Rodolphe Sepulchre

List of Publications by Year
in descending order

106 papers	5,714 citations	196777 29 h-index	120465 65 g-index
107 all docs	107 docs citations	107 times ranked	4227 citing authors

#	Article	IF	Citations
1	Balanced Truncation of k-Positive Systems. IEEE Transactions on Automatic Control, 2022, 67, 526-531.	3.6	8
2	Variation diminishing linear time-invariant systems. Automatica, 2022, 136, 109985.	3.0	11
3	Autoregulation of switching behavior by cellular compartment size. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2116054119.	3.3	3
4	Spiking Control Systems. Proceedings of the IEEE, 2022, 110, 577-589.	16.4	6
5	Oscillations in mixed-feedback systems. Systems and Control Letters, 2022, 166, 105289.	1.3	4
6	Feedback identification of conductance-based models. Automatica, 2021, 123, 109297.	3.0	5
7	Inductive Geometric Matrix Midranges. IFAC-PapersOnLine, 2021, 54, 584-589.	0.5	1
8	Differential dissipativity analysis of reactionâ€“diffusion systems. Systems and Control Letters, 2021, 148, 104858.	1.3	2
9	From Biophysical to Integrate-and-Fire Modeling. Neural Computation, 2021, 33, 563-589.	1.3	3
10	Safe Control [About This Issue]. IEEE Control Systems, 2021, 41, 5-8.	1.0	0
11	Balanced truncation for model reduction of biological oscillators. Biological Cybernetics, 2021, 115, 383-395.	0.6	0
12	Model reduction of dominant feedback systems. Automatica, 2021, 130, 109695.	3.0	6
13	Target formation on the circle by monotone system design. , 2021, , .		2
14	Geometric Matrix Midranges. SIAM Journal on Matrix Analysis and Applications, 2020, 41, 1347-1368.	0.7	2
15	Model reduction by balanced truncation of dominant Lure systems. IFAC-PapersOnLine, 2020, 53, 5617-5622.	0.5	1
16	The geometry of restâ€“spike bistability. Journal of Mathematical Neuroscience, 2020, 10, 13.	2.4	2
17	Conal Distances Between Rational Spectral Densities. IEEE Transactions on Automatic Control, 2019, 64, 1848-1857.	3.6	2
18	Control by neuromodulation: A tutorial. , 2019, , .		3

#	Article	IF	Citations
19	Feedback for nonlinear system identification. , 2019, , .		3
20	Geometric Distance Between Positive Definite Matrices of Different Dimensions. IEEE Transactions on Information Theory, 2019, 65, 5401-5405.	1.5	8
21	Neuromodulation of Neuromorphic Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 3028-3040.	3.5	27
22	Control theory in biology and medicine. Biological Cybernetics, 2019, 113, 1-6.	0.6	16
23	The sensitivity function of excitable feedback systems. , 2019, , .		3
24	The H_{âˆž,p} norm as the differential L_{2,p} gain of a p-dominant system. , 2019, , .		6
25	Dominance margins for feedback systems. IFAC-PapersOnLine, 2019, 52, 658-663.	0.5	4
26	Strongly unimodal systems. , 2019, , .		7
27	Differential Dissipativity Theory for Dominance Analysis. IEEE Transactions on Automatic Control, 2019, 64, 2340-2351.	3.6	37
28	Cellular switches orchestrate rhythmic circuits. Biological Cybernetics, 2019, 113, 71-82.	0.6	23
29	Robust Modulation of Integrate-and-Fire Models. Neural Computation, 2018, 30, 987-1011.	1.3	8
30	Gaussian mean-field models of linear systems. , 2018, , .		0
31	Ordering positive definite matrices. Information Geometry, 2018, 1, 287-313.	0.8	10
32	Monotonicity on homogeneous spaces. Mathematics of Control, Signals, and Systems, 2018, 30, 1.	1.4	2
33	Switchable slow cellular conductances determine robustness and tunability of network states. PLoS Computational Biology, 2018, 14, e1006125.	1.5	12
34	Positivity, Monotonicity, and Consensus on Lie Groups. SIAM Journal on Control and Optimization, 2018, 56, 2436-2461.	1.1	8
35	Robust and tunable bursting requires slow positive feedback. Journal of Neurophysiology, 2018, 119, 1222-1234.	0.9	28
36	Excitable Behaviors. Lecture Notes in Control and Information Sciences - Proceedings, 2018, , 269-280.	0.1	10

#	Article	IF	Citations
37	Affine-Invariant Orders on the Set ofÂPositive-Definite Matrices. Lecture Notes in Computer Science, 2017, , 613-620.	1.0	1
38	Bursting through interconnection of excitable circuits. , 2017, , .		3
39	A dissipativity theorem for p-dominant systems. , 2017, , .		8
40	Scaled stochastic gradient descent for low-rank matrix completion. , 2016, , .		0
41	A Three-Scale Model of Spatio-Temporal Bursting. SIAM Journal on Applied Dynamical Systems, 2016, 15, 2143-2175.	0.7	3
42	A spectral characterization of nonlinear normal modes. Journal of Sound and Vibration, 2016, 377, 284-301.	2.1	32
43	Riemannian Preconditioning. SIAM Journal on Optimization, 2016, 26, 635-660.	1.2	25
44	AR Identification of Latent-Variable Graphical Models. IEEE Transactions on Automatic Control, 2016, 61, 2327-2340.	3.6	57
45	Cerebral functional connectivity periodically (de)synchronizes with anatomical constraints. Brain Structure and Function, 2016, 221, 2985-2997.	1.2	76
46	On the projective geometry of kalman filter. , 2015, , .		1
47	Dynamic Input Conductances Shape Neuronal Spiking. ENeuro, 2015, 2, ENEURO.0031-14.2015.	0.9	28
48	Sparse plus low-rank autoregressive identification in neuroimaging time series. , 2015, , .		19
49	Neuronal behaviors: A control perspective. , 2015, , .		13
50	Differentially Positive Systems. IEEE Transactions on Automatic Control, 2015, , 1-1.	3.6	18
51	A positive feedback at the cellular level promotes robustness and modulation at the circuit level. Journal of Neurophysiology, 2015, 114, 2472-2484.	0.9	18
52	Realization of nonlinear behaviors from organizing centers. , 2014, , .		11
53	Fixed-rank matrix factorizations and Riemannian low-rank optimization. Computational Statistics, 2014, 29, 591-621.	0.8	63
54	A Differential Lyapunov Framework for Contraction Analysis. IEEE Transactions on Automatic Control, 2014, 59, 614-628.	3.6	220

#	Article	IF	Citations
55	Anisotropy Preserving DTI Processing. International Journal of Computer Vision, 2014, 107, 58-74.	10.9	10
56	Modeling the Modulation of Neuronal Bursting: A Singularity Theory Approach. SIAM Journal on Applied Dynamical Systems, 2014, 13, 798-829.	0.7	36
57	R3MC: A Riemannian three-factor algorithm for low-rank matrix completion. , 2014, , .		20
58	Reconstructing trajectories from the moments of occupation measures. , 2014, , .		7
59	Statistical tests for group comparison of manifold-valued data. , 2013, , .		2
60	A Balance Equation Determines a Switch in Neuronal Excitability. PLoS Computational Biology, 2013, 9, e1003040.	1.5	41
61	An Organizing Center in a Planar Model of Neuronal Excitability. SIAM Journal on Applied Dynamical Systems, 2012, 11, 1698-1722.	0.7	34
62	Energy saving for induction motor control by extremum seeking. , 2012, , .		5
63	Global State Synchronization in Networks of Cyclic Feedback Systems. IEEE Transactions on Automatic Control, 2012, 57, 478-483.	3.6	62
64	Kick synchronization versus diffusive synchronization. , 2012, , .		25
65	A Novel Phase Portrait for Neuronal Excitability. PLoS ONE, 2012, 7, e41806.	1.1	25
66	An internal model principle is necessary and sufficient for linear output synchronization. Automatica, 2011, 47, 1068-1074.	3.0	782
67	Local stability results for the collective behaviors of infinite populations of pulse-coupled oscillators. , 2011, , .		0
68	Matching an oscillator model to a phase response curve. , 2011, , .		0
69	How Modeling Can Reconcile Apparently Discrepant Experimental Results: The Case of Pacemaking in Dopaminergic Neurons. PLoS Computational Biology, 2011, 7, e1002050.	1.5	75
70	Mâ€type channels selectively control bursting in rat dopaminergic neurons. European Journal of Neuroscience, 2010, 31, 827-835.	1.2	38
71	Delayed decision-making in bistable models. , 2010, , .		2
72	Consensus in non-commutative spaces. , 2010, , .		30

#	Article	IF	Citations
73	Phase synchronization through entrainment by a consensus input. , 2010, , .		5
74	Riemannian Metric and Geometric Mean for Positive Semidefinite Matrices of Fixed Rank. SIAM Journal on Matrix Analysis and Applications, 2010, 31, 1055-1070.	0.7	82
75	Coordinated Motion Design on Lie Groups. IEEE Transactions on Automatic Control, 2010, 55, 1047-1058.	3.6	84
76	A PDE viewpoint on basic properties of coordination algorithms with symmetries. , 2009, , .		26
77	Controlling the phase of an oscillator: A phase response curve approach. , 2009, , .		15
78	From subspace learning to distance learning: A geometrical optimization approach. , 2009, , .		3
79	Autonomous rigid body attitude synchronization. Automatica, 2009, 45, 572-577.	3.0	251
80	Adaptive Regulation of Vector-Controlled Induction Motors. IEEE Transactions on Control Systems Technology, 2009, 17, 646-657.	3.2	52
81	Nonlinear Drillstring Dynamics Analysis. SIAM Journal on Applied Dynamical Systems, 2009, 8, 527-553.	0.7	111
82	Stabilization of symmetric formations to motion around convex loops. Systems and Control Letters, 2008, 57, 209-215.	1.3	57
83	Stabilization of Planar Collective Motion With Limited Communication. IEEE Transactions on Automatic Control, 2008, 53, 706-719.	3.6	373
84	Coordination on Lie groups. , 2008, , .		0
85	Synchronization in networks of identical linear systems. , 2008, , .		86
86	Optimization Algorithms on Matrix Manifolds. , 2008, , .		1,058
87	Stabilization of Three-Dimensional Collective Motion. Communications in Information and Systems, 2008, 8, 473-500.	0.3	26
88	Time-optimal control of a 3-level quantum system and its generalization to an n-level system. Proceedings of the American Control Conference, 2007, , .	0.0	1
89	Elucidating the Altered Transcriptional Programs in Breast Cancer using Independent Component Analysis. PLoS Computational Biology, 2007, 3, e161.	1.5	108
90	Consensus under general convexity. , 2007, , .		2

#	Article	IF	Citations
91	Output synchronization in networks of cyclic biochemical oscillators. Proceedings of the American Control Conference, 2007, , .	0.0	22
92	Stabilization of collective motion in three dimensions: A consensus approach. , 2007, , .		28
93	Analysis of Interconnected Oscillators by Dissipativity Theory. IEEE Transactions on Automatic Control, 2007, 52, 256-270.	3.6	233
94	Oscillator Models and Collective Motion. IEEE Control Systems, 2007, 27, 89-105.	1.0	185
95	Rhythmic Feedback Control of a Blind Planar Juggler. IEEE Transactions on Robotics, 2007, 23, 790-802.	7.3	50
96	Autonomous rigid body attitude synchronization. , 2007, , .		36
97	Stabilization of Planar Collective Motion: All-to-All Communication. IEEE Transactions on Automatic Control, 2007, 52, 811-824.	3.6	421
98	Stabilization laws for collective motion in three dimensions. , 2007, , .		3
99	Feedback Control of Impact Dynamics: the Bouncing Ball Revisited. , 2006, , .		9
100	Collective optimization over average quantities. , 2006, , .		17
101	Feedback mechanisms for global oscillations in Lure systems. Systems and Control Letters, 2005, 54, 809-818.	1.3	26
102	Elucidating the Altered Transcriptional Programs in Breast Cancer using Independent Component Analysis. PLoS Computational Biology, 2005, preprint, e161.	1.5	0
103	Stabilization and Disturbance Attenuation of Nonlinear Systems Using Dissipativity Theory. European Journal of Control, 2002, 8, 408-431.	1.6	43
104	CLF based designs with robustness to dynamic input uncertainties. Systems and Control Letters, 1999, 37, 45-54.	1.3	56
105	Global adaptive stabilization of cascade nonlinear systems. Automatica, 1997, 33, 263-268.	3.0	42
106	Integrator forwarding: A new recursive nonlinear robust design. Automatica, 1997, 33, 979-984.	3.0	140