Marian Mrozek

List of Publications by Year
in descending order

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	Combinatorial vs. classical dynamics: Recurrence. Communications in Nonlinear Science and Numerical Simulation, 2022, 108, 106226.	3.3	4
2	Persistence of Conley–Morse Graphs in Combinatorial Dynamical Systems. SIAM Journal on Applied Dynamical Systems, 2022, 21, 817-839.	1.6	2
3	A topological method for finding invariant sets of continuous systems. Information and Computation, 2021, 277, 104581.	0.7	0
4	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
5	Creating semiflows on simplicial complexes from combinatorial vector fields. Journal of Differential Equations, 2021, 304, 375-434.	2.2	7
6	A Lefschetz fixed point theorem for multivalued maps of finite spaces. Mathematische Zeitschrift, 2020, 294, 1477-1497.	0.9	4
7	ÄŒechâ€“Delaunay gradient flow and homology inference for self-maps. Journal of Applied and Computational Topology, 2020, 4, 455-480.	2.0	3
8	Linking Combinatorial and Classical Dynamics: Conley Index and Morse Decompositions. Foundations of Computational Mathematics, 2020, 20, 967-1012.	2.5	7
9	Conley Index Approach to Sampled Dynamics. SIAM Journal on Applied Dynamical Systems, 2020, 19, 665-704.	1.6	6
10	Persistent Homology of Morse Decompositions in Combinatorial Dynamics. SIAM Journal on Applied Dynamical Systems, 2019, 18, 510-530.	1.6	14
11	Conleyâ€“Morseâ€“Forman Theory for Combinatorial Multivector Fields on Lefschetz Complexes. Foundations of Computational Mathematics, 2017, 17, 1585-1633.	2.5	15
12	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
13	Discretization strategies for computing Conley indices and Morse decompositions of flows. Journal of Computational Dynamics, 2016, 3, 1-1.	1.1	4
14	Towards a formal tie between combinatorial and classical vector field dynamics. Journal of Computational Dynamics, 2016, 3, 2-2.	1.1	1
15	The Persistent Homology of a Self-Map. Foundations of Computational Mathematics, 2015, 15, 1213-1244.	2.5	24
16	Computing fundamental groups from point clouds. Applicable Algebra in Engineering, Communications and Computing, 2015, 26, 27-48.	0.5	12
17	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
18	A Topological Method for Finding Invariant Sets of Continuous Systems. Lecture Notes in Computer Science, 2015, , 63-75.	1.3	2

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19	Discrete Morse Theoretic Algorithms for Computing Homology of Complexes and Maps. Foundations of Computational Mathematics, 2014, 14, 151-184.	2.5	51
20	Synthesis and Physicochemical Properties of Yttrium Oxide Doped with Neodymium and Lanthanum. Journal of Electronic Materials, 2014, 43, 3611-3617.	2.2	16
21	CAPD::RedHom v2 - Homology Software Based on Reduction Algorithms. Lecture Notes in Computer Science, 2014, , 160-166.	1.3	4
22	The Cubical Cohomology Ring: An Algorithmic Approach. Foundations of Computational Mathematics, 2013, 13, 789-818.	2.5	5
23	Distributed computation of coverage in sensor networks by homological methods. Applicable Algebra in Engineering, Communications and Computing, 2012, 23, 29-58.	0.5	36
24	Homological methods for extraction and analysis of linear features in multidimensional images. Pattern Recognition, 2012, 45, 285-298.	8.1	20
25	Homology Computations via Acyclic Subspace. Lecture Notes in Computer Science, 2012, , 117-127.	1.3	4
26	Coreduction Homology Algorithm for Regular CW-Complexes. Discrete and Computational Geometry, 2011, 46, 361-388.	0.6	25
27	Coreduction homology algorithm for inclusions and persistent homology. Computers and Mathematics With Applications, 2010, 60, 2812-2833.	2.7	28
28	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
29	ÄŒech Type Approach to Computing Homology of Maps. Discrete and Computational Geometry, 2010, 44, 546-576.	0.6	6
30	Homological Methods in Feature Extraction of Multidimensional Images. , 2009, , .		1
31	Coreduction Homology Algorithm. Discrete and Computational Geometry, 2009, 41, 96-118.	0.6	60
32	Conley index of PoincarÃ© maps in isolating segments. Nonlinear Analysis: Theory, Methods & Applications, 2009, 70, 2123-2131.	1.1	2
33	Homology algorithm based on acyclic subspace. Computers and Mathematics With Applications, 2008, 55, 2395-2412.	2.7	32
34	Ideas from Zariski Topology in the Study of Cubical Homology. Canadian Journal of Mathematics, 2007, 59, 1008-1028.	0.6	0
35	The Eulerâ€“PoincarÃ© characteristic of index maps. Topology and Its Applications, 2007, 154, 859-866.	0.4	1
36	Index Pairs Algorithms. Foundations of Computational Mathematics, 2006, 6, 457-493.	2.5	24

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37	Graph Approach to the Computation of the Homology of Continuous Maps. Foundations of Computational Mathematics, 2005, 5, 199-229.	2.5	36
38	Computing homology. Homology, Homotopy and Applications, 2003, 5, 233-256.	0.4	17
39	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
40	Construction of Symbolic Dynamics from Experimental Time Series. Physical Review Letters, 1999, 82, 1144-1147.	7.8	111
41	Singular Index Pairs. Journal of Dynamics and Differential Equations, 1999, 11, 399-425.	1.9	12
42	Homology computation by reduction of chain complexes. Computers and Mathematics With Applications, 1998, 35, 59-70.	2.7	63
43	Chaos in the Lorenz equations: A computer assisted proof. Part II: Details. Mathematics of Computation, 1998, 67, 1023-1047.	2.1	67
44	Connected simple systems and the Conley functor. Topological Methods in Nonlinear Analysis, 1997, 10, 183.	0.2	6
45	Topological invariants, mulitvalued maps and computer assisted proofs in dynamics. Computers and Mathematics With Applications, 1996, 32, 83-104.	2.7	26
46	Conley index for discrete multi-valued dynamical systems. Topology and Its Applications, 1995, 65, 83-96.	0.4	52
47	A cohomological Conley index for maps on metric spaces. Journal of Differential Equations, 1991, 90, 143-171.	2.2	26
48	Open index pairs, the fixed point index and rationality of zeta functions. Ergodic Theory and Dynamical Systems, 1990, 10, 555-564.	0.6	11
49	A cohomological index of Conley type for multi-valued admissible flows. Journal of Differential Equations, 1990, 84, 15-51.	2.2	30
50	The Conley Index on Compact Anrâ€™s Is of Finite Type. Resultate Der Mathematik, 1990, 18, 306-313.	0.2	25
51	Leray functor and cohomological Conley index for discrete dynamical systems. Transactions of the American Mathematical Society, 1990, 318, 149-178.	0.9	97
52	Index pairs and the fixed point index for semidynamical systems with discrete time. Fundamenta Mathematicae, 1989, 133, 179-194.	0.5	31
53	Set arithmetic and the enclosing problem in dynamics. Annales Polonici Mathematici, 0, 74, 237-259.	0.5	27