Dirk Lebiedz

List of Publications by Year
in descending order

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25 papers	555 citations	687363 13 h-index	642732 23 g-index
25 all docs	25 docs citations	25 times ranked	549 citing authors

#	Article	IF	Citations
1	Dependence of Bacterial Chemotaxis on Gradient Shape and Adaptation Rate. PLoS Computational Biology, 2008, 4, e1000242.	3.2	97
2	Protein exchange dynamics at chemoreceptor clusters in Escherichia coli. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 6403-6408.	7.1	75
3	Coverage dependence of oxygen decomposition and surface diffusion on rhodium (111): A DFT study. Journal of Chemical Physics, 2005, 122, 034710.	3.0	56
4	Role of Translational Coupling in Robustness of Bacterial Chemotaxis Pathway. PLoS Biology, 2009, 7, e1000171.	5.6	54
5	Predicted Auxiliary Navigation Mechanism of Peritrichously Flagellated Chemotactic Bacteria. PLoS Computational Biology, 2010, 6, e1000717.	3.2	42
6	Manipulation of Self-Aggregation Patterns and Waves in a Reaction-Diffusion System by Optimal Boundary Control Strategies. Physical Review Letters, 2003, 91, 208301.	7.8	39
7	Influence of initial oxygen coverage and magnetic moment on the NO decomposition on rhodium (111). Journal of Chemical Physics, 2005, 122, 154702.	3.0	29
8	Minimal curvature trajectories: Riemannian geometry concepts for slow manifold computation in chemical kinetics. Journal of Computational Physics, 2010, 229, 6512-6533.	3.8	22
9	Entropy-Related Extremum Principles for Model Reduction of Dissipative Dynamical Systems. Entropy, 2010, 12, 706-719.	2.2	22
10	Linear relationship between activation energies and reaction energies for coverage-dependent dissociation reactions on rhodium surfaces. Physical Chemistry Chemical Physics, 2005, 7, 2552.	2.8	21
11	A Variational Principle for Computing Slow Invariant Manifolds in Dissipative Dynamical Systems. SIAM Journal of Scientific Computing, 2011, 33, 703-720.	2.8	16
12	Influence of Coadsorbates on the NO Dissociation on a Rhodium(311) Surface. ChemPhysChem, 2005, 6, 2513-2521.	2.1	15
13	Oscillatory NAD(P)H Waves and Calcium Oscillations in Neutrophils? A Modeling Study of Feasibility. Biophysical Journal, 2009, 96, 417-428.	0.5	15
14	Automatic network coupling analysis for dynamical systems based on detailed kinetic models. Physical Review E, 2005, 72, 041911.	2.1	9
15	Dynamic control and information processing in chemical reaction systems by tuning self-organization behavior. Chaos, 2004, 14, 611-616.	2.5	7
16	A robust optimization approach to experimental design for model discrimination of dynamical systems. Mathematical Programming, 2013, 141, 405-433.	2.4	7
17	A Continuation Method for the Efficient Solution of Parametric Optimization Problems in Kinetic Model Reduction. SIAM Journal of Scientific Computing, 2013, 35, A1584-A1603.	2.8	6
18	Specific external forcing of spatiotemporal dynamics in reactionâ€“diffusion systems. Chaos, 2005, 15, 023901.	2.5	5

#	Article	IF	Citations
19	Geometric Criteria for Model Reduction in Chemical Kinetics via Optimization of Trajectories. Lecture Notes in Computational Science and Engineering, 2011, , 241-252.	0.3	4
20	Robust Optimal Design of Synthetic Biological Networks. Methods in Molecular Biology, 2012, 813, 45-55.	0.9	3
21	An Optimization Approach to Kinetic Model Reduction for Combustion Chemistry. Flow, Turbulence and Combustion, 2014, 92, 885-902.	2.6	3
22	Towards Differential Geometric Characterization of Slow Invariant Manifolds in Extended Phase Space: Sectional Curvature and Flow Invariance. SIAM Journal on Applied Dynamical Systems, 2018, 17, 732-753.	1.6	3
23	Flow curvature manifold and energy of generalized LiÃ©nard systems. Chaos, Solitons and Fractals, 2022, 161, 112354.	5.1	3
24	Targeting characteristic wave properties in reaction-diffusion systems by optimization of external forcing. Physical Review E, 2007, 76, 056211.	2.1	2
25	Simplified Reaction Models for Combustion in Gas Turbine Combustion Chambers. Fluid Mechanics and Its Applications, 2013, , 161-182.	0.2	0