Mani Mehra

List of Publications by Year
in descending order

75 papers	827 citations	471371 17 h-index	642610 23 g-index
80 all docs	80 docs citations	80 times ranked	259 citing authors

#	Article	IF	Citations
1	An adaptive wavelet collocation method for the solution of partial differential equations on the sphere. Journal of Computational Physics, 2008, 227, 5610-5632.	1.9	56
2	Existence and uniqueness results for a nonlinear Caputo fractional boundary value problem on a star graph. Journal of Mathematical Analysis and Applications, 2019, 477, 1243-1264.	0.5	43
3	Legendre wavelet collocation method for fractional optimal control problems with fractional Bolza cost. Numerical Methods for Partial Differential Equations, 2021, 37, 1693-1724.	2.0	30
4	Fourth order compact scheme for space fractional advectionâ€“diffusion reaction equations with variable coefficients. Journal of Computational and Applied Mathematics, 2020, 380, 112963.	1.1	30
5	Wavelet-Taylor Galerkin Method for the Burgers Equation. BIT Numerical Mathematics, 2005, 45, 543-560.	1.0	27
6	Wavelet collocation method based on Legendre polynomials and its application in solving the stochastic fractional integro-differential equations. Journal of Computational Science, 2021, 51, 101342.	1.5	27
7	Time-accurate solution of advection-diffusion problems by wavelet-Taylor-Galerkin method. Communications in Numerical Methods in Engineering, 2005, 21, 313-326.	1.3	26
8	Fractional optimal control problems on a star graph: Optimality system and numerical solution. Mathematical Control and Related Fields, 2021, 11, 189-209.	0.6	26
9	Collocation method for solving nonlinear fractional optimal control problems by using Hermite scaling function with error estimates. Optimal Control Applications and Methods, 2021, 42, 417-444.	1.3	25
10	Algorithm 986. ACM Transactions on Mathematical Software, 2018, 44, 1-31.	1.6	24
11	A three-step wavelet Galerkin method for parabolic and hyperbolic partial differential equations. International Journal of Computer Mathematics, 2006, 83, 143-157.	1.0	23
12	A difference scheme for the time-fractional diffusion equation on a metric star graph. Applied Numerical Mathematics, 2020, 158, 152-163.	1.2	23
13	CUBIC SPLINE ADAPTIVE WAVELET SCHEME TO SOLVE SINGULARLY PERTURBED REACTION DIFFUSION PROBLEMS. International Journal of Wavelets, Multiresolution and Information Processing, 2007, 05, 317-331.	0.9	20
14	Wavelet optimized finite difference method using interpolating wavelets for self-adjoint singularly perturbed problems. Journal of Computational and Applied Mathematics, 2009, 230, 803-812.	1.1	20
15	Optimal Control Problems Driven by Time-Fractional Diffusion Equations on Metric Graphs: Optimality System and Finite Difference Approximation. SIAM Journal on Control and Optimization, 2021, 59, 4216-4242.	1.1	20
16	An adaptive meshfree spectral graph wavelet method for partial differential equations. Applied Numerical Mathematics, 2017, 113, 168-185.	1.2	18
17	An approach based on Haar wavelet for the approximation of fractional calculus with application to initial and boundary value problems. Mathematical Methods in the Applied Sciences, 2021, 44, 3195-3213.	1.2	18
18	A WAVELET-TAYLOR GALERKIN METHOD FOR PARABOLIC AND HYPERBOLIC PARTIAL DIFFERENTIAL EQUATIONS. International Journal of Computational Methods, 2005, 02, 75-97.	0.8	17

#	Article	IF	Citations
19	Fourth-Order Compact Finite Difference Scheme for American Option Pricing Under Regime-Switching Jump-Diffusion Models. International Journal of Applied and Computational Mathematics, 2017, 3, 547-567.	0.9	17
20	Wavelets Theory and Its Applications. Forum for Interdisciplinary Mathematics, 2018, , .	0.8	17
21	An adaptive meshfree diffusion wavelet method for partial differential equations on the sphere. Journal of Computational Physics, 2014, 272, 747-771.	1.9	15
22	A fast adaptive spectral graph wavelet method for the viscous Burgers' equation on a starâ€shaped connected graph. Mathematical Methods in the Applied Sciences, 2020, 43, 7595-7614.	1.2	15
23	TIME ACCURATE FAST THREE-STEP WAVELET-GALERKIN METHOD FOR PARTIAL DIFFERENTIAL EQUATIONS. International Journal of Wavelets, Multiresolution and Information Processing, 2006, 04, 65-79.	0.9	14
24	A fast adaptive diffusion wavelet method for Burgerâ€™s equation. Computers and Mathematics With Applications, 2014, 68, 568-577.	1.4	14
25	An Adaptive Multilevel Wavelet Solver for Elliptic Equations on an Optimal Spherical Geodesic Grid. SIAM Journal of Scientific Computing, 2008, 30, 3073-3086.	1.3	13
26	FOURTH-ORDER COMPACT SCHEME FOR OPTION PRICING UNDER THE MERTONâ€™S AND KOUâ€™S JUMP-DIFFUSION MODELS. International Journal of Theoretical and Applied Finance, 2018, 21, 1850027.	0.2	13
27	A modified variableâ€order fractional SIR model to predict the spread of COVIDâ€19 in India. Mathematical Methods in the Applied Sciences, 2023, 46, 8208-8222.	1.2	13
28	Time-accurate solutions of Kortewegâ€“de Vries equation using wavelet Galerkin method. Applied Mathematics and Computation, 2005, 162, 447-460.	1.4	12
29	High-Order Compact Finite Difference Scheme for Pricing Asian Option with Moving Boundary Condition. Differential Equations and Dynamical Systems, 2019, 27, 39-56.	0.5	12
30	Time accurate fast wavelet-Taylor Galerkin method for partial differential equations. Numerical Methods for Partial Differential Equations, 2006, 22, 274-295.	2.0	11
31	Wavelets and Differential Equations-A short review. , 2009, , .		11
32	Solutions of Differentialâ€“Difference Equations Arising from Mathematical Models of Granulocytopoiesis. Differential Equations and Dynamical Systems, 2014, 22, 33-49.	0.5	11
33	A numerical study of Asian option with high-order compact finite difference scheme. Journal of Applied Mathematics and Computing, 2018, 57, 467-491.	1.2	11
34	Existence results and stability analysis for a nonlinear fractional boundary value problem on a circular ring with an attached edge : A study of fractional calculus on metric graph. Networks and Heterogeneous Media, 2021, 16, 155.	0.5	11
35	The Crank-Nicolson Type Compact Difference Schemes for a Loaded Time-Fractional Hallaire Equation. Fractional Calculus and Applied Analysis, 2021, 24, 1231-1256.	1.2	11
36	Fast wavelet-Taylor Galerkin method for linear and non-linear wave problems. Applied Mathematics and Computation, 2007, 189, 1292-1299.	1.4	10

#	Article	IF	Citations
37	Learning parameters of a system of variable order fractional differential equations. Numerical Methods for Partial Differential Equations, 0, , .	2.0	10
38	Uncertainty Quantification in Fractional Stochastic Integro-Differential Equations Using Legendre Wavelet Collocation Method. Lecture Notes in Computer Science, 2020, , 58-71.	1.0	10
39	Fast diffusion wavelet method for partial differential equations. Applied Mathematical Modelling, 2016, 40, 5000-5025.	2.2	8
40	Wavelet based preconditioners for sparse linear systems. Applied Mathematics and Computation, 2005, 171, 203-224.	1.4	7
41	An adaptive spectral graph wavelet method for PDEs on networks. Advances in Computational Mathematics, 2021, 47, 1.	0.8	7
42	KRYLOV SUBSPACE SOLVERS IN PARALLEL NUMERICAL COMPUTATIONS OF PARTIAL DIFFERENTIAL EQUATIONS MODELING HEAT TRANSFER APPLICATIONS. Numerical Heat Transfer; Part A: Applications, 2004, 45, 479-503.	1.2	6
43	A time-accurate pseudo-wavelet scheme for parabolic and hyperbolic PDE's. Nonlinear Analysis: Theory, Methods & Applications, 2005, 63, e345-e356.	0.6	6
44	Wavelet multilayer Taylor Galerkin schemes for hyperbolic and parabolic problems. Applied Mathematics and Computation, 2005, 166, 312-323.	1.4	6
45	A TIME ACCURATE PSEUDO-WAVELET SCHEME FOR TWO-DIMENSIONAL TURBULENCE. International Journal of Wavelets, Multiresolution and Information Processing, 2005, 03, 587-599.	0.9	6
46	Algorithm 929. ACM Transactions on Mathematical Software, 2013, 39, 1-28.	1.6	6
47	Wavelet-optimized compact finite difference method for convectionâ€“diffusion equations. International Journal of Nonlinear Sciences and Numerical Simulation, 2021, 22, 353-372.	0.4	6
48	Integration of barotropic vorticity equation over spherical geodesic grid using multilevel adaptive wavelet collocation method. Applied Mathematical Modelling, 2013, 37, 5215-5226.	2.2	5
49	APPROXIMATE SOLUTION OF MODIFIED CAMASSAâ€“HOLM AND DEGASPERISâ€“PROCESI EQUATIONS USING WAVELET OPTIMIZED FINITE DIFFERENCE METHOD. International Journal of Wavelets, Multiresolution and Information Processing, 2013, 11, 1350019.	0.9	4
50	Compact filtering as a regularization technique for a backward heat conduction problem. Applied Numerical Mathematics, 2020, 153, 82-97.	1.2	4
51	Legendre wavelet method for solving variableâ€order nonlinear fractional optimal control problems with variableâ€order fractional Bolza cost. Asian Journal of Control, 2023, 25, 2122-2138.	1.9	4
52	ERROR ESTIMATES FOR TIME ACCURATE WAVELET BASED SCHEMES FOR HYPERBOLIC PARTIAL DIFFERENTIAL EQUATIONS. International Journal of Wavelets, Multiresolution and Information Processing, 2007, 05, 667-678.	0.9	3
53	Spectral graph wavelet regularization and adaptive wavelet for the backward heat conduction problem. Inverse Problems in Science and Engineering, 2021, 29, 457-488.	1.2	3
54	Numerical solution of variableâ€order stochastic fractional integroâ€differential equation with a collocation method based on MÃ¼ntzâ€“Legendre polynomial. Mathematical Methods in the Applied Sciences, 0, , .	1.2	3

#	Article	IF	Citations
55	Non-stationary iterative solvers on a PC cluster. Advances in Engineering Software, 2005, 36, 393-400.	1.8	2
56	ERROR ESTIMATES FOR LINEAR PDEs SOLVED BY WAVELET BASED TAYLORâ€“GALERKIN SCHEMES. International Journal of Wavelets, Multiresolution and Information Processing, 2009, 07, 143-162.	0.9	2
57	Comparison Between Different Numerical Methods for Discretization of PDEs-A Short Review. , 2010, , .		2
58	Multilevel approximation of the gradient operator on an adaptive spherical geodesic grid. Advances in Computational Mathematics, 2015, 41, 663-689.	0.8	2
59	A Dynamic Adaptive Wavelet Method for Solution of the Schrodinger Equation. Journal of Multiscale Modeling, 2015, 06, 1450001.	1.0	2
60	Approximation of the differential operators on an adaptive spherical geodesic grid using spherical wavelets. Mathematics and Computers in Simulation, 2017, 132, 120-138.	2.4	2
61	An Adaptive Wavelet Collocation Method for Solution of the Convection-Dominated Problem on a Sphere. International Journal of Computational Methods, 2018, 15, 1850080.	0.8	2
62	Wavelet-Galerkin Methods. Forum for Interdisciplinary Mathematics, 2018, , 121-133.	0.8	1
63	Applications of Wavelet in Inverse Problems. Forum for Interdisciplinary Mathematics, 2018, , 157-171.	0.8	1
64	Existence and Uniqueness ofÂTime-Fractional Diffusion Equation on a Metric Star Graph. Communications in Computer and Information Science, 2021, , 25-41.	0.4	1
65	Other Wavelet-Based Numerical Methods. Forum for Interdisciplinary Mathematics, 2018, , 143-153.	0.8	0
66	Wavelets on Arbitrary Manifolds. Forum for Interdisciplinary Mathematics, 2018, , 77-93.	0.8	0
67	Introduction to Numerical Methods. Forum for Interdisciplinary Mathematics, 2018, , 109-119.	0.8	0
68	Wavelets on Flat Geometries. Forum for Interdisciplinary Mathematics, 2018, , 27-76.	0.8	0
69	Fourth-Order Compact Difference Scheme for the Backward Heat Conduction Problem. International Journal for Computational Methods in Engineering Science and Mechanics, 2019, 20, 380-394.	1.4	0
70	Nonhomogeneous backward heat conduction problem: Compact filter regularization and error estimates. Journal of Applied Mathematics and Computing, 2020, 62, 547-564.	1.2	0
71	Compact Finite Difference Method for Pricing European and American Options Under Jump-Diffusion Models. Communications in Computer and Information Science, 2021, , 91-108.	0.4	0
72	Analytic and Numerical Solutions of Space-Time Fractional Diffusion Wave Equations with Different Fractional Order. Lecture Notes in Computer Science, 2021, , 408-421.	1.0	0

#	Article	IF	Citations
73	Wavelet Collocation Methods. Forum for Interdisciplinary Mathematics, 2018, , 135-141.	0.8	0
74	Other Useful Applications of Wavelet. Forum for Interdisciplinary Mathematics, 2018, , 173-182.	0.8	0
75	A Compact Filter Regularization Method for Solving Sideways Heat Equation. Lecture Notes in Computer Science, 2020, , 470-477.	1.0	0