Randall J Leveque

List of Publications by Year
in descending order

97 papers	14,095 citations	61984 43 h-index	56724 83 g-index
109 all docs	109 docs citations	109 times ranked	7765 citing authors

#	Article	IF	Citations
1	Multiscale evaluation method of the drag effect on shallow water flow through coastal forests based on 3D numerical simulations. International Journal for Numerical Methods in Fluids, 2022, 94, 32-58.	1.6	2
2	Comparison of Machine Learning Approaches for Tsunami Forecasting from Sparse Observations. Pure and Applied Geophysics, 2021, 178, 5129-5153.	1.9	16
3	Shoaling on Steep Continental Slopes: Relating Transmission and Reflection Coefficients to Green's Law. Pure and Applied Geophysics, 2020, 177, 1659-1674.	1.9	3
4	A Source Clustering Approach for Efficient Inundation Modeling and Regional Scale Probabilistic Tsunami Hazard Assessment. Frontiers in Earth Science, 2020, 8, .	1.8	11
5	Analysis and Performance Evaluation of Adjoint-guided Adaptive Mesh Refinement for Linear Hyperbolic PDEs Using Clawpack. ACM Transactions on Mathematical Software, 2020, 46, 1-28.	2.9	2
6	Accelerating an Adaptive Mesh Refinement Code for Depth–Averaged Flows Using GPUs. Journal of Advances in Modeling Earth Systems, 2019, 11, 2606-2628.	3.8	12
7	The Geomorphic Impact of Outburst Floods: Integrating Observations and Numerical Simulations of the 2000 Yigong Flood, Eastern Himalaya. Journal of Geophysical Research F: Earth Surface, 2019, 124, 1056-1079.	2.8	58
8	Transport Reversal for Model Reduction of Hyperbolic Partial Differential Equations. SIAM-ASA Journal on Uncertainty Quantification, 2018, 6, 118-150.	2.0	40
9	Developing a Warning System for Inbound Tsunamis from the Cascadia Subduction Zone. , 2018, , .		2
10	A comparison of a two-dimensional depth-averaged flow model and a three-dimensional RANS model for predicting tsunami inundation and fluid forces. Natural Hazards and Earth System Sciences, 2018, 18, 2489-2506.	3.6	23
11	A Boussinesq type extension of the GeoClaw model - a study of wave breaking phenomena applying dispersive long wave models. Coastal Engineering, 2017, 122, 75-86.	4.0	21
12	Multi-Scale Modeling of a 500-Year CSZ Tsunami Inundation with Constructed Environment. , 2017, , .		1
13	A High-Resolution Finite Volume Seismic Model to Generate Seafloor Deformation for Tsunami Modeling. Journal of Scientific Computing, 2017, 73, 1204-1215.	2.3	3
14	Probabilistic Tsunami Hazard Analysis: Multiple Sources and Global Applications. Reviews of Geophysics, 2017, 55, 1158-1198.	23.0	170
15	Designing an offshore geophysical network in the Pacific Northwest for earthquake and tsunami early warning and hazard research. , 2016, , .		1
16	Kinematic rupture scenarios and synthetic displacement data: An example application to the Cascadia subduction zone. Journal of Geophysical Research: Solid Earth, 2016, 121, 6658-6674.	3.4	66
17	Computational study of shock waves propagating through air-plastic-water interfaces. Bulletin of the Brazilian Mathematical Society, 2016, 47, 685-700.	0.8	2
18	Generating Random Earthquake Events for Probabilistic Tsunami Hazard Assessment. Pure and Applied Geophysics, 2016, 173, 3671-3692.	1.9	42

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19	Generating Random Earthquake Events for Probabilistic Tsunami Hazard Assessment. Pageoph Topical Volumes, 2016, , 3671-3692.	0.2	18
20	The Pattern Method for incorporating tidal uncertainty into probabilistic tsunami hazard assessment (PTHA). Natural Hazards, 2015, 76, 19-39.	3.4	16
21	Validating Velocities in the GeoClaw Tsunami Model Using Observations near Hawaii from the 2011 Tohoku Tsunami. Pure and Applied Geophysics, 2015, 172, 849-867.	1.9	42
22	Reproducibility: Methods. , 2015, , 1254-1257.		0
23	High-Order Wave Propagation Algorithms for Hyperbolic Systems. SIAM Journal of Scientific Computing, 2013, 35, A351-A377.	2.8	49
24	High-Resolution Finite Volume Modeling of Wave Propagation in Orthotropic Poroelastic Media. SIAM Journal of Scientific Computing, 2013, 35, B176-B206.	2.8	33
25	Computational models of material interfaces for the study of extracorporeal shock wave therapy. Communications in Applied Mathematics and Computational Science, 2013, 8, 159-194.	1.8	7
26	Reproducible research for scientific computing: Tools and strategies for changing the culture. Computing in Science and Engineering, 2012, 14, 13-17.	1.2	92
27	Shock dynamics in layered periodic media. Communications in Mathematical Sciences, 2012, 10, 859-874.	1.0	12
28	Tsunami modelling with adaptively refined finite volume methods. Acta Numerica, 2011, 20, 211-289.	10.7	223
29	The GeoClaw software for depth-averaged flows with adaptive refinement. Advances in Water Resources, 2011, 34, 1195-1206.	3.8	169
30	A Well-Balanced Path-Integral f-Wave Method forÂHyperbolic Problems with Source Terms. Journal of Scientific Computing, 2011, 48, 209-226.	2.3	23
31	Python Tools for Reproducible Research on Hyperbolic Problems. Computing in Science and Engineering, 2009, 11, 19-27.	1.2	17
32	Modeling Hazardous Mass Flows Geoflows09: Mathematical and Computational Aspects of Modeling Hazardous Geophysical Mass Flows; Seattle, Washington, 9â€"11 March 2009. Eos, 2009, 90, 201.	0.1	0
33	Logically rectangular finite volume methods with adaptive refinement on the sphere. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 4483-4496.	3.4	14
34	HIGH-RESOLUTION FINITE VOLUME METHODS FOR THE SHALLOW WATER EQUATIONS WITH BATHYMETRY AND DRY STATES. Series on Quality, Reliability and Engineering Statistics, 2008, , 43-73.	0.2	42
35	Logically Rectangular Grids and Finite Volume Methods for PDEs in Circular and Spherical Domains. SIAM Review, 2008, 50, 723-752.	9.5	82
36	Correction to the article ``A comparison of the extended finite element method with the immersed interface method for elliptic equations with discontinuous coefficients and singular sources'' by Vaughan et al.. Communications in Applied Mathematics and Computational Science, 2008, 3, 95-101.	1.8	4

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37	Wave propagation software, computational science, and reproducible research. , 2007, , 1227-1253.		7
38	Highâ€Resolution Finite Volume Methods for Dusty Gas Jets and Plumes. SIAM Journal of Scientific Computing, 2006, 28, 1335-1360.	2.8	55
39	Hyperbolic Conservation Laws. Oberwolfach Reports, 2005, 1, 915-962.	0.0	0
40	A High-Resolution Rotated Grid Method for Conservation Laws with Embedded Geometries. SIAM Journal of Scientific Computing, 2005, 26, 785-809.	2.8	57
41	THE DYNAMICS OF PRESSURELESS DUST CLOUDS AND DELTA WAVES. Journal of Hyperbolic Differential Equations, 2004, 01, 315-327.	0.5	47
42	A wave propagation algorithm for hyperbolic systems on curved manifolds. Journal of Computational Physics, 2004, 199, 631-662.	3.8	51
43	A Wave Propagation Method for Conservation Laws and Balance Laws with Spatially Varying Flux Functions. SIAM Journal of Scientific Computing, 2003, 24, 955-978.	2.8	210
44	An Immersed Interface Method for Incompressible Navier--Stokes Equations. SIAM Journal of Scientific Computing, 2003, 25, 832-856.	2.8	249
45	Solitary Waves in Layered Nonlinear Media. SIAM Journal on Applied Mathematics, 2003, 63, 1539-1560.	1.8	54
46	H-Box Methods for the Approximation of Hyperbolic Conservation Laws on Irregular Grids. SIAM Journal on Numerical Analysis, 2003, 41, 893-918.	2.3	81
47	Phase Plane Behavior of Solitary Waves in Nonlinear Layered Media. , 2003, , 43-51.		3
48	Finite-volume methods for non-linear elasticity in heterogeneous media. International Journal for Numerical Methods in Fluids, 2002, 40, 93-104.	1.6	45
49	A Class of Approximate Riemann Solvers and Their Relation to Relaxation Schemes. Journal of Computational Physics, 2001, 172, 572-591.	3.8	73
50	Cartesian Grid Methods for Fluid Flow in Complex Geometries. The IMA Volumes in Mathematics and Its Applications, 2001, , 117-143.	0.5	17
51	Wave Propagation Algorithms for Hyperbolic Systems on Curved Manifolds. , 2001, , 129-138.		0
52	A Cartesian Grid Finite-Volume Method for the Advection-Diffusion Equation in Irregular Geometries. Journal of Computational Physics, 2000, 157, 143-180.	3.8	67
53	A Wave Propagation Method for Three-Dimensional Hyperbolic Conservation Laws. Journal of Computational Physics, 2000, 165, 126-166.	3.8	96
54	Fractional step methods applied to a chemotaxis model. Journal of Mathematical Biology, 2000, 41, 455-475.	1.9	131

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55	A Modified Fractional Step Method for the Accurate Approximation of Detonation Waves. SIAM Journal of Scientific Computing, 2000, 22, 1489-1510.	2.8	55
56	High-resolution finite-volume methods for acoustic waves in periodic and random media. Journal of the Acoustical Society of America, 1999, 106, 17-28.	1.1	52
57	Wave Propagation Methods for Conservation Laws with Source Terms. , 1999, , 609-618.		27
58	Balancing Source Terms and Flux Gradients in High-Resolution Godunov Methods: The Quasi-Steady Wave-Propagation Algorithm. Journal of Computational Physics, 1998, 146, 346-365.	3.8	662
59	Adaptive Mesh Refinement Using Wave-Propagation Algorithms for Hyperbolic Systems. SIAM Journal on Numerical Analysis, 1998, 35, 2298-2316.	2.3	210
60	Nonlinear Conservation Laws and Finite Volume Methods. , 1998, , 1-159.		41
61	Immersed Interface Methods for Stokes Flow with Elastic Boundaries or Surface Tension. SIAM Journal of Scientific Computing, 1997, 18, 709-735.	2.8	353
62	The immersed interface method for acoustic wave equations with discontinuous coefficients. Wave Motion, 1997, 25, 237-263.	2.0	104
63	Wave Propagation Algorithms for Multidimensional Hyperbolic Systems. Journal of Computational Physics, 1997, 131, 327-353.	3.8	419
64	High-Resolution Conservative Algorithms for Advection in Incompressible Flow. SIAM Journal on Numerical Analysis, 1996, 33, 627-665.	2.3	580
65	Two-Dimensional Front Tracking Based on High Resolution Wave Propagation Methods. Journal of Computational Physics, 1996, 123, 354-368.	3.8	77
66	One-Dimensional Front Tracking Based on High Resolution Wave Propagation Methods. SIAM Journal of Scientific Computing, 1995, 16, 348-377.	2.8	49
67	The Immersed Interface Method for Elliptic Equations with Discontinuous Coefficients and Singular Sources. SIAM Journal on Numerical Analysis, 1994, 31, 1019-1044.	2.3	1,113
68	Numerical Methods for Conservation Laws. , 1992, , .		1,847
69	Numerical Methods for Conservation Laws. , 1990, , .		398
70	Scalar Conservation Laws. , 1990, , 19-40.		10
71	An adaptive Cartesian mesh algorithm for the Euler equations in arbitrary geometries. , 1989, , .		78
72	High resolution finite volume methods on arbitrary grids via wave propagation. Journal of Computational Physics, 1988, 78, 36-63.	3.8	83

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73	A Geometric Approach to High Resolution TVD Schemes. SIAM Journal on Numerical Analysis, 1988, 25, 268-284.	2.3	72
74	Second Order Accuracy of Brenierâ€™s Time-Discrete Method for Nonlinear Systems of Conservation Laws. SIAM Journal on Numerical Analysis, 1988, 25, 1-7.	2.3	25
75	Analysis of the SOR Iteration for the 9-Point Laplacian. SIAM Journal on Numerical Analysis, 1988, 25, 1156-1180.	2.3	43
76	Solution of a Two-Dimensional Cochlea Model with Fluid Viscosity. SIAM Journal on Applied Mathematics, 1988, 48, 191-213.	1.8	20
77	Fourier Analysis of the SOR Iteration. IMA Journal of Numerical Analysis, 1988, 8, 273-279.	2.9	23
78	High Resolution Finite Volume Methods on Arbitrary Grids via Wave Propagation. , 1988, , 491-518.		1
79	On the Interaction of Nearly Equal Solitons in the KdV Equation. SIAM Journal on Applied Mathematics, 1987, 47, 254-262.	1.8	27
80	Intermediate boundary conditions for time-split methods applied to hyperbolic partial differential equations. Mathematics of Computation, 1986, 47, 37-37.	2.1	17
81	Solitaryâ€Wave Interactions in Elastic Rods. Studies in Applied Mathematics, 1986, 75, 95-121.	2.4	131
82	Stability of Godunovâ€™s method for a class of 2Ã—2 systems of conservation laws. Transactions of the American Mathematical Society, 1985, 288, 115-123.	0.9	11
83	On the Accuracy of Stable Schemes for 2D Scalar Conservation Laws. Mathematics of Computation, 1985, 45, 15.	2.1	24
84	A large Time Step Generalization of Godunovâ€™s Method for Systems of Conservation Laws. SIAM Journal on Numerical Analysis, 1985, 22, 1051-1073.	2.3	93
85	Solution of a Two-Dimensional Cochlea Model Using Transform Techniques. SIAM Journal on Applied Mathematics, 1985, 45, 450-464.	1.8	11
86	Stability of Godunov's Method for a Class of 2 Ã— 2 Systems of Conservation Laws. Transactions of the American Mathematical Society, 1985, 288, 115.	0.9	30
87	On the accuracy of stable schemes for 2D scalar conservation laws. Mathematics of Computation, 1985, 45, 15-21.	2.1	136
88	Advanced Problems: 6460-6462. American Mathematical Monthly, 1984, 91, 371.	0.3	1
89	Convergence of a large time step generalization of Godunov's method for conservation laws. Communications on Pure and Applied Mathematics, 1984, 37, 463-477.	3.1	33
90	On the resolvent condition in the Kreiss Matrix Theorem. BIT Numerical Mathematics, 1984, 24, 584-591.	2.0	59

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91	On the uniform power-boundedness of a family of matrices and the applications to one-leg and linear multistep methods. Numerische Mathematik, 1983, 42, 1-13.	1.9	18
92	Numerical methods based on additive splittings for hyperbolic partial differential equations. Mathematics of Computation, 1983, 40, 469-497.	2.1	89
93	Algorithms for Computing the Sample Variance: Analysis and Recommendations. American Statistician, 1983, 37, 242.	1.6	76
94	Algorithms for Computing the Sample Variance: Analysis and Recommendations. American Statistician, 1983, 37, 242-247.	1.6	216
95	Large Time Step Shock-Capturing Techniques for Scalar Conservation Laws. SIAM Journal on Numerical Analysis, 1982, 19, 1091-1109.	2.3	66
96	On least squares exponential sum approximation with positive coefficients. Mathematics of Computation, 1980, 34, 203-211.	2.1	39
97	Clawpack: building an open source ecosystem for solving hyperbolic PDEs. PeerJ Computer Science, 0, 2, e68.	4.5	62