, 2020, 53, 4381-4385.	0.9	0
36	Multiplicity-Induced-Dominancy Extended to Neutral Delay Equations: Towards a Systematic PID Tuning Based on Rightmost Root Assignment. , 2020, , .		9

#	ARTICLE	IF	CITATIONS
37	Analysis of the Delayed Central Nervous System Action in the Regulation of a Third-order Muscle-Tendon Model. , 2020, , .		0
38	PID-Design-Delay: A MATLAB Toolbox for Stability Parameter-Space Characterization. , 2020, , .		1
39	An iterative frequency-sweeping approach for stability analysis of linear systems with multiple delays. IMA Journal of Mathematical Control and Information, 2019, 36, 379-398.	1.7	5
40	Reversals in stability of linear time-delay systems: A finer characterization. Automatica, 2019, 108, 108479.	5.0	4
41	Low Complexity Controllers for Vibrations Damping in Drilling Systems. , 2019, , .		2
42	Parametrized Hyperplane Arrangements for Control Design with Collision Avoidance Constraints. , 2019, , .		1
43	Complexity Bounds for Obstacle Avoidance within a Zonotopic Framework. , 2019, , .		7
44	On Pole Placement and Spectral Abscissa Characterization for Time-delay Systems. IFAC-PapersOnLine, 2019, 52, 55-60.	0.9	3
45	Practical Guidelines for Tuning PD and PI Delay-Based Controllers. IFAC-PapersOnLine, 2019, 52, 61-66.	0.9	6
46	Damping oscillation of suspended payload by up and down motion of the pivot base - time delay algorithms for UAV applications. IFAC-PapersOnLine, 2019, 52, 121-126.	0.9	6
47	Active Vibration Control Through Quasi-Polynomial Based Controller. IFAC-PapersOnLine, 2019, 52, 49-54.	0.9	3
48	Stability analysis for a class of distributed delay systems with constant coefficients by using a frequency-sweeping approach. IET Control Theory and Applications, 2019, 13, 87-95.	2.1	3
49	Explicit bounds for guaranteed stabilization by PID control of second-order unstable delay systems. Automatica, 2019, 100, 407-411.	5.0	33
50	Flatness-based longitudinal vehicle control with embedded torque constraint. IMA Journal of Mathematical Control and Information, 2019, 36, 729-744.	1.7	3
51	Stability Analysis of a More General Class of Systems With Delay-Dependent Coefficients. IEEE Transactions on Automatic Control, 2019, 64, 1989-1998.	5.7	12
52	Stability Analysis of Uniformly Distributed Delay Systems: A Frequency-Sweeping Approach. Advances in Delays and Dynamics, 2019, , 117-130.	0.4	3
53	Navigation in a multi-obstacle environment. From partition of the space to a zonotopic-based MPC. , 2019, , .		4
54	Further remarks on the effect of multiple spectral values on the dynamics of time-delay systems. Application to the control of a mechanical system. Linear Algebra and Its Applications, 2018, 542, 589-604.	0.9	44

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55	Some insights into the migration of double imaginary roots under small deviation of two parameters. Automatica, 2018, 88, 91-97.	5.0	7
56	Comparative Study and Application-Oriented Classification of Vehicular Map-Matching Methods. IEEE Intelligent Transportation Systems Magazine, 2018, 10, 150-166.	3.8	47
57	Controllability and Observability Gramians as Information Metrics for Optimal Design of Networked Control Systems. Mechanical Engineering, 2018, 140, S8-S15.	0.1	1
58	On the Dominancy of Multiple Spectral Values for Time-delay Systems with Applications. IFAC-PapersOnLine, 2018, 51, 55-60.	0.9	27
59	Lower Bounds on Delay Margin of Second-Order Unstable Systems. IFAC-PapersOnLine, 2018, 51, 242-247.	0.9	0
60	Stability and Robust Stabilisation Through Envelopes for Retarded Time-Delay Systems. IFAC-PapersOnLine, 2018, 51, 1-6.	0.9	1
61	Modeling and Control of an Interactive Tilt-rotor MAV for In-contact Cracks-sensing Operations. IFAC-PapersOnLine, 2018, 51, 318-323.	0.9	1
62	New insights in stability analysis of delayed Lotka-Volterra systems. Journal of the Franklin Institute, 2018, 355, 8683-8697.	3.4	5
63	Stability Analysis of Systems With Delay-Dependent Coefficients: An Overview. IEEE Access, 2018, 6, 27392-27407.	4.2	17
64	Stability and Control Design for Time-Varying Systems with Time-Varying Delays using a Trajectory-Based Approach. SIAM Journal on Control and Optimization, 2017, 55, 533-556.	2.1	32
65	Robust Mpc for Actuator Fault Tolerance Using Set-Based Passive Fault Detection and Active Fault Isolation. International Journal of Applied Mathematics and Computer Science, 2017, 27, 43-61.	1.5	19
66	Stability Analysis of Polynomially Dependent Systems by Eigenvalue Perturbation. IEEE Transactions on Automatic Control, 2017, 62, 5915-5922.	5.7	9
67	A Frequency-Sweeping Framework for Stability Analysis of Time-Delay Systems. IEEE Transactions on Automatic Control, 2017, 62, 3701-3716.	5.7	44
68	On the Coalescence of Spectral Values and its Effect on the Stability of Time-delay Systems: Application to Active Vibration Control. Procedia IUTAM, 2017, 22, 75-82.	1.2	19
69	A Renewed Look at Zeros of Sampled-Data Systems From the Lifting Viewpoint. IFAC-PapersOnLine, 2017, 50, 3668-3673.	0.9	2
70	An Explicit Formula for the Splitting of Multiple Eigenvalues for Nonlinear Eigenvalue Problems and Connections with the Linearization for the Delay Eigenvalue Problem. SIAM Journal on Matrix Analysis and Applications, 2017, 38, 599-620.	1.4	25
71	Time-Delay Algorithms for Damping Oscillations of Suspended Payload by Adjusting the Cable Length. IEEE/ASME Transactions on Mechatronics, 2017, 22, 2319-2329.	5.8	33
72	Stability analysis of systems with delay-dependant coefficients: A two-parameter approach. , 2017, , .		4

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73	Analysis of PWA control of discrete-time linear dynamics in the presence of variable input delay. IFAC Journal of Systems and Control, 2017, 1, 24-36.	1.7	2
74	Sensor fault tolerance using robust MPC with set-based state estimation and active fault isolation. International Journal of Robust and Nonlinear Control, 2017, 27, 1260-1283.	3.7	28
75	A Delay-Based Sustained Chemical Oscillator: Qualitative Analysis of Oregonator-Based Models. IEEE Life Sciences Letters, 2017, 3, 9-12.	1.2	2
76	Geometric vs. algebraic approach: A study of double imaginary characteristic roots in time-delay systems. IFAC-PapersOnLine, 2017, 50, 1310-1315.	0.9	1
77	Model Predictive Direct Power Control of Doubly Fed Induction Generator with Dead-Time Compensation. IFAC-PapersOnLine, 2017, 50, 8752-8757.	0.9	4
78	Linear Model Predictive Control and Time-delay Implications * *The research leading to these results has benefited from the financial support of the European Union's 7th Framework Programme under EC-GA No. 607957 TEMPO - Training in Embedded Predictive Control and Optimization.. IFAC-PapersOnLine, 2017, 50, 14406-14411.	0.9	8
79	Stability and instability intervals of polynomially dependent systems: An matrix pencil analysis. , 2017, , .		0
80	An overview of stability analysis of systems with delay dependent coefficients. , 2017, , .		3
81	Constrained networked control systems stabilization: A \mathbb{D} -contractive set based approach. , 2017, , .		0
82	A delayed feedback controller for active vibration control: A rightmost-characteristic root assignment based approach. , 2017, , .		1
83	Observer with small gains in the presence of a long delay in the measurements. , 2017, , .		3
84	Migration of imaginary roots of multiplicity three and four under small deviation of two delays in time-delay systems. , 2016, , .		3
85	Towards more general stability analysis of systems with delay-dependent coefficients. , 2016, , .		7
86	Analysis of PWA control of discrete-time linear dynamics in the presence of variable time-delay. , 2016, , .		4
87	About prediction of vehicle energy consumption for eco-routing. , 2016, , .		9
88	Guide on set invariance for delay difference equations. Annual Reviews in Control, 2016, 41, 13-23.	7.9	22
89	A bilevel optimization approach for \mathbb{D} -invariant set design**The research leading to these results has benefited from the financial support of the European Union's 7th Framework Programme under EC-GA No. 607957 TEMPO - Training in Embedded Model Predictive Control and Optimization. IFAC-PapersOnLine, 2016, 49, 235-240.	0.9	2
90	Complete stability for constant-coefficient distributed delay systems: A unified frequency-sweeping approach. , 2016, , .		1

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91	A control oriented guided tour in oilwell drilling vibration modeling. Annual Reviews in Control, 2016, 42, 100-113.	7.9	56
92	Further remarks on delay dynamics in Oregonator models. , 2016, , .		2
93	Tracking sustained oscillations in delay model oregonators. , 2016, , .		0
94	A transparent bilateral control scheme for a local teleoperation system using proportional-delayed controllers. , 2016, , .		3
95	Complete stability of linear fractional order time delay systems: A unified frequency-sweeping approach. , 2016, , .		1
96	Model predictive power control based on virtual flux for grid connected three-level neutral-point clamped inverter. , 2016, , .		4
97	Fault tolerant control design for a class of multi-sensor networked control systems. International Journal of Adaptive Control and Signal Processing, 2016, 30, 412-426.	4.1	6
98	Characterizing the Codimension of Zero Singularities for Time-Delay Systems. Acta Applicandae Mathematicae, 2016, 145, 47-88.	1.0	49
99	Tracking the Algebraic Multiplicity of Crossing Imaginary Roots for Generic Quasipolynomials: A Vandermonde-Based Approach. IEEE Transactions on Automatic Control, 2016, 61, 1601-1606.	5.7	49
100	Mixed-Integer Representations in Control Design. Springer Briefs in Electrical and Computer Engineering, 2016, , .	0.5	9
101	Sampling decomposition and asymptotic zeros behaviour of sampled-data SISO systems. An eigenvalue-based approach. IMA Journal of Mathematical Control and Information, 2016, 33, 1177-1197.	1.7	2
102	On the Codimension of the Singularity at the Origin for Networked Delay Systems. Advances in Delays and Dynamics, 2016, , 3-15.	0.4	1
103	Stability Analysis of a Constant Time-Headway Driving Strategy with Driver Memory Effects Modeled by Distributed Delays. IFAC-PapersOnLine, 2015, 48, 376-381.	0.9	9
104	Stability analysis for systems with time-varying delay: Trajectory based approach. , 2015, , .		20
105	Analytic Curve Frequency-Sweeping Stability Tests for Systems with Commensurate Delays. Springer Briefs in Electrical and Computer Engineering, 2015, , .	0.5	23
106	Migration of double imaginary characteristic roots under small deviation of two delay parameters. , 2015, , .		9
107	Inverted pendulum stabilization: Characterization of codimension-three triple zero bifurcation via multiple delayed proportional gains. Systems and Control Letters, 2015, 82, 1-9.	2.3	33
108	Analysis and Control of Oilwell Drilling Vibrations. Advances in Industrial Control, 2015, , .	0.5	34

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109	Asymptotic stabilization of linear time-varying systems with input delays via delayed static output feedback. , 2015, , .		7
110	Computing the codimension of the singularity at the origin for delay systems in the regular case: A vandermonde-based approach. , 2014, , .		7
111	Invariance properties for a class of quasipolynomials. Automatica, 2014, 50, 890-895.	5.0	11
112	Output feedback stabilisation of single-input single-output linear systems with I/O network-induced delays. An eigenvalue-based approach. International Journal of Control, 2014, 87, 346-362.	1.9	8
113	Inverted Pendulum Stabilization Via a Pyragas-Type Controller: Revisiting the Triple Zero Singularity. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6806-6811.	0.4	0
114	On Computing Puiseux Series for Multiple Imaginary Characteristic Roots of LTI Systems With Commensurate Delays. IEEE Transactions on Automatic Control, 2013, 58, 1338-1343.	5.7	40
115	Stability crossing boundaries and fragility characterization of PID controllers for SISO systems with I/O delays. , 2011, , .		13
116	An Eigenvalue Perturbation Approach to Stability Analysis, Part II: When Will Zeros of Time-Delay Systems Cross Imaginary Axis?. SIAM Journal on Control and Optimization, 2010, 48, 5583-5605.	2.1	48
117	An Eigenvalue Perturbation Approach to Stability Analysis, Part I: Eigenvalue Series of Matrix Operators. SIAM Journal on Control and Optimization, 2010, 48, 5564-5582.	2.1	51
118	Delay Effects on Output Feedback Control of Dynamical Systems. Understanding Complex Systems, 2009, , 63-84.	0.6	11
119	Consensus Problems with Distributed Delays, with Application to Traffic Flow Models. SIAM Journal on Control and Optimization, 2009, 48, 77-101.	2.1	103
120	On the Fragility of PI Controllers for Time-Delay SISO Systems. , 2008, , .		20
121	Stability of Traffic Flow Behavior with Distributed Delays Modeling the Memory Effects of the Drivers. SIAM Journal on Applied Mathematics, 2008, 68, 738-759.	1.8	144
122	Stability Crossing Curves of Shifted Gamma-Distributed Delay Systems. SIAM Journal on Applied Dynamical Systems, 2007, 6, 475-493.	1.6	42
123	On the geometry of stability regions of Smith predictors subject to delay uncertainty. IMA Journal of Mathematical Control and Information, 2006, 24, 411-423.	1.7	14
124	Some Remarks on Control Strategies for Continuous Gradient Play Dynamics. , 2006, , .		6
125	On stability crossing curves for general systems with two delays. Journal of Mathematical Analysis and Applications, 2005, 311, 231-253.	1.0	293
126	On delay robustness analysis of a simple control algorithm in high-speed networks. Automatica, 2002, 38, 885-889.	5.0	55

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127	Event-driven model-free control in motion control with comparisons. IMA Journal of Mathematical Control and Information, 0, , dnw023.	1.7	8