Mohammad Saleh Tavazoei

List of Publications by Year
in descending order

133 papers	4,036 citations	159585 30 h-index	128289 60 g-index
133 all docs	133 docs citations	133 times ranked	2105 citing authors

#	Article	IF	Citations
1	A necessary condition for double scroll attractor existence in fractional-order systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 367, 102-113.	2.1	324
2	Chaotic attractors in incommensurate fractional order systems. Physica D: Nonlinear Phenomena, 2008, 237, 2628-2637.	2.8	292
3	Synchronization of chaotic fractional-order systems via active sliding mode controller. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 57-70.	2.6	245
4	Comparison of different one-dimensional maps as chaotic search pattern in chaos optimization algorithms. Applied Mathematics and Computation, 2007, 187, 1076-1085.	2.2	234
5	A note on the stability of fractional order systems. Mathematics and Computers in Simulation, 2009, 79, 1566-1576.	4.4	229
6	A proof for non existence of periodic solutions in time invariant fractional order systems. Automatica, 2009, 45, 1886-1890.	5.0	165
7	Limitations of frequency domain approximation for detecting chaos in fractional order systems. Nonlinear Analysis: Theory, Methods & Applications, 2008, 69, 1299-1320.	1.1	132
8	Some Applications of Fractional Calculus in Suppression of Chaotic Oscillations. IEEE Transactions on Industrial Electronics, 2008, 55, 4094-4101.	7.9	127
9	A note on fractional-order derivatives of periodic functions. Automatica, 2010, 46, 945-948.	5.0	117
10	Chaos control via a simple fractional-order controller. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 798-807.	2.1	88
11	Compensation by fractionalâ€order phaseâ€lead/lag compensators. IET Control Theory and Applications, 2014, 8, 319-329.	2.1	83
12	Notes on integral performance indices in fractional-order control systems. Journal of Process Control, 2010, 20, 285-291.	3.3	82
13	Rational approximations in the simulation and implementation of fractional-order dynamics: A descriptor system approach. Automatica, 2010, 46, 94-100.	5.0	76
14	From Traditional to Fractional PI Control: A Key for Generalization. IEEE Industrial Electronics Magazine, 2012, 6, 41-51.	2.6	76
15	Robust synchronization of perturbed Chenâ€™s fractional-order chaotic systems. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 1044-1051.	3.3	73
16	An optimization algorithm based on chaotic behavior and fractal nature. Journal of Computational and Applied Mathematics, 2007, 206, 1070-1081.	2.0	71
17	Simple Fractional Order Model Structures and their Applications in Control System Design. European Journal of Control, 2010, 16, 680-694.	2.6	59
18	On tuning fractional order [proportionalâ€“derivative] controllers for a class of fractional order systems. Automatica, 2013, 49, 2297-2301.	5.0	58

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19	Realizability of Fractional-Order Impedances by Passive Electrical Networks Composed of a Fractional Capacitor and RLC Components. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2829-2835.	5.4	53
20	Passive Realization of Fractional-Order Impedances by a Fractional Element and RLC Components: Conditions and Procedure. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 585-595.	5.4	48
21	Synchronization of uncertain chaotic systems using active sliding mode control. Chaos, Solitons and Fractals, 2007, 33, 1230-1239.	5.1	47
22	Determination of active sliding mode controller parameters in synchronizing different chaotic systems. Chaos, Solitons and Fractals, 2007, 32, 583-591.	5.1	44
23	Some Analytical Results on Tuning Fractional-Order [Proportionalâ€“Integral] Controllers for Fractional-Order Systems. IEEE Transactions on Control Systems Technology, 2016, 24, 1059-1066.	5.2	42
24	Analysis of undamped oscillations generated by marginally stable fractional order systems. Signal Processing, 2008, 88, 2971-2978.	3.7	38
25	Stability Preservation Analysis for Frequency-Based Methods in Numerical Simulation of Fractional Order Systems. SIAM Journal on Numerical Analysis, 2009, 47, 321-338.	2.3	38
26	Stabilization of Unstable Fixed Points of Chaotic Fractional Order Systems by a State Fractional PI Controller. European Journal of Control, 2008, 14, 247-257.	2.6	34
27	Describing function based methods for predicting chaos inÂaÂclass of fractional order differential equations. Nonlinear Dynamics, 2009, 57, 363-373.	5.2	33
28	Notes on the State Space Realizations of Rational Order Transfer Functions. IEEE Transactions on Circuits and Systems I: Regular Papers, 2011, 58, 1099-1108.	5.4	33
29	Fractional order chaotic systems: history, achievements, applications, and future challenges. European Physical Journal: Special Topics, 2020, 229, 887-904.	2.6	32
30	Analysis of a fractional order Van der Pol-like oscillator viaÂdescribing function method. Nonlinear Dynamics, 2010, 61, 265-274.	5.2	31
31	Overshoot in the step response of fractional-order control systems. Journal of Process Control, 2012, 22, 90-94.	3.3	31
32	Achievable Performance Region for a Fractional-Order Proportional and Derivative Motion Controller. IEEE Transactions on Industrial Electronics, 2015, 62, 7171-7180.	7.9	29
33	Using fractional-order integrator to control chaos inÂsingle-input chaotic systems. Nonlinear Dynamics, 2009, 55, 179-190.	5.2	28
34	A new view to Zieglerâ€“Nichols step response tuning method: Analytic non-fragility justification. Journal of Process Control, 2013, 23, 23-33.	3.3	28
35	Identifiability of fractional order systems using input output frequency contents. ISA Transactions, 2010, 49, 207-214.	5.7	26
36	Maximum Number of Frequencies in Oscillations Generated by Fractional Order LTI Systems. IEEE Transactions on Signal Processing, 2010, 58, 4003-4012.	5.3	26

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37	Comments on â€œChaos Synchronization of Uncertain Fractional-Order Chaotic Systems With Time Delay Based on Adaptive Fuzzy Sliding Mode Controlâ€. IEEE Transactions on Fuzzy Systems, 2012, 20, 993-995.	9.8	26
38	Regular oscillations or chaos in a fractional order system with any effective dimension. Nonlinear Dynamics, 2008, 54, 213-222.	5.2	25
39	On Monotonic and Nonmonotonic Step Responses in Fractional Order Systems. IEEE Transactions on Circuits and Systems II: Express Briefs, 2011, 58, 447-451.	3.0	24
40	Stability analysis of fractional order timeâ€delay systems: constructing new Lyapunov functions from those of integer order counterparts. IET Control Theory and Applications, 2019, 13, 2476-2481.	2.1	24
41	Desirably Adjusting Gain Margin, Phase Margin, and Corresponding Crossover Frequencies Based on Frequency Data. IEEE Transactions on Industrial Informatics, 2017, 13, 2311-2321.	11.3	23
42	Application of stability region centroids in robust PI stabilization of a class of second-order systems. Transactions of the Institute of Measurement and Control, 2012, 34, 487-498.	1.7	22
43	Non-fragile control and synchronization of a new fractional order chaotic system. Applied Mathematics and Computation, 2013, 222, 712-721.	2.2	22
44	Adaptive robust control of fractionalâ€order swarm systems in the presence of model uncertainties and external disturbances. IET Control Theory and Applications, 2018, 12, 961-969.	2.1	22
45	Robust stability analysis of uncertain multiorder fractional systems: Young and Jensen inequalities approach. International Journal of Robust and Nonlinear Control, 2018, 28, 1127-1144.	3.7	21
46	Estimation of the Order and Parameters of a Fractional Order Model From a Noisy Step Response Data1. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2014, 136, .	1.6	20
47	Chaos generation via a switching fractional multi-model system. Nonlinear Analysis: Real World Applications, 2010, 11, 332-340.	1.7	19
48	Improving integral square error performance with implementable fractionalâ€order PI controllers. Optimal Control Applications and Methods, 2014, 35, 303-323.	2.1	19
49	Stability criteria for a class of fractional order systems. Nonlinear Dynamics, 2010, 61, 153-161.	5.2	18
50	Stability analysis of distributed-order nonlinear dynamic systems. International Journal of Systems Science, 2018, 49, 523-536.	5.5	18
51	On type number concept in fractional-order systems. Automatica, 2013, 49, 301-304.	5.0	17
52	Fractional order control of thermal systems: achievability of frequency-domain requirements. Nonlinear Dynamics, 2015, 80, 1773-1783.	5.2	17
53	Experimental study of a chaosâ€based communication system in the presence of unknown transmission delay. International Journal of Circuit Theory and Applications, 2010, 38, 1013-1025.	2.0	16
54	Stability preservation analysis in direct discretization of fractional order transfer functions. Signal Processing, 2011, 91, 508-512.	3.7	16

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55	Minimal Realizations for Some Classes of Fractional Order Transfer Functions. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 313-321.	3.6	16
56	Over- and under-convergent step responses in fractional-order transfer functions. Transactions of the Institute of Measurement and Control, 2010, 32, 376-394.	1.7	15
57	Prediction of chaos in non-salient permanent-magnet synchronous machines. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 377, 73-79.	2.1	15
58	Frequency Data-Based Procedure to Adjust Gain and Phase Margins and Guarantee the Uniqueness of Crossover Frequencies. IEEE Transactions on Industrial Electronics, 2020, 67, 2176-2185.	7.9	15
59	Chaos in the APFM nonlinear adaptive filter. Signal Processing, 2009, 89, 697-702.	3.7	14
60	Study on Control Input Energy Efficiency of Fractional Order Control Systems. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 475-482.	3.6	14
61	Reduction of oscillations via fractional order pre-filtering. Signal Processing, 2015, 107, 407-414.	3.7	14
62	Constrained swarm stabilization of fractional order linear time invariant swarm systems. IEEE/CAA Journal of Automatica Sinica, 2016, 3, 320-331.	13.1	14
63	Proportional stabilization and closed-loop identification of an unstable fractional order process. Journal of Process Control, 2014, 24, 542-549.	3.3	13
64	Robust Fractional-Order Compensation in the Presence of Uncertainty in a Pole/Zero of the Plant. IEEE Transactions on Control Systems Technology, 2018, 26, 797-812.	5.2	13
65	Nonlinear Fractional-Order Circuits and Systems: Motivation, A Brief Overview, and Some Future Directions. IEEE Open Journal of Circuits and Systems, 2020, 1, 220-232.	1.9	13
66	On tuning FO[PI] controllers for FOPDT processes. Electronics Letters, 2013, 49, 1326-1328.	1.0	12
67	Fractional/distributed-order systems and irrational transfer functions with monotonic step responses. JVC/Journal of Vibration and Control, 2014, 20, 1697-1706.	2.6	12
68	Simultaneous Compensation of the Gain, Phase, and Phase-Slope. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2016, 138, .	1.6	12
69	On a generalized fractional-order LTI compensator: exact formulas for compensation at two different frequencies. JVC/Journal of Vibration and Control, 2016, 22, 4074-4086.	2.6	12
70	Comments on "Stability Analysis of a Class of Nonlinear Fractional-Order Systems. IEEE Transactions on Circuits and Systems II: Express Briefs, 2009, 56, 519-520.	3.0	11
71	On Stability and Trajectory Boundedness of Lotkaâ€“Volterra Systems With Polytopic Uncertainty. IEEE Transactions on Automatic Control, 2017, 62, 6423-6429.	5.7	11
72	Global Stabilization of Lotkaâ€“Volterra Systems With Interval Uncertainty. IEEE Transactions on Automatic Control, 2019, 64, 1209-1213.	5.7	11

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73	Algebraic Conditions for Stability Analysis of Linear Timeâ€Invariant Distributed Order Dynamic Systems: A Lagrange Inversion Theorem Approach. Asian Journal of Control, 2019, 21, 879-890.	3.0	11
74	Delay-Independent regulation of blood glucose for type-1 diabetes mellitus patients via an observer-based predictor feedback approach by considering quantization constraints. European Journal of Control, 2022, 63, 240-252.	2.6	11
75	Passively realisable impedance functions by using two fractional elements and some resistors. IET Circuits, Devices and Systems, 2018, 12, 280-285.	1.4	10
76	Non-Uniform Reducing the Involved Differentiatorsâ€™ Orders and Lyapunov Stability Preservation Problem in Dynamic Systems. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 735-739.	3.0	10
77	Optimal Tuning for Fractional-Order Controllers: An Integer-Order Approximating Filter Approach. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2013, 135, .	1.6	9
78	Oscillations in fractional order LTI systems: Harmonic analysis and further results. Signal Processing, 2013, 93, 1243-1250.	3.7	9
79	Toward Searching Possible Oscillatory Region in Order Space for Nonlinear Fractional-Order Systems. Journal of Computational and Nonlinear Dynamics, 2014, 9, .	1.2	9
80	Criteria for response monotonicity preserving in approximation of fractional order systems. IEEE/CAA Journal of Automatica Sinica, 2016, 3, 422-429.	13.1	9
81	Reducing conservatism in robust stability analysis of fractional-order-polytopic systems. ISA Transactions, 2022, 119, 106-117.	5.7	9
82	Periodic characteristic ratio (PCR) method: An alternative method to determine the characteristic polynomial. Mathematics and Computers in Simulation, 2010, 80, 1841-1853.	4.4	7
83	Adaptive Consensus Tracking for Fractional-Order Linear Time Invariant Swarm Systems. Journal of Computational and Nonlinear Dynamics, 2014, 9, .	1.2	7
84	Algebraic conditions for monotonicity of magnitudeâ€frequency responses in allâ€pole fractional order systems. IET Control Theory and Applications, 2014, 8, 1091-1095.	2.1	7
85	Ramp Tracking in Systems With Nonminimum Phase Zeros: One-and-a-Half Integrator Approach. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2016, 138, .	1.6	7
86	Formulation and Numerical Solution for Fractional Order Time Optimal Control Problem Using Pontryaginâ€™s Minimum Principle. IFAC-PapersOnLine, 2017, 50, 9224-9229.	0.9	7
87	Upper and Lower Bounds for the Maximum Number of Frequencies That Can Be Generated by a Class of Fractional Oscillators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1584-1593.	5.4	7
88	Power-Law Compensator Design for Plants with Uncertainties: Experimental Verification. Electronics (Switzerland), 2021, 10, 1305.	3.1	7
89	Chaos and Its Degradation-Promoting-Based Control in an Antithetic Integral Feedback Circuit. , 2022, 6, 1622-1627.		7
90	Stabilization of Unstable Fixed Points of Fractional-Order Systems by Fractional-Order Linear Controllers and Its Applications in Suppression of Chaotic Oscillations. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2010, 132, .	1.6	6

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91	On Robust Control of Fractional Order Plants: Invariant Phase Margin. Journal of Computational and Nonlinear Dynamics, 2015, 10, .	1.2	6
92	Asymptotic swarm stability of fractional-order swarm systems in the presence of uniform time-delays. International Journal of Control, 2017, 90, 1182-1191.	1.9	6
93	Robust Stability Analysis of Distributed-Order Linear Time-Invariant Systems With Uncertain Order Weight Functions and Uncertain Dynamic Matrices. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	1.6	6
94	Taming Single Input Chaotic Systems by Fractional Differentiator-Based Controller: Theoretical andÂExperimental Study. Circuits, Systems, and Signal Processing, 2009, 28, 625-647.	2.0	5
95	Comments on â€œChaotic Characteristics Analysis and Circuit Implementation for a Fractional-Order Systemâ€• IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 329-332.	5.4	5
96	Robust control for timeâ€fractional diffusion processes: application in temperature control of an alpha silicon carbide cutting tool. IET Control Theory and Applications, 2018, 12, 2022-2030.	2.1	5
97	Event-Triggered Control of a Class of Nonlinear Systems on the Basis of Indefinite Lyapunov Theory. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 2104-2108.	3.0	5
98	Event-triggered adaptive control of a class of nonlinear systems with non-parametric uncertainty in the presence of actuator failures. Transactions of the Institute of Measurement and Control, 2021, 43, 2628-2636.	1.7	5
99	Parameter and Order Estimation from Noisy Step Response Data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 492-497.	0.4	4
100	Analysis of Oscillations in Relay Feedback Systems With Fractional-Order Integrating Plants. Journal of Computational and Nonlinear Dynamics, 2017, 12, .	1.2	4
101	A Special Issue in ISA Transactions â€œFractional Order Signals, Systems, and Controls: Theory and Applicationâ€• ISA Transactions, 2018, 82, 1.	5.7	4
102	Conditions on Polynomials Involved in Admittance Functions Passively Realizable by Using RLC and Two Fractional Elements. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 999-1003.	3.0	4
103	Passively realizable approximations of non-realizable fractional order impedance functions. Journal of the Franklin Institute, 2020, 357, 7037-7053.	3.4	4
104	Non-Fragile H _{â^ž} Order Reduction of LTI Controllers. , 2021, 5, 163-168.		4
105	Maximal Bound for Output Feedback Gain in Stabilization of Fixed Points of Fractional-Order Chaotic Systems. Journal of Computational and Nonlinear Dynamics, 2011, 6, .	1.2	3
106	Non-Fragile Tuning of Fractional-Order PD Controllers for IPD-Modelled Processes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 361-366.	0.4	3
107	Robust control of temperature during local hyperthermia of cancerous tumors. European Journal of Control, 2020, 52, 67-77.	2.6	3
108	Properties of the stability boundary in linear distributed-order systems. International Journal of Systems Science, 2020, 51, 1733-1743.	5.5	3

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109	Global Stabilization of Uncertain Lotkaâ€“Volterra Systems via Positive Nonlinear State Feedback. IEEE Transactions on Automatic Control, 2020, 65, 5450-5455.	5.7	3
110	Synthetic Biology-Inspired Robust-Perfect-Adaptation-Achieving Control Systems: Model Reduction and Stability Analysis. IEEE Transactions on Control of Network Systems, 2021, 8, 233-245.	3.7	3
111	Estimating the fractional order of orthogonal rational functions used in the identification. , 2008, , .		2
112	Discrete-time SISO LTI Systems with Monotonic Closed-loop Step Responses: Analysis and Control Based on Impulse Response Models. IFAC-PapersOnLine, 2021, 54, 476-481.	0.9	2
113	A probabilistic framework to achieve robust nonâ€fragile tuning methods: PD control of IPDâ€modeled processes. International Journal of Robust and Nonlinear Control, 2022, 32, 9593-9609.	3.7	2
114	Closed-Form Oscillatory Condition in Electrical Circuits Containing Two Fractional Order Elements. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 2687-2691.	3.0	2
115	Agentâ€based time delay margin in consensus of multiâ€agent systems by an eventâ€triggered control method: Concept and computation. Asian Journal of Control, 2023, 25, 1866-1876.	3.0	2
116	Uncertain Multiagent Systems With Distributed Constrained Optimization Missions and Event-Triggered Communications: Application to Resource Allocation. IEEE Systems Journal, 2023, 17, 270-281.	4.6	2
117	Event-based consensus control of Lipschitz nonlinear multi-agent systems with unknown input delay and quantization constraints. European Physical Journal: Special Topics, 2022, 231, 3977-3985.	2.6	2
118	Static feedback versus fractionality of the electrical elements in the Van der Pol circuit. Nonlinear Dynamics, 2013, 72, 365-375.	5.2	1
119	Magnitudeâ€“frequency responses of fractional order systems: properties and subsequent results. IET Control Theory and Applications, 2016, 10, 2474-2481.	2.1	1
120	Robust Control of a Class of Fractional Order Plants in the Presence of Pole Uncertainty. , 2018, , .		1
121	Stability analysis of discrete time distributed order LTI dynamic systems. , 2019, , 101-118.		1
122	Guest Editorial Introduction to the Special Section on Nonlinear Fractional-Order Circuits and Systems: Advanced Analysis and Effective Implementation. IEEE Open Journal of Circuits and Systems, 2020, 1, 218-219.	1.9	1
123	Robust Output Regulation: Optimization-Based Synthesis and Event-Triggered Implementation. IEEE Transactions on Automatic Control, 2022, 67, 3529-3536.	5.7	1
124	Coefficient-based Classes of Algebraic Conditions to Construct Positive Real Rational Functions. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, , 1-1.	3.0	1
125	Adaptive Actuator Failure Compensation on the Basis of Contraction Metrics. , 2022, 6, 1376-1381.		1
126	Comments on â€œFractional-Order Sliding Mode Approach of Buck Converters With Mismatched Disturbancesâ€• IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 1381-1382.	5.4	1

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127	Frequency Content Preservation in Fractional Multi-Frequency Oscillators Despite Reducing the Number of Energy Storage Elements. Circuits, Systems, and Signal Processing, 2022, 41, 3066-3080.	2.0	1
128	Comparing the stability regions for fractional-order PI controllers and their integer-order approximations. , 2010, , .		0
129	Design of adaptive proportional-integral-weighted (PI^w) controllers for control of a class of nonlinear uncertain systems. , 2017, , .		0
130	An Efficient Method for Tuning of FOPI Controllers: Robustness to Order Variations of the Plant. , 2018, , .		0
131	Oscillatory Condition and Invariant Sets in Fractional Order Relay Feedback Systems. , 2019, , .		0
132	Algebraic bound for the phaseâ€“frequency response of the commande robuste d'ordre non-entier approximation of fractional differentiators and its applications in control systems analysis. JVC/Journal of Vibration and Control, 0, , 107754632098776.	2.6	0
133	Comments on ``Fixed-Time Backstepping Fractional-Order Sliding Mode Excitation Control for Performance Improvement of Power System''. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, , 1-2.	5.4	0