GÃ¡bor SzederkÃ©nyi

List of Publications by Year
in descending order

86 papers	854 citations	567281 15 h-index	552781 26 g-index
89 all docs	89 docs citations	89 times ranked	400 citing authors

#	Article	IF	Citations
1	Microsimulation based quantitative analysis of COVID-19 management strategies. PLoS Computational Biology, 2022, 18, e1009693.	3.2	19
2	Reconstruction of Epidemiological Data in Hungary Using Stochastic Model Predictive Control. Applied Sciences (Switzerland), 2022, 12, 1113.	2.5	7
3	Persistence and stability of a class of kinetic compartmental models. Journal of Mathematical Chemistry, 2022, 60, 1001-1020.	1.5	4
4	Lyapunov function computation for autonomous systems with complex dynamic behavior. European Journal of Control, 2022, 65, 100619.	2.6	1
5	Stabilizing feedback design for time delayed polynomial systems using kinetic realizations. European Journal of Control, 2021, 57, 163-171.	2.6	0
6	Computation of COVID-19 epidemiological data in Hungary using dynamic model inversion. , 2021, , .		6
7	Structural reduction of CRNs with linear sub-CRNs. IFAC-PapersOnLine, 2021, 54, 149-154.	0.9	0
8	Lyapunov function computation for nonlinear systems through dynamical embedding â€“ A case study. , 2021, , .		0
9	Induced L2-gain computation for rational LPV systems using Finslerâ€™s lemma and minimal generators. Systems and Control Letters, 2020, 142, 104738.	2.3	3
10	Nonlinear model predictive control with logic constraints for COVID-19 management. Nonlinear Dynamics, 2020, 102, 1965-1986.	5.2	55
11	Optimal Solar Panel Area Computation and Temperature Tracking for a CubeSat System using Model Predictive Control. SPIIRAS Proceedings, 2020, 19, 564-593.	0.8	2
12	Realizations of kinetic differential equations. Mathematical Biosciences and Engineering, 2020, 17, 862-892.	1.9	12
13	Disturbance Attenuation via Nonlinear Feedback for Chemical Reaction Networks. IFAC-PapersOnLine, 2020, 53, 11497-11502.	0.9	1
14	Analysis and Control of Nonnegative Dynamical Models with a Network Structure. , 2020, , .		0
15	Observer-based Diagnosis in Chemical Reaction Networks. , 2019, , .		0
16	Reachability Analysis of Low-Order Discrete State Reaction Networks Obeying Conservation Laws. Complexity, 2019, 2019, 1-13.	1.6	0
17	Stabilization of time delayed nonnegative polynomial systems through kinetic realization. , 2019, , .		0
18	Fuel tank temperature control of a time-varying CubeSat model. , 2019, , .		1

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19	Kinetic realization of delayed polynomial dynamical models. IFAC-PapersOnLine, 2019, 52, 45-50.	0.9	2
20	Chemical Reaction Networks as General Representations of Positive Polynomial Systems. , 2019, , .		0
21	Passivity analysis of rational LPV systems using Finslerâ€™s lemma. , 2019, , .		1
22	Computational Methods for Identification and Modelling of Complex Biological Systems. Complexity, 2019, 2019, 1-3.	1.6	0
23	Computational method for estimating the domain of attraction of discrete-time uncertain rational systems. European Journal of Control, 2019, 49, 68-83.	2.6	7
24	Power Regulation and Linearization-Based Control Design of a Small Satellite. , 2019, , .		0
25	Approximation of delayed chemical reaction networks. Reaction Kinetics, Mechanisms and Catalysis, 2018, 123, 403-419.	1.7	14
26	A computational approach to the structural analysis of uncertain kinetic systems. Computer Physics Communications, 2018, 228, 83-95.	7.5	6
27	Improved algorithm for computing the domain of attraction of rational nonlinear systems. European Journal of Control, 2018, 39, 53-67.	2.6	9
28	Reduced linear fractional representation of nonlinear systems for stability analysis âž âžThe research was partially supported by the grant K115694 of the National Research, Development and Innovation Office - NKFIH. The project has also been supported by the European Union, co-financed by the European Social Fund through the grant EFOP-3.6.3-VEKOP-16-2017-00002. The research leading to the results presented in the paper was supported (also) by the JÃ¡nos Bolyai Research Scholarship of the Hungarian Academy of. IFAC-PapersOnLine, 2018, 51, 37-42.	0.9	5
29	Modeling of the Citric Acid Cycle and its Two Shuttle Systems. , 2018, , .		0
30	Distributed control of interconnected Chemical Reaction Networks with delay. Journal of Process Control, 2018, 71, 52-62.	3.3	7
31	Model Transformations and Equivalence Classes. , 2018, , 37-54.		0
32	Basic Notions. , 2018, , 9-36.		0
33	Model Analysis. , 2018, , 55-90.		0
34	Stabilizing Feedback Control Design. , 2018, , 91-106.		0
35	Semistability of complex balanced kinetic systems with arbitrary time delays. Systems and Control Letters, 2018, 114, 38-43.	2.3	24
36	Linear conjugacy in biochemical reaction networks with rational reaction rates. Journal of Mathematical Chemistry, 2016, 54, 1658-1676.	1.5	9

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37	Efficient Computation of All Distinct Realization Structures of Kinetic Systems. IFAC-PapersOnLine, 2016, 49, 194-200.	0.9	4
38	Stabilizing kinetic feedback design using semidefinite programming. IFAC-PapersOnLine, 2016, 49, 12-17.	0.9	2
39	Structural analysis of kinetic systems with uncertain parameters. IFAC-PapersOnLine, 2016, 49, 24-27.	0.9	1
40	Uniqueness of feasible equilibria for mass action law (MAL) kinetic systems. Journal of Process Control, 2016, 48, 41-71.	3.3	9
41	Kinetic feedback design for polynomial systems. Journal of Process Control, 2016, 41, 56-66.	3.3	22
42	Computing all possible graph structures describing linearly conjugate realizations of kinetic systems. Computer Physics Communications, 2016, 204, 11-20.	7.5	14
43	Hamiltonian Feedback Design for Mass Action Law Chemical Reaction Networks. IFAC-PapersOnLine, 2015, 48, 158-163.	0.9	1
44	Analysis-based parameter estimation of an in vitro transcription-translation system. , 2015, , .		1
45	An improved method for estimating the domain of attraction of nonlinear systems containing rational functions. Journal of Physics: Conference Series, 2015, 659, 012038.	0.4	6
46	Computing zero deficiency realizations of kinetic systems. Systems and Control Letters, 2015, 81, 24-30.	2.3	22
47	Reaction network realizations of rational biochemical systems and their structural properties. Journal of Mathematical Chemistry, 2015, 53, 1657-1686.	1.5	12
48	Computing core reactions of uncertain polynomial kinetic systems. , 2015, , .		0
49	Parametric analysis of dynamically equivalent reaction network models. , 2014, , .		0
50	Kinetic feedback computation for polynomial systems to achieve weak reversibility and minimal deficiency. , 2014, , .		2
51	Polynomial time algorithms to determine weakly reversible realizations of chemical reaction networks. Journal of Mathematical Chemistry, 2014, 52, 1386-1404.	1.5	9
52	A model structure-driven hierarchical decentralized stabilizing control structure for process networks. Journal of Process Control, 2014, 24, 1358-1370.	3.3	7
53	Computing weakly reversible linearly conjugate chemical reaction networks with minimal deficiency. Mathematical Biosciences, 2013, 241, 88-98.	1.9	37
54	Optimization-based design of kinetic feedbacks for nonnegative polynomial systems. , 2013, , .		4

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55	COMPUTING ALL SPARSE KINETIC STRUCTURES FOR A LORENZ SYSTEM USING OPTIMIZATION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2013, 23, 1350141.	1.7	5
56	Computing dynamically equivalent realizations of biochemical reaction networks with mass conservation. , 2013, , .		3
57	ATP production optimization in biochemical mass action models with protein turnover. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 42-47.	0.4	0
58	On the Verification and Correction of Large-Scale Kinetic Models in Systems Biology. Lecture Notes in Computer Science, 2013, , 206-219.	1.3	1
59	CRNreals: a toolbox for distinguishability and identifiability analysis of biochemical reaction networks. Bioinformatics, 2012, 28, 1549-1550.	4.1	13
60	Determining biochemical reaction network structures for kinetic polynomial models with uncertain coefficients. , 2012, , .		1
61	The underlying linear dynamics of some positive polynomial systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 3129-3134.	2.1	12
62	Identifiability analysis and parameter estimation of a single Hodgkinâ€“Huxley type voltage dependent ion channel under voltage step measurement conditions. Neurocomputing, 2012, 77, 178-188.	5.9	32
63	Parametric uniqueness of deficiency zero reaction networks. Journal of Mathematical Chemistry, 2012, 50, 1-8.	1.5	6
64	A linear programming approach to weak reversibility and linear conjugacy of chemical reaction networks. Journal of Mathematical Chemistry, 2012, 50, 274-288.	1.5	32
65	Finding complex balanced and detailed balanced realizations of chemical reaction networks. Journal of Mathematical Chemistry, 2011, 49, 1163-1179.	1.5	55
66	Inference of complex biological networks: distinguishability issues and optimization-based solutions. BMC Systems Biology, 2011, 5, 177.	3.0	66
67	Computing reaction kinetic realizations of positive nonlinear systems using mixed integer programming. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 981-986.	0.4	3
68	Computing sparse and dense realizations of reaction kinetic systems. Journal of Mathematical Chemistry, 2010, 47, 551-568.	1.5	56
69	Hodgkinâ€“Huxley type modelling and parameter estimation of GnRH neurons. BioSystems, 2010, 100, 198-207.	2.0	11
70	Identification and dynamic inversion-based control of a pressurizer at the Paks NPP. Control Engineering Practice, 2010, 18, 554-565.	5.5	7
71	Developing an integrated software environment for mobile robot navigation and control. , 2010, , .		4
72	Using LMS-100 laser rangefinder for indoor metric map building. , 2010, , .		7

#	ARTICLE	IF	CITATIONS
73	Identifiability study of a pressurizer in a pressurized water nuclear power plant. , 2009, , .		1
74	Model synthesis identification a Hodgkin-Huxley-type neuron model. , 2009, , .		1
75	Ergonomic remote control technique for horizontal rotors equipped UAVs. , 2009, , .		2
76	Comment on â€œidentifiability of chemical reaction networksâ€•by G. Craciun and C. Pantea. Journal of Mathematical Chemistry, 2009, 45, 1172-1174.	1.5	15
77	Modeling and identification of a nuclear reactor with temperature effects and Xenon poisoning. , 2009, , .		6
78	Throwing motion generation using nonlinear optimization on a 6-degree-of-freedom robot manipulator. , 2009, , .		18
79	Local dissipative Hamiltonian description of reversible reaction networks. Systems and Control Letters, 2008, 57, 554-560.	2.3	50
80	Parameter Estimation of a Simple Primary Circuit Model of a VVER Plant. IEEE Transactions on Nuclear Science, 2008, 55, 2643-2653.	2.0	18
81	Trajectory tracking control of a 6-degree-of-freedom robot arm using nonlinear optimization. , 2008, , .		7
82	Implementation of dynamic inversion-based control of a pressurizer at the Paks NPP. , 2008, , .		2
83	Two-level controller design for an active suspension system. , 2008, , .		6
84	Combined LPV and nonlinear control of an active suspension system. , 2007, , .		5
85	Hamiltonian view on process systems. AICHE Journal, 2001, 47, 1819-1831.	3.6	61
86	Computing Different Realizations of Linear Dynamical Systems with Embedding Eigenvalue Assignment. Acta Cybernetica, 0, , .	0.6	0