Francesca Mazzia

List of Publications by Year
in descending order

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81 papers	1,106 citations	394286 19 h-index	501076 28 g-index
89 all docs	89 docs citations	89 times ranked	488 citing authors

#	Article	IF	Citations
1	Solving Differential Equations in R. , 2012, , .		69
2	Solving ordinary differential equations by generalized Adams methods: properties and implementation techniques. Applied Numerical Mathematics, 1998, 28, 107-126.	1.2	55
3	Block-Boundary Value Methods for the Solution of Ordinary Differential Equations. SIAM Journal of Scientific Computing, 1999, 21, 323-339.	1.3	55
4	A generalized Taylor method of order three for the solution of initial value problems in standard and infinity floating-point arithmetic. Mathematics and Computers in Simulation, 2017, 141, 24-39.	2.4	55
5	A new mesh selection algorithm, based on conditioning, for two-point boundary value codes. Journal of Computational and Applied Mathematics, 2005, 184, 362-381.	1.1	43
6	Bâ€šspline Linear Multistep Methods and their Continuous Extensions. SIAM Journal on Numerical Analysis, 2006, 44, 1954-1973.	1.1	42
7	A Hybrid Mesh Selection Strategy Based on Conditioning for Boundary Value ODE Problems. Numerical Algorithms, 2004, 36, 169-187.	1.1	33
8	The continuous extension of the B-spline linear multistep methods for BVPs on non-uniform meshes. Applied Numerical Mathematics, 2009, 59, 723-738.	1.2	31
9	The BS class of Hermite spline quasi-interpolants onÂnonuniform knot distributions. BIT Numerical Mathematics, 2009, 49, 611-628.	1.0	30
10	Solving boundary value problems in the open source software R: package bvpSolve. Opuscula Mathematica, 2014, 34, 387.	0.3	29
11	Stability of some boundary value methods for the solution of initial value problems. BIT Numerical Mathematics, 1993, 33, 434-451.	1.0	28
12	Conjugate-symplecticity properties of Eulerâ€“Maclaurin methods and their implementation on the Infinity Computer. Applied Numerical Mathematics, 2020, 155, 58-72.	1.2	28
13	Parallel block preconditioning for the solution of boundary value methods. Journal of Computational and Applied Mathematics, 1996, 69, 191-206.	1.1	27
14	A boundary value approach to the numerical solution of initial value problems by multistep methos^{â€}. Journal of Difference Equations and Applications, 1995, 1, 353-367.	0.7	26
15	Boundary value methods based on Adams-type methods. Applied Numerical Mathematics, 1995, 18, 23-35.	1.2	25
16	Convergence and Stability of Multistep Methods Solving Nonlinear Initial Value Problems. SIAM Journal of Scientific Computing, 1997, 18, 270-285.	1.3	23
17	Numerical solution of differential algebraic equations and computation of consistent initial/boundary conditions. Journal of Computational and Applied Mathematics, 1997, 87, 135-146.	1.1	23
18	Algorithm 927. ACM Transactions on Mathematical Software, 2013, 39, 1-12.	1.6	22

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19	Computation of higher order Lie derivatives on the Infinity Computer. Journal of Computational and Applied Mathematics, 2021, 383, 113135.	1.1	22
20	A Parallel Gaussâ€“Seidel Method for Block Tridiagonal Linear Systems. SIAM Journal of Scientific Computing, 1995, 16, 1451-1461.	1.3	20
21	Quadrature formulas descending from BS Hermite spline quasi-interpolation. Journal of Computational and Applied Mathematics, 2012, 236, 4105-4118.	1.1	20
22	Boundary values methods for time-domain simulation of power system dynamic behavior. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1998, 45, 50-63.	0.1	17
23	Numerical approximation of nonlinear BVPs by means of BVMs. Applied Numerical Mathematics, 2002, 42, 337-352.	1.2	17
24	Boundary value methods for the solution of differential-algebraic equations. Numerische Mathematik, 1993, 66, 411-421.	0.9	15
25	Fifty Years of Stiffness. , 2011, , 1-21.		15
26	The conditioning of Toeplitz band matrices. Mathematical and Computer Modelling, 1996, 23, 29-42.	2.0	14
27	High-order transverse schemes for the numerical solution of PDEs. Journal of Computational and Applied Mathematics, 1997, 82, 299-311.	1.1	14
28	Computation of consistent initial values for properly stated index 3 DAEs. BIT Numerical Mathematics, 2009, 49, 161-175.	1.0	14
29	A Test Set for stiff Initial Value Problem Solvers in the open source software R: Package deTestSet. Journal of Computational and Applied Mathematics, 2012, 236, 4119-4131.	1.1	14
30	A new class of consensus protocols for agent networks with discrete time dynamics. Automatica, 2015, 54, 1-7.	3.0	14
31	Numerical methods for second order singular pertubation problems. Computers and Mathematics With Applications, 1992, 23, 81-89.	1.4	13
32	Parallel implementation of BVM methods. Applied Numerical Mathematics, 1993, 11, 115-124.	1.2	11
33	Variable-step boundary value methods based on reverse Adams schemes and their grid redistribution. Applied Numerical Mathematics, 1995, 18, 5-21.	1.2	11
34	A New Approach to Backward Error Analysis of Lu Factorization. BIT Numerical Mathematics, 1999, 39, 385-402.	1.0	11
35	Numerical methods for solving ODEs on the infinity computer. AIP Conference Proceedings, 2016, , .	0.3	11
36	Bivariate hierarchical Hermite spline quasi-interpolation. BIT Numerical Mathematics, 2016, 56, 1165-1188.	1.0	11

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37	On a Class of Conjugate Symplectic Hermite-Obreshkov One-Step Methods with Continuous Spline Extension. Axioms, 2018, 7, 58.	0.9	11
38	Backward error analysis of cyclic reduction for the solution of tridiagonal systems. Mathematics of Computation, 1994, 62, 601-601.	1.1	11
39	Hybrid x-space: a new approach for MPI reconstruction. Physics in Medicine and Biology, 2016, 61, 4061-4077.	1.6	10
40	Title is missing!. Numerical Algorithms, 1998, 19, 13-23.	1.1	9
41	The role of conditioning in mesh selection algorithms for first order systems of linear two point boundary value problems. Journal of Computational and Applied Mathematics, 2006, 185, 212-224.	1.1	9
42	On the development of effective algorithms for the numerical solution of singularly perturbed two-point boundary value problems. International Journal of Computing Science and Mathematics, 2007, 1, 42.	0.2	9
43	On the use of the Infinity Computer architecture to set up a dynamic precision floating-point arithmetic. Soft Computing, 2020, 24, 17589-17600.	2.1	8
44	A new mesh selection strategy with stiffness detection for explicit Rungeâ€“Kutta methods. Applied Mathematics and Computation, 2015, 255, 125-134.	1.4	7
45	Temperature and density dependent cooling function for H2 with updated H2/H collisional rates. Monthly Notices of the Royal Astronomical Society, 2019, 486, 1590-1593.	1.6	7
46	A Fortran test set for boundary value problem solvers. AIP Conference Proceedings, 2015, , .	0.3	6
47	A minimum-time obstacle-avoidance path planning algorithm for unmanned aerial vehicles. Numerical Algorithms, 2022, 89, 1639-1661.	1.1	6
48	Eigenvalues and Quasi-Eigenvalues of Banded Toeplitz Matrices: Some Properties and Applications. Numerical Algorithms, 2002, 31, 157-170.	1.1	5
49	Multistep Methods for Conservative Problems. Mediterranean Journal of Mathematics, 2005, 2, 53-69.	0.4	5
50	BS2 methods for semi-linear second order boundary value problems. Applied Mathematics and Computation, 2015, 255, 147-156.	1.4	5
51	Saliency Detection for Hyperspectral Images via Sparse-Non Negative-Matrix-Factorization and novel Distance Measures*. , 2020, , .		5
52	The role of difference equations in numerical analysis. Computers and Mathematics With Applications, 1994, 28, 209-217.	1.4	4
53	Generalization of Backward Differentiation Formulas for Parallel Computers. Numerical Algorithms, 2002, 31, 139-155.	1.1	4
54	Stiffness Detection Strategy for Explicit Runge Kutta Methods. AIP Conference Proceedings, 2010, , .	0.3	4

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55	Saliency Detection in Hyperspectral Images Using Autoencoder-Based Data Reconstruction. Lecture Notes in Computer Science, 2020, , 161-170.	1.0	4
56	BVPs Codes for Solving Optimal Control Problems. Mathematics, 2021, 9, 2618.	1.1	4
57	Numerical solution of singular perturbation problems. Calcolo, 1993, 30, 355-369.	0.6	3
58	Fluid statics of a self-gravitating perfect-gas isothermal sphere. European Journal of Mechanics, B/Fluids, 2019, 78, 62-87.	1.2	3
59	A Fourth Order Symplectic and Conjugate-Symplectic Extension of the Midpoint and Trapezoidal Methods. Mathematics, 2021, 9, 1103.	1.1	3
60	A Dynamic Precision Floating-Point Arithmetic Based on the Infinity Computer Framework. Lecture Notes in Computer Science, 2020, , 289-297.	1.0	3
61	On the Discrete Nature of Physical Laws. , 2004, , 35-48.		3
62	Efficient Global Methods for the Numerical Solution of Nonlinear Systems of Two Point Boundary Value Problems. , 2011, , 23-39.		3
63	Applications of PDEs inpainting to magnetic particle imaging and corneal topography. Opuscula Mathematica, 2019, 39, 453-482.	0.3	3
64	Spline based Hermite quasi-interpolation for univariate time series. Discrete and Continuous Dynamical Systems - Series S, 2022, 15, 3667-3688.	0.6	3
65	A computational point of view on teaching derivatives. Informatics and Education, 2022, 37, 79-86.	0.2	3
66	The Role of the Precise Definition of Stiffness in Designing Codes for the Solution of ODEs. , 2009, , .		2
67	Boundary Value Problems. , 2012, , 187-205.		2
68	A hybrid approach for FFP velocity gridding in MPI reconstruction. , 2015, , .		2
69	State and parameter estimation in solenoid nonlinear equations. Optimal Control Applications and Methods, 2018, 39, 809-818.	1.3	2
70	The Performances of the Code TOM on the Holt Problem. , 2003, , 349-360.		2
71	On the Extension of the Code GAM for Parallel Computingâ‹†. Lecture Notes in Computer Science, 1999, , 1136-1143.	1.0	2
72	Parallel implicit predictor corrector methods. Applied Numerical Mathematics, 2002, 42, 235-250.	1.2	1

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73	Solving Volterra integro-differential equations by variable stepsize block BS methods: Properties and implementation techniques. Applied Mathematics and Computation, 2014, 239, 198-210.	1.4	1
74	Symplecticity properties of Eulerâ€“Maclaurin methods. AIP Conference Proceedings, 2018, , .	0.3	1
75	Computation of Consistent Initial Values for Nonlinear Index 3 DAEs. AIP Conference Proceedings, 2007, , .	0.3	0
76	High Order Continuous Approximation for the Top Order Methods. AIP Conference Proceedings, 2007, , .	0.3	0
77	BS Methods: A New Class of Spline Collocation BVMs. , 2008, , .		0
78	40 years of numerical analysis: â€œIs the discrete world an approximation of the continuous one or is it the other way around?â€• Journal of Computational and Applied Mathematics, 2012, 236, 3855-3856.	1.1	0
79	Symmetric block BVMs for the solution of conservative systems. , 2013, , .		0
80	Leveraging colour-based pseudo-labels to supervise saliency detection in hyperspectral image datasets. Journal of Intelligent Information Systems, 2021, 57, 423-446.	2.8	0
81	Boundary Value Methods: GAMD, TOM. , 2015, , 151-155.		0