

Bin Wang

List of Publications by Year in descending order

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papers

1,312
citations

430843

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94
all docs

94
docs citations

94
times ranked

205
citing authors

#	ARTICLE	IF	CITATIONS
1	Energy-preserving splitting methods for charged-particle dynamics in a normal or strong magnetic field. Applied Mathematics Letters, 2022, 124, 107682.	2.7	5
2	Optimal Convergence and Long-Time conservation of Exponential Integration for Schrödinger Equations in a Normal or Highly Oscillatory Regime. Journal of Scientific Computing, 2022, 90, 1.	2.3	3
3	Geometric continuous-stage exponential energy-preserving integrators for charged-particle dynamics in a magnetic field from normal to strong regimes. Applied Numerical Mathematics, 2022, 181, 1-22.	2.1	2
4	Long-time analysis of an extended RKN integrator for Hamiltonian systems with a solution-dependent high frequency. Journal of Computational and Applied Mathematics, 2022, 416, 114545.	2.0	0
5	Oscillation-preserving algorithms for efficiently solving highly oscillatory second-order ODEs. Numerical Algorithms, 2021, 86, 693-727.	1.9	11
6	Exponential energy-preserving methods for charged-particle dynamics in a strong and constant magnetic field. Journal of Computational and Applied Mathematics, 2021, 387, 112617.	2.0	13
7	Error Estimates of Some Splitting Schemes for Charged-Particle Dynamics under Strong Magnetic Field. SIAM Journal on Numerical Analysis, 2021, 59, 2075-2105.	2.3	25
8	Continuous-Stage ERKN Integrators for Second-Order ODEs with Highly Oscillatory Solutions. , 2021, , 47-74.		0
9	Semi-Analytical ERKN Integrators for Solving High-Dimensional Nonlinear Wave Equations. , 2021, , 427-458.		0
10	Functionally-Fitted Energy-Preserving Integrators for Poisson Systems. , 2021, , 123-146.		0
11	Exponential Collocation Methods for Conservative or Dissipative Systems. , 2021, , 147-177.		0
12	High-Order Symmetric Hermite-Birkhoff Time Integrators for Semilinear KG Equations. , 2021, , 299-349.		0
13	Global Error Bounds of One-Stage Explicit ERKN Integrators for Semilinear Wave Equations. , 2021, , 213-233.		0
14	Oscillation-Preserving Integrators for Highly Oscillatory Systems of Second-Order ODEs. , 2021, , 1-45.		0
15	Symplectic Approximations for Efficiently Solving Semilinear KG Equations. , 2021, , 351-391.		0
16	Stability and Convergence Analysis of ERKN Integrators for Second-Order ODEs with Highly Oscillatory Solutions. , 2021, , 75-122.		0
17	Volume-Preserving Exponential Integrators. , 2021, , 179-211.		0
18	A long-term numerical energy-preserving analysis of symmetric and/or symplectic extended RKN integrators for efficiently solving highly oscillatory Hamiltonian systems. BIT Numerical Mathematics, 2021, 61, 977-1004.	2.0	10

#	ARTICLE	IF	CITATIONS
19	Two-frequency trigonometrically-fitted and symmetric linear multi-step methods for second-order oscillators. <i>Journal of Computational and Applied Mathematics</i> , 2021, 392, 113312.	2.0	2
20	Continuous-Stage Leap-Frog Schemes for Semilinear Hamiltonian Wave Equations. , 2021, , 393-426.		0
21	Linearly-Fitted Conservative (Dissipative) Schemes for Nonlinear Wave Equations. , 2021, , 235-261.		0
22	Long-Time Momentum and Actions Behaviour of Energy-Preserving Methods for Wave Equations. , 2021, , 459-496.		0
23	Energy-Preserving Schemes for High-Dimensional Nonlinear KG Equations. , 2021, , 263-297.		0
24	Arbitrary-order energy-preserving methods for charged-particle dynamics. <i>Applied Mathematics Letters</i> , 2020, 100, 106050.	2.7	9
25	Exponential collocation methods based on continuous finite element approximations for efficiently solving the cubic Schrödinger equation. <i>Numerical Methods for Partial Differential Equations</i> , 2020, 36, 1735-1757.	3.6	5
26	A two-step symmetric method for charged-particle dynamics in a normal or strong magnetic field. <i>Calcolo</i> , 2020, 57, 1.	1.1	6
27	Explicit Symmetric Exponential Integrators for Charged-Particle Dynamics in a Strong and Constant Magnetic Field. <i>International Journal of Applied and Computational Mathematics</i> , 2020, 6, 1.	1.6	2
28	A filtered Boris algorithm for charged-particle dynamics in a strong magnetic field. <i>Numerische Mathematik</i> , 2020, 144, 787-809.	1.9	26
29	Global error bounds of one-stage extended RKN integrators for semilinear wave equations. <i>Numerical Algorithms</i> , 2019, 81, 1203-1218.	1.9	14
30	The formulation and analysis of energy-preserving schemes for solving high-dimensional nonlinear Klein-Gordon equations. <i>IMA Journal of Numerical Analysis</i> , 2019, 39, 2016-2044.	2.9	43
31	Long-time momentum and actions behaviour of energy-preserving methods for semi-linear wave equations via spatial spectral semi-discretisations. <i>Advances in Computational Mathematics</i> , 2019, 45, 2921-2952.	1.6	9
32	Volume-preserving exponential integrators and their applications. <i>Journal of Computational Physics</i> , 2019, 396, 867-887.	3.8	5
33	Efficient energy-preserving methods for charged-particle dynamics. <i>Applied Mathematics and Computation</i> , 2019, 361, 703-714.	2.2	9
34	Diagonal implicit symplectic extended RKN methods for solving oscillatory Hamiltonian systems. <i>Computational and Applied Mathematics</i> , 2019, 38, 1.	2.2	0
35	Exponential collocation methods for conservative or dissipative systems. <i>Journal of Computational and Applied Mathematics</i> , 2019, 360, 99-116.	2.0	9
36	A symplectic approximation with nonlinear stability and convergence analysis for efficiently solving semi-linear Klein-Gordon equations. <i>Applied Numerical Mathematics</i> , 2019, 142, 64-89.	2.1	7

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37	A new family of A-stable Runge-Kutta methods with equation-dependent coefficients for stiff problems. Numerical Algorithms, 2019, 81, 1235-1251.	1.9	3
38	Symmetric and symplectic exponential integrators for nonlinear Hamiltonian systems. Applied Mathematics Letters, 2019, 90, 215-222.	2.7	4
39	Triangular splitting implementation of RK4-type Fourier collocation methods for second-order differential equations. Mathematical Methods in the Applied Sciences, 2018, 41, 1998-2011.	2.3	11
40	Recent Developments in Structure-Preserving Algorithms for Oscillatory Differential Equations. , 2018, , .		24
41	Trigonometric Collocation Methods for Multi-frequency and Multidimensional Oscillatory Systems. , 2018, , 167-192.		0
42	Functionally-fitted energy-preserving integrators for Poisson systems. Journal of Computational Physics, 2018, 364, 137-152.	3.8	17
43	Symmetric trigonometrically-fitted two-step hybrid methods for oscillatory problems. Journal of Computational and Applied Mathematics, 2018, 344, 115-131.	2.0	6
44	Efficient Energy-preserving Methods for General Nonlinear Oscillatory Hamiltonian System. Acta Mathematica Sinica, English Series, 2018, 34, 1863-1878.	0.6	9
45	ERKN integrators solving multi-frequency highly oscillatory systems with applications. AIP Conference Proceedings, 2018, , .	0.4	0
46	Arbitrary-order functionally fitted energy-diminishing methods for gradient systems. Applied Mathematics Letters, 2018, 83, 130-139.	2.7	9
47	Exponential Fourier Collocation Methods for First-Order Differential Equations. , 2018, , 55-84.		4
48	High-Order Symplectic and Symmetric Composition Integrators for Multi-frequency Oscillatory Hamiltonian Systems. , 2018, , 107-133.		0
49	An Essential Extension of the Finite-Energy Condition for ERKN Integrators Solving Nonlinear Wave Equations. , 2018, , 317-342.		0
50	An Energy-Preserving and Symmetric Scheme for Nonlinear Hamiltonian Wave Equations. , 2018, , 251-268.		0
51	Functionally Fitted Continuous Finite Element Methods for Oscillatory Hamiltonian Systems. , 2018, , 1-28.		0
52	Exponential Average-Vector-Field Integrator for Conservative or Dissipative Systems. , 2018, , 29-53.		0
53	Arbitrarily High-Order Time-Stepping Schemes for Nonlinear Klein-Gordon Equations. , 2018, , 269-316.		0
54	Symplectic Exponential Runge-Kutta Methods for Solving Nonlinear Hamiltonian Systems. , 2018, , 85-106.		0

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55	A Compact Tri-Colored Tree Theory for General ERKN Methods. , 2018, , 193-220.		0
56	An Integral Formula Adapted to Different Boundary Conditions for Arbitrarily High-Dimensional Nonlinear Kleinâ€“Gordon Equations. , 2018, , 221-250.		0
57	Sixth-order symplectic and symmetric explicit ERKN schemes for solving multi-frequency oscillatory nonlinear Hamiltonian equations. <i>Calcolo</i> , 2017, 54, 117-140.	1.1	54
58	Efficient implementation of RKN-type Fourier collocation methods for second-order differential equations. <i>Applied Numerical Mathematics</i> , 2017, 119, 164-178.	2.1	46
59	Trigonometric collocation methods based on Lagrange basis polynomials for multi-frequency oscillatory second-order differential equations. <i>Journal of Computational and Applied Mathematics</i> , 2017, 313, 185-201.	2.0	76
60	Diagonal Implicit Symmetric ERKN Integrators for Solving Oscillatory Reversible Systems. <i>International Journal of Applied and Computational Mathematics</i> , 2017, 3, 1229-1247.	1.6	1
61	Exponential Fourier Collocation Methods for Solving First-Order Differential Equations. <i>Journal of Computational Mathematics</i> , 2017, 35, 711-736.	0.4	29
62	Novel Exponentially Fitted Two-Derivative Runge-Kutta Methods with Equation-Dependent Coefficients for First-Order Differential Equations. <i>Discrete Dynamics in Nature and Society</i> , 2016, 2016, 1-6.	0.9	1
63	Arbitrary-Order Trigonometric Fourier Collocation Methods for Multi-Frequency Oscillatory Systems. <i>Foundations of Computational Mathematics</i> , 2016, 16, 151-181.	2.5	107
64	Bounds on asymptotic-numerical solvers for ordinary differential equations with extrinsic oscillation. <i>Applied Mathematical Modelling</i> , 2015, 39, 2528-2538.	4.2	12
65	Explicit multi-frequency symmetric extended RKN integrators for solving multi-frequency and multidimensional oscillatory reversible systems. <i>Calcolo</i> , 2015, 52, 207-231.	1.1	7
66	A highly accurate explicit symplectic ERKN method for multi-frequency and multidimensional oscillatory Hamiltonian systems. <i>Numerical Algorithms</i> , 2014, 65, 705-721.	1.9	8
67	Improved Filon-type asymptotic methods for highly oscillatory differential equations with multiple time scales. <i>Journal of Computational Physics</i> , 2014, 276, 62-73.	3.8	9
68	Dirichlet series for dynamical systems of first-order ordinary differential equations. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2014, 19, 281-298.	0.9	4
69	Efficient energy-preserving integrators for oscillatory Hamiltonian systems. <i>Journal of Computational Physics</i> , 2013, 235, 587-605.	3.8	81
70	Effective integrators for nonlinear second-order oscillatory systems with a time-dependent frequency matrix. <i>Applied Mathematical Modelling</i> , 2013, 37, 6505-6518.	4.2	11
71	Structure-Preserving Algorithms for Oscillatory Differential Equations. , 2013, , .		77
72	Error bounds for explicit ERKN integrators for systems of multi-frequency oscillatory second-order differential equations. <i>Applied Numerical Mathematics</i> , 2013, 74, 17-34.	2.1	19

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73	A Filon-type asymptotic approach to solving highly oscillatory second-order initial value problems. Journal of Computational Physics, 2013, 243, 210-223.	3.8	41
74	ERKN methods for long-term integration of multidimensional orbital problems. Applied Mathematical Modelling, 2013, 37, 2327-2336.	4.2	16
75	Novel improved multidimensional Störmer-Verlet formulas with applications to four aspects in scientific computation. Mathematical and Computer Modelling, 2013, 57, 857-872.	2.0	24
76	Adapted Falkner-Type Methods. , 2013, , 151-172.		0
77	Extended Leap-Frog Methods for Hamiltonian Wave Equations. , 2013, , 197-230.		0
78	ERKN Methods. , 2013, , 63-90.		0
79	Effective Methods for Highly Oscillatory Second-Order Nonlinear Differential Equations. , 2013, , 185-196.		0
80	Symplectic and Symmetric Multidimensional ERKN Methods. , 2013, , 91-119.		0
81	ARKN Methods. , 2013, , 27-61.		0
82	Two-Step Multidimensional ERKN Methods. , 2013, , 121-149.		0
83	Explicit symplectic multidimensional exponential fitting modified Runge-Kutta-Nyström methods. BIT Numerical Mathematics, 2012, 52, 773-795.	2.0	82
84	On extended RKN integrators for multidimensional perturbed oscillators with applications. Applied Mathematical Modelling, 2012, 36, 1504-1513.	4.2	4
85	A new high precision energy-preserving integrator for system of oscillatory second-order differential equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 1185-1190.	2.1	69
86	Two-step extended RKN methods for oscillatory systems. Computer Physics Communications, 2011, 182, 2486-2507.	7.5	44
87	ERKN integrators for systems of oscillatory second-order differential equations. Computer Physics Communications, 2010, 181, 1873-1887.	7.5	102
88	Comments on "Embedded pair of extended Runge-Kutta-Nyström type methods for perturbed oscillators". Applied Mathematical Modelling, 2010, 34, 3708-3711.	4.2	3
89	Multidimensional adapted Runge-Kutta-Nyström methods for oscillatory systems. Computer Physics Communications, 2010, 181, 1955-1962.	7.5	51
90	High-order multi-symplectic schemes for the nonlinear Klein-Gordon equation. Applied Mathematics and Computation, 2005, 166, 608-632.	2.2	26