

# Atul Sharma

## List of Publications by Year in descending order

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73  
papers

1,870  
citations

257450

24  
h-index

289244

40  
g-index

79  
all docs

79  
docs citations

79  
times ranked

1228  
citing authors

#	ARTICLE	IF	CITATIONS
1	Chaotic advection in a recirculating flow: Effect of a fluid–flexible-solid interaction. Chaos, 2022, 32, 043122.	2.5	2
2	Computational multifluid-structure interaction study on nucleate boiling under the effect of stationary or oscillating torus. International Journal of Heat and Mass Transfer, 2022, 193, 122995.	4.8	2
3	Flow-induced coupled vibrations of an elastically mounted cylinder and a detached flexible plate. Journal of Fluid Mechanics, 2022, 942, .	3.4	13
4	Lid-driven cavity flow-induced dynamics of a neutrally buoyant solid: Effect of Reynolds number, flexibility, and size. Physics of Fluids, 2022, 34, .	4.0	7
5	Numerical simulations and experiments on droplet coalescence dynamics over a liquid–air interface: mechanism and effect of droplet-size/surface-tension. SN Applied Sciences, 2021, 3, 1.	2.9	7
6	Experimental investigation of flow around a $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mn} \rangle 45 \langle \text{mml:mn} \rangle \langle \text{mml:mo} \rangle \hat{\sim} \langle \text{mml:mn} \rangle 20 \langle \text{mml:msup} \rangle \langle \text{mml:mn} \rangle 50000 \langle \text{mml:mn} \rangle$ oriented cube for Reynolds numbers between 500 and 50 000. Physical Review Fluids, 2021, 6, .	2.5	2
7	Onsager-regularized lattice Boltzmann method: A nonequilibrium thermodynamics-based regularized lattice Boltzmann method. Physical Review E, 2021, 104, 015313.	2.1	5
8	Cut-cell-based Direct Simulation Monte Carlo method on a Cartesian grid for rarefied gas flow around complex geometries. Sadhana - Academy Proceedings in Engineering Sciences, 2021, 46, 1.	1.3	1
9	Body-caudal fin fish-inspired self-propulsion study on burst-and-coast and continuous swimming of a hydrofoil model. Physics of Fluids, 2021, 33, .	4.0	14
10	Hydrodynamics of a fish-like body undulation mechanism: Scaling laws and regimes for vortex wake modes. Physics of Fluids, 2021, 33, .	4.0	10
11	Effect of superhydrophobicity on the wake of a pitching foil across various Strouhal numbers. Physics of Fluids, 2021, 33, .	4.0	6
12	Flow-induced vibration of a flexible splitter-plate in the wake of a stationary cylinder. Physics of Fluids, 2021, 33, .	4.0	17
13	Central upwind scheme based immersed boundary method for compressible flows around complex geometries. Computers and Fluids, 2020, 196, 104349.	2.5	12
14	Thermal-hydraulic characteristics of purge gas in a rectangular packed pebble bed of a fusion reactor using DEM-CFD and porous medium analyses. Fusion Engineering and Design, 2020, 160, 111848.	1.9	16
15	Bubble entrapment during head-on binary collision with large deformation of unequal-sized tetradecane droplets. Physics of Fluids, 2020, 32, .	4.0	8
16	Effect of superhydrophobicity on the flow past a circular cylinder in various flow regimes. Journal of Fluid Mechanics, 2020, 897, .	3.4	20
17	Self-propulsion of fishes-like undulating hydrofoil: A unified kinematics based unsteady hydrodynamics study. Journal of Fluids and Structures, 2020, 93, 102875.	3.4	24
18	Three-dimensional biological hydrodynamics study on various types of batoid fishlike locomotion. Physical Review Fluids, 2020, 5, .	2.5	20

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19	On sharp-interface dual-grid level-set method for two-phase flow simulation. Numerical Heat Transfer, Part B: Fundamentals, 2019, 75, 67-91.	0.9	9
20	On the mechanism of symmetric vortex shedding. Journal of Fluids and Structures, 2019, 91, 102706.	3.4	4
21	Level set functionâ€‘based immersed interface method and benchmark solutions for fluid flexibleâ€‘structure interaction. International Journal for Numerical Methods in Fluids, 2019, 91, 134-157.	1.6	24
22	Wake analysis and regimes for flow around three side-by-side cylinders. Experimental Thermal and Fluid Science, 2019, 104, 76-88.	2.7	26
23	Multiphysics Simulation of Welding-Arc and Nozzle-Arc System: Mathematical-Model, Solution-Methodology and Validation. Journal of the Institution of Engineers (India): Series C, 2019, 100, 145-152.	1.2	1
24	Flow around a cube for Reynolds numbers between 500 and 55,000. Experimental Thermal and Fluid Science, 2018, 93, 257-271.	2.7	28
25	Effects of wavy channel configurations on thermal-hydraulic characteristics of Printed Circuit Heat Exchanger (PCHE). International Journal of Heat and Mass Transfer, 2018, 118, 304-315.	4.8	89
26	On comparison of the sharp-interface and diffuse-interface level set methods for 2D capillary or/and gravity induced flows. Chemical Engineering Science, 2018, 176, 77-95.	3.8	12
27	Coupled level-set and immersed-boundary method for simulation of filling in a complex geometry based mold. Numerical Heat Transfer, Part B: Fundamentals, 2018, 74, 861-882.	0.9	4
28	Self-Sorting of Bidispersed Colloidal Particles Near Contact Line of an Evaporating Sessile Droplet. Langmuir, 2018, 34, 12058-12070.	3.5	29
29	Characteristics of force coefficients and energy transfer for vortex shedding modes of a square cylinder subjected to inline excitation. Journal of Fluids and Structures, 2018, 81, 270-288.	3.4	5
30	Unified hydrodynamics study for various types of fishes-like undulating rigid hydrofoil in a free stream flow. Physics of Fluids, 2018, 30, .	4.0	43
31	Periodically Fully Developed Heat and Fluid Flow Characteristics in a Furrowed Wavy Channel. Heat Transfer Engineering, 2017, 38, 278-288.	1.9	22
32	Effect of wavelength of fish-like undulation of a hydrofoil in a free-stream flow. Sadhana - Academy Proceedings in Engineering Sciences, 2017, 42, 585-595.	1.3	11
33	Modeling of Magnetohydrodynamics in Nozzle Arc: A Mathematically and Numerically Efficient Approach. IEEE Transactions on Plasma Science, 2017, 45, 3019-3029.	1.3	3
34	Near-body vorticity dynamics of a square cylinder subjected to an inline pulsatile free stream flow. Physics of Fluids, 2016, 28, .	4.0	13
35	A coupled internalâ€‘external flow and conjugate heat transfer simulations and experiments on radiators of a transformer. Applied Thermal Engineering, 2016, 103, 961-970.	6.0	30
36	Effects of Substrate Heating and Wettability on Evaporation Dynamics and Deposition Patterns for a Sessile Water Droplet Containing Colloidal Particles. Langmuir, 2016, 32, 11958-11972.	3.5	114

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37	A Dual Grid Level Set Method based study on similarity and difference between interface dynamics for surface tension and radial electric field induced jet breakup. Chemical Engineering Science, 2016, 148, 238-255.	3.8	9
38	Numerical modelling of bubble growth in microchannel using Level Set Method. International Journal of Heat and Mass Transfer, 2016, 101, 719-732.	4.8	13
39	Thermal-hydraulic characteristics and performance of 3D straight channel based printed circuit heat exchanger. Applied Thermal Engineering, 2016, 98, 474-482.	6.0	66
40	Effects of oil leakage on thermal hydraulic characteristics and performance of a disc-type transformer winding. Applied Thermal Engineering, 2016, 98, 1130-1139.	6.0	6
41	On sharp-interface level-set method for heat and/or mass transfer induced Stefan problem. International Journal of Heat and Mass Transfer, 2016, 96, 458-473.	4.8	27
42	Droplet impact dynamics on micropillared hydrophobic surfaces. Experimental Thermal and Fluid Science, 2016, 74, 195-206.	2.7	107
43	On dual-grid level-set method for contact line modeling during impact of a droplet on hydrophobic and superhydrophobic surfaces. International Journal of Multiphase Flow, 2016, 81, 54-66.	3.4	28
44	Level set method for computational multi-fluid dynamics: A review on developments, applications and analysis. Sadhana - Academy Proceedings in Engineering Sciences, 2015, 40, 627-652.	1.3	35
45	Thermal-hydraulic characteristics and performance of 3D wavy channel based printed circuit heat exchanger. Applied Thermal Engineering, 2015, 87, 519-528.	6.0	80
46	On Dual-Grid Level-Set Method for Computational-Electro-Multifluid-Dynamics Simulation. Numerical Heat Transfer, Part B: Fundamentals, 2015, 67, 161-185.	0.9	10
47	Analytical and Level Set Method-Based Numerical Study for Two-Phase Stratified Flow in a Pipe. Numerical Heat Transfer; Part A: Applications, 2015, 67, 1253-1281.	2.1	9
48	Thrust generation and wake structure for flow across a pitching airfoil at low Reynolds number. Sadhana - Academy Proceedings in Engineering Sciences, 2015, 40, 2367-2379.	1.3	12
49	Break-up of a non-Newtonian jet injected downwards in a Newtonian liquid. Sadhana - Academy Proceedings in Engineering Sciences, 2015, 40, 819-833.	1.3	3
50	Fully-Developed Flow in a Furrowed Wavy Channel: Characterization of Unsteady Flow Regimes and Its Effect on Thermal-Hydraulic Performance. Numerical Heat Transfer; Part A: Applications, 2015, 68, 638-662.	2.1	6
51	DGLSM based study of temporal instability and formation of satellite drop in a capillary jet breakup. Chemical Engineering Science, 2015, 130, 239-253.	3.8	14
52	A Ghost Fluid Method Based Sharp Interface Level Set Method for Evaporating Droplet. Procedia IUTAM, 2015, 15, 124-131.	1.2	2
53	A dual grid level set method based study of interface-dynamics for a liquid jet injected upwards into another liquid. International Journal of Multiphase Flow, 2014, 59, 206-220.	3.4	17
54	CFD Study on Thermal Performance of Radiators in a Power Transformer: Effect of Blowing Direction and Offset of Fans. IEEE Transactions on Power Delivery, 2014, 29, 2596-2604.	4.3	42

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55	Poiseuille flow across an eccentrically confined stationary/rotating cylinder. Ocean Engineering, 2013, 73, 41-54.	4.3	4
56	Parallelization Methodology and Performance Study for Level-Set-Method-Based Simulation of a 3-D Transient Two-Phase Flow. Numerical Heat Transfer, Part B: Fundamentals, 2013, 63, 327-356.	0.9	19
57	A Novel Level Set-Based Immersed-Boundary Method for CFD Simulation of Moving-Boundary Problems. Numerical Heat Transfer, Part B: Fundamentals, 2013, 63, 304-326.	0.9	25
58	Flow around six in-line square cylinders. Journal of Fluid Mechanics, 2012, 710, 195-233.	3.4	67
59	Analytical and level-set method based numerical study on oil-water smooth/wavy stratified-flow in an inclined plane-channel. International Journal of Multiphase Flow, 2012, 38, 99-117.	3.4	22
60	On energy transfer in flow around a row of transversely oscillating square cylinders at low Reynolds number. Journal of Fluids and Structures, 2012, 31, 1-17.	3.4	9
61	Computation of feed-paths for casting solidification using level-set-method. Journal of Materials Processing Technology, 2012, 212, 1236-1249.	6.3	21
62	On a Novel Dual-Grid Level-Set Method for Two-Phase Flow Simulation. Numerical Heat Transfer, Part B: Fundamentals, 2011, 59, 26-57.	0.9	50
63	Effect of Channel-Confinement and Rotation on the Two-Dimensional Laminar Flow and Heat Transfer across a Cylinder. Numerical Heat Transfer; Part A: Applications, 2011, 60, 699-726.	2.1	20
64	Analytical and Level-Set Method-Based Numerical Study for Two-Phase Stratified Flow in a Plane Channel and a Square Duct. Numerical Heat Transfer; Part A: Applications, 2011, 60, 347-380.	2.1	23
65	Simulation of flow across a row of transversely oscillating square cylinders. Journal of Fluid Mechanics, 2011, 680, 361-397.	3.4	16
66	Effect of cross-stream buoyancy and rotation on the free-stream flow and heat transfer across a cylinder. International Journal of Thermal Sciences, 2010, 49, 2008-2025.	4.9	11
67	Heat and fluid flow across a rotating cylinder dissipating uniform heat flux in 2D laminar flow regime. International Journal of Heat and Mass Transfer, 2010, 53, 4672-4683.	4.8	60
68	A First Attempt to Numerically Compute Forces on Birds in V Formation. Artificial Life, 2010, 16, 245-258.	1.3	9
69	Numerical investigation of heat and fluid flow across a rotating circular cylinder maintained at constant temperature in 2-D laminar flow regime. International Journal of Heat and Mass Transfer, 2009, 52, 3205-3216.	4.8	104
70	On Derivation and Physical Interpretation of Level Set Method-Based Equations for Two-Phase Flow Simulations. Numerical Heat Transfer, Part B: Fundamentals, 2009, 56, 307-322.	0.9	44
71	Consistent Implementation and Comparison of FOU, CD, SOU, and QUICK Convection Schemes on Square, Skew, Trapezoidal, and Triangular Lid-Driven Cavity Flow. Numerical Heat Transfer, Part B: Fundamentals, 2008, 54, 84-102.	0.9	36
72	Simulation of flow around a row of square cylinders. Journal of Fluid Mechanics, 2008, 606, 369-397.	3.4	111

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73	Effect of channel-confinement and aiding/opposing buoyancy on the two-dimensional laminar flow and heat transfer across a square cylinder. International Journal of Heat and Mass Transfer, 2005, 48, 5310-5322.	4.8	78