Mark H Carpenter

List of Publications by Year
in descending order

56 papers	5,679 citations	117453 34 h-index	168136 53 g-index
56 all docs	56 docs citations	56 times ranked	1723 citing authors

#	Article	IF	Citations
1	Provably stable flux reconstruction high-order methods on curvilinear elements. Journal of Computational Physics, 2022, 463, 111259.	1.9	5
2	Entropy-stable p-nonconforming discretizations with the summation-by-parts property for the compressible Navierâ€“Stokes equations. Computers and Fluids, 2020, 210, 104631.	1.3	8
3	Accurate solution-adaptive finite difference schemes for coarse and fine grids. Journal of Computational Physics, 2020, 410, 109393.	1.9	3
4	Entropy stable h/p-nonconforming discretization with the summation-by-parts property for the compressible Euler and Navierâ€“Stokes equations. SN Partial Differential Equations and Applications, 2020, 1, 1.	0.3	7
5	Generalized Entropy Stable Weighted Essentially Non-Oscillatory Finite Difference Scheme in Curvilinear Multi-Block Domains. , 2019, , .		0
6	Conservative and entropy stable solid wall boundary conditions for the compressible Navierâ€“Stokes equations: Adiabatic wall and heat entropy transfer. Journal of Computational Physics, 2019, 397, 108775.	1.9	26
7	Diagonally implicit Rungeâ€“Kutta methods for stiff ODEs. Applied Numerical Mathematics, 2019, 146, 221-244.	1.2	43
8	Extension of Tensor-Product Generalized and Dense-Norm Summation-by-Parts Operators to Curvilinear Coordinates. Journal of Scientific Computing, 2019, 80, 1957-1996.	1.1	17
9	Entropy stable spectral collocation schemes for the 3-D Navier-Stokes equations on dynamic unstructured grids. Journal of Computational Physics, 2019, 399, 108897.	1.9	11
10	Staggered-grid entropy-stable multidimensional summation-by-parts discretizations on curvilinear coordinates. Journal of Computational Physics, 2019, 392, 161-186.	1.9	21
11	Entropy Stable Spaceâ€“Time Discontinuous Galerkin Schemes with Summation-by-Parts Property for Hyperbolic Conservation Laws. Journal of Scientific Computing, 2019, 80, 175-222.	1.1	43
12	Efficient Entropy Stable Gauss Collocation Methods. SIAM Journal of Scientific Computing, 2019, 41, A2938-A2966.	1.3	35
13	Higher-order additive Rungeâ€“Kutta schemes for ordinary differential equations. Applied Numerical Mathematics, 2019, 136, 183-205.	1.2	40
14	Entropy Stability and the No-Slip Wall Boundary Condition. SIAM Journal on Numerical Analysis, 2018, 56, 256-273.	1.1	12
15	Entropy-stable summation-by-parts discretization of the Euler equations on general curved elements. Journal of Computational Physics, 2018, 356, 410-438.	1.9	74
16	An Entropy Stable hÂ/Âp Non-Conforming Discontinuous Galerkin Method with the Summation-by-Parts Property. Journal of Scientific Computing, 2018, 77, 689-725.	1.1	39
17	A family of fourth-order entropy stable nonoscillatory spectral collocation schemes for the 1-D Navierâ€“Stokes equations. Journal of Computational Physics, 2017, 331, 90-107.	1.9	13
18	Entropy Stable Staggered Grid Discontinuous Spectral Collocation Methods of any Order for the Compressible Navier--Stokes Equations. SIAM Journal of Scientific Computing, 2016, 38, A3129-A3162.	1.3	49

#	Article	IF	Citations
19	Towards an Entropy Stable Spectral Element Framework for Computational Fluid Dynamics. , 2016, , .		10
20	Entropy stable wall boundary conditions for the three-dimensional compressible Navierâ€“Stokes equations. Journal of Computational Physics, 2015, 292, 88-113.	1.9	74
21	Entropy stable discontinuous interfaces coupling for the three-dimensional compressible Navierâ€“Stokes equations. Journal of Computational Physics, 2015, 290, 132-138.	1.9	39
22	Entropy Stable Spectral Collocation Schemes for the Navier--Stokes Equations: Discontinuous Interfaces. SIAM Journal of Scientific Computing, 2014, 36, B835-B867.	1.3	190
23	Optimal diagonal-norm SBP operators. Journal of Computational Physics, 2014, 264, 91-111.	1.9	40
24	High-order entropy stable finite difference schemes for nonlinear conservation laws: Finite domains. Journal of Computational Physics, 2013, 252, 518-557.	1.9	216
25	Discretely conservative finite-difference formulations for nonlinear conservation laws in split form: Theory and boundary conditions. Journal of Computational Physics, 2013, 234, 353-375.	1.9	120
26	High-Order Entropy Stable Formulations for Computational Fluid Dynamics. , 2013, , .		8
27	Boundary Closures for Sixth-Order Energy-Stable Weighted Essentially Non-Oscillatory Finite-Difference Schemes. Fields Institute Communications, 2013, , 117-160.	0.6	2
28	Boundary closures for fourth-order energy stable weighted essentially non-oscillatory finite-difference schemes. Journal of Computational Physics, 2011, 230, 3727-3752.	1.9	30
29	Revisiting and Extending Interface Penalties forÂMulti-domain Summation-by-Parts Operators. Journal of Scientific Computing, 2010, 45, 118-150.	1.1	66
30	Stable and Accurate Interpolation Operators for High-Order Multiblock Finite Difference Methods. SIAM Journal of Scientific Computing, 2010, 32, 2298-2320.	1.3	87
31	Third-order Energy Stable WENO scheme. Journal of Computational Physics, 2009, 228, 3025-3047.	1.9	105
32	A systematic methodology for constructing high-order energy stable WENO schemes. Journal of Computational Physics, 2009, 228, 4248-4272.	1.9	134
33	A stable high-order finite difference scheme for the compressible Navierâ€“Stokes equations, far-field boundary conditions. Journal of Computational Physics, 2007, 225, 1020-1038.	1.9	195
34	Application of implicitâ€“explicit high order Rungeâ€“Kutta methods to discontinuous-Galerkin schemes. Journal of Computational Physics, 2007, 225, 1753-1781.	1.9	130
35	Idempotent filtering in spectral and spectral element methods. Journal of Computational Physics, 2006, 220, 41-58.	1.9	24
36	On the Conservation and Convergence to Weak Solutions of Global Schemes. Journal of Scientific Computing, 2003, 18, 111-132.	1.1	5

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37	Additive Rungeâ€“Kutta schemes for convectionâ€“diffusionâ€“reaction equations. Applied Numerical Mathematics, 2003, 44, 139-181.	1.2	507
38	Implicit Time Integration Schemes for the Unsteady Compressible Navierâ€“Stokes Equations: Laminar Flow. Journal of Computational Physics, 2002, 179, 313-329.	1.9	175
39	On Accuracy of Adaptive Grid Methods for Captured Shocks. Journal of Computational Physics, 2002, 181, 280-316.	1.9	17
40	High-Order Finite Difference Methods, Multidimensional Linear Problems, and Curvilinear Coordinates. Journal of Computational Physics, 2001, 173, 149-174.	1.9	127
41	Low-storage, explicit Rungeâ€“Kutta schemes for the compressible Navierâ€“Stokes equations. Applied Numerical Mathematics, 2000, 35, 177-219.	1.2	445
42	A Stable and Conservative Interface Treatment of Arbitrary Spatial Accuracy. Journal of Computational Physics, 1999, 148, 341-365.	1.9	375
43	Boundary and Interface Conditions for High-Order Finite-Difference Methods Applied to the Euler and Navierâ€“Stokes Equations. Journal of Computational Physics, 1999, 148, 621-645.	1.9	148
44	Accuracy of Shock Capturing in Two Spatial Dimensions. AIAA Journal, 1999, 37, 1072-1079.	1.5	92
45	Computational Considerations for the Simulation of Shock-Induced Sound. SIAM Journal of Scientific Computing, 1998, 19, 813-828.	1.3	94
46	Computational Considerations for the Simulation of Discontinuous Flows. ICASE/LaRC Interdisciplinary Series in Science and Engineering, 1998, , 63-78.	0.1	1
47	On the Removal of Boundary Errors Caused by Rungeâ€“Kutta Integration of Nonlinear Partial Differential Equations. SIAM Journal of Scientific Computing, 1996, 17, 777-782.	1.3	42
48	Spectral Methods on Arbitrary Grids. Journal of Computational Physics, 1996, 129, 74-86.	1.9	116
49	High-Order "Cyclo-Difference" Techniques: An Alternative to Finite Differences. Journal of Computational Physics, 1995, 118, 242-260.	1.9	5
50	Spatial direct numerical simulation of high-speed boundary-layer flows part I: Algorithmic considerations and validation. Theoretical and Computational Fluid Dynamics, 1995, 7, 49-76.	0.9	80
51	The Theoretical Accuracy of Rungeâ€“Kutta Time Discretizations for the Initial Boundary Value Problem: A Study of the Boundary Error. SIAM Journal of Scientific Computing, 1995, 16, 1241-1252.	1.3	127
52	Time-Stable Boundary Conditions for Finite-Difference Schemes Solving Hyperbolic Systems: Methodology and Application to High-Order Compact Schemes. Journal of Computational Physics, 1994, 111, 220-236.	1.9	535
53	Several new numerical methods for compressible shear-layer simulations. Applied Numerical Mathematics, 1994, 14, 397-433.	1.2	432
54	Characteristic and Finite-Wave Shock-Fitting Boundary Conditions for Chebyshev Methods. ICASE/LaRC Interdisciplinary Series in Science and Engineering, 1994, , 301-312.	0.1	5

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55	The Stability of Numerical Boundary Treatments for Compact High-Order Finite-Difference Schemes. Journal of Computational Physics, 1993, 108, 272-295.	1.9	361
56	Stable and accurate boundary treatments for compact, high-order finite-difference schemes. Applied Numerical Mathematics, 1993, 12, 55-87.	1.2	74