Steven J Ruuth

List of Publications by Year
in descending order

45 papers	4,392 citations	218677 26 h-index	265206 42 g-index
45 all docs	45 docs citations	45 times ranked	2672 citing authors

#	Article	IF	Citations
1	Linearly Stabilized Schemes for the Time Integration of Stiff Nonlinear PDEs. Journal of Scientific Computing, 2021, 87, 1.	2.3	2
2	Schwarz Solvers and Preconditioners for the Closest Point Method. SIAM Journal of Scientific Computing, 2020, 42, A3584-A3609.	2.8	3
3	Boundary treatment of high order Runge-Kutta methods for hyperbolic conservation laws. Journal of Computational Physics, 2020, 421, 109697.	3.8	6
4	Solving variational problems and partial differential equations that map between manifolds via the closest point method. Journal of Computational Physics, 2017, 336, 330-346.	3.8	2
5	An embedding technique for the solution of reactionâ€“diffusion equations on algebraic surfaces with isolated singularities. Journal of Mathematical Analysis and Applications, 2016, 436, 911-943.	1.0	2
6	Moving Mesh Methods on Parametric Surfaces. Procedia Engineering, 2015, 124, 148-160.	1.2	3
7	A localized meshless method for diffusion on folded surfaces. Journal of Computational Physics, 2015, 297, 194-206.	3.8	12
8	Laplace-Beltrami spectra for shape comparison of surfaces in 3D using the closest point method. , 2015, , .		1
9	The Stability of Localized Spot Patterns for the Brusselator on the Sphere. SIAM Journal on Applied Dynamical Systems, 2014, 13, 564-627.	1.6	33
10	Spatially Partitioned Embedded Runge–Kutta Methods. SIAM Journal on Numerical Analysis, 2013, 51, 2887-2910.	2.3	17
11	Simple computation of reactionâ€“diffusion processes on point clouds. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9209-9214.	7.1	46
12	Solving eigenvalue problems on curved surfaces using the Closest Point Method. Journal of Computational Physics, 2011, 230, 7944-7956.	3.8	58
13	On the Linear Stability of the Fifth-Order WENO Discretization. Journal of Scientific Computing, 2011, 47, 127-149.	2.3	22
14	Diffusion generated motion using signed distance functions. Journal of Computational Physics, 2010, 229, 1017-1042.	3.8	33
15	The Implicit Closest Point Method for the Numerical Solution of Partial Differential Equations on Surfaces. SIAM Journal of Scientific Computing, 2010, 31, 4330-4350.	2.8	129
16	Segmentation on surfaces with the Closest Point Method. , 2009, , .		11
17	THRESHOLD AND REDISTANCING DYNAMICS FOR GEOMETRIC MOTIONS. , 2009, , .		0
18	Symmetry reduction for molecular dynamics simulation of an imploding gas bubble. Journal of Computational Physics, 2008, 227, 2118-2129.	3.8	6

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19	A Numerical Study of Diagonally Split Rungeâ€“Kutta Methods for PDEs with Discontinuities. Journal of Scientific Computing, 2008, 36, 89-112.	2.3	18
20	Level Set Equations on Surfaces via the Closest Point Method. Journal of Scientific Computing, 2008, 35, 219-240.	2.3	88
21	A simple embedding method for solving partial differential equations on surfaces. Journal of Computational Physics, 2008, 227, 1943-1961.	3.8	191
22	Molecular Dynamics of Extreme Mass Segregation in a Rapidly Collapsing Bubble. Physical Review Letters, 2008, 101, 234301.	7.8	31
23	IMEX extensions of linear multistep methods with general monotonicity and boundedness properties. Journal of Computational Physics, 2007, 225, 2016-2042.	3.8	121
24	Diffusion generated motion of curves on surfaces. Journal of Computational Physics, 2007, 225, 2267-2282.	3.8	26
25	A Fifth Order Flux Implicit WENO Method. Journal of Scientific Computing, 2006, 27, 271-287.	2.3	28
26	Optimal Strong-Stability-Preserving Time-Stepping Schemes with Fast Downwind Spatial Discretizations. Journal of Scientific Computing, 2006, 27, 289-303.	2.3	25
27	High-order linear multistep methods with general monotonicity and boundedness properties. Journal of Computational Physics, 2005, 209, 226-248.	3.8	61
28	On monotonicity and boundedness properties of linear multistep methods. Mathematics of Computation, 2005, 75, 655-673.	2.1	39
29	Global optimization of explicit strong-stability-preserving Runge-Kutta methods. Mathematics of Computation, 2005, 75, 183-208.	2.1	102
30	High-Order Strong-Stability-Preserving Runge--Kutta Methods with Downwind-Biased Spatial Discretizations. SIAM Journal on Numerical Analysis, 2004, 42, 974-996.	2.3	61
31	A Simple Scheme for Volume-Preserving Motion by Mean Curvature. Journal of Scientific Computing, 2003, 19, 373-384.	2.3	44
32	Non-linear evolution using optimal fourth-order strong-stability-preserving Rungeâ€“Kutta methods. Mathematics and Computers in Simulation, 2003, 62, 125-135.	4.4	74
33	Monotonicity-Preserving Linear Multistep Methods. SIAM Journal on Numerical Analysis, 2003, 41, 605-623.	2.3	78
34	Molecular dynamics simulation of the response of a gas to a spherical piston: Implications for sonoluminescence. Physical Review E, 2002, 66, 036310.	2.1	25
35	A New Class of Optimal High-Order Strong-Stability-Preserving Time Discretization Methods. SIAM Journal on Numerical Analysis, 2002, 40, 469-491.	2.3	902
36	Two Barriers on Strong-Stability-Preserving Time Discretization Methods. Journal of Scientific Computing, 2002, 17, 211-220.	2.3	70

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37	Convolutionâ€“Thresholding Methods for Interface Motion. Journal of Computational Physics, 2001, 169, 678-707.	3.8	25
38	A Fixed Grid Method for Capturing the Motion of Self-Intersecting Wavefronts and Related PDEs. Journal of Computational Physics, 2000, 163, 1-21.	3.8	33
39	Convolution-Generated Motion and Generalized Huygens' Principles for Interface Motion. SIAM Journal on Applied Mathematics, 2000, 60, 868-890.	1.8	36
40	Convolution-Generated Motion as a Link between Cellular Automata and Continuum Pattern Dynamics. Journal of Computational Physics, 1999, 151, 836-861.	3.8	22
41	Efficient Algorithms for Diffusion-Generated Motion by Mean Curvature. Journal of Computational Physics, 1998, 144, 603-625.	3.8	68
42	A Diffusion-Generated Approach to Multiphase Motion. Journal of Computational Physics, 1998, 145, 166-192.	3.8	57
43	Implicit-explicit Runge-Kutta methods for time-dependent partial differential equations. Applied Numerical Mathematics, 1997, 25, 151-167.	2.1	854
44	Implicit-explicit methods for reaction-diffusion problems in pattern formation. Journal of Mathematical Biology, 1995, 34, 148-176.	1.9	186
45	Implicit-Explicit Methods for Time-Dependent Partial Differential Equations. SIAM Journal on Numerical Analysis, 1995, 32, 797-823.	2.3	741