Michael Dellnitz

List of Publications by Year
in descending order

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83 papers	2,526 citations	236833 25 h-index	214721 47 g-index
87 all docs	87 docs citations	87 times ranked	1138 citing authors

#	Article	IF	Citations
1	On the Approximation of Complicated Dynamical Behavior. SIAM Journal on Numerical Analysis, 1999, 36, 491-515.	1.1	386
2	A subdivision algorithm for the computation of unstable manifolds and global attractors. Numerische Mathematik, 1997, 75, 293-317.	0.9	261
3	Set Oriented Numerical Methods for Dynamical Systems. Handbook of Dynamical Systems, 2002, 2, 221-264.	0.6	120
4	The Algorithms Behind GAIO â€" Set Oriented Numerical Methods for Dynamical Systems. , 2001, , 145-174.		111
5	Detecting and Locating Near-Optimal Almost-Invariant Sets and Cycles. SIAM Journal of Scientific Computing, 2003, 24, 1839-1863.	1.3	109
6	TRANSPORT IN DYNAMICAL ASTRONOMY AND MULTIBODY PROBLEMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2005, 15, 699-727.	0.7	86
7	Computational methods for bifurcation problems with symmetriesâ€"with special attention to steady state and Hopf bifurcation points. Journal of Computational and Applied Mathematics, 1989, 26, 97-123.	1.1	65
8	The structure of symmetric attractors. Archive for Rational Mechanics and Analysis, 1993, 123, 75-98.	1.1	65
9	Locating all the zeros of an analytic function in one complex variable. Journal of Computational and Applied Mathematics, 2002, 138, 325-333.	1.1	59
10	On the isolated spectrum of the Perron-Frobenius operator. Nonlinearity, 2000, 13, 1171-1188.	0.6	55
11	Convergence of stochastic search algorithms to finite size pareto set approximations. Journal of Global Optimization, 2008, 41, 559-577.	1.1	54
12	Designing optimal low-thrust gravity-assist trajectories using space pruning and a multi-objective approach. Engineering Optimization, 2009, 41, 155-181.	1.5	53
13	Exploring invariant sets and invariant measures. Chaos, 1997, 7, 221-228.	1.0	52
14	Detecting the symmetry of attractors. Physica D: Nonlinear Phenomena, 1993, 67, 66-87.	1.3	47
15	An adaptive method for the approximation of the generalized cell mapping. Chaos, Solitons and Fractals, 1997, 8, 525-534.	2.5	46
16	The Computation of Unstable Manifolds Using Subdivision and Continuation. , 1996, , 449-459.		45
17	Almost Invariant Sets in Chua's Circuit. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1997, 07, 2475-2485.	0.7	44
18	A Survey of Recent Trends in Multiobjective Optimal Controlâ€"Surrogate Models, Feedback Control and Objective Reduction. Mathematical and Computational Applications, 2018, 23, 30.	0.7	44

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19	An adaptive subdivision technique for the approximation of attractors and invariant measures. Computing and Visualization in Science, 1998, 1, 63-68.	1.2	43
20	On target for Venus â€“ set oriented computation of energy efficient low thrust trajectories. Celestial Mechanics and Dynamical Astronomy, 2006, 95, 357-370.	0.5	42
21	Deep model predictive flow control with limited sensor data and online learning. Theoretical and Computational Fluid Dynamics, 2020, 34, 577-591.	0.9	42
22	Covering Pareto Sets by Multilevel Evolutionary Subdivision Techniques. Lecture Notes in Computer Science, 2003, , 118-132.	1.0	41
23	Hybridizing evolutionary strategies with continuation methods for solving multi-objective problems. Engineering Optimization, 2008, 40, 383-402.	1.5	40
24	Transition Manifolds of Complex Metastable Systems. Journal of Nonlinear Science, 2018, 28, 471-512.	1.0	36
25	Transport of Mars-Crossing Asteroids from the Quasi-Hilda Region. Physical Review Letters, 2005, 94, 231102.	2.9	27
26	Graph Algorithms for Dynamical Systems. , 2006, , 619-645.		27
27	Symmetry of Attractors and the Karhunen-LoÃ¨ve Decomposition. Applied Mathematical Sciences (Switzerland), 1994, , 73-108.	0.4	27
28	Finding zeros by multilevel subdivision techniques. IMA Journal of Numerical Analysis, 2002, 22, 167-185.	1.5	25
29	Local expansion concepts for detecting transport barriers in dynamical systems. Communications in Nonlinear Science and Numerical Simulation, 2009, 14, 4176-4190.	1.7	25
30	A multi-objective approach to the design of low thrust space trajectories using optimal control. Celestial Mechanics and Dynamical Astronomy, 2009, 105, 33-59.	0.5	24
31	Handling high-dimensional problems with multi-objective continuation methods via successive approximation of the tangent space. Engineering Optimization, 2012, 44, 1117-1146.	1.5	24
32	Set Oriented Methods for the Numerical Treatment of Multiobjective Optimization Problems. Studies in Computational Intelligence, 2013, , 187-219.	0.7	21
33	Pareto Explorer: a global/local exploration tool for many-objective optimization problems. Engineering Optimization, 2020, 52, 832-855.	1.5	20
34	A Multiobjective MPC Approach for Autonomously Driven Electric Vehicles * *This research was funded by the German Federal Ministry of Education and Research (BMBF) within the Leading-Edge Cluster Intelligent Technical Systems OstWestfalenLippe (itâ€™s OWL).. IFAC-PapersOnLine, 2017, 50, 8674-8679.	0.5	19
35	A new approach for online multiobjective optimization of mechatronic systems. International Journal on Software Tools for Technology Transfer, 2008, 10, 223-231.	1.7	18
36	Multiobjective Optimal Control Methods for the Navier-Stokes Equations Using Reduced Order Modeling. Acta Applicandae Mathematicae, 2019, 161, 171-199.	0.5	18

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37	SYMMETRY BREAKING BIFURCATIONS OF CHAOTIC ATTRACTORS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1995, 05, 1643-1676.	0.7	17
38	Finite-Control-Set Model Predictive Control for a Permanent Magnet Synchronous Motor Application with Online Least Squares System Identification. , 2019, , .		17
39	A variational approach to define robustness for parametric multiobjective optimization problems. Journal of Global Optimization, 2013, 57, 331-345.	1.1	16
40	On the hierarchical structure of Pareto critical sets. Journal of Global Optimization, 2019, 73, 891-913.	1.1	14
41	Computational bifurcation of periodic solutions in systems with symmetry. IMA Journal of Numerical Analysis, 1992, 12, 429-455.	1.5	13
42	The computation of lyapunov exponents via spatial integration with application to blowout bifurcations. Computer Methods in Applied Mechanics and Engineering, 1999, 170, 223-237.	3.4	13
43	Multiobjective optimization for transistor sizing of CMOS logic standard cells using set-oriented numerical techniques. , 2009, , .		13
44	Multiobjective Optimization of Control Trajectories for the Guidance of a Rail-bound Vehicle. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 4380-4386.	0.4	11
45	Development of an Intelligent Cruise Control Using Optimal Control Methods. Procedia Technology, 2014, 15, 285-294.	1.1	11
46	Gradient-Based Multiobjective Optimization with Uncertainties. Studies in Computational Intelligence, 2018, , 159-182.	0.7	11
47	Global Optimization using a Dynamical Systems Approach. Journal of Global Optimization, 2006, 34, 569-587.	1.1	10
48	A Comparison of two Predictive Approaches to Control the Longitudinal Dynamics of Electric Vehicles. Procedia Technology, 2016, 26, 465-472.	1.1	10
49	Congestion and Almost Invariant Sets in Dynamical Systems. Lecture Notes in Computer Science, 2003, , 183-209.	1.0	10
50	A Set-Oriented Numerical Approach for Dynamical Systems with Parameter Uncertainty. SIAM Journal on Applied Dynamical Systems, 2017, 16, 120-138.	0.7	9
51	Generic movement of eigenvalues for equivariant self-adjoint matrices. Journal of Computational and Applied Mathematics, 1994, 55, 249-259.	1.1	8
52	Multiobjective Model Predictive Control of an Industrial Laundry. Procedia Technology, 2016, 26, 483-490.	1.1	7
53	Age- and Expertise-Related Differences of Sensorimotor Network Dynamics during Force Control. Neuroscience, 2018, 388, 203-213.	1.1	7
54	Improved Neural Control of Movements Manifests in Expertise-Related Differences in Force Output and Brain Network Dynamics. Frontiers in Physiology, 2018, 9, 1540.	1.3	6

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55	The Numerical Computation of Unstable Manifolds for Infinite Dimensional Dynamical Systems by Embedding Techniques. SIAM Journal on Applied Dynamical Systems, 2019, 18, 1265-1292.	0.7	6
56	The numerical detection of connecting orbits. Discrete and Continuous Dynamical Systems - Series B, 2001, 1, 125-135.	0.5	6
57	Sensing and control in symmetric networks. Dynamical Systems, 2017, 32, 61-79.	0.2	5
58	On the computation of attractors for delay differential equations. Journal of Computational Dynamics, 2016, 3, 5-5.	0.4	5
59	Symmetry of attractors and the Perron-Frobenius operator. Journal of Difference Equations and Applications, 2006, 12, 1147-1178.	0.7	4
60	PODâ€based multiobjective optimal control of PDEs with nonâ€smooth objectives. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 51-54.	0.2	4
61	Multiobjective Optimal Control Methods for the Development of an Intelligent Cruise Control. Mathematics in Industry, 2016, , 633-641.	0.1	4
62	Set Oriented Approximation of Invariant Manifolds: Review of Concepts for Astrodynamical Problems. AIP Conference Proceedings, 2007, , .	0.3	3
63	On the Approximation of Transport Phenomena â€“ a Dynamical Systems Approach. GAMM Mitteilungen, 2009, 32, 47-60.	2.7	3
64	Continuous relaxations for the traveling salesman problem. Nonlinear Dynamics, 2019, 97, 2003-2022.	2.7	3
65	A Set-Oriented Path Following Method for the Approximation of Parameter Dependent Attractors. SIAM Journal on Applied Dynamical Systems, 2020, 19, 705-723.	0.7	3
66	On the hierarchical structure of Pareto critical sets. AIP Conference Proceedings, 2019, , .	0.3	2
67	Low-Energy Earth-to-Halo Transfers in the Earthâ€“Moon Scenario with Sun-Perturbation. , 2011, , 39-51.		2
68	The Paradigm of Self-optimization. Lecture Notes in Mechanical Engineering, 2014, , 1-25.	0.3	2
69	Return Time Dynamics as a Tool for Finding Almost Invariant Sets. Annals of the New York Academy of Sciences, 2005, 1065, 44-54.	1.8	1
70	Electrophysiological signatures of dedifferentiation differ between fit and less fit older adults. Cognitive Neurodynamics, 2021, 15, 847-859.	2.3	1
71	On the Approximation of Complicated Dynamical Behavior. , 1999, , 400-424.		1
72	The efficient approximation of coherent pairs in non-autonomous dynamical systems. Discrete and Continuous Dynamical Systems, 2012, 32, 3029-3042.	0.5	1

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73	Multi-objective shape optimization for piezoceramics. , 2008, , .		0
74	Optimal Control on Stable Manifolds for a Double Pendulum. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 723-724.	0.2	0
75	On the equivariance properties of self-adjoint matrices. Dynamical Systems, 2020, 35, 197-215.	0.2	0
76	TRANSPORT IN DYNAMICAL ASTRONOMY AND MULTIBODY PROBLEMS. World Scientific Series on Nonlinear Science, Series B, 2006, , 3-31.	0.2	0
77	Continuous and Discrete Concepts for Detecting Transport Barriers in the Planar Circular Restricted Three Body Problem. , 2011, , 99-105.		0
78	Multilevel Subdivision Techniques for Scalar Optimization Problems. , 2012, , 221-252.		0
79	Methods for the Design and Development. Lecture Notes in Mechanical Engineering, 2014, , 183-350.	0.3	0
80	Mathematische Optimierung. Intelligente Technische Systeme, Loì‚sungen Aus Dem Spitzencluster Itâ€™s OWL, 2018, , 119-152.	0.1	0
81	Eingesetzte wissenschaftliche Methoden. Intelligente Technische Systeme, Loì‚sungen Aus Dem Spitzencluster Itâ€™s OWL, 2018, , 41-104.	0.1	0
82	Structural Properties of Pareto Fronts: The Occurrence of Dents in Classical and Parametric Multiobjective Optimization Problems. Studies in Systems, Decision and Control, 2020, , 315-336.	0.8	0
83	On target for Venus â€" set oriented computation of energy efficient low thrust trajectories. , 2006, , 357-370.		0