David F Anderson

List of Publications by Year
in descending order

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48 papers	1,686 citations	430874 18 h-index	330143 37 g-index
50 all docs	50 docs citations	50 times ranked	834 citing authors

#	Article	IF	Citations
1	A modified next reaction method for simulating chemical systems with time dependent propensities and delays. Journal of Chemical Physics, 2007, 127, 214107.	3.0	259
2	Product-Form Stationary Distributions for Deficiency Zero Chemical Reaction Networks. Bulletin of Mathematical Biology, 2010, 72, 1947-1970.	1.9	172
3	Continuous Time Markov Chain Models for Chemical Reaction Networks. , 2011, , 3-42.		138
4	A Proof of the Global Attractor Conjecture in the Single Linkage Class Case. SIAM Journal on Applied Mathematics, 2011, 71, 1487-1508.	1.8	118
5	Stochastic Analysis of Biochemical Systems. , 2015, , .		108
6	Multilevel Monte Carlo for Continuous Time Markov Chains, with Applications in Biochemical Kinetics. Multiscale Modeling and Simulation, 2012, 10, 146-179.	1.6	84
7	Incorporating postleap checks in tau-leaping. Journal of Chemical Physics, 2008, 128, 054103.	3.0	77
8	Error analysis of tau-leap simulation methods. Annals of Applied Probability, 2011, 21, .	1.3	72
9	Global Asymptotic Stability for a Class of Nonlinear Chemical Equations. SIAM Journal on Applied Mathematics, 2008, 68, 1464-1476.	1.8	68
10	An Efficient Finite Difference Method for Parameter Sensitivities of Continuous Time Markov Chains. SIAM Journal on Numerical Analysis, 2012, 50, 2237-2258.	2.3	65
11	Stochastic analysis of biochemical reaction networks with absolute concentration robustness. Journal of the Royal Society Interface, 2014, 11, 20130943.	3.4	49
12	Lyapunov Functions, Stationary Distributions, and Non-equilibrium Potential for Reaction Networks. Bulletin of Mathematical Biology, 2015, 77, 1744-1767.	1.9	39
13	The Dynamics of Weakly Reversible Population Processes near Facets. SIAM Journal on Applied Mathematics, 2010, 70, 1840-1858.	1.8	35
14	Stochastic representations of ion channel kinetics and exact stochastic simulation of neuronal dynamics. Journal of Computational Neuroscience, 2015, 38, 67-82.	1.0	35
15	Product-Form Stationary Distributions for Deficiency Zero Networks with Non-mass Action Kinetics. Bulletin of Mathematical Biology, 2016, 78, 2390-2407.	1.9	33
16	A weak trapezoidal method for a class of stochastic differential equations. Communications in Mathematical Sciences, 2011, 9, 301-318.	1.0	26
17	Finite Time Distributions of Stochastically Modeled Chemical Systems with Absolute Concentration Robustness. SIAM Journal on Applied Dynamical Systems, 2017, 16, 1309-1339.	1.6	24
18	Comparison of finite difference based methods to obtain sensitivities of stochastic chemical kinetic models. Journal of Chemical Physics, 2013, 138, 074110.	3.0	22

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19	Boundedness of trajectories for weakly reversible, single linkage class reaction systems. Journal of Mathematical Chemistry, 2011, 49, 2275-2290.	1.5	19
20	Non-explosivity of Stochastically Modeled Reaction Networks that are Complex Balanced. Bulletin of Mathematical Biology, 2018, 80, 2561-2579.	1.9	19
21	Complexity of Multilevel Monte Carlo Tau-Leaping. SIAM Journal on Numerical Analysis, 2014, 52, 3106-3127.	2.3	18
22	Some Network Conditions for Positive Recurrence of Stochastically Modeled Reaction Networks. SIAM Journal on Applied Mathematics, 2018, 78, 2692-2713.	1.8	16
23	Weak Error Analysis of Numerical Methods for Stochastic Models of Population Processes. Multiscale Modeling and Simulation, 2012, 10, 1493-1524.	1.6	15
24	A finite difference method for estimating second order parameter sensitivities of discrete stochastic chemical reaction networks. Journal of Chemical Physics, 2012, 137, 224112.	3.0	13
25	On Constrained Langevin Equations and (Bio)Chemical Reaction Networks. Multiscale Modeling and Simulation, 2019, 17, 1-30.	1.6	13
26	Multilevel Monte Carlo for Stochastic Differential Equations with Small Noise. SIAM Journal on Numerical Analysis, 2016, 54, 505-529.	2.3	12
27	Conditions for extinction events in chemical reaction networks with discrete state spaces. Journal of Mathematical Biology, 2018, 76, 1535-1558.	1.9	12
28	Results on stochastic reaction networks with non-mass action kinetics. Mathematical Biosciences and Engineering, 2019, 16, 2118-2140.	1.9	11
29	Computational Complexity Analysis for Monte Carlo Approximations of Classically Scaled Population Processes. Multiscale Modeling and Simulation, 2018, 16, 1206-1226.	1.6	10
30	Tier structure of strongly endotactic reaction networks. Stochastic Processes and Their Applications, 2020, 130, 7218-7259.	0.9	10
31	Noise control for molecular computing. Journal of the Royal Society Interface, 2018, 15, 20180199.	3.4	9
32	On reaction network implementations of neural networks. Journal of the Royal Society Interface, 2021, 18, 20210031.	3.4	9
33	Hybrid pathwise sensitivity methods for discrete stochastic models of chemical reaction systems. Journal of Chemical Physics, 2015, 142, 034103.	3.0	8
34	IdentifyingÂconditions for elimination and epidemic potential of methicillin-resistant Staphylococcus aureus in nursing homes. Antimicrobial Resistance and Infection Control, 2016, 5, 32.	4.1	8
35	Models to predict prevalence and transition dynamics of methicillin-resistant Staphylococcus aureus in community nursing homes. American Journal of Infection Control, 2016, 44, 507-514.	2.3	8
36	On classes of reaction networks and their associated polynomial dynamical systems. Journal of Mathematical Chemistry, 2020, 58, 1895-1925.	1.5	8

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37	Stochastic chemical reaction networks for robustly approximating arbitrary probability distributions. Theoretical Computer Science, 2020, 801, 64-95.	0.9	7
38	Prevalence of deficiency-zero reaction networks in an ErdÃ¶sâ€“RÃ©nyi framework. Journal of Applied Probability, 2022, 59, 384-398.	0.7	7
39	Low Variance Couplings for Stochastic Models of Intracellular Processes with Time-Dependent Rate Functions. Bulletin of Mathematical Biology, 2019, 81, 2902-2930.	1.9	6
40	An asymptotic relationship between coupling methods for stochastically modeled population processes. IMA Journal of Numerical Analysis, 2015, 35, 1757-1778.	2.9	5
41	Discrepancies between extinction events and boundary equilibria in reaction networks. Journal of Mathematical Biology, 2019, 79, 1253-1277.	1.9	5
42	Deficiency zero for random reaction networks under a stochastic block model framework. Journal of Mathematical Chemistry, 2021, 59, 2063-2097.	1.5	5
43	Time-dependent product-form Poisson distributions for reaction networks with higher order complexes. Journal of Mathematical Biology, 2020, 80, 1919-1951.	1.9	4
44	Stochastically modeled weakly reversible reaction networks with a single linkage class. Journal of Applied Probability, 2020, 57, 792-810.	0.7	2
45	Fast and accurate representations of stochastic ion channel fluctuations. BMC Neuroscience, 2015, 16, P258.	1.9	0
46	Variance of Finite Difference Methods for Reaction Networks with Non-Lipschitz Rate Functions. SIAM Journal on Numerical Analysis, 2020, 58, 3125-3143.	2.3	0
47	Stationary distributions of stochastically modeled reaction systems. , 2015, , 33-41.		0
48	Conditional Monte Carlo for Reaction Networks. SIAM Journal of Scientific Computing, 2022, 44, A993-A1019.	2.8	0