Buyang Li

List of Publications by Year
in descending order

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80 papers	1,912 citations	331670 21 h-index	289244 40 g-index
81 all docs	81 docs citations	81 times ranked	580 citing authors

#	Article	IF	Citations
1	Error estimates for fully discrete BDF finite element approximations of the Allenâ€“Cahn equation. IMA Journal of Numerical Analysis, 2022, 42, 363-391.	2.9	5
2	Convergence of Renormalized Finite Element Methods for Heat Flow of Harmonic Maps. SIAM Journal on Numerical Analysis, 2022, 60, 312-338.	2.3	7
3	A Convergent Post-processed Discontinuous Galerkin Method for Incompressible Flow with Variable Density. Journal of Scientific Computing, 2022, 91, 1.	2.3	7
4	Exponential Convolution Quadrature for Nonlinear Subdiffusion Equations with Nonsmooth Initial Data. SIAM Journal on Numerical Analysis, 2022, 60, 503-528.	2.3	20
5	A mass conservative, well balanced, tangency preserving and energy decaying method for the shallow water equations on a sphere. Journal of Computational Physics, 2022, 457, 111067.	3.8	5
6	Maximum-norm stability of the finite element method for the Neumann problem in nonconvex polygons with locally refined mesh. Mathematics of Computation, 2022, 91, 1533-1585.	2.1	3
7	Optimal Convergence of the Newton Iterative Crankâ€“Nicolson Finite Element Method for the Nonlinear SchrÃ¶dinger Equation. Computational Methods in Applied Mathematics, 2022, 22, 591-612.	0.8	5
8	Weak discrete maximum principle of finite element methods in convex polyhedra. Mathematics of Computation, 2021, 90, 1-18.	2.1	5
9	Linearization of the finite element method for gradient flows by Newtonâ€™s method. IMA Journal of Numerical Analysis, 2021, 41, 1411-1440.	2.9	0
10	Well-posedness and numerical approximation of a fractional diffusion equation with a nonlinear variable order. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 171-207.	1.9	11
11	Convergence of Dziuk's Semidiscrete Finite Element Method for Mean Curvature Flow of Closed Surfaces with High-order Finite Elements. SIAM Journal on Numerical Analysis, 2021, 59, 1592-1617.	2.3	10
12	High-order Mass- and Energy-conserving SAV-Gauss Collocation Finite Element Methods for the Nonlinear SchrÃ¶dinger Equation. SIAM Journal on Numerical Analysis, 2021, 59, 1566-1591.	2.3	27
13	A bounded numerical solution with a small mesh size implies existence of a smooth solution to the Navierâ€“Stokes equations. Numerische Mathematik, 2021, 147, 283-304.	1.9	1
14	Error analysis of a fully discrete finite element method for variable density incompressible flows in two dimensions. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, S103-S147.	1.9	13
15	A High-order Exponential Integrator for Nonlinear Parabolic Equations with Nonsmooth Initial Data. Journal of Scientific Computing, 2021, 87, 1.	2.3	3
16	Second-Order Convergence of the Linearly Extrapolated Crankâ€“Nicolson Method for the Navierâ€“Stokes Equations with $$mathbf{H^1}$$ Initial Data. Journal of Scientific Computing, 2021, 88, 1.	2.3	3
17	A fully discrete low-regularity integrator for the 1D periodic cubic nonlinear SchrÃ¶dinger equation. Numerische Mathematik, 2021, 149, 151-183.	1.9	17
18	Convergence of a Second-order Energy-decaying Method for the Viscous Rotating Shallow Water Equation. SIAM Journal on Numerical Analysis, 2021, 59, 265-288.	2.3	3

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19	A convergent evolving finite element algorithm for Willmore flow of closed surfaces. Numerische Mathematik, 2021, 149, 595-643.	1.9	15
20	Pointwise-in-time error estimates for an optimal control problem with subdiffusion constraint. IMA Journal of Numerical Analysis, 2020, 40, 377-404.	2.9	20
21	Improved error estimates for semidiscrete finite element solutions of parabolic Dirichlet boundary control problems. IMA Journal of Numerical Analysis, 2020, 40, 2898-2939.	2.9	10
22	Long-time Accurate Symmetrized Implicit-explicit BDF Methods for a Class of Parabolic Equations with Non-self-adjoint Operators. SIAM Journal on Numerical Analysis, 2020, 58, 189-210.	2.3	8
23	A Second-Order Stabilization Method for Linearizing and Decoupling Nonlinear Parabolic Systems. SIAM Journal on Numerical Analysis, 2020, 58, 2736-2763.	2.3	2
24	Convergence of Dziuk's Linearly Implicit Parametric Finite Element Method for Curve Shortening Flow. SIAM Journal on Numerical Analysis, 2020, 58, 2315-2333.	2.3	6
25	Arbitrarily High-Order Exponential Cut-Off Methods for Preserving Maximum Principle of Parabolic Equations. SIAM Journal of Scientific Computing, 2020, 42, A3957-A3978.	2.8	39
26	Subdiffusion with time-dependent coefficients: improved regularity and second-order time stepping. Numerische Mathematik, 2020, 145, 883-913.	1.9	18
27	A Convergent Linearized Lagrange Finite Element Method for the Magneto-hydrodynamic Equations in Two-Dimensional Nonsmooth and Nonconvex Domains. SIAM Journal on Numerical Analysis, 2020, 58, 430-459.	2.3	16
28	A convergent algorithm for forced mean curvature flow driven by diffusion on the surface. Interfaces and Free Boundaries, 2020, 22, 443-464.	0.8	8
29	A convergent evolving finite element algorithm for mean curvature flow of closed surfaces. Numerische Mathematik, 2019, 143, 797-853.	1.9	41
30	Convergence of finite element solutions of stochastic partial integro-differential equations driven by white noise. Numerische Mathematik, 2019, 141, 1043-1077.	1.9	14
31	Analysis of fully discrete FEM for miscible displacement in porous media with Bearâ€“Scheidegger diffusion tensor. Numerische Mathematik, 2019, 141, 1009-1042.	1.9	7
32	Subdiffusion with a time-dependent coefficient: Analysis and numerical solution. Mathematics of Computation, 2019, 88, 2157-2186.	2.1	65
33	Energy-Decaying Extrapolated RK–SAV Methods for the Allen–Cahn and Cahn–Hilliard Equations. SIAM Journal of Scientific Computing, 2019, 41, A3703-A3727.	2.8	87
34	An analysis of the Crankâ€“Nicolson method for subdiffusion. IMA Journal of Numerical Analysis, 2018, 38, 518-541.	2.9	57
35	Maximum norm analysis of implicitâ€“explicit backward difference formulae for nonlinear parabolic equations. IMA Journal of Numerical Analysis, 2018, 38, 75-101.	2.9	12
36	On Stokes–Ritz Projection and Multistep Backward Differentiation Schemes in Decoupling the Stokes–Darcy Model. SIAM Journal on Numerical Analysis, 2018, 56, 397-427.	2.3	34

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37	Boundary Problems for the Fractional and Tempered Fractional Operators. Multiscale Modeling and Simulation, 2018, 16, 125-149.	1.6	69
38	Numerical Analysis of Nonlinear Subdiffusion Equations. SIAM Journal on Numerical Analysis, 2018, 56, 1-23.	2.3	164
39	An Efficient Second-Order Finite Difference Method for the One-Dimensional SchrÃ¶dinger Equation with Absorbing Boundary Conditions. SIAM Journal on Numerical Analysis, 2018, 56, 766-791.	2.3	14
40	Discrete maximal regularity of time-stepping schemes for fractional evolution equations. Numerische Mathematik, 2018, 138, 101-131.	1.9	57
41	Rungeâ€“Kutta Time Discretization of Nonlinear Parabolic Equations Studied via Discrete Maximal Parabolic Regularity. Foundations of Computational Mathematics, 2018, 18, 1109-1130.	2.5	17
42	Sharp convergence rates of time discretization for stochastic time-fractional PDEs subject to additive space-time white noise. Mathematics of Computation, 2018, 88, 1715-1741.	2.1	27
43	Time Discretization of a Tempered Fractional Feynman--Kac Equation with Measure Data. SIAM Journal on Numerical Analysis, 2018, 56, 3249-3275.	2.3	20
44	Stability and Error Analysis for a Second-Order Fast Approximation of the One-dimensional SchrÃ¶dinger Equation Under Absorbing Boundary Conditions. SIAM Journal of Scientific Computing, 2018, 40, A4083-A4104.	2.8	18
45	Electromagnetic scattering from a cavity embedded in an impedance ground plane. Mathematical Methods in the Applied Sciences, 2018, 41, 7748-7765.	2.3	0
46	Analyticity, maximal regularity and maximum-norm stability of semi-discrete finite element solutions of parabolic equations in nonconvex polyhedra. Mathematics of Computation, 2018, 88, 1-44.	2.1	12
47	Stability and convergence of fully discrete Galerkin FEMs for the nonlinear thermistor equations in a nonconvex polygon. Numerische Mathematik, 2017, 136, 383-409.	1.9	13
48	A new multigrid method for unconstrained parabolic optimal control problems. Journal of Computational and Applied Mathematics, 2017, 326, 358-373.	2.0	12
49	Combining maximal regularity and energy estimates for time discretizations of quasilinear parabolic equations. Mathematics of Computation, 2017, 86, 1527-1552.	2.1	44
50	Global well-posedness of the time-dependent Ginzburgâ€“Landau superconductivity model in curved polyhedra. Journal of Mathematical Analysis and Applications, 2017, 451, 102-116.	1.0	12
51	Maximal Regularity of Fully Discrete Finite Element Solutions of Parabolic Equations. SIAM Journal on Numerical Analysis, 2017, 55, 521-542.	2.3	13
52	Convergence of finite elements on an evolving surface driven by diffusion on the surface. Numerische Mathematik, 2017, 137, 643-689.	1.9	23
53	Convergence of a decoupled mixed FEM for the dynamic Ginzburgâ€“Landau equations in nonsmooth domains with incompatible initial data. Calcolo, 2017, 54, 1441-1480.	1.1	7
54	Maximum-norm stability of the finite element Ritz projection under mixed boundary conditions. Calcolo, 2017, 54, 541-565.	1.1	4

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55	Correction of High-Order BDF Convolution Quadrature for Fractional Evolution Equations. SIAM Journal of Scientific Computing, 2017, 39, A3129-A3152.	2.8	130
56	Mathematical and numerical analysis of the time-dependent Ginzburgâ€“Landau equations in nonconvex polygons based on Hodge decomposition. Mathematics of Computation, 2016, 86, 1579-1608.	2.1	16
57	Maximal L^p analysis of finite element solutions for parabolic equations with nonsmooth coefficients in convex polyhedra. Mathematics of Computation, 2016, 86, 1071-1102.	2.1	20
58	A-Stable Time Discretizations Preserve Maximal Parabolic Regularity. SIAM Journal on Numerical Analysis, 2016, 54, 3600-3624.	2.3	45
59	An Effective Computational Scheme for the Optimal Control of Wave Equations**This project was supported in part by NSFC 11301262 and NSF 1021203, 1419028 of the United States.. IFAC-PapersOnLine, 2016, 49, 891-896.	0.9	0
60	UNIFORM BMO ESTIMATE OF PARABOLIC EQUATIONS AND GLOBAL WELL-POSEDNESS OF THE THERMISTOR PROBLEM. Forum of Mathematics, Sigma, 2015, 3, .	0.7	6
61	A Fast and Stable Preconditioned Iterative Method for Optimal Control Problem of Wave Equations. SIAM Journal of Scientific Computing, 2015, 37, A2508-A2534.	2.8	13
62	A numerical study on the stability of a class of Helmholtz problems. Journal of Computational Physics, 2015, 287, 46-59.	3.8	8
63	Maximum-norm stability and maximal $${L^{p}}$$ L p regularity of FEMs for parabolic equations with Lipschitz continuous coefficients. Numerische Mathematik, 2015, 131, 489-516.	1.9	25
64	A new approach for numerical simulation of the time-dependent Ginzburgâ€“Landau equations. Journal of Computational Physics, 2015, 303, 238-250.	3.8	30
65	Regularity of the Diffusion-Dispersion Tensor and Error Analysis of Galerkin FEMs for a Porous Medium Flow. SIAM Journal on Numerical Analysis, 2015, 53, 1418-1437.	2.3	28
66	Leapfrog multigrid methods for parabolic optimal control problems. , 2015, , .		2
67	Linearized FE Approximations to a Nonlinear Gradient Flow. SIAM Journal on Numerical Analysis, 2014, 52, 2623-2646.	2.3	12
68	Unconditionally Optimal Error Estimates of a Crank–Nicolson Galerkin Method for the Nonlinear Thermistor Equations. SIAM Journal on Numerical Analysis, 2014, 52, 933-954.	2.3	101
69	Optimal Error Estimates of Linearized Crank-Nicolson Galerkin FEMs for the Time-Dependent Ginzburg–Landau Equations in Superconductivity. SIAM Journal on Numerical Analysis, 2014, 52, 1183-1202.	2.3	51
70	The Stability and Convergence of Fully Discrete Galerkin-Galerkin FEMs for Porous Medium Flows. Communications in Computational Physics, 2014, 15, 1141-1158.	1.7	14
71	Numerical analysis of heat and moisture transport with a finite difference method. Numerical Methods for Partial Differential Equations, 2013, 29, 226-250.	3.6	2
72	Unconditional Convergence and Optimal Error Estimates of a Galerkin-Mixed FEM for Incompressible Miscible Flow in Porous Media. SIAM Journal on Numerical Analysis, 2013, 51, 1959-1977.	2.3	165

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73	Error Estimates of Splitting Galerkin Methods for Heat and Sweat Transport in Textile Materials. SIAM Journal on Numerical Analysis, 2013, 51, 88-111.	2.3	39
74	Heatâ€“sweat flow in three-dimensional porous textile media. Nonlinearity, 2012, 25, 421-447.	1.4	3
75	Global Weak Solution for a Heat and Sweat Transport System in Three-Dimensional Fibrous Porous Media with Condensation/Evaporation and Absorption. SIAM Journal on Mathematical Analysis, 2012, 44, 1448-1473.	1.9	6
76	Heat and sweat transport through clothing assemblies with phase changes, condensation/evaporation and absorption. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 3469-3489.	2.1	8
77	Global existence of weak solution to the heat and moisture transport system in fibrous porous media. Journal of Differential Equations, 2010, 249, 2618-2642.	2.2	18
78	Newton-Cotes rules for Hadamard finite-part integrals on an interval. IMA Journal of Numerical Analysis, 2010, 30, 1235-1255.	2.9	17
79	Global Existence of Weak Solution for Nonisothermal Multicomponent Flow in Porous Textile Media. SIAM Journal on Mathematical Analysis, 2010, 42, 3076-3102.	1.9	18
80	Maximal regularity of multistep fully discrete finite element methods for parabolic equations. IMA Journal of Numerical Analysis, 0, , .	2.9	4