Rifat Sipahi

List of Publications by Year
in descending order

142 papers	3,443 citations

201385

27 h-index

149479

56 g-index

144 all docs	144 docs citations	144 times ranked	1401 citing authors

#	Article	IF	Citations
1	An exact method for the stability analysis of time-delayed linear time-invariant (LTI) systems. IEEE Transactions on Automatic Control, 2002, 47, 793-797.	3.6	561
2	Stability and Stabilization of Systems with Time Delay. IEEE Control Systems, 2011, 31, 38-65.	1.0	489
3	Complete stability robustness of third-order LTI multiple time-delay systems. Automatica, 2005, 41, 1413-1422.	3.0	179
4	Stability of Traffic Flow Behavior with Distributed Delays Modeling the Memory Effects of the Drivers. SIAM Journal on Applied Mathematics, 2008, 68, 738-759.	0.8	144
5	Stability Robustness Analysis of Multiple Time- Delayed Systems Using â€œBuilding Blockâ€•Concept. IEEE Transactions on Automatic Control, 2007, 52, 799-810.	3.6	134
6	Design of Proportional-Integral-Retarded (PIR) Controllers for Second-Order LTI Systems. IEEE Transactions on Automatic Control, 2016, 61, 1688-1693.	3.6	115
7	A practical method for analyzing the stability of neutral type LTI-time delayed systems. Automatica, 2004, 40, 847-853.	3.0	107
8	A unique methodology for the stability robustness of multiple time delay systems. Systems and Control Letters, 2006, 55, 819-825.	1.3	102
9	Dynamics and Stability of Variable-pitch Milling. JVC/Journal of Vibration and Control, 2007, 13, 1031-1043.	1.5	75
10	Delay-Independent Stability Test for Systems With Multiple Time-Delays. IEEE Transactions on Automatic Control, 2012, 57, 963-972.	3.6	69
11	â€œDelay Schedulingâ€• A New Concept for Stabilization in Multiple Delay Systems. JVC/Journal of Vibration and Control, 2005, 11, 1159-1172.	1.5	62
12	A Unique Methodology for Chatter Stability Mapping in Simultaneous Machining. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2005, 127, 791-800.	1.3	59
13	Consensus Control Under Communication Delay in a Three-Robot System: Design and Experiments. IEEE Transactions on Control Systems Technology, 2016, 24, 687-694.	3.2	52
14	The Cluster Treatment of Characteristic Roots and the Neutral Type Time-Delayed Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2005, 127, 88-97.	0.9	49
15	Advanced Clustering With Frequency Sweeping Methodology for the Stability Analysis of Multiple Time-Delay Systems. IEEE Transactions on Automatic Control, 2011, 56, 467-472.	3.6	49
16	Stability Robustness of Retarded LTI Systems with Single Delay and Exhaustive Determination of Their Imaginary Spectra. SIAM Journal on Control and Optimization, 2006, 45, 1680-1696.	1.1	46
17	An Improved Procedure in Detecting the Stability Robustness of Systems With Uncertain Delay. IEEE Transactions on Automatic Control, 2006, 51, 1164-1165.	3.6	45
18	An Analytical Approach to Tuning of Delay-Based Controllers for LTI-SISO Systems. SIAM Journal on Control and Optimization, 2017, 55, 397-412.	1.1	45

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19	Degenerate Cases in Using the Direct Method. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2003, 125, 194-201.	0.9	44
20	Active Vibration Suppression With Time Delayed Feedback. Journal of Vibration and Acoustics, Transactions of the ASME, 2003, 125, 384-388.	1.0	42
21	Stability of inventory dynamics in supply chains with three delays. International Journal of Production Economics, 2010, 123, 107-117.	5.1	37
22	Responsible eigenvalue concept for the stability of a class of single-delay consensus dynamics with fixed topology. IET Control Theory and Applications, 2011, 5, 622-629.	1.2	36
23	'Delay scheduling', an unconventional use of time delay for trajectory tracking. Mechatronics, 2007, 17, 199-206.	2.0	35
24	Extraction of 3D stability switching hypersurfaces of a time delay system with multiple fixed delays. Automatica, 2009, 45, 1449-1454.	3.0	35
25	A New Perspective in the Stability Assessment of Neutral Systems with Multiple and Cross-Talking Delays. SIAM Journal on Control and Optimization, 2008, 47, 327-344.	1.1	34
26	Media coverage and firearm acquisition in the aftermath of a mass shooting. Nature Human Behaviour, 2019, 3, 913-921.	6.2	34
27	Multiple Intentional Delays Can Facilitate Fast Consensus and Noise Reduction in a Multiagent System. IEEE Transactions on Cybernetics, 2019, 49, 1224-1235.	6.2	30
28	Stability limit of human-in-the-loop model reference adaptive control architectures. International Journal of Control, 2018, 91, 2314-2331.	1.2	29
29	Stability of car following with human memory effects and automatic headway compensation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4563-4583.	1.6	26
30	Controller design for delay-independent stability of linear time-invariant vibration systems with multiple delays. Journal of Sound and Vibration, 2013, 332, 3589-3604.	2.1	26
31	Complete Stability Analysis of Neutral-Type First Order Two-Time-Delay Systems with Cross-Talking Delays. SIAM Journal on Control and Optimization, 2006, 45, 957-971.	1.1	25
32	On Stability Problems of Supply Networks Constrained With Transport Delay. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2009, 131, .	0.9	24
33	A Linear Time-Invariant Consensus Dynamics with Homogeneous Delays: Analytical Study and Synthesis of Rightmost Eigenvalues. SIAM Journal on Control and Optimization, 2013, 51, 3971-3992.	1.1	24
34	Single-Delay and Multiple-Delay Proportional-Retarded (PR) Protocols for Fast Consensus in a Large-Scale Network. IEEE Transactions on Automatic Control, 2019, 64, 2142-2149.	3.6	23
35	Delay-dependent coupling for a multi-agent LTI consensus system with inter-agent delays. Physica D: Nonlinear Phenomena, 2014, 267, 112-122.	1.3	21
36	Delay-margin design for the general class of single-delay retarded-type LTI systems. International Journal of Dynamics and Control, 2014, 2, 198-209.	1.5	17

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37	Rules and limitations of building delay-tolerant topologies for coupled systems. Physical Review E, 2012, 85, 016104.	0.8	16
38	A COMPARATIVE SURVEY IN DETERMINING THE IMAGINARY CHARACTERISTIC ROOTS OF LTI TIME DELAYED SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 390-399.	0.4	15
39	Stochastic cellular automata model of neurosphere growth: Roles of proliferative potential, contact inhibition, cell death, and phagocytosis. Journal of Theoretical Biology, 2018, 445, 151-165.	0.8	14
40	An approach to compute and design the delay margin of a large‐scale matrix delay equation. International Journal of Robust and Nonlinear Control, 2019, 29, 1101-1121.	2.1	14
41	Stability Analysis of Multiple Time Delayed Systems Using the Direct Method. , 2003, , .		14
42	ANALYTICAL STABILITY STUDY OF A DETERMINISTIC CAR FOLLOWING MODEL UNDER MULTIPLE DELAY INTERACTIONS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 187-192.	0.4	13
43	Toward Monitoring Parkinson's through Analysis of Static Handwriting Samples: A Quantitative Analytical Framework. IEEE Journal of Biomedical and Health Informatics, 2016, 21, 1-1.	3.9	13
44	Input/output stability of a damped string equation coupled with ordinary differential system. International Journal of Robust and Nonlinear Control, 2018, 28, 6053-6069.	2.1	13
45	A Scalable Approach to Compute Delay Margin of a Class of Neutral-Type Time Delay Systems. SIAM Journal on Control and Optimization, 2021, 59, 805-824.	1.1	13
46	Deterministic Time-Delayed Traffic Flow Models: A Survey. Understanding Complex Systems, 2009, , 297-322.	0.3	13
47	A stability study on first-order neutral systems with three rationally independent time delays. International Journal of Systems Science, 2010, 41, 1445-1455.	3.7	12
48	Small-signal stability analysis of delayed power system stabilizers. , 2014, , .		12
49	Portable Motion-Analysis Device for Upper-Limb Research, Assessment, and Rehabilitation in Non-Laboratory Settings. IEEE Journal of Translational Engineering in Health and Medicine, 2019, 7, 1-14.	2.2	12
50	On Stability Analysis and Parametric Design of Supply Networks Under the Presence of Transportation Delays. , 2006, , .		12
51	Kernel and Offspring Concepts for the Stability Robustness of Multiple Time Delayed Systems (MTDS). Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2007, 129, 245-251.	0.9	11
52	Design of Maximum Decay Rate for SISO Systems with Delayed Output Feedback Using Elimination Theory—â—This work has been supported by CONACYT grant 180725 and PNPC, and developed in part during A. RamÃrez's visit to R. Sipahi at Northeastern University.. IFAC-PapersOnLine, 2015, 48, 221-226.	0.5	11
53	Fast consensus in a large-scale multi-agent system with directed graphs using time-delayed measurements. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180130.	1.6	11
54	Damping Power System Electromechanical Oscillations Using Time Delays. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 2725-2735.	3.5	11

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55	Generalization of cluster treatment of characteristic roots for robust stability of multiple time-delayed systems. International Journal of Robust and Nonlinear Control, 2008, 18, 1430-1449.	2.1	10
56	Graph Laplacian Design for Fast Consensus of a LTI System With Heterogeneous Agent Couplings and Homogeneous Inter-Agent Delays. , 2013, , .		10
57	Can improved specialty access moderate emergency department overuse?. Neurology: Clinical Practice, 2016, 6, 498-505.	0.8	10
58	Stability Analysis of a Constant Time-Headway Driving Strategy with Driver Memory Effects Modeled by Distributed Delays. IFAC-PapersOnLine, 2015, 48, 376-381.	0.5	9
59	A consensus dynamics with delay-induced instability can self-regulate for stability via agent regrouping. Chaos, 2016, 26, 116313.	1.0	9
60	Stochastic cellular automata model of tumorous neurosphere growth: Roles of developmental maturity and cell death. Journal of Theoretical Biology, 2019, 467, 100-110.	0.8	9
61	Chain stability in traffic flow with driver reaction delays. , 2008, , .		8
62	Controller Design for Delay-Independent Stability of Multiple Time-Delay Systems via Dé©Scirctes's Rule of Signs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 144-149.	0.4	8
63	Advanced clustering with frequency sweeping (ACFS) methodology for the stability analysis of multiple time-delay systems. , 2010, , .		8
64	Effects of Edge Elimination on the Delay Margin of a Class of LTI Consensus Dynamics. IEEE Transactions on Automatic Control, 2018, 63, 4397-4404.	3.6	8
65	Responsible Eigenvalue Approach for Stability Analysis and Control Design of a Single-Delay Large-Scale System With Random Coupling Strengths. , 2010, , .		8
66	Responsible-Eigenvalue Control for Creating Autonomy in Coupled Systems With Delays. , 2011, , .		8
67	The Cluster Treatment of Characteristic Roots and the Neutral Type Time-Delayed Systems. , 2004, , 1359.		7
68	Stability Analysis of LTI Systems With Three Independent Delays—A Computationally Efficient Procedure. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2009, 131, .	0.9	7
69	On some features of core hypersurfaces related to stability switching of LTI systems with multiple delays. IMA Journal of Mathematical Control and Information, 2014, 31, 257-272.	1.1	7
70	Growth of adult spinal cord in knifefish: Development and parametrization of a distributed model. Journal of Theoretical Biology, 2018, 437, 101-114.	0.8	7
71	Stability of Human-in-the-Loop Multiagent Systems with Time Delays. , 2019, , .		6
72	Stability Analysis of Three-Agent Consensus Dynamics With Fixed Topology and Three Non-Identical Delays. , 2008, , .		5

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73	Exact Upper and Lower Bounds of Crossing Frequency Set and Delay Independent Stability Test for Multiple Time Delayed Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 107-111.	0.4	5
74	Stability Analysis of a Human-in-the-Loop Telerobotics System with Two Independent Time-Delays. IFAC-PapersOnLine, 2017, 50, 6519-6524.	0.5	5
75	Fast Consensus Against Noise in a Large-Scale Multi-Agent System with Distributed Proportional-Retarded (PR) Controllers. , 2018, , .		5
76	Consensus Stability of a Large-Scale Robotic Network Under Input and Transmission Delays. IEEE Transactions on Control of Network Systems, 2022, 9, 789-799.	2.4	5
77	A New Perspective for Time Delayed Control Systems With Application to Vibration Suppression. , 2002, , 355.		4
78	Effects of Short-Term Memory of Drivers on Stability Interpretations of Traffic Flow Dynamics. Proceedings of the American Control Conference, 2007, , .	0.0	4
79	Asymptotic stability of constant time headway driving strategy with multiple driver reaction delays. , 2009, , .		4
80	Stability intricacies of two-delay linear systems in the presence of delay cross-talk. IET Control Theory and Applications, 2011, 5, 990-998.	1.2	4
81	Quantitative assessment of a therapeutic exercise in mitigating micrographia associated with Parkinson's disease. , 2014, , .		4
82	Objective Quantitative Assessment of Movement Disorders Through Analysis of Static Handwritten Characters. , 2015, , .		4
83	Improving on transfer entropy-based network reconstruction using time-delays: Approach and validation. Chaos, 2020, 30, 023125.	1.0	4
84	Slow Time-Varying Delay Effects - Robust Stability Characterization of Deterministic Car Following Models. , 2006, , .		4
85	Inventory Dynamics Models of Supply Chains with Delays; System-Level Connection & Stability. Lecture Notes in Control and Information Sciences, 2009, , 349-358.	0.6	4
86	EXACT STABILITY ANALYSIS OF NEUTRAL SYSTEMS WITH CROSS-TALKING DELAYS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 175-180.	0.4	3
87	Slow time-varying delay effects - robust stability characterization of deterministic car following models. , 2006, , .		3
88	An efficient numerical approach for the stability analysis of a class of lti systems with arbitrary number of delays. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 292-297.	0.4	3
89	Early-stage firms and delay-based inventory control using decision-making tableaux. International Journal of Production Research, 2010, 48, 5497-5521.	4.9	3
90	Analytical Boundaries of Controller Gains for Delay-independent Stability of LTI Systems with Single Output Delay. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 225-230.	0.4	3

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91	The Largest Achievable Delay Margin of a Class of Coupled LTI Systems Synthesized by Graph Operations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 179-184.	0.4	3
92	Achieving fast consensus by edge elimination in a class of consensus dynamics with large delays. , 2016, , .		3
93	Analysis of Subjectsâ€™ Vulnerability in a Touch Screen Game Using Behavioral Metrics. Applied Psychophysiology Biofeedback, 2017, 42, 269-282.	1.0	3
94	Stability Analysis of a Large-scale Single-Lane Connected Vehicle Model with Multiple Sensing, Communication, and Human Reaction Delays. , 2020, , .		3
95	Cellular automata modeling suggests symmetric stem-cell division, cell death, and cell drift as key mechanisms driving adult spinal cord growth in teleost fish. Journal of Theoretical Biology, 2021, 509, 110474.	0.8	3
96	Design of Imaginary Spectrum of LTI Systems with Delays to Manipulate Stability Regions. Advances in Delays and Dynamics, 2017, , 127-140.	0.4	3
97	On controller design for delay-independent stability of linear time-invariant systems with multiple delays. , 2013, , .		3
98	Complete Stability Map of Neutral Type First Order - Two Time Delay Systems. Proceedings of the American Control Conference, 2007, , .	0.0	2
99	A Novel Device for Nonmagnetic Particle Navigation Using Ferrofluids Manipulated by Magnetic Fields. , 2008, , .		2
100	Supply Network Dynamics and Delays; Performance, Synchronization, Stability. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 6330-6335.	0.4	2
101	Dependence of Delay Margin on Network Topology: Single Delay Case. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 93-98.	0.4	2
102	An algebraic approach to design observers for delay-independent stability of systems with single output delay. , 2011, , .		2
103	Model-free approach to controlling nonlinear systems with single output delay. , 2012, , .		2
104	A Predictor-Compensator Design to Assist Human Decision-Making Process in an Air-Traffic-Control Simulator. , 2013, , .		2
105	A touchscreen game to induce mental workload on human subjects. , 2014, , .		2
106	Combined Time-Frequency Calculation of pNN50 Metric From Noisy Heart Rate Measurements. , 2014, , .		2
107	Assessment of Human Vulnerability in a Touch-Screen Game; Metrics and Analysis. , 2015, , .		2
108	Control Design for a Hand Tremor Suppression Pen. , 2015, , .		2

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109	Design of a Delay-based Controller for Fast Stabilization in a Network System with Input Delays via the Lambert W function 1. Procedia IUTAM, 2017, 22, 83-90.	1.2	2
110	Development of a combined time-frequency technique for accurate extraction of pNN50 metric from noisy heart rate measurements. International Journal of Intelligent Robotics and Applications, 2018, 2, 193-208.	1.6	2
111	Predictor-Based Stabilization of Multiple Differential-wheeled Robots under Measurement Delays: Controller Gain Design for Fast Consensus. , 2020, , .		2
112	Stability of a Large-Scale Connected Vehicle Network in Ring Configuration and With Multiple Delays. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 663-667.	4.7	2
113	Chatter Stability Mapping for Simultaneous Machining. , 2005, , .		2
114	Degenerate Cases in Using the Direct Method. , 2003, , 2201.		1
115	Characterizing stability of inventories in supply chains with delays in early-stage firms. , 2008, , .		1
116	Supply Chain Dynamics With Decision Making and Production Delays: Stability Analysis and Optimum Controller Selection. , 2008, , .		1
117	Towards the design of a human-machine interface via disturbance adaptive control: An analogous machine-to-machine system. , 2014, , .		1
118	Delay-independent stable set-point tracking in a LTI Networked Control System with two uncertain delays; design and experiments. , 2014, , .		1
119	Delay-margin design approach on a DC motor speed-control system with a single plant delay. , 2014, , .		1
120	A novel quantitative assessment method to detect effects of essential tremor on static handwriting. , 2015, , .		1
121	Optimizing agent coupling strengths in a network dynamics with inter-agent delays for achieving fast consensus. , 2016, , .		1
122	Creating two disjoint stability intervals along the delay axis via controller design: a class of LTI SISO systems. International Journal of Dynamics and Control, 2017, 5, 1156-1171.	1.5	1
123	The effect of remote-signal feedback architectures on the stability of human-in-the-loop telerobotics in the presence of time-delays. , 2017, , .		1
124	Derivative-dependent control of a fuel cell system with a safe implementation: An artificial delay approach. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 0, , 095965182110127.	0.7	1
125	Improvements on the Cluster Treatment of Characteristic Roots and the Case Studies. Lecture Notes in Computational Science and Engineering, 2004, , 61-73.	0.1	1
126	Experimental Evaluation of a Braille-Reading-Inspired Finger Motion Adaptive Algorithm. PLoS ONE, 2016, 11, e0148356.	1.1	1

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127	Sub-platooning via Agent Separation for Improved Traffic Flow Metrics in a Car-Following Model. Advances in Delays and Dynamics, 2022, , 71-85.	0.4	1
128	Spatiotemporal patterns of firearm acquisition in the United States in different presidential terms. Chaos, 2022, 32, .	1.0	1
129	Stability in Variable-Pitch Milling Regarding Regenerative Chatter. , 2006, , 1037.		0
130	First order approximation of the stability regions of time delay systems. , 2007, , .		0
131	Complete Stability Map of First Order - Two Time Delay Systems with Delay Cross-Talk. Proceedings of the American Control Conference, 2007, , .	0.0	0
132	An actively controlled harmonic force generator. Control Engineering Practice, 2009, 17, 210-220.	3.2	0
133	Controller Design With Fixed Delay-Margin for a LTI Unstable Open-Loop Plant: Case Studies. , 2014, , .		0
134	Responsible Eigenvalue concept for consensus control of three robotic vehicles: Heterogeneous coupling case. , 2014, , .		0
135	Stability Analysis and Control Design of a Vibration Control System with Uncertain and Tunable Delaysâ€—â€—The presented research has been supported by the Ministry of Education of the Czech Republic under the program KONTAKT II LH12066.. IFAC-PapersOnLine, 2015, 48, 123-128.	0.5	0
136	A Finger-Motion Adaptive Algorithm for Braille Reading: Application of Active Disturbance Rejection Control. , 2015, , .		0
137	Imaginary spectrum design of second-order LTI systems with two delays for enlarged (in)stability regions in delay parameter space. , 2017, , .		0
138	An Actively Controlled Harmonic Force Generator. , 2003, , .		0
139	Dependence of Delay Margin on Network Topology: Single Delay Case. Lecture Notes in Control and Information Sciences, 2012, , 395-405.	0.6	0
140	Graph Laplacian Design of a LTI Consensus System for the Largest Delay Margin: Case Studies. Advances in Delays and Dynamics, 2014, , 101-112.	0.4	0
141	Proportional-Retarded (PR) Protocol for a Large Scale Multi-agent Network with Noisy Measurements; Stability and Performance. Advances in Delays and Dynamics, 2019, , 249-263.	0.4	0
142	Delay margin comparison in a velocity-only versus headway-only connected vehicle model. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 0, , 095965182110555.	0.7	0