

Gretar Tryggvason

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7126004/publications.pdf>

Version: 2024-02-01

211
papers

12,754
citations

29994

54
h-index

25716

108
g-index

237
all docs

237
docs citations

237
times ranked

5387
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | A front-tracking method for viscous, incompressible, multi-fluid flows. Journal of Computational Physics, 1992, 100, 25-37. | 1.9 | 1,972 |
| 2 | A Front-Tracking Method for the Computations of Multiphase Flow. Journal of Computational Physics, 2001, 169, 708-759. | 1.9 | 1,744 |
| 3 | Computations of boiling flows. International Journal of Multiphase Flow, 1998, 24, 387-410. | 1.6 | 405 |
| 4 | A Front-Tracking Method for Dendritic Solidification. Journal of Computational Physics, 1996, 123, 127-148. | 1.9 | 323 |
| 5 | Numerical simulations of the Rayleigh-Taylor instability. Journal of Computational Physics, 1988, 75, 253-282. | 1.9 | 251 |
| 6 | Direct numerical simulations of bubbly flows. Part 1. Low Reynolds number arrays. Journal of Fluid Mechanics, 1998, 377, 313-345. | 1.4 | 235 |
| 7 | Numerical experiments on Hele Shaw flow with a sharp interface. Journal of Fluid Mechanics, 1983, 136, 1. | 1.4 | 230 |
| 8 | A front-tracking/ghost-fluid method for fluid interfaces in compressible flows. Journal of Computational Physics, 2009, 228, 4012-4037. | 1.9 | 218 |
| 9 | A front-tracking method for computation of interfacial flows with soluble surfactants. Journal of Computational Physics, 2008, 227, 2238-2262. | 1.9 | 210 |
| 10 | Head-on collision of drops—A numerical investigation. Physics of Fluids, 1996, 8, 29-42. | 1.6 | 191 |
| 11 | Dynamics of homogeneous bubbly flows Part 1. Rise velocity and microstructure of the bubbles. Journal of Fluid Mechanics, 2002, 466, 17-52. | 1.4 | 184 |
| 12 | Computations of film boiling. Part I: numerical method. International Journal of Heat and Mass Transfer, 2004, 47, 5451-5461. | 2.5 | 168 |
| 13 | Direct numerical simulations of bubbly flows Part 2. Moderate Reynolds number arrays. Journal of Fluid Mechanics, 1999, 385, 325-358. | 1.4 | 165 |
| 14 | Effect of bubble deformation on the properties of bubbly flows. Journal of Fluid Mechanics, 2003, 495, 77-118. | 1.4 | 165 |
| 15 | A numerical study of the motion of drops in Poiseuille flow. Part 1. Lateral migration of one drop. Journal of Fluid Mechanics, 2000, 411, 325-350. | 1.4 | 153 |
| 16 | Vortex structure and dynamics in the near field of a coaxial jet. Journal of Fluid Mechanics, 1992, 241, 371-402. | 1.4 | 143 |
| 17 | Computations of multi-fluid flows. Physica D: Nonlinear Phenomena, 1992, 60, 70-83. | 1.3 | 140 |
| 18 | The effect of bubbles on the wall drag in a turbulent channel flow. Physics of Fluids, 2005, 17, 095102. | 1.6 | 137 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Effect of bubble deformability in turbulent bubbly upflow in a vertical channel. <i>Physics of Fluids</i> , 2008, 20, . | 1.6 | 133 |
| 20 | Secondary breakup of axisymmetric liquid drops. I. Acceleration by a constant body force. <i>Physics of Fluids</i> , 1999, 11, 3650-3667. | 1.6 | 131 |
| 21 | Numerical Simulation of Dendritic Solidification with Convection: Two-Dimensional Geometry. <i>Journal of Computational Physics</i> , 2002, 180, 471-496. | 1.9 | 127 |
| 22 | The Rise of Bubbles in a Vertical Shear Flow. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1997, 119, 443-449. | 0.8 | 125 |
| 23 | Mass transfer and chemical reactions in bubble swarms with dynamic interfaces. <i>AIChE Journal</i> , 2005, 51, 2786-2800. | 1.8 | 107 |
| 24 | Using statistical learning to close two-fluid multiphase flow equations for a simple bubbly system. <i>Physics of Fluids</i> , 2015, 27, . | 1.6 | 103 |
| 25 | Dynamics of homogeneous bubbly flows Part 2. Velocity fluctuations. <i>Journal of Fluid Mechanics</i> , 2002, 466, 53-84. | 1.4 | 99 |
| 26 | Computations of three-dimensional Rayleigh-Taylor instability. <i>Physics of Fluids A, Fluid Dynamics</i> , 1990, 2, 656-659. | 1.6 | 98 |
| 27 | Secondary breakup of axisymmetric liquid drops. II. Impulsive acceleration. <i>Physics of Fluids</i> , 2001, 13, 1554-1565. | 1.6 | 91 |
| 28 | Thermocapillary interaction of two bubbles or drops. <i>International Journal of Multiphase Flow</i> , 2003, 29, 1117-1135. | 1.6 | 89 |
| 29 | Fully resolved numerical simulations of fused deposition modeling. Part I: fluid flow. <i>Rapid Prototyping Journal</i> , 2018, 24, 463-476. | 1.6 | 88 |
| 30 | Finger-interaction mechanisms in stratified Hele-Shaw flow. <i>Journal of Fluid Mechanics</i> , 1985, 154, 287-301. | 1.4 | 84 |
| 31 | The Bifurcation of Tracked Scalar Waves. <i>SIAM Journal on Scientific and Statistical Computing</i> , 1988, 9, 61-79. | 1.5 | 83 |
| 32 | An Adaptive, Cartesian, Front-Tracking Method for the Motion, Deformation and Adhesion of Circulating Cells. <i>Journal of Computational Physics</i> , 1998, 143, 346-380. | 1.9 | 83 |
| 33 | Numerical simulations of three-dimensional drop collisions. <i>AIAA Journal</i> , 1996, 34, 750-755. | 1.5 | 82 |
| 34 | Direct numerical simulations of three-dimensional bubbly flows. <i>Physics of Fluids</i> , 1999, 11, 1967-1969. | 1.6 | 82 |
| 35 | Numerical simulation of dendritic solidification with convection: Three-dimensional flow. <i>Journal of Computational Physics</i> , 2004, 194, 677-696. | 1.9 | 81 |
| 36 | An inverse energy cascade in two-dimensional low Reynolds number bubbly flows. <i>Journal of Fluid Mechanics</i> , 1996, 314, 315-330. | 1.4 | 80 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 37 | Computations of film boiling. Part II: multi-mode film boiling. International Journal of Heat and Mass Transfer, 2004, 47, 5463-5476. | 2.5 | 77 |
| 38 | Direct numerical simulations of gas/liquid multiphase flows. Fluid Dynamics Research, 2006, 38, 660-681. | 0.6 | 77 |
| 39 | A DNS study of laminar bubbly flows in a vertical channel. International Journal of Multiphase Flow, 2006, 32, 643-660. | 1.6 | 77 |
| 40 | A direct numerical simulation study of the buoyant rise of bubbles at $O(100)$ Reynolds number. Physics of Fluids, 2005, 17, 093303. | 1.6 | 76 |
| 41 | Numerical investigations of drop solidification on a cold plate in the presence of volume change. International Journal of Multiphase Flow, 2015, 76, 73-85. | 1.6 | 75 |
| 42 | Numerical study of turbulent bubbly downflows in a vertical channel. Physics of Fluids, 2006, 18, 103302. | 1.6 | 73 |
| 43 | Simulations of soluble surfactants in 3D multiphase flow. Journal of Computational Physics, 2014, 274, 737-757. | 1.9 | 71 |
| 44 | Breakup mode of an axisymmetric liquid jet injected into another immiscible liquid. Chemical Engineering Science, 2006, 61, 3986-3996. | 1.9 | 67 |
| 45 | Dynamics of vortex interaction with a density interface. Journal of Fluid Mechanics, 1989, 205, 1. | 1.4 | 66 |
| 46 | Effect of bubble size in turbulent bubbly downflow in a vertical channel. Chemical Engineering Science, 2007, 62, 3008-3018. | 1.9 | 66 |
| 47 | Dynamics of nearly spherical bubbles in a turbulent channel upflow. Journal of Fluid Mechanics, 2013, 732, 166-189. | 1.4 | 66 |
| 48 | Spray formation in a quasiplanar gas-liquid mixing layer at moderate density ratios: A numerical closeup. Physical Review Fluids, 2017, 2, . | 1.0 | 65 |
| 49 | A front tracking method for computations of boiling in complex geometries. International Journal of Multiphase Flow, 2004, 30, 1037-1050. | 1.6 | 62 |
| 50 | Multiscale computations of mass transfer from buoyant bubbles. Chemical Engineering Science, 2012, 75, 456-467. | 1.9 | 62 |
| 51 | A numerical study of the effect of viscoelastic stresses in fused filament fabrication. Computer Methods in Applied Mechanics and Engineering, 2019, 346, 242-259. | 3.4 | 60 |
| 52 | A comparative study of lattice Boltzmann and front-tracking finite-difference methods for bubble simulations. International Journal of Multiphase Flow, 2003, 29, 109-116. | 1.6 | 58 |
| 53 | Transition between regimes of a vertical channel bubbly upflow due to bubble deformability. Physics of Fluids, 2013, 25, . | 1.6 | 58 |
| 54 | Fully resolved numerical simulations of fused deposition modeling. Part II – solidification, residual stresses and modeling of the nozzle. Rapid Prototyping Journal, 2018, 24, 973-987. | 1.6 | 58 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 55 | A two-phase mixing layer between parallel gas and liquid streams: multiphase turbulence statistics and influence of interfacial instability. <i>Journal of Fluid Mechanics</i> , 2019, 859, 268-307. | 1.4 | 56 |
| 56 | Fine Structure of Vortex Sheet Rollup by Viscous and Inviscid Simulation. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1991, 113, 31-36. | 0.8 | 55 |
| 57 | Using statistical learning to close two-fluid multiphase flow equations for bubbly flows in vertical channels. <i>International Journal of Multiphase Flow</i> , 2016, 85, 336-347. | 1.6 | 55 |
| 58 | The nonlinear behavior of a sheared immiscible fluid interface. <i>Physics of Fluids</i> , 2002, 14, 2871-2885. | 1.6 | 54 |
| 59 | The effects of electrostatic forces on the distribution of drops in a channel flow: Two-dimensional oblate drops. <i>Physics of Fluids</i> , 2005, 17, 093302. | 1.6 | 52 |
| 60 | The collapse of a cavitation bubble in shear flows – A numerical study. <i>Physics of Fluids</i> , 1995, 7, 2608-2616. | 1.6 | 51 |
| 61 | Capture and inception of bubbles near line vortices. <i>Physics of Fluids</i> , 2005, 17, 022105. | 1.6 | 51 |
| 62 | A front-tracking method with projected interface conditions for compressible multi-fluid flows. <i>Computers and Fluids</i> , 2010, 39, 1804-1814. | 1.3 | 51 |
| 63 | Computations of breakup modes in laminar compound liquid jets in a coflowing fluid. <i>International Journal of Multiphase Flow</i> , 2013, 49, 58-69. | 1.6 | 51 |
| 64 | Flow and mass transfer of fully resolved bubbles in non-Newtonian fluids. <i>AIChE Journal</i> , 2007, 53, 1861-1878. | 1.8 | 50 |
| 65 | A Front Tracking Method for the Motion of Premixed Flames. <i>Journal of Computational Physics</i> , 1998, 144, 52-69. | 1.9 | 48 |
| 66 | Heat transfer in turbulent bubbly flow in vertical channels. <i>Chemical Engineering Science</i> , 2015, 122, 106-113. | 1.9 | 48 |
| 67 | The free-surface signature of unsteady, two-dimensional vortex flows. <i>Journal of Fluid Mechanics</i> , 1990, 218, 547. | 1.4 | 46 |
| 68 | Re-engineering engineering education for the challenges of the 21st century. <i>Jom</i> , 2006, 58, 14-17. | 0.9 | 46 |
| 69 | Investigation and modeling of bubble-bubble interaction effect in homogeneous bubbly flows. <i>Physics of Fluids</i> , 2010, 22, . | 1.6 | 46 |
| 70 | Vortex ring generation due to the coalescence of a water drop at a free surface. <i>Experiments in Fluids</i> , 1997, 22, 369-374. | 1.1 | 44 |
| 71 | A Front-Tracking Method for Three-Phase Computations of Solidification with Volume Change. <i>Journal of Chemical Engineering of Japan</i> , 2013, 46, 726-731. | 0.3 | 43 |
| 72 | The formation of thick borders on an initially stationary fluid sheet. <i>Physics of Fluids</i> , 1999, 11, 2487-2493. | 1.6 | 41 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 73 | Mathematical modeling and computer simulation of molten metal cleansing by the rotating impeller degasser. <i>Journal of Materials Processing Technology</i> , 2005, 168, 112-118. | 3.1 | 41 |
| 74 | Effects of shape oscillation on mass transfer from a Taylor bubble. <i>International Journal of Multiphase Flow</i> , 2014, 58, 236-245. | 1.6 | 41 |
| 75 | DNS-based prediction of the selectivity of fast multiphase reactions: Hydrogenation of nitroarenes. <i>Chemical Engineering Science</i> , 2008, 63, 3279-3291. | 1.9 | 39 |
| 76 | Effect of bubble interactions on mass transfer in bubbly flow. <i>International Journal of Heat and Mass Transfer</i> , 2014, 79, 390-396. | 2.5 | 39 |
| 77 | Direct numerical simulations of flows with phase change. <i>Computers and Structures</i> , 2005, 83, 445-453. | 2.4 | 38 |
| 78 | The Osmotic Migration of Cells in a Solute Gradient. <i>Biophysical Journal</i> , 1999, 77, 1257-1267. | 0.2 | 37 |
| 79 | Validation of Two-Fluid Eulerian CFD Modeling for Microbubble Drag Reduction Across a Wide Range of Reynolds Numbers. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2007, 129, 66-79. | 0.8 | 37 |
| 80 | Pattern formation of drops in thermocapillary migration. <i>International Journal of Heat and Mass Transfer</i> , 2006, 49, 2265-2276. | 2.5 | 36 |
| 81 | Impact of a vortex ring on a density interface using a regularized inviscid vortex sheet method. <i>Journal of Computational Physics</i> , 2008, 227, 9021-9043. | 1.9 | 35 |
| 82 | Multiscale computations of thin films in multiphase flows. <i>International Journal of Multiphase Flow</i> , 2010, 36, 71-77. | 1.6 | 34 |
| 83 | DNS-Assisted Modeling of Bubbly Flows in Vertical Channels. <i>Nuclear Science and Engineering</i> , 2016, 184, 312-320. | 0.5 | 33 |
| 84 | Vortex pair generation and interaction with a free surface. <i>Physics of Fluids A, Fluid Dynamics</i> , 1989, 1, 170-172. | 1.6 | 31 |
| 85 | Computations of Explosive Boiling in Microgravity. <i>Journal of Scientific Computing</i> , 2003, 19, 163-182. | 1.1 | 31 |
| 86 | Computations of structures formed by the solidification of impinging molten metal drops. <i>Applied Mathematical Modelling</i> , 2004, 28, 127-144. | 2.2 | 31 |
| 87 | Computing curvature for volume of fluid methods using machine learning. <i>Journal of Computational Physics</i> , 2019, 377, 155-161. | 1.9 | 30 |
| 88 | Characterization of the localized hydrodynamic shear forces and dissolved oxygen distribution in sparged bioreactors. <i>Biotechnology and Bioengineering</i> , 2007, 97, 317-331. | 1.7 | 29 |
| 89 | A validation of an embedded analytical description approach for the computations of high Schmidt number mass transfer from bubbles in liquids. <i>Chemical Engineering Science</i> , 2013, 101, 165-174. | 1.9 | 29 |
| 90 | Model of Rayleigh-Taylor Instability. <i>Physical Review Letters</i> , 1989, 62, 749-752. | 2.9 | 28 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 91 | Direct Numerical Simulations of Flows with Phase Change. <i>Procedia IUTAM</i> , 2015, 15, 2-13. | 1.2 | 27 |
| 92 | Collision of a vortex pair with a contaminated free surface. <i>Physics of Fluids A, Fluid Dynamics</i> , 1992, 4, 1215-1229. | 1.6 | 26 |
| 93 | Comparison of results from DNS of bubbly flows with a two-fluid model for two-dimensional laminar flows. <i>International Journal of Multiphase Flow</i> , 2005, 31, 1036-1048. | 1.6 | 26 |
| 94 | Direct numerical simulations of shock propagation in bubbly liquids. <i>Physics of Fluids</i> , 2005, 17, 121705. | 1.6 | 26 |
| 95 | Numerical study of thermocapillary migration of a bubble in a channel with an obstruction. <i>Physics of Fluids</i> , 2019, 31, . | 1.6 | 26 |
| 96 | Simulations of fused filament fabrication using a front tracking method. <i>International Journal of Heat and Mass Transfer</i> , 2019, 138, 1310-1319. | 2.5 | 26 |
| 97 | Direct numerical simulations of multifluid flows in a vertical channel undergoing topology changes. <i>Physical Review Fluids</i> , 2018, 3, . | 1.0 | 26 |
| 98 | Vortex dynamics of passive and active interfaces. <i>Physica D: Nonlinear Phenomena</i> , 1984, 12, 59-70. | 1.3 | 25 |
| 99 | Low Reynolds Number Interactions between Colloidal Particles near the Entrance to a Cylindrical Pore. <i>Journal of Colloid and Interface Science</i> , 2000, 229, 311-322. | 5.0 | 25 |
| 100 | Numerical simulation of self-propelled non-equal sized droplets. <i>Physics of Fluids</i> , 2019, 31, 052107. | 1.6 | 25 |
| 101 | A mass-momentum consistent, Volume-of-Fluid method for incompressible flow on staggered grids. <i>Computers and Fluids</i> , 2021, 215, 104785. | 1.3 | 25 |
| 102 | Nonlinear simulation of a spar buoy floating wind turbine under extreme ocean conditions. <i>Journal of Renewable and Sustainable Energy</i> , 2014, 6, . | 0.8 | 23 |
| 103 | Effect of insoluble surfactant on turbulent bubbly flows in vertical channels. <i>International Journal of Multiphase Flow</i> , 2017, 95, 135-143. | 1.6 | 21 |
| 104 | Lagrangian model simulations of molecular mixing, including finite rate chemical reactions, in a temporally developing shear layer. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991, 3, 1300-1311. | 1.6 | 20 |
| 105 | A Nonlinear Computational Model of Floating Wind Turbines. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2013, 135, . | 0.8 | 20 |
| 106 | Head-on collision of a large vortex ring with a free surface. <i>Physics of Fluids A, Fluid Dynamics</i> , 1992, 4, 1457-1466. | 1.6 | 19 |
| 107 | Deformable bubbles in a free shear layer. <i>International Journal of Multiphase Flow</i> , 1997, 23, 977-1001. | 1.6 | 18 |
| 108 | The New Mechanical Engineering Curriculum at the University of Michigan. <i>Journal of Engineering Education</i> , 2001, 90, 437-444. | 1.9 | 18 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 109 | Immersed boundary methods for fluid interfaces. , 0, , 37-77. | | 18 |
| 110 | Multiscale issues in DNS of multiphase flows. Acta Mathematica Scientia, 2010, 30, 551-562. | 0.5 | 18 |
| 111 | Nonlinear dynamics of an interface in an inclined channel. Physics of Fluids, 2002, 14, 1877-1885. | 1.6 | 17 |
| 112 | Virtual motion of real particles. Journal of Fluid Mechanics, 2010, 650, 1-4. | 1.4 | 17 |
| 113 | Simulation of vortex sheet roll-up by vortex methods. Journal of Computational Physics, 1989, 80, 1-16. | 1.9 | 16 |
| 114 | Computations of Multiphase Flows. Advances in Applied Mechanics, 2003, 39, 81-120. | 1.4 | 16 |
| 115 | Numerical study of the flow and heat transfer of bubbly flows in inclined channels. International Journal of Heat and Fluid Flow, 2015, 56, 43-50. | 1.1 | 16 |
| 116 | A numerical study of oscillation induced coalescence in bubbly flows. Physics of Fluids, 2018, 30, 127105. | 1.6 | 16 |
| 117 | Multifluid flows in a vertical channel undergoing topology changes: Effect of void fraction. Physical Review Fluids, 2019, 4, . | 1.0 | 15 |
| 118 | Flow modulation of a planar free shear layer with large bubblesâ€”direct numerical simulations. International Journal of Multiphase Flow, 1994, 20, 1109-1128. | 1.6 | 14 |
| 119 | Dissipation of energy by finite-amplitude surface waves. Computers and Fluids, 1998, 27, 829-845. | 1.3 | 14 |
| 120 | Workshop Findings. International Journal of Multiphase Flow, 2003, 29, 1047-1059. | 1.6 | 14 |
| 121 | Shock structure in bubbly liquids: comparison of direct numerical simulations and model equations. Shock Waves, 2008, 17, 433-440. | 1.0 | 14 |
| 122 | Numerical Simulation of Formation and Breakup of a Three-Fluid Compound Jet. Journal of Fluid Science and Technology, 2011, 6, 252-263. | 0.2 | 14 |
| 123 | Multiphase turbulence mechanisms identification from consistent analysis of direct numerical simulation data. Nuclear Engineering and Technology, 2017, 49, 1318-1325. | 1.1 | 14 |
| 124 | Controlling the Jumping Angle of Coalescing Droplets Using Surface Structures. ACS Applied Materials & Interfaces, 2020, 12, 52221-52228. | 4.0 | 14 |
| 125 | An integral method for mixing, chemical reactions, and extinction in unsteady strained diffusion layers. Combustion and Flame, 1991, 83, 207-220. | 2.8 | 13 |
| 126 | Numerical Calculations of Pattern Formation of Compound Drops Detaching from a Compound Jet in a Co-Flowing Immiscible Fluid. Journal of Chemical Engineering of Japan, 2012, 45, 721-726. | 0.3 | 13 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 127 | Effect of electrostatic forces on the distribution of drops in turbulent channel flows. <i>Physics of Fluids</i> , 2019, 31, 105104. | 1.6 | 13 |
| 128 | Deformation of a free surface as a result of vortical flows. <i>Physics of Fluids</i> , 1988, 31, 955. | 1.4 | 12 |
| 129 | Integral Method Solution of Time-Dependent Strained Diffusion-Reaction Layers with Multistep Kinetics. <i>SIAM Journal on Applied Mathematics</i> , 1996, 56, 1039-1059. | 0.8 | 12 |
| 130 | Cylindrical bubble dynamics: Exact and direct numerical simulation results. <i>Physics of Fluids</i> , 2008, 20, 040903. | 1.6 | 11 |
| 131 | Robotics Engineering: A Discipline Whose Time Has Come [Education]. <i>IEEE Robotics and Automation Magazine</i> , 2009, 16, 18-20. | 2.2 | 11 |
| 132 | Bubble induced turbulence model improved by direct numerical simulation of bubbly flow. <i>Chemical Engineering Journal</i> , 2019, 377, 120001. | 6.6 | 11 |
| 133 | Numerical simulations of rising bubbles. <i>Fluid Mechanics and Its Applications</i> , 1994, , 247-255. | 0.1 | 11 |
| 134 | Appendix 3: Report of study group on computational physics. <i>International Journal of Multiphase Flow</i> , 2003, 29, 1089-1099. | 1.6 | 10 |
| 135 | The effect of fluid shear on oscillating bubbly flows. <i>Physics of Fluids</i> , 2019, 31, 042110. | 1.6 | 10 |
| 136 | Mass transfer and chemical reactions in reactive deformable bubble swarms. <i>Applied Physics Letters</i> , 2006, 88, 134102. | 1.5 | 9 |
| 137 | Fully Resolved Numerical Simulations of Fused Deposition Modeling. , 2014, , . | | 9 |
| 138 | Dissolution of Single Carbon Dioxide Bubbles in a Vertical Pipe. <i>Journal of Chemical Engineering of Japan</i> , 2015, 48, 418-426. | 0.3 | 9 |
| 139 | Numerical study of droplet motion on discontinuous wetting gradient surface with rough strip. <i>Physics of Fluids</i> , 2021, 33, . | 1.6 | 9 |
| 140 | Re-engineering engineering education for the challenges of the 21st century. <i>IEEE Engineering Management Review</i> , 2009, 37, 38-38. | 1.0 | 8 |
| 141 | Two-dimensional direct numerical simulation of bubble cloud cavitation by front-tracking method. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015, 72, 012001. | 0.3 | 8 |
| 142 | A Nonlinear Computational Model of Tethered Underwater Kites for Power Generation. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2016, 138, . | 0.8 | 8 |
| 143 | Effects of soluble surfactant on lateral migration of a bubble in a pressure driven channel flow. <i>International Journal of Multiphase Flow</i> , 2020, 126, 103251. | 1.6 | 8 |
| 144 | Direct Numerical Simulations of Bubbly Flows. , 2006, , 273-281. | | 7 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 145 | Direct numerical simulations of bubbly flows. Mechanical Engineering Reviews, 2015, 2, 15-00220-15-00220. | 4.7 | 7 |
| 146 | Computational Simulation of the Tethered Undersea Kites for Power Generation. , 2015, , . | | 7 |
| 147 | The passage of a bubble or a drop past an obstruction in a channel. Physics of Fluids, 2020, 32, . | 1.6 | 7 |
| 148 | Effects of heat release in a reacting vortex ring. Proceedings of the Combustion Institute, 2000, 28, 515-520. | 2.4 | 6 |
| 149 | Numerical Studies of Disperse Three-Phase Fluid Flows. Fluids, 2021, 6, 317. | 0.8 | 6 |
| 150 | Explicit vs. Implicit Particle-Liquid Coupling in Fixed-Grid Computations at Moderate Particle Reynolds Number. , 2005, , 943. | | 5 |
| 151 | The transient buoyancy driven motion of bubbles across a two-dimensional quiescent domain. International Journal of Multiphase Flow, 2007, 33, 1308-1319. | 1.6 | 5 |
| 152 | Accelerating Poisson solvers in front tracking method using parallel direct methods. Computers and Fluids, 2015, 118, 101-113. | 1.3 | 5 |
| 153 | Coupling between fluid dynamics and combustion in a laminar vortex ring. , 2000, , . | | 4 |
| 154 | Direct Numerical Simulations of Nucleate Boiling. , 2008, , . | | 4 |
| 155 | Stability and Control of Ground Tethered Energy Systems. , 2011, , . | | 4 |
| 156 | A Nonlinear Computational Model for Floating Wind Turbines. , 2012, , . | | 4 |
| 157 | Effect of velocity fluctuations on the rise of buoyant bubbles. Computers and Fluids, 2017, 150, 8-30. | 1.3 | 4 |
| 158 | An efficient front-tracking method for simulation of multi-density bubbles. International Journal for Numerical Methods in Fluids, 2017, 84, 445-465. | 0.9 | 4 |
| 159 | Event-Triggered Communication in Parallel Computing. , 2018, , . | | 4 |
| 160 | Numerical and Experimental Studies of Splashing Droplets. , 2004, , . | | 3 |
| 161 | Introduction: A computational approach to multiphase flow. , 2007, , 1-18. | | 3 |
| 162 | A numerical study of the phase distribution in oscillatory bubbly flows. International Journal of Heat and Fluid Flow, 2018, 70, 152-159. | 1.1 | 3 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 163 | Fast Parallel Computation using Periodic Synchronization. , 2018, , . | | 3 |
| 164 | Interface retaining coarsening of multiphase flows. Physics of Fluids, 2021, 33, . | 1.6 | 3 |
| 165 | Scale-model experiments on floating wind turbine platforms. , 2012, , . | | 2 |
| 166 | Impact of Inlet Gas Turbulent Intensity on the Characteristics of Droplets Generated in Airblast Atomization. , 2019, , . | | 2 |
| 167 | Direct numerical simulations of multiphase flows: Opportunities and challenges. AIP Conference Proceedings, 2020, , . | 0.3 | 2 |
| 168 | Simulation of Bubbly Gas-Liquid Flows by a Parallel Finite-Difference/Front-Tracking Method. , 2001, , 326-337. | | 2 |
| 169 | LIM modeling of chemical reactions in spatially and temporally developing shear flows. , 1994, , . | | 2 |
| 170 | RECENT PROGRESS IN COMPUTATIONAL STUDIES OF DISPERSE BUBBLY FLOWS. Multiphase Science and Technology, 2006, 18, 231-249. | 0.2 | 2 |
| 171 | A front tracking scheme for high density-ratio multi-fluid flows. , 1999, , . | | 1 |
| 172 | Microstructure of a Bidisperse Swarm of Spherical Bubbles. , 2002, , 549. | | 1 |
| 173 | Direct Numerical Simulations of Flows With Phase Change. , 2002, , 151. | | 1 |
| 174 | Development and validation of a computational model for floating wind turbine platforms. , 2012, , . | | 1 |
| 175 | DNS Studies of Turbulent Bubbly Flows in Vertical Channels. , 2012, , . | | 1 |
| 176 | Direct Numerical Simulation of Shock Propagation in Bubbly Liquids. , 2013, , 177-201. | | 1 |
| 177 | Numerical Modeling of Kites for Power Generation. , 2014, , . | | 1 |
| 178 | Numerical Investigations of Drop Solidification by a Front-Tracking Method. , 2014, , . | | 1 |
| 179 | Simulation of Tethered Underwater Kites: Three Dimensional Trajectories for Power Generation. , 2016, , . | | 1 |
| 180 | Simulation of Tethered Underwater Kites Moving in Three Dimensions for Power Generation. , 2017, , . | | 1 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 181 | Parallel Computation using Event-Triggered Communication. , 2019, , . | | 1 |
| 182 | Condensing smooth layers into singular sheets by weighted coordinate smoothing. Journal of Computational Physics, 2021, 431, 110140. | 1.9 | 1 |
| 183 | Effect of topology changes on the breakup of a periodic liquid jet. Computers and Fluids, 2021, 228, 105059. | 1.3 | 1 |
| 184 | Studies of Bubbly Channel Flows by Direct Numerical Simulations. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2009, , 93-111. | 0.2 | 1 |
| 185 | Modeling and Testing of a Kite-Powered Water Pump. Green Energy and Technology, 2013, , 387-401. | 0.4 | 1 |
| 186 | Simulation of Bidisperse Bubbly Gas-Liquid Flows by a Parallel Finite-Difference/Front-Tracking Method. , 2002, , 298-308. | | 1 |
| 187 | Power Generation Using Kites in a GroundGen Airborne Wind Energy System: A Numerical Study. Journal of Energy Resources Technology, Transactions of the ASME, 2020, 142, . | 1.4 | 1 |
| 188 | Volume conservation method for the three-dimensional front-tracking method. Mechanical Engineering Letters, 2020, 6, 20-00216-20-00216. | 0.2 | 1 |
| 189 | DIRECT NUMERICAL SIMULATIONS OF MULTIPHASE FLOW. Multiphase Science and Technology, 2003, 15, 255-265. | 0.2 | 1 |
| 190 | Finding Closure Models to Match the Time Evolution of Coarse Grained 2D Turbulence Flows Using Machine Learning. Fluids, 2022, 7, 154. | 0.8 | 1 |
| 191 | Full numerical simulations of multifluid flows. Physics of Fluids A, Fluid Dynamics, 1991, 3, 1455-1455. | 1.6 | 0 |
| 192 | <title>Direct numerical simulations in material processing</title>. , 1996, , . | | 0 |
| 193 | Direct numerical simulations of fluid flow, heat transfer and phase changes. , 1997, , . | | 0 |
| 194 | Effects of Splashing Droplets on Spray Cooling Processes. , 2004, , 149. | | 0 |
| 195 | Numerical Simulation of Shock Propagation in Bubbly Liquids by the Front Tracking Method. , 2006, , 323-330. | | 0 |
| 196 | Direct numerical simulations of finite Reynolds number flows. , 0, , 19-36. | | 0 |
| 197 | So Much Accomplished: So Much to be Done. , 2011, , 265-281. | | 0 |
| 198 | Numerical Simulation of Formation and Breakup of a Compound Jet by the Front-Tracking/Finite Difference Method. , 2011, , . | | 0 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 199 | Multiscale Issues in DNS of Multiphase Flows. , 2011, , . | | 0 |
| 200 | Computational Modeling of Future Wind Power Installations. , 2011, , . | | 0 |
| 201 | Turbulent Bubbly Channel Flow and its Effect on Heat Transfer. , 2013, , . | | 0 |
| 202 | The Transient Evolution of Bubbles in Turbulent Channel Flows. , 2014, , . | | 0 |
| 203 | Computational Investigation of Full-Scale Tethered Underwater Kite. , 2018, , . | | 0 |
| 204 | The Effect of Bubbles on Vortical Flows. , 2002, , . | | 0 |
| 205 | DIRECT NUMERICAL SIMULATIONS OF MULTIPHASE FLOWS. Lecture Notes Series, Institute for Mathematical Sciences, 2009, , 161-175. | 0.2 | 0 |
| 206 | Nonlinear Simulation of a Spar Buoy Floating Wind Turbine. , 2013, , . | | 0 |
| 207 | Capturing Subgrid Physics in DNS of Multiphase Flows. , 2013, , . | | 0 |
| 208 | Use of Variable-Density Flow Solvers for Fictitious-Domain Computations of Dispersed Solid Particles in Liquid Flow. , 2006, , 173-183. | | 0 |
| 209 | Implicitly-coupled finite difference schemes for fictitious domain simulation of solid-liquid flow; marker, volumetric, and hybrid forcing. , 2006, , 363-370. | | 0 |
| 210 | Educating the Global Robotics Engineer. , 0, , . | | 0 |
| 211 | The effect of electrostatic forces on droplet suspensions. , 2003, , 1166-1168. | | 0 |