

Tao Tang

List of Publications by Year in descending order

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103
papers

5,987
citations

87843

38
h-index

74108

75
g-index

106
all docs

106
docs citations

106
times ranked

2429
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectral Methods. Springer Series in Computational Mathematics, 2011, , .	0.1	865
2	A Robust WENO Type Finite Volume Solver for Steady Euler Equations on Unstructured Grids. Communications in Computational Physics, 2011, 9, 627-648.	0.7	301
3	Stability Analysis of Large Time-Stepping Methods for Epitaxial Growth Models. SIAM Journal on Numerical Analysis, 2006, 44, 1759-1779.	1.1	242
4	Adaptive Mesh Methods for One- and Two-Dimensional Hyperbolic Conservation Laws. SIAM Journal on Numerical Analysis, 2003, 41, 487-515.	1.1	233
5	Adaptive Finite Element Approximation for Distributed Elliptic Optimal Control Problems. SIAM Journal on Control and Optimization, 2002, 41, 1321-1349.	1.1	216
6	Convergence analysis of the Jacobi spectral-collocation methods for Volterra integral equations with a weakly singular kernel. Mathematics of Computation, 2010, 79, 147-147.	1.1	207
7	A compact fourth-order finite difference scheme for the steady incompressible Navier-Stokes equations. International Journal for Numerical Methods in Fluids, 1995, 20, 1137-1151.	0.9	191
8	Moving Mesh Methods in Multiple Dimensions Based on Harmonic Maps. Journal of Computational Physics, 2001, 170, 562-588.	1.9	171
9	On large time-stepping methods for the Cahn-Hilliard equation. Applied Numerical Mathematics, 2007, 57, 616-628.	1.2	166
10	An Adaptive Time-Stepping Strategy for the Molecular Beam Epitaxy Models. SIAM Journal of Scientific Computing, 2011, 33, 1395-1414.	1.3	143
11	Spectral methods for weakly singular Volterra integral equations with smooth solutions. Journal of Computational and Applied Mathematics, 2009, 233, 938-950.	1.1	131
12	The Hermite Spectral Method for Gaussian-Type Functions. SIAM Journal of Scientific Computing, 1993, 14, 594-606.	1.3	119
13	On the maximum principle preserving schemes for the generalized Allen-Cahn equation. Communications in Mathematical Sciences, 2016, 14, 1517-1534.	0.5	110
14	Numerical Analysis of Fully Discretized Crank-Nicolson Scheme for Fractional-in-Space Allen-Cahn Equations. Journal of Scientific Computing, 2017, 72, 1214-1231.	1.1	101
15	Boundary Layer Resolving Pseudospectral Methods for Singular Perturbation Problems. SIAM Journal of Scientific Computing, 1996, 17, 430-438.	1.3	95
16	A Moving Mesh Finite Element Algorithm for Singular Problems in Two and Three Space Dimensions. Journal of Computational Physics, 2002, 177, 365-393.	1.9	93
17	On Energy Dissipation Theory and Numerical Stability for Time-Fractional Phase-Field Equations. SIAM Journal of Scientific Computing, 2019, 41, A3757-A3778.	1.3	90
18	A second-order and nonuniform time-stepping maximum-principle preserving scheme for time-fractional Allen-Cahn equations. Journal of Computational Physics, 2020, 414, 109473.	1.9	89

#	ARTICLE	IF	CITATIONS
19	Characterizing the Stabilization Size for Semi-Implicit Fourier-Spectral Method to Phase Field Equations. <i>SIAM Journal on Numerical Analysis</i> , 2016, 54, 1653-1681.	1.1	85
20	A note on collocation methods for Volterra integro-differential equations with weakly singular kernels. <i>IMA Journal of Numerical Analysis</i> , 1993, 13, 93-99.	1.5	82
21	Stabilized Crank-Nicolson/Adams-Bashforth Schemes for Phase Field Models. <i>East Asian Journal on Applied Mathematics</i> , 2013, 3, 59-80.	0.4	82
22	Convergence Analysis of Spectral Galerkin Methods for Volterra Type Integral Equations. <i>Journal of Scientific Computing</i> , 2012, 53, 414-434.	1.1	76
23	Spectral methods for pantograph-type differential and integral equations with multiple delays. <i>Frontiers of Mathematics in China</i> , 2009, 4, 49-61.	0.4	74
24	Long Time Numerical Simulations for Phase-Field Problems Using ρ -Adaptive Spectral Deferred Correction Methods. <i>SIAM Journal of Scientific Computing</i> , 2015, 37, A271-A294.	1.3	70
25	Superconvergence of numerical solutions to weakly singular Volterra integro-differential equations. <i>Numerische Mathematik</i> , 1992, 61, 373-382.	0.9	67
26	Moving Mesh Finite Element Methods for the Incompressible Navier-Stokes Equations. <i>SIAM Journal of Scientific Computing</i> , 2005, 26, 1036-1056.	1.3	63
27	A Posteriori Error Estimates for Discontinuous Galerkin Time-Stepping Method for Optimal Control Problems Governed by Parabolic Equations. <i>SIAM Journal on Numerical Analysis</i> , 2004, 42, 1032-1061.	1.1	61
28	Nonlinear stability of the implicit-explicit methods for the Allen-Cahn equation. <i>Inverse Problems and Imaging</i> , 2013, 7, 679-695.	0.6	61
29	Hermite Spectral Methods with a Time-Dependent Scaling for Parabolic Equations in Unbounded Domains. <i>SIAM Journal on Numerical Analysis</i> , 2005, 43, 58-75.	1.1	59
30	Combined Hermite spectral-finite difference method for the Fokker-Planck equation. <i>Mathematics of Computation</i> , 2001, 71, 1497-1529.	1.1	56
31	Moving mesh methods with locally varying time steps. <i>Journal of Computational Physics</i> , 2004, 200, 347-367.	1.9	55
32	Collocation methods for second-kind Volterra integral equations with weakly singular kernels. <i>Proceedings of the Royal Society of Edinburgh Section A: Mathematics</i> , 1994, 124, 199-210.	0.8	54
33	Convergence analysis of Jacobi spectral collocation methods for Abel-Volterra integral equations of second kind. <i>Frontiers of Mathematics in China</i> , 2012, 7, 69-84.	0.4	54
34	On Energy Stable, Maximum-Principle Preserving, Second-Order BDF Scheme with Variable Steps for the Allen-Cahn Equation. <i>SIAM Journal on Numerical Analysis</i> , 2020, 58, 2294-2314.	1.1	54
35	A Hermite-Type Collocation Method for the Solution of an Integral Equation with a Certain Weakly Singular Kernel. <i>IMA Journal of Numerical Analysis</i> , 1991, 11, 595-605.	1.5	50
36	An adaptive mesh redistribution method for nonlinear Hamilton-Jacobi equations in two- and three-dimensions. <i>Journal of Computational Physics</i> , 2003, 188, 543-572.	1.9	50

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37	The Sharpness of Kuznetsov's $O(\hat{\sigma}^m)$ L^1 -Error Estimate for Monotone Difference Schemes. <i>Mathematics of Computation</i> , 1995, 64, 581.	1.1	49
38	A Compact Fourth-Order Finite Difference Scheme for Unsteady Viscous Incompressible Flows. , 2001, 16, 29-45.		48
39	A gas-kinetic scheme for shallow-water equations with source terms. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2004, 55, 365-382.	0.7	39
40	An Energy Stable and Maximum Bound Preserving Scheme with Variable Time Steps for Time Fractional Allen–Cahn Equation. <i>SIAM Journal of Scientific Computing</i> , 2021, 43, A3503-A3526.	1.3	39
41	Error analysis for a Galerkin-spectral method with coordinate transformation for solving singularly perturbed problems. <i>Applied Numerical Mathematics</i> , 2001, 38, 315-345.	1.2	36
42	Second-order Godunov-type scheme for reactive flow calculations on moving meshes. <i>Journal of Computational Physics</i> , 2005, 206, 48-80.	1.9	35
43	Rational Spectral Methods for PDEs Involving Fractional Laplacian in Unbounded Domains. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, A585-A611.	1.3	35
44	Viscosity methods for piecewise smooth solutions to scalar conservation laws. <i>Mathematics of Computation</i> , 1997, 66, 495-527.	1.1	35
45	Error Bounds for Fractional Step Methods for Conservation Laws with Source Terms. <i>SIAM Journal on Numerical Analysis</i> , 1995, 32, 110-127.	1.1	33
46	Pointwise Error Estimates for Relaxation Approximations to Conservation Laws. <i>SIAM Journal on Mathematical Analysis</i> , 2000, 32, 870-886.	0.9	33
47	Parallel in Time Algorithm with Spectral-Subdomain Enhancement for Volterra Integral Equations. <i>SIAM Journal on Numerical Analysis</i> , 2013, 51, 1735-1756.	1.1	33
48	Fast and stable explicit operator splitting methods for phase-field models. <i>Journal of Computational Physics</i> , 2015, 303, 45-65.	1.9	32
49	Pointwise Error Estimates for Scalar Conservation Laws with Piecewise Smooth Solutions. <i>SIAM Journal on Numerical Analysis</i> , 1999, 36, 1739-1758.	1.1	31
50	Efficient computation of dendritic growth with r -adaptive finite element methods. <i>Journal of Computational Physics</i> , 2008, 227, 5984-6000.	1.9	31
51	Numerical Solutions for Weakly Singular Volterra Integral Equations Using Chebyshev and Legendre Pseudo-Spectral Galerkin Methods. <i>Journal of Scientific Computing</i> , 2016, 67, 43-64.	1.1	31
52	Convergence Analysis for Stochastic Collocation Methods to Scalar Hyperbolic Equations with a Random Wave Speed. <i>Communications in Computational Physics</i> , 2010, 8, 226-248.	0.7	31
53	A multilevel successive iteration method for nonlinear elliptic problems. <i>Mathematics of Computation</i> , 2003, 73, 525-540.	1.1	30
54	Fast Fourier-like Mapped Chebyshev Spectral-Galerkin Methods for PDEs with Integral Fractional Laplacian in Unbounded Domains. <i>SIAM Journal on Numerical Analysis</i> , 2020, 58, 2435-2464.	1.1	30

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55	Adaptive Mesh Redistribution Method Based on Godunov's Scheme. <i>Communications in Mathematical Sciences</i> , 2003, 1, 152-179.	0.5	30
56	Resolving the shock-induced combustion by an adaptive mesh redistribution method. <i>Journal of Computational Physics</i> , 2007, 224, 587-600.	1.9	29
57	Analysis of the second-order BDF scheme with variable steps for the molecular beam epitaxial model without slope selection. <i>Science China Mathematics</i> , 2021, 64, 887-902.	0.8	27
58	High-Order Convergence of Spectral Deferred Correction Methods on General Quadrature Nodes. <i>Journal of Scientific Computing</i> , 2013, 56, 1-13.	1.1	26
59	On Discrete Least-Squares Projection in Unbounded Domain with Random Evaluations and its Application to Parametric Uncertainty Quantification. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, A2272-A2295.	1.3	25
60	The Numerical Computation of Connecting Orbits in Dynamical Systems: A Rational Spectral Approach. <i>Journal of Computational Physics</i> , 1994, 111, 373-380.	1.9	24
61	Convergence Analysis for Operator-Splitting Methods Applied to Conservation Laws with Stiff Source Terms. <i>SIAM Journal on Numerical Analysis</i> , 1998, 35, 1939-1968.	1.1	21
62	A simple moving mesh method for one- and two-dimensional phase-field equations. <i>Journal of Computational and Applied Mathematics</i> , 2006, 190, 252-269.	1.1	21
63	Moving Mesh Discontinuous Galerkin Method for Hyperbolic Conservation Laws. <i>Journal of Scientific Computing</i> , 2006, 27, 347-363.	1.1	20
64	An adaptive mesh redistribution algorithm for convection-dominated problems. <i>Communications on Pure and Applied Analysis</i> , 2002, 1, 341-357.	0.4	19
65	Simulating Two-phase Viscoelastic Flows Using Moving Finite Element Methods. <i>Communications in Computational Physics</i> , 2010, 7, 333-349.	0.7	19
66	Parameter-Free Time Adaptivity Based on Energy Evolution for the Cahn-Hilliard Equation. <i>Communications in Computational Physics</i> , 2016, 19, 1542-1563.	0.7	18
67	Galerkin Methods for Stochastic Hyperbolic Problems Using Bi-Orthogonal Polynomials. <i>Journal of Scientific Computing</i> , 2012, 51, 274-292.	1.1	16
68	Error Analysis of a Mixed Finite Element Method for the Molecular Beam Epitaxy Model. <i>SIAM Journal on Numerical Analysis</i> , 2015, 53, 184-205.	1.1	16
69	Moving Finite Element Simulations for Reaction-Diffusion Systems. <i>Advances in Applied Mathematics and Mechanics</i> , 2012, 4, 365-381.	0.7	16
70	A Volterra integral type method for solving a class of nonlinear initial-boundary value problems. <i>Numerical Methods for Partial Differential Equations</i> , 1996, 12, 265-281.	2.0	15
71	Deferred Correction Methods for Forward Backward Stochastic Differential Equations. <i>Numerical Mathematics</i> , 2017, 10, 222-242.	0.6	15
72	Numerical Challenges for Resolving Spike Dynamics for Two One-Dimensional Reaction-Diffusion Systems. <i>Studies in Applied Mathematics</i> , 2003, 111, 41-84.	1.1	14

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73	A robust high-order residual distribution type scheme for steady Euler equations on unstructured grids. <i>Journal of Computational Physics</i> , 2010, 229, 1681-1697.	1.9	14
74	Adaptive moving grid methods for two-phase flow in porous media. <i>Journal of Computational and Applied Mathematics</i> , 2014, 265, 139-150.	1.1	14
75	A spectral method for the numerical solutions of a kinetic equation describing the dispersion of small particles in a turbulent flow. <i>Journal of Computational Physics</i> , 1992, 103, 222-230.	1.9	13
76	A spectral domain decomposition approach for steady Navier-Stokes problems in circular geometries. <i>Computers and Fluids</i> , 1996, 25, 541-549.	1.3	13
77	Level Set Calculations for Incompressible Two-Phase Flows on a Dynamically Adaptive Grid. <i>Journal of Scientific Computing</i> , 2007, 31, 75-98.	1.1	12
78	Gradient bounds for a thin film epitaxy equation. <i>Journal of Differential Equations</i> , 2017, 262, 1720-1746.	1.1	12
79	On Mixed Error Estimates for Elliptic Obstacle Problems. <i>Advances in Computational Mathematics</i> , 2001, 15, 261-283.	0.8	8
80	Fractional Rate of Convergence for Viscous Approximation to Nonconvex Conservation Laws. <i>SIAM Journal on Mathematical Analysis</i> , 2003, 35, 98-122.	0.9	8
81	A new parallel strategy for two-dimensional incompressible flow simulations using pseudo-spectral methods. <i>Journal of Computational Physics</i> , 2005, 210, 325-341.	1.9	8
82	Blowup of Volterra Integro-Differential Equations and Applications to Semi-Linear Volterra Diffusion Equations. <i>Numerical Mathematics</i> , 2017, 10, 737-759.	0.6	8
83	Title is missing!. <i>Journal of Scientific Computing</i> , 2000, 15, 173-195.	1.1	7
84	Numerical Blow-Up of Nonlinear Parabolic Integro-Differential Equations on Unbounded Domain. <i>Journal of Scientific Computing</i> , 2016, 68, 1281-1298.	1.1	7
85	WebIntera-classroom: an interaction-aware virtual learning environment for augmenting learning interactions. <i>Interactive Learning Environments</i> , 2017, 25, 792-807.	4.4	7
86	Moving Mesh Methods for Singular Problems on a Sphere Using Perturbed Harmonic Mappings. <i>SIAM Journal of Scientific Computing</i> , 2006, 28, 1490-1508.	1.3	6
87	REGULARITY AND GLOBAL STRUCTURE OF SOLUTIONS TO HAMILTONIAN JACOBI EQUATIONS I: CONVEX HAMILTONIANS. <i>Journal of Hyperbolic Differential Equations</i> , 2008, 05, 663-680.	0.3	6
88	Efficient Stochastic Galerkin Methods for Maxwell's Equations with Random Inputs. <i>Journal of Scientific Computing</i> , 2019, 80, 248-267.	1.1	6
89	Pseudospectral solutions for steady motion of a viscous fluid inside a circular boundary. <i>Applied Numerical Mathematics</i> , 2000, 33, 167-173.	1.2	5
90	On numerical entropy inequalities for a class of relaxed schemes. <i>Quarterly of Applied Mathematics</i> , 2001, 59, 391-399.	0.5	5

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91	On the Regularity of Approximate Solutions to Conservation Laws with Piecewise Smooth Solutions. SIAM Journal on Numerical Analysis, 2000, 38, 1483-1495.	1.1	4
92	A Speed-Up Strategy for Finite Volume WENO Schemes for Hyperbolic Conservation Laws. Journal of Scientific Computing, 2011, 46, 359-378.	1.1	4
93	An adaptive time stepping method with efficient error control for second-order evolution problems. Science China Mathematics, 2013, 56, 2753-2771.	0.8	4
94	ON THE PIECEWISE SMOOTHNESS OF ENTROPY SOLUTIONS TO SCALAR CONSERVATION LAWS FOR A LARGER CLASS OF INITIAL DATA. Journal of Hyperbolic Differential Equations, 2007, 04, 369-389.	0.3	3
95	On the Piecewise Smooth Solutions to Non-homogeneous Scalar Conservation Laws. Journal of Differential Equations, 2001, 175, 27-50.	1.1	1
96	Resolving small-scale structures in Boussinesq convection by adaptive grid methods. Journal of Computational and Applied Mathematics, 2006, 195, 274-291.	1.1	1
97	REGULARITY AND GLOBAL STRUCTURE OF SOLUTIONS TO HAMILTONIAN JACOBI EQUATIONS II: CONVEX INITIAL DATA. Journal of Hyperbolic Differential Equations, 2009, 06, 709-723.	0.3	1
98	Numerical analysis for functional differential and integral equations. Frontiers of Mathematics in China, 2009, 4, 1-2.	0.4	1
99	Note on coefficient matrices from stochastic Galerkin methods for random diffusion equations. Journal of Computational Physics, 2010, 229, 8225-8230.	1.9	1
100	Convergence analysis of Jacobi spectral collocation methods for Abel-Volterra integral equations of second kind. , 2012, 7, 69.		1
101	Error Estimates of Approximate Solutions for Nonlinear Scalar Conservation Laws. , 2001, , 873-882.		0
102	On Robust and Adaptive Finite Volume Methods for Steady Euler Equations. Springer Proceedings in Mathematics and Statistics, 2018, , 21-40.	0.1	0
103	ON EFFECTIVE NUMERICAL METHODS FOR PHASE-FIELD MODELS. , 2019, , .		0