

Silviu-Iulian Niculescu

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4044786/publications.pdf>

Version: 2024-02-01

127
papers

2,569
citations

279798

23
h-index

276875

41
g-index

128
all docs

128
docs citations

128
times ranked

1109
citing authors

#	ARTICLE	IF	CITATIONS
1	On stability crossing curves for general systems with two delays. <i>Journal of Mathematical Analysis and Applications</i> , 2005, 311, 231-253.	1.0	293
2	Stability of Traffic Flow Behavior with Distributed Delays Modeling the Memory Effects of the Drivers. <i>SIAM Journal on Applied Mathematics</i> , 2008, 68, 738-759.	1.8	144
3	Consensus Problems with Distributed Delays, with Application to Traffic Flow Models. <i>SIAM Journal on Control and Optimization</i> , 2009, 48, 77-101.	2.1	103
4	A control oriented guided tour in oilwell drilling vibration modeling. <i>Annual Reviews in Control</i> , 2016, 42, 100-113.	7.9	56
5	On delay robustness analysis of a simple control algorithm in high-speed networks. <i>Automatica</i> , 2002, 38, 885-889.	5.0	55
6	An Eigenvalue Perturbation Approach to Stability Analysis, Part I: Eigenvalue Series of Matrix Operators. <i>SIAM Journal on Control and Optimization</i> , 2010, 48, 5564-5582.	2.1	51
7	Characterizing the Codimension of Zero Singularities for Time-Delay Systems. <i>Acta Applicandae Mathematicae</i> , 2016, 145, 47-88.	1.0	49
8	Tracking the Algebraic Multiplicity of Crossing Imaginary Roots for Generic Quasipolynomials: A Vandermonde-Based Approach. <i>IEEE Transactions on Automatic Control</i> , 2016, 61, 1601-1606.	5.7	49
9	An Eigenvalue Perturbation Approach to Stability Analysis, Part II: When Will Zeros of Time-Delay Systems Cross Imaginary Axis?. <i>SIAM Journal on Control and Optimization</i> , 2010, 48, 5583-5605.	2.1	48
10	Comparative Study and Application-Oriented Classification of Vehicular Map-Matching Methods. <i>IEEE Intelligent Transportation Systems Magazine</i> , 2018, 10, 150-166.	3.8	47
11	A Frequency-Sweeping Framework for Stability Analysis of Time-Delay Systems. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 3701-3716.	5.7	44
12	Further remarks on the effect of multiple spectral values on the dynamics of time-delay systems. Application to the control of a mechanical system. <i>Linear Algebra and Its Applications</i> , 2018, 542, 589-604.	0.9	44
13	Stability Crossing Curves of Shifted Gamma-Distributed Delay Systems. <i>SIAM Journal on Applied Dynamical Systems</i> , 2007, 6, 475-493.	1.6	42
14	On Computing Puiseux Series for Multiple Imaginary Characteristic Roots of LTI Systems With Commensurate Delays. <i>IEEE Transactions on Automatic Control</i> , 2013, 58, 1338-1343.	5.7	40
15	Multiplicity-induced-dominancy for delay-differential equations of retarded type. <i>Journal of Differential Equations</i> , 2021, 286, 84-118.	2.2	38
16	Multiplicity-induced-dominancy in parametric second-order delay differential equations: Analysis and application in control design. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2020, 26, 57.	1.3	37
17	Analysis and Control of Oilwell Drilling Vibrations. <i>Advances in Industrial Control</i> , 2015, , .	0.5	34
18	Inverted pendulum stabilization: Characterization of codimension-three triple zero bifurcation via multiple delayed proportional gains. <i>Systems and Control Letters</i> , 2015, 82, 1-9.	2.3	33

#	ARTICLE	IF	CITATIONS
19	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
20	Explicit bounds for guaranteed stabilization by PID control of second-order unstable delay systems. Automatica, 2019, 100, 407-411.	5.0	33
21	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
22	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
23	On the Dominancy of Multiple Spectral Values for Time-delay Systems with Applications. IFAC-PapersOnLine, 2018, 51, 55-60.	0.9	27
24	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
25	Analytic Curve Frequency-Sweeping Stability Tests for Systems with Commensurate Delays. Springer Briefs in Electrical and Computer Engineering, 2015, , .	0.5	23
26	Guide on set invariance for delay difference equations. Annual Reviews in Control, 2016, 41, 13-23.	7.9	22
27	A Current Sensorless Delay-Based Control Scheme for MPPT-Boost Converters in Photovoltaic Systems. IEEE Access, 2020, 8, 174449-174462.	4.2	21
28	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
29	On the Fragility of PI Controllers for Time-Delay SISO Systems. , 2008, , .		20
30	Stability analysis for systems with time-varying delay: Trajectory based approach. , 2015, , .		20
31	PID control design for first-order delay systems via MID pole placement: Performance vs. robustness. Automatica, 2022, 137, 110102.	5.0	20
32	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
33	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
34	Stability Analysis of Systems With Delay-Dependent Coefficients: An Overview. IEEE Access, 2018, 6, 27392-27407.	4.2	17
35	Characterizing PID Controllers for Linear Time-Delay Systems: A Parameter-Space Approach. IEEE Transactions on Automatic Control, 2021, 66, 4499-4513.	5.7	16
36	Output-feedback control of an underactuated network of interconnected hyperbolic PDE-ODE systems. Systems and Control Letters, 2021, 154, 104984.	2.3	15

#	ARTICLE	IF	CITATIONS
37	The generic multiplicity-induced-dominancy property from retarded to neutral delay-differential equations: When delay-systems characteristics meet the zeros of Kummer functions. <i>Comptes Rendus Mathematique</i> , 2022, 360, 349-369.	0.3	15
38	On the geometry of stability regions of Smith predictors subject to delay uncertainty. <i>IMA Journal of Mathematical Control and Information</i> , 2006, 24, 411-423.	1.7	14
39	Stability crossing boundaries and fragility characterization of PID controllers for SISO systems with I/O delays. , 2011, , .		13
40	Stability Analysis of a More General Class of Systems With Delay-Dependent Coefficients. <i>IEEE Transactions on Automatic Control</i> , 2019, 64, 1989-1998.	5.7	12
41	Spectral dominance of complex roots for single-delay linear equations. <i>IFAC-PapersOnLine</i> , 2020, 53, 4357-4362.	0.9	12
42	Delay Effects on Output Feedback Control of Dynamical Systems. <i>Understanding Complex Systems</i> , 2009, , 63-84.	0.6	11
43	Invariance properties for a class of quasipolynomials. <i>Automatica</i> , 2014, 50, 890-895.	5.0	11
44	Stability and Stabilization Through Envelopes for Retarded and Neutral Time-Delay Systems. <i>IEEE Transactions on Automatic Control</i> , 2020, 65, 1640-1646.	5.7	10
45	Real spectral values coexistence and their effect on the stability of time-delay systems: Vandermonde matrices and exponential decay. <i>Comptes Rendus Mathematique</i> , 2020, 358, 1011-1032.	0.3	10
46	Stability Analysis of a Constant Time-Headway Driving Strategy with Driver Memory Effects Modeled by Distributed Delays. <i>IFAC-PapersOnLine</i> , 2015, 48, 376-381.	0.9	9
47	Migration of double imaginary characteristic roots under small deviation of two delay parameters. , 2015, , .		9
48	About prediction of vehicle energy consumption for eco-routing. , 2016, , .		9
49	Mixed-Integer Representations in Control Design. <i>Springer Briefs in Electrical and Computer Engineering</i> , 2016, , .	0.5	9
50	Stability Analysis of Polynomially Dependent Systems by Eigenvalue Perturbation. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 5915-5922.	5.7	9
51	Multiplicity-Induced-Dominancy Extended to Neutral Delay Equations: Towards a Systematic PID Tuning Based on Rightmost Root Assignment. , 2020, , .		9
52	Output feedback stabilisation of single-input single-output linear systems with I/O network-induced delays. An eigenvalue-based approach. <i>International Journal of Control</i> , 2014, 87, 346-362.	1.9	8
53	Event-driven model-free control in motion control with comparisons. <i>IMA Journal of Mathematical Control and Information</i> , 0, , dnw023.	1.7	8
54	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.. <i>IFAC-PapersOnLine</i> , 2017, 50, 14406-14411.	0.9	8

#	ARTICLE	IF	CITATIONS
55	From Obstacle-Based Space Partitioning to Corridors and Path Planning. A Convex Lifting Approach. , 2020, 4, 79-84.		8
56	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
57	Computing the codimension of the singularity at the origin for delay systems in the regular case: A vandermonde-based approach. , 2014, , .		7
58	Asymptotic stabilization of linear time-varying systems with input delays via delayed static output feedback. , 2015, , .		7
59	Towards more general stability analysis of systems with delay-dependent coefficients. , 2016, , .		7
60	Some insights into the migration of double imaginary roots under small deviation of two parameters. Automatica, 2018, 88, 91-97.	5.0	7
61	Complexity Bounds for Obstacle Avoidance within a Zonotopic Framework. , 2019, , .		7
62	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
63	Towards an MID-based Delayed Design for Arbitrary-order Dynamical Systems with a Mechanical Application. IFAC-PapersOnLine, 2020, 53, 4375-4380.	0.9	7
64	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
65	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
66	Some Remarks on Control Strategies for Continuous Gradient Play Dynamics. , 2006, , .		6
67	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
68	Practical Guidelines for Tuning PD and PI Delay-Based Controllers. IFAC-PapersOnLine, 2019, 52, 61-66.	0.9	6
69	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
70	Characterizing some improperly posed problems in proportional-derivative control. International Journal of Robust and Nonlinear Control, 2022, 32, 9452-9474.	3.7	6
71	Stability, Delays and Multiple Characteristic Roots in Dynamical Systems: A Guided Tour. IFAC-PapersOnLine, 2021, 54, 222-239.	0.9	6
72	New insights in stability analysis of delayed Lotka-Volterra systems. Journal of the Franklin Institute, 2018, 355, 8683-8697.	3.4	5

#	ARTICLE	IF	CITATIONS
73	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
74	Partial Pole Placement via Delay Action: A Python Software for Delayed Feedback Stabilizing Design. , 2020, , .		5
75	Comparing Advanced Control Strategies to Eliminate Stick-Slip Oscillations in Drillstrings. IEEE Access, 2022, 10, 10949-10969.	4.2	5
76	Analysis of PWA control of discrete-time linear dynamics in the presence of variable time-delay. , 2016, , .		4
77	Model predictive power control based on virtual flux for grid connected three-level neutral-point clamped inverter. , 2016, , .		4
78	Stability analysis of systems with delay-dependant coefficients: A two-parameter approach. , 2017, , .		4
79	Model Predictive Direct Power Control of Doubly Fed Induction Generator with Dead-Time Compensation. IFAC-PapersOnLine, 2017, 50, 8752-8757.	0.9	4
80	Reversals in stability of linear time-delay systems: A finer characterization. Automatica, 2019, 108, 108479.	5.0	4
81	Navigation in a multi-obstacle environment. From partition of the space to a zonotopic-based MPC. , 2019, , .		4
82	New Features of P3Î software: Partial Pole Placement via Delay Action. IFAC-PapersOnLine, 2021, 54, 215-221.	0.9	4
83	Migration of imaginary roots of multiplicity three and four under small deviation of two delays in time-delay systems. , 2016, , .		3
84	A transparent bilateral control scheme for a local teleoperation system using proportional-delayed controllers. , 2016, , .		3
85	An overview of stability analysis of systems with delay dependent coefficients. , 2017, , .		3
86	Observer with small gains in the presence of a long delay in the measurements. , 2017, , .		3
87	On Pole Placement and Spectral Abscissa Characterization for Time-delay Systems. IFAC-PapersOnLine, 2019, 52, 55-60.	0.9	3
88	Active Vibration Control Through Quasi-Polynomial Based Controller. IFAC-PapersOnLine, 2019, 52, 49-54.	0.9	3
89	Stability analysis for a class of distributed delay systems with constant coefficients by using a frequencyâ€sweeping approach. IET Control Theory and Applications, 2019, 13, 87-95.	2.1	3
90	Flatness-based longitudinal vehicle control with embedded torque constraint. IMA Journal of Mathematical Control and Information, 2019, 36, 729-744.	1.7	3

#	ARTICLE	IF	CITATIONS
91	Stability Analysis of Car-Following Systems With Uniformly Distributed Delays Using Frequency-Sweeping Approach. IEEE Access, 2021, 9, 69747-69755.	4.2	3
92	Stability Analysis of Uniformly Distributed Delay Systems: A Frequency-Sweeping Approach. Advances in Delays and Dynamics, 2019, , 117-130.	0.4	3
93	Active vibration control of axisymmetric membrane through partial pole placement. IFAC-PapersOnLine, 2021, 54, 58-63.	0.9	3
94	A bilevel optimization approach for D-invariant set design**The research leading to these results has benefited from the financial support of the European Unionâ€™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
95	Further remarks on delay dynamics in Oregonator models. , 2016, , .		2
96	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
97	A Renewed Look at Zeros of Sampled-Data Systemsâ€™From the Lifting Viewpoint. IFAC-PapersOnLine, 2017, 50, 3668-3673.	0.9	2
98	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
99	A Delay-Based Sustained Chemical Oscillator: Qualitative Analysis of Oregonator-Based Models. IEEE Life Sciences Letters, 2017, 3, 9-12.	1.2	2
100	Low Complexity Controllers for Vibrations Damping in Drilling Systems. , 2019, , .		2
101	Torsional-vibrations Damping in Drilling Systems: Multiplicity-Induced-Dominancy based design. IFAC-PapersOnLine, 2021, 54, 428-433.	0.9	2
102	Navigation in cluttered environments with feasibility guarantees. IFAC-PapersOnLine, 2020, 53, 5487-5492.	0.9	2
103	Stabilizing Integral Delay Dynamics and Hyperbolic Systems using a Fredholm Transformation. , 2021, , .		2
104	Stabilizing Output-Feedback Control Law for Hyperbolic Systems Using a Fredholm Transformation. IEEE Transactions on Automatic Control, 2022, 67, 6651-6666.	5.7	2
105	Complete stability for constant-coefficient distributed delay systems: A unified frequency-sweeping approach. , 2016, , .		1
106	Complete stability of linear fractional order time delay systems: A unified frequency-sweeping approach. , 2016, , .		1
107	Geometric vs. algebraic approach: A study of double imaginary characteristic roots in time-delay systems. IFAC-PapersOnLine, 2017, 50, 1310-1315.	0.9	1
108	A delayed feedback controller for active vibration control: A rightmost-characteristic root assignment based approach. , 2017, , .		1

#	ARTICLE	IF	CITATIONS
109	Controllability and Observability Gramians as Information Metrics for Optimal Design of Networked Control Systems. Mechanical Engineering, 2018, 140, S8-S15.	0.1	1
110	Stability and Robust Stabilisation Through Envelopes for Retarded Time-Delay Systems. IFAC-PapersOnLine, 2018, 51, 1-6.	0.9	1
111	Modeling and Control of an Interactive Tilt-rotor MAV for In-contact Cracks-sensing Operations. IFAC-PapersOnLine, 2018, 51, 318-323.	0.9	1
112	Parametrized Hyperplane Arrangements for Control Design with Collision Avoidance Constraints. , 2019, , .		1
113	Sampled-Data Estimator for Nonlinear Systems with Arbitrarily Fast Rate of Convergence. , 2020, , .		1
114	Low-complexity controller for active vibration damping of thin mechanical structures. , 2020, , 91-106.		1
115	On the Codimension of the Singularity at the Origin for Networked Delay Systems. Advances in Delays and Dynamics, 2016, , 3-15.	0.4	1
116	Insights into the multiplicity-induced-dominancy for scalar delay-differential equations with two delays. IFAC-PapersOnLine, 2021, 54, 108-114.	0.9	1
117	Insights on Pole-Placement of Dynamical Systems by PID Control with Guaranteed Delay Robustness. IFAC-PapersOnLine, 2021, 54, 115-120.	0.9	1
118	PID-Design-Delay: A MATLAB Toolbox for Stability Parameter-Space Characterization. , 2020, , .		1
119	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
120	Tracking sustained oscillations in delay model oregonators. , 2016, , .		0
121	Stability and instability intervals of polynomially dependent systems: An matrix pencil analysis. , 2017, , .		0
122	Constrained networked control systems stabilization: A \mathbb{H}_∞ -D-contractive set based approach. , 2017, , .		0
123	Lower Bounds on Delay Margin of Second-Order Unstable Systems. IFAC-PapersOnLine, 2018, 51, 242-247.	0.9	0
124	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
125	A Review on Multiple Purely Imaginary Spectral Values of Time-Delay Systems. Advances in Delays and Dynamics, 2020, , 239-258.	0.4	0
126	Some insights on rightmost spectral values assignment for time delay systems. IFAC-PapersOnLine, 2020, 53, 4381-4385.	0.9	0

#	ARTICLE	IF	CITATIONS
127	Analysis of the Delayed Central Nervous System Action in the Regulation of a Third-order Muscle-Tendon Model. , 2020, , .		0