Marian Mrozek

List of Publications by Year
in descending order

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53 papers	1,384 citations	331670 21 h-index	345221 36 g-index
54 all docs	54 docs citations	54 times ranked	491 citing authors

#	Article	IF	Citations
1	Construction of Symbolic Dynamics from Experimental Time Series. Physical Review Letters, 1999, 82, 1144-1147.	7.8	111
2	Leray functor and cohomological Conley index for discrete dynamical systems. Transactions of the American Mathematical Society, 1990, 318, 149-178.	0.9	97
3	Chaos in the Lorenz equations: A computer assisted proof. Part II: Details. Mathematics of Computation, 1998, 67, 1023-1047.	2.1	67
4	Homology computation by reduction of chain complexes. Computers and Mathematics With Applications, 1998, 35, 59-70.	2.7	63
5	Coreduction Homology Algorithm. Discrete and Computational Geometry, 2009, 41, 96-118.	0.6	60
6	Conley index for discrete multi-valued dynamical systems. Topology and Its Applications, 1995, 65, 83-96.	0.4	52
7	Discrete Morse Theoretic Algorithms for Computing Homology of Complexes and Maps. Foundations of Computational Mathematics, 2014, 14, 151-184.	2.5	51
8	Chaos in the Lorenz Equations: A Computer Assisted Proof Part III: Classical Parameter Values. Journal of Differential Equations, 2001, 169, 17-56.	2.2	36
9	Graph Approach to the Computation of the Homology of Continuous Maps. Foundations of Computational Mathematics, 2005, 5, 199-229.	2.5	36
10	Distributed computation of coverage in sensor networks by homological methods. Applicable Algebra in Engineering, Communications and Computing, 2012, 23, 29-58.	0.5	36
11	Homology algorithm based on acyclic subspace. Computers and Mathematics With Applications, 2008, 55, 2395-2412.	2.7	32
12	Index pairs and the fixed point index for semidynamical systems with discrete time. Fundamenta Mathematicae, 1989, 133, 179-194.	0.5	31
13	A cohomological index of Conley type for multi-valued admissible flows. Journal of Differential Equations, 1990, 84, 15-51.	2.2	30
14	CAPD::DynSys: A flexible C++ toolbox for rigorous numerical analysis of dynamical systems. Communications in Nonlinear Science and Numerical Simulation, 2021, 101, 105578.	3.3	29
15	Coreduction homology algorithm for inclusions and persistent homology. Computers and Mathematics With Applications, 2010, 60, 2812-2833.	2.7	28
16	Set arithmetic and the enclosing problem in dynamics. Annales Polonici Mathematici, 0, 74, 237-259.	0.5	27
17	A cohomological Conley index for maps on metric spaces. Journal of Differential Equations, 1991, 90, 143-171.	2.2	26
18	Topological invariants, mulitvalued maps and computer assisted proofs in dynamics. Computers and Mathematics With Applications, 1996, 32, 83-104.	2.7	26

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19	The Conley Index on Compact Anrâ€™s Is of Finite Type. Resultate Der Mathematik, 1990, 18, 306-313.	0.2	25
20	Coreduction Homology Algorithm for Regular CW-Complexes. Discrete and Computational Geometry, 2011, 46, 361-388.	0.6	25
21	Index Pairs Algorithms. Foundations of Computational Mathematics, 2006, 6, 457-493.	2.5	24
22	The Persistent Homology of a Self-Map. Foundations of Computational Mathematics, 2015, 15, 1213-1244.	2.5	24
23	Homological methods for extraction and analysis of linear features in multidimensional images. Pattern Recognition, 2012, 45, 285-298.	8.1	20
24	Computing homology. Homology, Homotopy and Applications, 2003, 5, 233-256.	0.4	17
25	Synthesis and Physicochemical Properties of Yttrium Oxide Doped with Neodymium and Lanthanum. Journal of Electronic Materials, 2014, 43, 3611-3617.	2.2	16
26	Conleyâ€“Morseâ€“Forman Theory for Combinatorial Multivector Fields on Lefschetz Complexes. Foundations of Computational Mathematics, 2017, 17, 1585-1633.	2.5	15
27	Persistent Homology of Morse Decompositions in Combinatorial Dynamics. SIAM Journal on Applied Dynamical Systems, 2019, 18, 510-530.	1.6	14
28	Singular Index Pairs. Journal of Dynamics and Differential Equations, 1999, 11, 399-425.	1.9	12
29	Computing fundamental groups from point clouds. Applicable Algebra in Engineering, Communications and Computing, 2015, 26, 27-48.	0.5	12
30	Open index pairs, the fixed point index and rationality of zeta functions. Ergodic Theory and Dynamical Systems, 1990, 10, 555-564.	0.6	11
31	Weak Index Pairs and the Conley Index for Discrete Multivalued Dynamical Systems. SIAM Journal on Applied Dynamical Systems, 2016, 15, 1143-1162.	1.6	9
32	Topological Approach to Rigorous Numerics of Chaotic Dynamical Systems with Strong Expansion of Error Bounds. Foundations of Computational Mathematics, 2010, 10, 191-220.	2.5	8
33	Linking Combinatorial and Classical Dynamics: Conley Index and Morse Decompositions. Foundations of Computational Mathematics, 2020, 20, 967-1012.	2.5	7
34	Creating semiflows on simplicial complexes from combinatorial vector fields. Journal of Differential Equations, 2021, 304, 375-434.	2.2	7
35	ÄŒech Type Approach to Computing Homology of Maps. Discrete and Computational Geometry, 2010, 44, 546-576.	0.6	6
36	Conley Index Approach to Sampled Dynamics. SIAM Journal on Applied Dynamical Systems, 2020, 19, 665-704.	1.6	6

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37	Connected simple systems and the Conley functor. Topological Methods in Nonlinear Analysis, 1997, 10, 183.	0.2	6
38	The Cubical Cohomology Ring: An Algorithmic Approach. Foundations of Computational Mathematics, 2013, 13, 789-818.	2.5	5
39	A Lefschetz fixed point theorem for multivalued maps of finite spaces. Mathematische Zeitschrift, 2020, 294, 1477-1497.	0.9	4
40	CAPD::RedHom v2 - Homology Software Based on Reduction Algorithms. Lecture Notes in Computer Science, 2014, , 160-166.	1.3	4
41	Discretization strategies for computing Conley indices and Morse decompositions of flows. Journal of Computational Dynamics, 2016, 3, 1-1.	1.1	4
42	Homology Computations via Acyclic Subspace. Lecture Notes in Computer Science, 2012, , 117-127.	1.3	4
43	Combinatorial vs. classical dynamics: Recurrence. Communications in Nonlinear Science and Numerical Simulation, 2022, 108, 106226.	3.3	4
44	A Topological Approach to the Algorithmic Computation of the Conley Index for PoincarÃ© Maps. SIAM Journal on Applied Dynamical Systems, 2015, 14, 1348-1386.	1.6	3
45	ÄŒechâ€“Delaunay gradient flow and homology inference for self-maps. Journal of Applied and Computational Topology, 2020, 4, 455-480.	2.0	3
46	Conley index of PoincarÃ© maps in isolating segments. Nonlinear Analysis: Theory, Methods & Applications, 2009, 70, 2123-2131.	1.1	2
47	A Topological Method for Finding Invariant Sets of Continuous Systems. Lecture Notes in Computer Science, 2015, , 63-75.	1.3	2
48	Persistence of Conley–Morse Graphs in Combinatorial Dynamical Systems. SIAM Journal on Applied Dynamical Systems, 2022, 21, 817-839.	1.6	2
49	The Eulerâ€“PoincarÃ© characteristic of index maps. Topology and Its Applications, 2007, 154, 859-866.	0.4	1
50	Homological Methods in Feature Extraction of Multidimensional Images. , 2009, , .		1
51	Towards a formal tie between combinatorial and classical vector field dynamics. Journal of Computational Dynamics, 2016, 3, 2-2.	1.1	1
52	Ideas from Zariski Topology in the Study of Cubical Homology. Canadian Journal of Mathematics, 2007, 59, 1008-1028.	0.6	0
53	A topological method for finding invariant sets of continuous systems. Information and Computation, 2021, 277, 104581.	0.7	0