Dominik Sierociuk

List of Publications by Year
in descending order

72 papers	1,678 citations	516561 16 h-index	360920 35 g-index
77 all docs	77 docs citations	77 times ranked	810 citing authors

#	Article	IF	Citations
1	Modelling heat transfer in heterogeneous media using fractional calculus. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120146.	1.6	163
2	Stability of Discrete Fractional Order State-space Systems. JVC/Journal of Vibration and Control, 2008, 14, 1543-1556.	1.5	131
3	Diffusion process modeling by using fractional-order models. Applied Mathematics and Computation, 2015, 257, 2-11.	1.4	130
4	Some applications of fractional order calculus. Bulletin of the Polish Academy of Sciences: Technical Sciences, 2010, 58, .	0.8	92
5	Experimental Evidence of Variable-Order Behavior of Ladders and Nested Ladders. IEEE Transactions on Control Systems Technology, 2013, 21, 459-466.	3.2	89
6	Comparison and validation of integer and fractional order ultracapacitor models. Advances in Difference Equations, 2011, 2011, .	3.5	87
7	Improved fractional Kalman filter and its application to estimation over lossy networks. Signal Processing, 2011, 91, 542-552.	2.1	67
8	Derivation, interpretation, and analog modelling of fractional variable order derivative definition. Applied Mathematical Modelling, 2015, 39, 3876-3888.	2.2	67
9	Identification of Parameters of a Half-Order System. IEEE Transactions on Signal Processing, 2012, 60, 5561-5566.	3.2	53
10	On the Recursive Fractional Variable-Order Derivative: Equivalent Switching Strategy, Duality, and Analog Modeling. Circuits, Systems, and Signal Processing, 2015, 34, 1077-1113.	1.2	52
11	Fractional Order Estimation Schemes for Fractional and Integer Order Systems with Constant and Variable Fractional Order Colored Noise. Circuits, Systems, and Signal Processing, 2014, 33, 3861-3882.	1.2	51
12	Time domain validation of ultracapacitor fractional order model. , 2010, , .		44
13	Analytical solution of fractional variable order differential equations. Journal of Computational and Applied Mathematics, 2019, 348, 214-236.	1.1	37
14	Adaptive Feedback Control of Fractional Order Discrete State-Space Systems. , 0, , .		36
15	Ultracapacitor parameters identification based on fractional order model. , 2009, , .		36
16	On a new definition of fractional variable-order derivative. , 2013, , .		35
17	Fractional Order Model of Beam Heating Process and Its Experimental Verification. , 2010, , 287-294.		30
18	An alternative recursive fractional variable-order derivative definition and its analog validation. , 2014, , .		28

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19	New method of fractional order integrator analog modeling for orders 0.5 and 0.25. , 2011, , .		26
20	Dual Estimation of Fractional Variable Order Based on the Unscented Fractional Order Kalman Filter for Direct and Networked Measurements. Circuits, Systems, and Signal Processing, 2016, 35, 2055-2082.	1.2	25
21	Boolean-based fractional order SMC for switching systems: application to a DC-DC buck converter. Signal, Image and Video Processing, 2012, 6, 445-451.	1.7	20
22	Switching scheme, equivalence, and analog validation of the alternative fractional variable-order derivative definition. , 2013, , .		20
23	Equivalent switching strategy and analog validation of the fractional variable order derivative definition. , 2013, , .		20
24	Numerical schemes for initialized constant and variable fractional-order derivatives: matrix approach and its analog verification. JVC/Journal of Vibration and Control, 2016, 22, 2032-2044.	1.5	20
25	OBSERVER FOR DISCRETE FRACTIONAL ORDER STATE-SPACE SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 511-516.	0.4	19
26	Comparison of variable fractional order PID controller for different types of variable order derivatives. , 2013, , .		19
27	Fractional variable order discrete-time systems, their solutions and properties. International Journal of Systems Science, 2017, 48, 3098-3105.	3.7	17
28	Infinite horizon state-feedback LQR controller for fractional systems. , 2010, , .		16
29	Analog Modeling of Fractional Switched Order Derivative Using Different Switching Schemes. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 394-403.	2.7	16
30	STABILITY OF DISCRETE FRACTIONAL ORDER STATE-SPACE SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 505-510.	0.4	15
31	Duality of variable fractional order difference operators and its application in identification. Bulletin of the Polish Academy of Sciences: Technical Sciences, 2014, 62, 809-815.	0.8	14
32	Modeling Heat Transfer Process in Grid-Holes Structure Changed in Time Using Fractional Variable Order Calculus. Lecture Notes in Electrical Engineering, 2017, , 297-306.	0.3	13
33	System properties of Fractional Variable Order Discrete state-space system. , 2012, , .		10
34	Simplifying biochemical tumorous bone remodeling models through variable order derivatives. Computers and Mathematics With Applications, 2018, 75, 3147-3157.	1.4	10
35	Modeling of heat transfer process by using discrete fractional-order neural networks. , 2011, , .		9
36	Modeling Heat Transfer in Heterogeneous Media Using Fractional Calculus. , 2011, , .		9

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37	Fractional order calculus for modeling and fractional PID control of the heating process. , 2012, , .		9
38	Simulation and experimental tools for fractional order control education. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 11654-11659.	0.4	8
39	Resonance phenomena in circuits with ultracapacitors. , 2013, , .		8
40	Matrix Approach and Analog Modeling for Solving Fractional Variable Order Differential Equations. Lecture Notes in Electrical Engineering, 2015, , 71-80.	0.3	8
41	On the differences of variable type and variable fractional order. , 2016, , .		7
42	A New Variable Fractional-Order PI Algorithm âŽ âŽThis work was supported by the Polish National Science Center with the decision number UMO-2014/15/B/ST7/00480.. IFAC-PapersOnLine, 2018, 51, 745-750.	0.5	7
43	MEMS Accelerometer Noises Analysis Based on Triple Estimation Fractional Order Algorithm. Sensors, 2022, 22, 527.	2.1	7
44	Modeling of electrical drive system with flexible shaft based on fractional calculus. , 2013, , .		6
45	Recursive variable type and order difference, its definition and basic properties. , 2016, , .		5
46	New recursive approximation of fractional order derivative and its application to control. , 2016, , .		5
47	Improved fractional Kalman filter for variable order systems. , 2014, , .		4
48	Practical analog realization of multiple order switching for recursive fractional variable order derivative. , 2015, , .		4
49	Solution of fractional variable order differential equation. , 2015, , .		4
50	Fractional order noise identification with application to temperature sensor data. , 2015, , .		4
51	Variable Order Differential Models of Bone Remodelling * *This work was supported by FCT, through IDMEC, under LAETA, projects UID/EMS/50022/2013, BoneSys, joint Polish-Portuguese project Modelling and controlling cancer evolution using fractional calculus, PERSEIDS (PTDC/EMS-SIS/0642/2014) and IF/00653/2012. IFAC-PapersOnLine, 2017, 50, 8066-8071.	0.5	4
52	Analog realization of fractional variable-type and -order iterative operator. Applied Mathematics and Computation, 2018, 336, 138-147.	1.4	4
53	Anomalous diffusion modeling using ultracapacitors in domino ladder circuit. Microelectronics Journal, 2019, 84, 136-141.	1.1	4
54	Variable Order Fractional Kalman Filters for Estimation over Lossy Network. Lecture Notes in Electrical Engineering, 2015, , 285-294.	0.3	4

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55	Triple Estimation of Fractional Variable Order, Parameters, and State Variables Based on the Unscented Fractional Order Kalman Filter. Sensors, 2021, 21, 8159.	2.1	4
56	Ultracapacitor modeling and control with discrete fractional order artificial neural network. , 2012, , .		3
57	Frequency response based identification of fractional order dynamical systems. , 2011, , .		2
58	Analytical description and equivalence of additive-switching scheme for fractional variable-order continuous differ-integrals. , 2014, , .		2
59	Analog Realization of a Fractional Recursive Variable-Type and Order Operator for a Particular Switching Strategy. Electronics (Switzerland), 2020, 9, 855.	1.8	2
60	Experimental Results of Modeling Variable Order System Based on Discrete Fractional Variable Order State-Space Model. Lecture Notes in Electrical Engineering, 2016, , 129-139.	0.3	2
61	On the Output-Additive Switching Strategy for a New Variable Type and Order Difference. Lecture Notes in Electrical Engineering, 2017, , 101-111.	0.3	2
62	<title>Estimation and control of discrete fractional order states-space systems</title>. , 2006, 6159, 910.		1
63	Initial conditions for a recursive constant and variable fractional-order derivative and its verification based on analog model. , 2014, , .		1
64	Variable-order PI Control Algorithm with Order Scheduled According to the Control Error and Anti-windup Strategy. , 2019, , .		1
65	Fractional-order modeling and control of selected physical systems. , 2019, , 293-320.		1
66	Identification of fractional order noises. , 2014, , .		0
67	Improved fractional Kalman filter for variable order systems with lossy and delayed network. , 2014, , .		0
68	Loop transfer recovery for fractional order control systems. First results. , 2016, , .		0
69	Cone discrete-time fractional variable order systems. , 2019, , .		0
70	State space methods for fractional controllers design. , 2019, , 175-200.		0
71	Realization of the Fractional Variable-Order Model with Symmetric Property. Lecture Notes in Electrical Engineering, 2020, , 43-54.	0.3	0
72	Symmetric Fractional Variable-Type and -Order Differences. SSRN Electronic Journal, 0, , .	0.4	0