

Pradip Roul

List of Publications by Year in descending order

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70
papers

1,063
citations

430843

18
h-index

552766

26
g-index

72
all docs

72
docs citations

72
times ranked

279
citing authors

#	ARTICLE	IF	CITATIONS
1	A high accuracy numerical method and its convergence for time-fractional Black-Scholes equation governing European options. Applied Numerical Mathematics, 2020, 151, 472-493.	2.1	71
2	A fourth-order B-spline collocation method and its error analysis for Bratu-type and Lane-Emden problems. International Journal of Computer Mathematics, 2019, 96, 85-104.	1.8	41
3	A new high-order numerical method for solving singular two-point boundary value problems. Journal of Computational and Applied Mathematics, 2018, 343, 556-574.	2.0	38
4	B-spline collocation methods and their convergence for a class of nonlinear derivative dependent singular boundary value problems. Applied Mathematics and Computation, 2019, 341, 428-450.	2.2	34
5	A new numerical approach for solving a class of singular two-point boundary value problems. Numerical Algorithms, 2017, 75, 531-552.	1.9	33
6	A compact finite difference method for a general class of nonlinear singular boundary value problems with Neumann and Robin boundary conditions. Applied Mathematics and Computation, 2019, 350, 283-304.	2.2	32
7	A compact finite difference scheme for fractional Black-Scholes option pricing model. Applied Numerical Mathematics, 2021, 166, 40-60.	2.1	31
8	A novel numerical approach and its convergence for numerical solution of nonlinear doubly singular boundary value problems. Journal of Computational and Applied Mathematics, 2016, 296, 661-676.	2.0	29
9	Numerical solutions of systems of nonlinear integro-differential equations by Homotopy-perturbation method. Applied Mathematical Modelling, 2011, 35, 4234-4242.	4.2	28
10	New approach for solving a class of singular boundary value problem arising in various physical models. Journal of Mathematical Chemistry, 2016, 54, 1255-1285.	1.5	28
11	An optimal sixth-order quartic B-spline collocation method for solving Bratu-type and Lane-Emden-type problems. Mathematical Methods in the Applied Sciences, 2019, 42, 2613-2630.	2.3	27
12	A new mixed MADM-Collocation approach for solving a class of Lane-Emden singular boundary value problems. Journal of Mathematical Chemistry, 2019, 57, 945-969.	1.5	27
13	A new higher order compact finite difference method for generalised Black-Scholes partial differential equation: European call option. Journal of Computational and Applied Mathematics, 2020, 363, 464-484.	2.0	25
14	A fourth-order non-uniform mesh optimal B-spline collocation method for solving a strongly nonlinear singular boundary value problem describing electrohydrodynamic flow of a fluid. Applied Numerical Mathematics, 2020, 153, 558-574.	2.1	25
15	A High-Order B-Spline Collocation Method for Solving Nonlinear Singular Boundary Value Problems Arising in Engineering and Applied Science. Mediterranean Journal of Mathematics, 2018, 15, 1.	0.8	24
16	An implicit finite difference method for solving the corrected fractional neutron point kinetics equations. Progress in Nuclear Energy, 2019, 114, 234-247.	2.9	24
17	Design and analysis of a numerical method for fractional neutron diffusion equation with delayed neutrons. Applied Numerical Mathematics, 2020, 157, 634-653.	2.1	24
18	A fast-converging iterative scheme for solving a system of Lane-Emden equations arising in catalytic diffusion reactions. Journal of Mathematical Chemistry, 2019, 57, 570-582.	1.5	23

#	ARTICLE	IF	CITATIONS
19	A fast and accurate computational technique for efficient numerical solution of nonlinear singular boundary value problems. <i>International Journal of Computer Mathematics</i> , 2019, 96, 51-72.	1.8	22
20	Design and stability analysis of an implicit non-standard finite difference scheme for fractional neutron point kinetic equation. <i>Applied Numerical Mathematics</i> , 2019, 145, 201-226.	2.1	21
21	On the numerical solution of singular two-point boundary value problems: A domain decomposition homotopy perturbation approach. <i>Mathematical Methods in the Applied Sciences</i> , 2017, 40, 7396-7409.	2.3	19
22	Analytical Approach for Nonlinear Partial Differential Equations of Fractional Order. <i>Communications in Theoretical Physics</i> , 2013, 60, 269-277.	2.5	18
23	A high order numerical method and its convergence for time-fractional fourth order partial differential equations. <i>Applied Mathematics and Computation</i> , 2020, 366, 124727.	2.2	18
24	A high order numerical scheme for solving a class of non-homogeneous time-fractional reaction diffusion equation. <i>Numerical Methods for Partial Differential Equations</i> , 2021, 37, 1506-1534.	3.6	18
25	A new high order numerical approach for a class of nonlinear derivative dependent singular boundary value problems. <i>Applied Numerical Mathematics</i> , 2019, 145, 315-341.	2.1	17
26	Non-optimal fourth-order and optimal sixth-order B-spline collocation methods for Lane-Emden boundary value problems. <i>Applied Numerical Mathematics</i> , 2019, 145, 342-360.	2.1	17
27	A sixth-order numerical method for a strongly nonlinear singular boundary value problem governing electrohydrodynamic flow in a circular cylindrical conduit. <i>Applied Mathematics and Computation</i> , 2019, 350, 416-433.	2.2	16
28	A sixth order numerical method and its convergence for generalized Black-Scholes PDE. <i>Journal of Computational and Applied Mathematics</i> , 2020, 377, 112881.	2.0	16
29	A new highly accurate domain decomposition optimal homotopy analysis method and its convergence for singular boundary value problems. <i>Mathematical Methods in the Applied Sciences</i> , 2018, 41, 6625-6644.	2.3	15
30	A fourth order numerical method based on B-spline functions for pricing Asian options. <i>Computers and Mathematics With Applications</i> , 2020, 80, 504-521.	2.7	15
31	An improved iterative technique for solving nonlinear doubly singular two-point boundary value problems. <i>European Physical Journal Plus</i> , 2016, 131, 1.	2.6	14
32	A fast-converging recursive approach for Lane-Emden type initial value problems arising in astrophysics. <i>Journal of Computational and Applied Mathematics</i> , 2019, 359, 182-195.	2.0	14
33	A new iterative algorithm for a strongly nonlinear singular boundary value problem. <i>Journal of Computational and Applied Mathematics</i> , 2019, 351, 167-178.	2.0	14
34	Numerical solutions of time fractional degenerate parabolic equations by variational iteration method with Jumarie-modified Riemann-Liouville derivative. <i>Mathematical Methods in the Applied Sciences</i> , 2011, 34, 1025-1035.	2.3	13
35	A new efficient recursive technique for solving singular boundary value problems arising in various physical models. <i>European Physical Journal Plus</i> , 2016, 131, 1.	2.6	13
36	Doubly singular boundary value problems with derivative dependent source function: A fast-converging iterative approach. <i>Mathematical Methods in the Applied Sciences</i> , 2019, 42, 354-374.	2.3	13

#	ARTICLE	IF	CITATIONS
37	An optimal iterative algorithm for solving Bratu-type problems. Journal of Mathematical Chemistry, 2019, 57, 583-598.	1.5	12
38	A Bessel collocation method for solving Bratu's problem. Journal of Mathematical Chemistry, 2020, 58, 1601-1614.	1.5	12
39	Mechanical properties of non-cohesive polygonal particle aggregates. Granular Matter, 2011, 13, 303-317.	2.2	11
40	A New Homotopy Perturbation Scheme for Solving Singular Boundary Value Problems Arising in Various Physical Models. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2017, 72, 733-743.	1.5	11
41	Design and analysis of a high order computational technique for time-fractional Black-Scholes model describing option pricing. Mathematical Methods in the Applied Sciences, 2022, 45, 5592-5611.	2.3	11
42	Simulation study on micro and macro mechanical behaviour of sand piles. Powder Technology, 2010, 204, 113-123.	4.2	10
43	Numerical simulation of two-dimensional fractional neutron diffusion model describing dynamical behaviour of sodium-cooled fast reactor. Annals of Nuclear Energy, 2022, 166, 108709.	1.8	10
44	A high order numerical technique and its analysis for nonlinear generalized Fisher's equation. Journal of Computational and Applied Mathematics, 2022, 406, 114047.	2.0	10
45	An efficient numerical method for fractional neutron diffusion equation in the presence of different types of reactivities. Annals of Nuclear Energy, 2021, 152, 108038.	1.8	9
46	An efficient numerical method based on exponential B-spline basis functions for solving a class of nonlinear singular boundary value problems with Neumann and Robin boundary conditions. Mathematical Methods in the Applied Sciences, 2021, 44, 3376-3395.	2.3	9
47	A numerical technique based on B-spline for a class of time-fractional diffusion equation. Numerical Methods for Partial Differential Equations, 2023, 39, 45-64.	3.6	9
48	Discrete-Element Computation of Averaged Tensorial Fields in Sand Piles Consisting of Polygonal Particles. Geotechnical and Geological Engineering, 2011, 29, 597-610.	1.7	8
49	A new approximate method and its convergence for a strongly nonlinear problem governing electrohydrodynamic flow of a fluid in a circular cylindrical conduit. Applied Mathematics and Computation, 2019, 341, 335-347.	2.2	8
50	A high-order B-spline collocation scheme for solving a nonhomogeneous time-fractional diffusion equation. Mathematical Methods in the Applied Sciences, 2021, 44, 546-567.	2.3	8
51	A novel high-order numerical scheme and its analysis for the two-dimensional time-fractional reaction-subdiffusion equation. Numerical Algorithms, 2022, 90, 1357-1387.	1.9	8
52	A robust adaptive moving mesh technique for a time-fractional reaction-diffusion model. Communications in Nonlinear Science and Numerical Simulation, 2022, 109, 106290.	3.3	8
53	Numerical solution of doubly singular boundary value problems by finite difference method. Computational and Applied Mathematics, 2020, 39, 1.	2.2	6
54	A highly accurate and computationally efficient technique for solving the electrohydrodynamic flow in a circular cylindrical conduit. Applied Numerical Mathematics, 2022, 181, 110-124.	2.1	6

#	ARTICLE	IF	CITATIONS
55	Simulation of the strain distribution under a two-dimensional sand pile. Powder Technology, 2011, 214, 406-414.	4.2	5
56	A quartic trigonometric B-spline collocation method for a general class of nonlinear singular boundary value problems. Journal of Mathematical Chemistry, 2022, 60, 128-144.	1.5	5
57	A sixth order optimal B-spline collocation method for solving Bratu's problem. Journal of Mathematical Chemistry, 2020, 58, 967-988.	1.5	4
58	A fast numerical scheme for solving singular boundary value problems arising in various physical models. Journal of Mathematical Chemistry, 2022, 60, 514-541.	1.5	4
59	A high accuracy numerical approach for electro-hydrodynamic flow of a fluid in an ion-drag configuration in a circular cylindrical conduit. Applied Numerical Mathematics, 2021, 165, 303-321.	2.1	3
60	An efficient numerical approach for solving a general class of nonlinear singular boundary value problems. Journal of Mathematical Chemistry, 2021, 59, 1977-1993.	1.5	3
61	An efficient numerical method based on redefined cubic B-spline basis functions for pricing Asian options. Journal of Computational and Applied Mathematics, 2022, 401, 113774.	2.0	3
62	Spectral semi-discretization algorithm for a class of nonlinear parabolic PDEs with applications. Applied Mathematics and Computation, 2022, 429, 127226.	2.2	3
63	A computational technique for solving the time-fractional Fokker-Planck equation. Mathematical Methods in the Applied Sciences, 0, , .	2.3	2
64	An effective approach based on Smooth Composite Chebyshev Finite Difference Method and its applications to Bratu-type and higher order Lane-Emden problems. Mathematics and Computers in Simulation, 2022, , .	4.4	2
65	A robust numerical technique and its analysis for computing the price of an Asian option. Journal of Computational and Applied Mathematics, 2022, 416, 114527.	2.0	2
66	A superconvergent B-spline technique for second order nonlinear boundary value problems. Applied Mathematics and Computation, 2022, 414, 126615.	2.2	1
67	Micro and Macro Aspects of the Elastoplastic Behaviour of Sand Piles. , 2008, , 207-219.		1
68	A fourth-order numerical method for solving a class of derivative-dependent nonlinear singular boundary value problems. International Journal of Computer Mathematics, 2022, 99, 2410-2432.	1.8	1
69	A novel approach for solving nonlinear singular boundary value problems arising in various physical models. Journal of Mathematical Chemistry, 2022, 60, 1584-1609.	1.5	1
70	A high-order efficient technique and its convergence analysis for Bratu-type and Lane-Emden-type problems. Mathematical Methods in the Applied Sciences, 0, , .	2.3	0