Malcolm C Smith

List of Publications by Year
in descending order

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65 papers	2,451 citations	218381 26 h-index	233125 45 g-index
65 all docs	65 docs citations	65 times ranked	856 citing authors

#	Article	IF	Citations
1	Performance Benefits in Passive Vehicle Suspensions Employing Inerters. Vehicle System Dynamics, 2004, 42, 235-257.	2.2	391
2	The missing mechanical circuit element. IEEE Circuits and Systems Magazine, 2009, 9, 10-26.	2.6	263
3	Experimental Testing and Analysis of Inerter Devices. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2009, 131, .	0.9	139
4	Passive suspensions incorporating inerters for railway vehicles. Vehicle System Dynamics, 2012, 50, 263-276.	2.2	117
5	Analytical solutions for optimal ride comfort and tyre grip for passive vehicle suspensions. Vehicle System Dynamics, 2009, 47, 1229-1252.	2.2	105
6	Mechanical Steering Compensators for High-Performance Motorcycles. Journal of Applied Mechanics, Transactions ASME, 2007, 74, 332-346.	1.1	102
7	Regular Positive-Real Functions and Five-Element Network Synthesis for Electrical and Mechanical Networks. IEEE Transactions on Automatic Control, 2011, 56, 1275-1290.	3.6	82
8	A Note on Tests for Positive-Real Functions. IEEE Transactions on Automatic Control, 2009, 54, 390-393.	3.6	79
9	Restricted Complexity Network Realizations for Passive Mechanical Control. IEEE Transactions on Automatic Control, 2009, 54, 2290-2301.	3.6	76
10	The Inerter: A Retrospective. Annual Review of Control, Robotics, and Autonomous Systems, 2020, 3, 361-391.	7.5	75
11	Robust Stability of Feedback Systems: A Geometric Approach Using the Gap Metric. SIAM Journal on Control and Optimization, 1993, 31, 1518-1537.	1.1	67
12	Achievable Dynamic Response for Automotive Active Suspensions *. Vehicle System Dynamics, 1995, 24, 1-33.	2.2	65
13	Control, Signals, and Systems, 1993, 6, 195-223.	1.4	62
14	Linear Quadratic Optimal and Risk-Sensitive Control for Vehicle Active Suspensions. IEEE Transactions on Control Systems Technology, 2014, 22, 543-556.	3.2	55
15	Stabilizability and Existence of System Representations for Discrete-Time Time-Varying Systems. SIAM Journal on Control and Optimization, 1993, 31, 1538-1557.	1.1	53
16	The parallel projection operators of a nonlinear feedback system. Systems and Control Letters, 1993, 20, 79-85.	1.3	49
17	w-Stability of feedback systems. Systems and Control Letters, 1989, 13, 271-277.	1.3	41
18	Weighted sensitivity minimization: General plants in Hâˆž and rational weights. Linear Algebra and Its Applications, 1988, 109, 71-90.	0.4	40

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19	Singular values and vectors of a class of Hankel operators. Systems and Control Letters, 1989, 12, 301-308.	1.3	39
20	A clipped-optimal control algorithm for semi-active vehicle suspensions: Theory and experimental evaluation. Automatica, 2015, 53, 188-194.	3.0	38
21	Passive suspensions for ride quality improvement of two-axle railway vehicles. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2015, 229, 315-329.	1.3	36
22	Electrical and Mechanical Passive Network Synthesis. Lecture Notes in Control and Information Sciences, 2008, , 35-50.	0.6	32
23	Series-Parallel Six-Element Synthesis of Biquadratic Impedances. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 2543-2554.	3.5	32
24	Natural frequency assignment for mass-chain systems with inerters. Mechanical Systems and Signal Processing, 2018, 108, 126-139.	4.4	32
25	A four-block problem for Hâˆž design: Properties and applications. Automatica, 1991, 27, 811-818.	3.0	29
26	Bounded Disturbance Amplification for Mass Chains with Passive Interconnection. IEEE Transactions on Automatic Control, 2016, 61, 1565-1574.	3.6	26
27	Well-Posedness of $H^infty $ Optimal Control Problems. SIAM Journal on Control and Optimization, 1990, 28, 342-358.	1.1	24
28	Robustness and Trade-offs in Repetitive Control. Automatica, 1998, 34, 889-896.	3.0	23
29	Design of passive vehicle suspensions for maximal least damping ratio. Vehicle System Dynamics, 2016, 54, 568-584.	2.2	22
30	On the Minimality and Uniqueness of the Bottâ€“Duffin Realization Procedure. IEEE Transactions on Automatic Control, 2014, 59, 1858-1873.	3.6	19
31	Flexible structure experiments at JPL and WPAFB: Hâˆžcontroller designs. International Journal of Control, 1993, 58, 1-19.	1.2	18
32	Robustness of a relaxation oscillator. International Journal of Robust and Nonlinear Control, 2000, 10, 1005-1024.	2.1	16
33	Power dissipation in automotive suspensions. Vehicle System Dynamics, 2011, 49, 59-74.	2.2	16
34	Metric uncertainty and nonlinear feedback stabilization. , 1995, , 88-98.		15
35	Experimental testing and modelling of a mechanical steering compensator. , 2008, , .		14
36	Robust Control of Feedback Systems with Combined Plant and Controller Uncertainty. , 1990, , .		13

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37	Designing robustly stabilising controllers for LTI spatially distributed systems using coprime factor synthesis. Automatica, 2003, 39, 193-203.	3.0	11
38	Feedback control and the arrow of time. International Journal of Control, 2010, 83, 1325-1338.	1.2	11
39	Controllability of linear passive network behaviors. Systems and Control Letters, 2017, 101, 58-66.	1.3	11
40	Identification of linear systems: A graph point of view. , 1992, , .		11
41	Nonlinear control for robust rejection of periodic disturbances. Systems and Control Letters, 2000, 39, 97-107.	1.3	10
42	Linear systems and robustness: a graph point of view. , 1992, , 114-121.		9
43	A mechanical network approach to performance capabilities of passive suspensions. , 1997, , .		9
44	Synthesis of positive-real functions with low-complexity series-parallel networks. , 2009, , .		8
45	On the theorem of Reichert. Systems and Control Letters, 2012, 61, 1124-1131.	1.3	8
46	A Behavioral Approach to Play in Mechanical Networks. SIAM Journal on Control and Optimization, 2009, 47, 2967-2990.	1.1	7
47	Principles of Lossless Adjustable One-Ports. IEEE Transactions on Automatic Control, 2020, 65, 252-262.	3.6	7
48	Electrical Network Synthesis: A Survey of Recent Work. Lecture Notes in Control and Information Sciences - Proceedings, 2018, , 281-293.	0.1	6
49	Stable adaptive regulation of Nth order plants. , 1985, , .		5
50	Topological approaches to robustness. , 1993, , 222-241.		5
51	Continuity properties of LQG optimal controllers. Systems and Control Letters, 1995, 26, 33-39.	1.3	5
52	Regular Positive-Real Functions and the Classification of Transformerless Series-Parallel Networks. Lecture Notes in Control and Information Sciences, 2010, , 15-25.	0.6	5
53	Power absorption invariance for brownian spring forcing. , 2012, , .		3
54	Multivariate root-locus behaviour and the relationship to transfer-function pole-zero structureâ€. International Journal of Control, 1986, 43, 497-515.	1.2	2

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55	Robust Stabilization in the Gap Metric: Controller Design for Distributed Plants. , 1990, , .		2
56	On the classification of series-parallel electrical and mechanical networks. , 2010, , .		2
57	LQ optimal and risk-sensitive control for vehicle suspensions. , 2012, , .		2
58	On a concept of genericity for RLC networks. Systems and Control Letters, 2019, 134, 104562.	1.3	2
59	Flexible structure experiments at JPL and WPAFB: Hâˆž controller designs. , 1992, , .		2
60	Weighted sensitivity minimization: General plants in H[∞] and rational weights. , 1987, , .		1
61	A behavioural view of play in mechanical networks. , 2007, , .		1
62	A new proof of Reichert's theorem. , 2016, , .		1
63	Validated numerical methods for systems and control engineering. SIGSAM Bulletin: A Quarterly Publication of the Special Interest Group on Symbolic & Algebraic Manipulation, 2003, 37, 72-73.	0.3	0
64	Robust Stabilization in the Gap Metric. , 1990, , 69-82.		0
65	On Minimal Order Stabilization of Single Loop Plants. , 1986, , .		0