

# Phillip Colella

## List of Publications by Year in descending order

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Version: 2024-02-01

62  
papers

12,571  
citations

117625

34  
h-index

197818

49  
g-index

62  
all docs

62  
docs citations

62  
times ranked

6083  
citing authors

| #  | ARTICLE                                                                                                                                                           | IF  | CITATIONS |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 1  | The Piecewise Parabolic Method (PPM) for gas-dynamical simulations. Journal of Computational Physics, 1984, 54, 174-201.                                          | 3.8 | 3,220     |
| 2  | The numerical simulation of two-dimensional fluid flow with strong shocks. Journal of Computational Physics, 1984, 54, 115-173.                                   | 3.8 | 2,600     |
| 3  | A second-order projection method for the incompressible navier-stokes equations. Journal of Computational Physics, 1989, 85, 257-283.                             | 3.8 | 1,037     |
| 4  | Multidimensional upwind methods for hyperbolic conservation laws. Journal of Computational Physics, 1990, 87, 171-200.                                            | 3.8 | 694       |
| 5  | An Adaptive Level Set Approach for Incompressible Two-Phase Flows. Journal of Computational Physics, 1999, 148, 81-124.                                           | 3.8 | 560       |
| 6  | Efficient solution algorithms for the Riemann problem for real gases. Journal of Computational Physics, 1985, 59, 264-289.                                        | 3.8 | 456       |
| 7  | A Conservative Adaptive Projection Method for the Variable Density Incompressible Navier-Stokes Equations. Journal of Computational Physics, 1998, 142, 1-46.     | 3.8 | 430       |
| 8  | A Cartesian Grid Embedded Boundary Method for Poisson's Equation on Irregular Domains. Journal of Computational Physics, 1998, 147, 60-85.                        | 3.8 | 367       |
| 9  | A Direct Eulerian MUSCL Scheme for Gas Dynamics. SIAM Journal on Scientific and Statistical Computing, 1985, 6, 104-117.                                          | 1.5 | 286       |
| 10 | An Adaptive Cartesian Grid Method for Unsteady Compressible Flow in Irregular Regions. Journal of Computational Physics, 1995, 120, 278-304.                      | 3.8 | 256       |
| 11 | Glimm's Method for Gas Dynamics. SIAM Journal on Scientific and Statistical Computing, 1982, 3, 76-110.                                                           | 1.5 | 182       |
| 12 | Theoretical and Numerical Structure for Reacting Shock Waves. SIAM Journal on Scientific and Statistical Computing, 1986, 7, 1059-1080.                           | 1.5 | 174       |
| 13 | A Cartesian grid embedded boundary method for hyperbolic conservation laws. Journal of Computational Physics, 2006, 211, 347-366.                                 | 3.8 | 161       |
| 14 | A Higher-Order Godunov Method for Multidimensional Ideal Magnetohydrodynamics. SIAM Journal of Scientific Computing, 1994, 15, 263-284.                           | 2.8 | 158       |
| 15 | Higher order Godunov methods for general systems of hyperbolic conservation laws. Journal of Computational Physics, 1989, 82, 362-397.                            | 3.8 | 152       |
| 16 | A limiter for PPM that preserves accuracy at smooth extrema. Journal of Computational Physics, 2008, 227, 7069-7076.                                              | 3.8 | 132       |
| 17 | A high-order finite-volume method for conservation laws on locally refined grids. Communications in Applied Mathematics and Computational Science, 2011, 6, 1-25. | 1.8 | 132       |
| 18 | A Cartesian Grid Embedded Boundary Method for the Heat Equation on Irregular Domains. Journal of Computational Physics, 2001, 173, 620-635.                       | 3.8 | 126       |

| #  | ARTICLE                                                                                                                                                                                                | IF  | CITATIONS |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 19 | A Cartesian grid embedded boundary method for the heat equation and Poisson's equation in three dimensions. <i>Journal of Computational Physics</i> , 2006, 211, 531-550.                              | 3.8 | 101       |
| 20 | A Cartesian Grid Projection Method for the Incompressible Euler Equations in Complex Geometries. <i>SIAM Journal of Scientific Computing</i> , 1997, 18, 1289-1309.                                    | 2.8 | 97        |
| 21 | A higher-order Godunov method for modeling finite deformation in elastic-plastic solids. <i>Communications on Pure and Applied Mathematics</i> , 1991, 44, 41-100.                                     | 3.1 | 96        |
| 22 | A Cell-Centered Adaptive Projection Method for the Incompressible Euler Equations. <i>Journal of Computational Physics</i> , 2000, 163, 271-312.                                                       | 3.8 | 91        |
| 23 | Application of the Godunov method and its second-order extension to cascade flow modeling. <i>AIAA Journal</i> , 1984, 22, 1609-1615.                                                                  | 2.6 | 70        |
| 24 | A cell-centered adaptive projection method for the incompressible Navier-Stokes equations in three dimensions. <i>Journal of Computational Physics</i> , 2008, 227, 1863-1886.                         | 3.8 | 65        |
| 25 | A fourth-order accurate local refinement method for Poisson's equation. <i>Journal of Computational Physics</i> , 2005, 209, 1-18.                                                                     | 3.8 | 60        |
| 26 | A Fourth-Order Accurate Finite-Volume Method with Structured Adaptive Mesh Refinement for Solving the Advection-Diffusion Equation. <i>SIAM Journal of Scientific Computing</i> , 2012, 34, B179-B201. | 2.8 | 55        |
| 27 | A Projection Method for Low Speed Flows. <i>Journal of Computational Physics</i> , 1999, 149, 245-269.                                                                                                 | 3.8 | 51        |
| 28 | An unsplit, cell-centered Godunov method for ideal MHD. <i>Journal of Computational Physics</i> , 2005, 203, 422-448.                                                                                  | 3.8 | 48        |
| 29 | Block structured adaptive mesh and time refinement for hybrid, hyperbolic+N-body systems. <i>Journal of Computational Physics</i> , 2007, 227, 400-430.                                                | 3.8 | 47        |
| 30 | An efficient second-order projection method for viscous incompressible flow. , 1991, , .                                                                                                               |     | 44        |
| 31 | An implicit-explicit hybrid method for Lagrangian hydrodynamics. <i>Journal of Computational Physics</i> , 1986, 63, 283-310.                                                                          | 3.8 | 43        |
| 32 | Numerical computation of diffusion on a surface. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 11151-11156.                                      | 7.1 | 43        |
| 33 | A Conservative Finite Difference Method for the Numerical Solution of Plasma Fluid Equations. <i>Journal of Computational Physics</i> , 1999, 149, 168-193.                                            | 3.8 | 40        |
| 34 | A freestream-preserving fourth-order finite-volume method in mapped coordinates with adaptive-mesh refinement. <i>Computers and Fluids</i> , 2015, 123, 202-217.                                       | 2.5 | 40        |
| 35 | A node-centered local refinement algorithm for Poisson's equation in complex geometries. <i>Journal of Computational Physics</i> , 2004, 201, 34-60.                                                   | 3.8 | 39        |
| 36 | Numerical Solution of Plasma Fluid Equations Using Locally Refined Grids. <i>Journal of Computational Physics</i> , 1999, 152, 550-583.                                                                | 3.8 | 35        |

| #  | ARTICLE                                                                                                                                                                           | IF  | CITATIONS |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 37 | An adaptive cut-cell method for environmental fluid mechanics. <i>International Journal for Numerical Methods in Fluids</i> , 2009, 60, 473-514.                                  | 1.6 | 33        |
| 38 | A Numerical Model for Trickle Bed Reactors. <i>Journal of Computational Physics</i> , 2000, 165, 311-333.                                                                         | 3.8 | 29        |
| 39 | An anelastic allspeed projection method for gravitationally stratified flows. <i>Journal of Computational Physics</i> , 2006, 216, 589-615.                                       | 3.8 | 29        |
| 40 | A local corrections algorithm for solving Poisson's equation in three dimensions. <i>Communications in Applied Mathematics and Computational Science</i> , 2007, 2, 57-81.        | 1.8 | 26        |
| 41 | A modified higher order Godunov's scheme for stiff source conservative hydrodynamics. <i>Journal of Computational Physics</i> , 2007, 224, 519-538.                               | 3.8 | 25        |
| 42 | Performance and scaling of locally-structured grid methods for partial differential equations. <i>Journal of Physics: Conference Series</i> , 2007, 78, 012013.                   | 0.4 | 24        |
| 43 | Nonequilibrium effects in oblique shock-wave reflection. <i>AIAA Journal</i> , 1988, 26, 698-705.                                                                                 | 2.6 | 23        |
| 44 | A Front Tracking Method for Compressible Flames in One Dimension. <i>SIAM Journal of Scientific Computing</i> , 1995, 16, 755-772.                                                | 2.8 | 22        |
| 45 | A cartesian grid embedded boundary method for the compressible Navier-Stokes equations. <i>Communications in Applied Mathematics and Computational Science</i> , 2013, 8, 99-122. | 1.8 | 22        |
| 46 | A Projection Method for Incompressible Viscous Flow on Moving Quadrilateral Grids. <i>Journal of Computational Physics</i> , 2001, 166, 191-217.                                  | 3.8 | 21        |
| 47 | High resolution difference schemes for compressible gas dynamics. , 1981, , 434-441.                                                                                              |     | 19        |
| 48 | Conservative front-tracking for inviscid compressible flow. , 1991, , .                                                                                                           |     | 15        |
| 49 | An adaptive projection method for the incompressible Euler equations. , 1993, , .                                                                                                 |     | 15        |
| 50 | Volume-of-Fluid Methods for Partial Differential Equations. , 2001, , 161-177.                                                                                                    |     | 15        |
| 51 | A Freestream-Preserving High-Order Finite-Volume Method for Mapped Grids with Adaptive-Mesh Refinement. , 2012, , .                                                               |     | 10        |
| 52 | An adaptive multifluid interface-capturing method for compressible flow in complex geometries. , 1995, , .                                                                        |     | 9         |
| 53 | High-accuracy embedded boundary grid generation using the divergence theorem. <i>Communications in Applied Mathematics and Computational Science</i> , 2015, 10, 83-96.           | 1.8 | 9         |
| 54 | An adaptive semi-implicit scheme for simulations of unsteady viscous compressible flows. , 1995, , .                                                                              |     | 7         |

| #  | ARTICLE                                                                                                                                                                  | IF  | CITATIONS |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 55 | A cell-centered Cartesian grid projection method for the incompressible Euler equations in complex geometries. , 1995, , .                                               |     | 7         |
| 56 | A higher-order upwind method for viscoelastic flow. Communications in Applied Mathematics and Computational Science, 2009, 4, 57-83.                                     | 1.8 | 6         |
| 57 | Adaptive methods for high Mach number reacting flow. , 1987, , .                                                                                                         |     | 5         |
| 58 | Numerical calculation of complex shock reflections in gases. , 1985, , 154-158.                                                                                          |     | 5         |
| 59 | A single-stage flux-corrected transport algorithm for high-order finite-volume methods. Communications in Applied Mathematics and Computational Science, 2017, 12, 1-24. | 1.8 | 3         |
| 60 | High-order finite-volume methods on locally-structured grids. Discrete and Continuous Dynamical Systems, 2016, 36, 4247-4270.                                            | 0.9 | 3         |
| 61 | Steady-state solution-adaptive Euler computations on structured grids. , 1998, , .                                                                                       |     | 1         |
| 62 | Sequential Semi-Implicit Algorithm for Computing Discontinuous Flows in Porous Media. SPE Journal, 1998, 3, 200-208.                                                     | 3.1 | 0         |