S Balachandar

List of Publications by Citations

251 papers	10,284 citations	50 h-index	94 g-index
266 ext. papers	11,869 ext. citations	3.9 avg, IF	6.7 L-index

#	Paper	IF	Citations
251	Mechanisms for generating coherent packets of hairpin vortices in channel flow. *Journal of Fluid Mechanics*, **1999**, 387, 353-396	3.7	1458
250	Turbulent Dispersed Multiphase Flow. *Annual Review of Fluid Mechanics*, **2010**, 42, 111-133	22	928
249	On the relationships between local vortex identification schemes. *Journal of Fluid Mechanics*, **2005**, 535, 189-214	3.7	603
248	Effect of three-dimensionality on the lift and drag of nominally two-dimensional cylinders. *Physics of Fluids*, **1995**, 7, 1841-1865	4.4	218
247	Chaotic advection in a Stokes flow. *Physics of Fluids*, **1986**, 29, 3515		203
246	Three-dimensional instabilities of mantle convection with multiple phase transitions. *Science*, **1993**, 259, 1308-11	33.3	196
245	A fast Eulerian method for disperse two-phase flow. *International Journal of Multiphase Flow*, **2001**, 27, 1199-1226	3.6	182
244	On the front velocity of gravity currents. *Journal of Fluid Mechanics*, **2007**, 586, 1-39	3.7	171
243	Wall-induced forces on a rigid sphere at finite Reynolds number. *Journal of Fluid Mechanics*, **2005**, 536, 1-25	3.7	152
242	Effect of turbulence on the drag and lift of a particle. *Physics of Fluids*, **2003**, 15, 3496-3513	4.4	152
241	Effect of free rotation on the motion of a solid sphere in linear shear flow at moderate Re. *Physics of Fluids*, **2002**, 14, 2719-2737	4.4	148
240	Methods for evaluating fluid velocities in spectral simulations of turbulence. *Journal of Computational Physics*, **1989**, 83, 96-125	4.1	125
239	Autogeneration of near-wall vortical structures in channel flow. *Physics of Fluids*, **1996**, 8, 288-290	4.4	124
238	Forces on a finite-sized particle located close to a wall in a linear shear flow. *Physics of Fluids*, **2009**, 21, 033302	4.4	113
237	Low-frequency unsteadiness in the wake of a normal flat plate. *Journal of Fluid Mechanics*, **1998**, 370, 101-147	3.7	101
236	A scaling analysis for point-particle approaches to turbulent multiphase flows. *International Journal of Multiphase Flow*, **2009**, 35, 801-810	3.6	100
235	Direct Numerical Simulation of Flow Past Elliptic Cylinders. *Journal of Computational Physics*, **1996**, 124, 351-367	4.1	99

234	Properties of the mean recirculation region in the wakes of two-dimensional bluff bodies. *Journal of Fluid Mechanics*, **1997**, 351, 167-199	3.7	96
233	Effects of polymer stresses on eddy structures in drag-reduced turbulent channel flow. *Journal of Fluid Mechanics*, **2007**, 584, 281-299	3.7	92
232	Interaction of a planar shock wave with a dense particle curtain: Modeling and experiments. *Physics of Fluids*, **2012**, 24, 113301	4.4	83
231	Response of the wake of an isolated particle to an isotropic turbulent flow. *Journal of Fluid Mechanics*, **2004**, 518, 95-123	3.7	82
230	Static and dynamic contact angles of water droplet on a solid surface using molecular dynamics simulation. *Journal of Colloid and Interface Science*, **2009**, 339, 187-95	9.3	81
229	Turbulent structures in planar gravity currents and their influence on the flow dynamics. *Journal of Geophysical Research*, **2008**, 113,		78
228	Heat transfer enhancement mechanisms in inline and staggered parallel-plate fin heat exchangers. *International Journal of Heat and Mass Transfer*, **1997**, 40, 2307-2325	4.9	76
227	Direct Numerical Simulation of Flow and Heat Transfer From a Sphere in a Uniform Cross-Flow. *Journal of Fluids Engineering, Transactions of the ASME*, **2001**, 123, 347-358	2.1	74
226	Pairwise interaction extended point-particle model for a random array of monodisperse spheres. *Journal of Fluid Mechanics*, **2017**, 813, 882-928	3.7	71
225	Direct numerical simulations of a rapidly expanding thermal plume: structure and entrainment interaction. *Journal of Fluid Mechanics*, **2008**, 604, 99-123	3.7	71
224	Generation of streamwise vortical structures in bluff body wakes. *Physical Review Letters*, **1995**, 75, 1300-1303	7.4	71
223	Generalized Basset-Boussinesq-Oseen equation for unsteady forces on a sphere in a compressible flow. *Physical Review Letters*, **2011**, 106, 084501	7.4	70
222	High-resolution simulations of cylindrical density currents. *Journal of Fluid Mechanics*, **2007**, 590, 437-469	3.7	69
221	Steady planar straining flow past a rigid sphere at moderate Reynolds number. *Journal of Fluid Mechanics*, **2002**, 466, 365-407	3.7	68
220	Emplacement of massive turbidites linked to extinction of turbulence in turbidity currents. *Nature Geoscience*, **2012**, 5, 42-45	18.3	67
219	Improved Drag Correlation for Spheres and Application to Shock-Tube Experiments. *AIAA Journal*, **2010**, 48, 1273-1276	2.1	67
218	Importance of unsteady contributions to force and heating for particles in compressible flows: Part 1: Modeling and analysis for shock particle interaction. *International Journal of Multiphase Flow*, **2011**, 37, 1026-1044	3.6	66
217	Modeling of the unsteady force for shock particle interaction. *Shock Waves*, **2009**, 19, 317-329	1.6	66

216	Dynamics of hairpin vortices and polymer-induced turbulent drag reduction. *Physical Review Letters* , **2008**, 100, 134504	7.4	64
215	Various influences on three-dimensional mantle convection with phase transitions. *Physics of the Earth and Planetary Interiors*, **1994**, 86, 185-203	2.3	64
214	Host-to-host airborne transmission as a multiphase flow problem for science-based social distance guidelines. *International Journal of Multiphase Flow*, **2020**, 132, 103439	3.6	63
213	Drag and lift forces on a spherical particle moving on a wall in a shear flow at finite Re. *Journal of Fluid Mechanics*, **2010**, 657, 89-125	3.7	59
212	Turbidity current with a roof: Direct numerical simulation of self-stratified turbulent channel flow driven by suspended sediment. *Journal of Geophysical Research*, **2009**, 114,		57
211	Vortical nature of thermal plumes in turbulent convection. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 3226-3232		56
210	Equation of motion for a sphere in non-uniform compressible flows. *Journal of Fluid Mechanics*, **2012**, 699, 352-375	3.7	55
209	Interactions of a stationary finite-sized particle with wall turbulence. *Journal of Fluid Mechanics*, **2008**, 594, 271-305	3.7	55
208	Direct Numerical Simulations of Planar and Cylindrical Density Currents. *Journal of Applied Mechanics, Transactions ASME*, **2006**, 73, 923-930	2.7	55
207	Shear versus vortex-induced lift force on a rigid sphere at moderate Re. *Journal of Fluid Mechanics*, **2002**, 473, 379-388	3.7	54
206	Particle concentration in homogeneous shear turbulence simulated via Lagrangian and equilibrium Eulerian approaches. *Physics of Fluids*, **2006**, 18, 065105	4.4	52
205	Effect of Schmidt number on the structure and propagation of density currents. *Theoretical and Computational Fluid Dynamics*, **2008**, 22, 341-361	2.3	51
204	An Eulerian–Eulerian model for gravity currents driven by inertial particles. *International Journal of Multiphase Flow*, **2008**, 34, 484-501	3.6	51
203	Secondary instability in rotating-disk flow. *Journal of Fluid Mechanics*, **1992**, 242, 323-347	3.7	50
202	Time-dependent three dimensional compressible convection with depth-dependent properties. *Geophysical Research Letters*, **1992**, 19, 2247-2250	4.9	50
201	Computations of flow and heat transfer in parallel-plate fin heat exchangers on the CM-5: effects of flow unsteadiness and three-dimensionality. *International Journal of Heat and Mass Transfer*, **1997**, 40, 1325-1341	4.9	49
200	On the unsteady inviscid force on cylinders and spheres in subcritical compressible flow. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2008**, 366, 2161-75	3	48
199	Pairwise-interaction extended point-particle model for particle-laden flows. *Journal of Computational Physics*, **2017**, 351, 329-357	4.1	47

198	A numerical investigation of fine particle laden flow in an oscillatory channel: the role of particle-induced density stratification. *Journal of Fluid Mechanics*, **2010**, 665, 1-45	3.7	46
197	A scaling analysis of added-mass and history forces and their coupling in dispersed multiphase flows. *International Journal of Multiphase Flow*, **2013**, 57, 102-114	3.6	45
196	Simulations of Solid-Propellant Rockets: Effects of Aluminum Droplet Size Distribution. *Journal of Spacecraft and Rockets*, **2006**, 43, 1258-1270	1.5	45
195	Importance of unsteady contributions to force and heating for particles in compressible flows. Part 2: Application to particle dispersal by blast waves. *International Journal of Multiphase Flow*, **2011**, 37, 1013-1025	3.6	44
194	Effect of shock waves on thermophysical properties of ADP and KDP crystals. *Optics and Laser Technology*, **2019**, 111, 284-289	4.2	44
193	Force variation within arrays of monodisperse spherical particles. *Physical Review Fluids*, **2016**, 1,	2.8	42
192	On the added mass force at finite Reynolds and acceleration numbers. *Theoretical and Computational Fluid Dynamics*, **2007**, 21, 147-153	2.3	41
191	Inertial and viscous forces on a rigid sphere in straining flows at moderate Reynolds numbers. *Journal of Fluid Mechanics*, **2003**, 481, 105-148	3.7	41
190	Reynolds number scaling of flow in a Rushton turbine stirred tank. Part II Mean flow, circular jet and tip vortex scaling. *Chemical Engineering Science*, **2005**, 60, 3169-3183	4.4	41
189	Self-induced velocity correction for improved drag estimation in Euler Lagrange point-particle simulations. *Journal of Computational Physics*, **2019**, 376, 160-185	4.1	41
188	Viscous dissipation in three-dimensional convection with temperature-dependent viscosity. *Science*, **1995**, 267, 1150-3	33.3	40
187	Compressible Wall-Injection Flows in Laminar, Transitional, and Turbulent Regimes: Numerical Prediction. *Journal of Spacecraft and Rockets*, **2004**, 41, 915-924	1.5	37
186	A Complementary Experimental and Numerical Study of the Flow and Heat Transfer in Offset Strip-Fin Heat Exchangers. *Journal of Heat Transfer*, **1998**, 120, 690-698	1.8	37
185	Equilibrium expansion for the Eulerian velocity of small particles. *Powder Technology*, **2002**, 125, 131-139	5.2	36
184	A locally implicit improvement of the equilibrium Eulerian method. *International Journal of Multiphase Flow*, **2003**, 29, 869-891	3.6	36
183	Numerical simulation of high Rayleigh number convection. *Journal of Scientific Computing*, **1989**, 4, 219-236	2.6	36
182	Wake structure of a transversely rotating sphere at moderate Reynolds numbers. *Journal of Fluid Mechanics*, **2009**, 621, 103-130	3.7	35
181	Evaluation of the equilibrium Eulerian approach for the evolution of particle concentration in isotropic turbulence. *International Journal of Multiphase Flow*, **2003**, 29, 1793-1816	3.6	35

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179	Simulations of turbulent thermal convection. *Physics of Fluids A, Fluid Dynamics*, **1989**, 1, 1911-1914		34
178	Probability distribution functions in turbulent convection. *Physics of Fluids A, Fluid Dynamics*, **1991**, 3, 919-927		34
177	High Performance Spectral Simulation of Turbulent Flows in Massively Parallel Machines With Distributed Memory. *International Journal of High Performance Computing Applications*, **1995**, 9, 187-204		33
176	The effect of pillar surface fraction and pillar height on contact angles using molecular dynamics. *Applied Surface Science*, **2013**, 282, 211-216	6.7	32
175	Effect of particle inertia on the dynamics of depositional particulate density currents. *Computers and Geosciences*, **2008**, 34, 1307-1318	4.5	32
174	Wall effects in non-Boussinesq density currents. *Journal of Fluid Mechanics*, **2008**, 616, 445-475	3.7	32
173	Rayleigh–Taylor and Richtmyer–Meshkov instabilities: A journey through scales. *Physica D: Nonlinear Phenomena*, **2021**, 423, 132838	3.3	31
172	Shock interaction with a deformable particle: Direct numerical simulation and point-particle modeling. *Journal of Applied Physics*, **2013**, 113, 013504	2.5	30
171	Direct numerical simulation of stratification effects in a sediment-laden turbulent channel flow. *Journal of Turbulence*, **2009**, 10, N27	2.1	30
170	Open-Ended Shock Tube Flows: Influence of Pressure Ratio and Diaphragm Position. *AIAA Journal*, **2007**, 45, 1917-1929	2.1	29
169	Three-dimensional mantle dynamics with an endothermic phase transition. *Geophysical Research Letters*, **1993**, 20, 221-224	4.9	29
168	Viscous and adiabatic heating effects in three-dimensional compressible convection at infinite Prandtl number. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 2938-2945		29
167	Shock interaction with three-dimensional face centered cubic array of particles. *Physical Review Fluids*, **2016**, 1,	2.8	29
166	Inter-phase heat transfer and energy coupling in turbulent dispersed multiphase flows. *Physics of Fluids*, **2016**, 28, 033304	4.4	29
165	Shock interaction with one-dimensional array of particles in air. *Journal of Applied Physics*, **2015**, 117, 075902	2.5	28
164	Dynamics of complete turbulence suppression in turbidity currents driven by monodisperse suspensions of sediment. *Journal of Fluid Mechanics*, **2012**, 712, 384-417	3.7	28
163	Large-eddy simulation of a pure thermal plume under rotating conditions. *Physics of Fluids*, **2006**, 18, 015101	4.4	28

162	Integrated experimental and computational approach to simulation of flow in a stirred tank. *Chemical Engineering Science*, **2001**, 56, 6635-6649	4.4	28
161	A hybrid point-particle force model that combines physical and data-driven approaches. *Journal of Computational Physics*, **2019**, 385, 187-208	4.1	27
160	Immersed boundary method with non-uniform distribution of Lagrangian markers for a non-uniform Eulerian mesh. *Journal of Computational Physics*, **2016**, 307, 34-59	4.1	27
159	Effect of Shock Waves on Dielectric Properties of KDP Crystal. *Journal of Electronic Materials*, **2018**, 47, 4831-4839	1.9	27
158	Propagation of a strong shock over a random bed of spherical particles. *Journal of Fluid Mechanics*, **2018**, 839, 157-197	3.7	26
157	Convective instability in sedimentation: Linear stability analysis. *Journal of Geophysical Research: Oceans*, **2013**, 118, 256-272	3.3	26
156	Unsteady heat transfer from a sphere in a uniform cross-flow. *Physics of Fluids*, **2001**, 13, 3714-3728	4.4	26
155	Work-based criterion for particle motion and implication for turbulent bed-load transport. *Physics of Fluids*, **2012**, 24, 116604	4.4	25
154	A scalable Euler–Lagrange approach for multiphase flow simulation on spectral elements. *International Journal of High Performance Computing Applications*, **2020**, 34, 316-339	1.8	25
153	Convective instability in sedimentation: 3-D numerical study. *Journal of Geophysical Research: Oceans*, **2014**, 119, 8141-8161	3.3	24
152	Transient phenomena in one-dimensional compressible gas–particle flows. *Shock Waves*, **2009**, 19, 67-81	1.6	24
151	The generation of axial vorticity in solid-propellant rocket-motor flows. *Journal of Fluid Mechanics*, **2001**, 429, 283-305	3.7	24
150	Three-Dimensional Fully Spectral Numerical Method for Mantle Convection with Depth-Dependent Properties. *Journal of Computational Physics*, **1994**, 113, 62-74	4.1	24
149	A numerical study on the flow patterns of two oscillating cylinders. *Journal of Fluids and Structures*, **2009**, 25, 263-283	3.1	23
148	A massively parallel multi-block hybrid compact–WENO scheme for compressible flows. *Journal of Computational Physics*, **2009**, 228, 7473-7491	4.1	23
147	Direct numerical simulations of transition and turbulence in smooth-walled Stokes boundary layer. *Physics of Fluids*, **2014**, 26, 045108	4.4	22
146	A direct numerical simulation study of higher order statistics in a turbulent round jet. *Physics of Fluids*, **2013**, 25, 115102	4.4	22
145	Towards a universal criteria for turbulence suppression in dilute turbidity currents with non-cohesive sediments. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	22

144	Large eddy simulation of flow in an unbaffled stirred tank for different Reynolds numbers. *Physics of Fluids*, **2009**, 21, 085102	4.4	22
143	Gravity Currents from Instantaneous Sources Down a Slope. *Journal of Hydraulic Engineering*, **2012**, 138, 237-246	1.8	22
142	Wake response of a stationary finite-sized particle in a turbulent channel flow. *International Journal of Multiphase Flow*, **2010**, 36, 406-422	3.6	22
141	Spanwise growth of vortex structure in wall turbulence. *Journal of Mechanical Science and Technology*, **2001**, 15, 1741-1749		22
140	Viscous and Inviscid Instabilities of Flow Along a Streamwise Corner. *Theoretical and Computational Fluid Dynamics*, **1999**, 13, 231-270	2.3	22
139	Faxḗn form of time-domain force on a sphere in unsteady spatially varying viscous compressible flows. *Journal of Fluid Mechanics*, **2017**, 816, 381-411	3.7	21
138	Critical shear stress for incipient motion of a particle on a rough bed. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		21
137	Rolling/sliding of a particle on a flat wall in a linear shear flow at finite Re. *International Journal of Multiphase Flow*, **2011**, 37, 108-124	3.6	21
136	Numerical investigation of shock interaction with one-dimensional transverse array of particles in air. *Journal of Applied Physics*, **2016**, 119, 104901	2.5	21
135	Effects of wall roughness on drag and lift forces of a particle at finite Reynolds number. *International Journal of Multiphase Flow*, **2017**, 88, 116-132	3.6	20
134	Analysis and modeling of buoyancy-generated turbulence using numerical data. *International Journal of Heat and Mass Transfer*, **1998**, 41, 915-929	4.9	20
133	A Eulerian model for large-eddy simulation of concentration of particles with small Stokes numbers. *Physics of Fluids*, **2007**, 19, 118107	4.4	20
132	Inviscid instability of streamwise corner flow. *Journal of Fluid Mechanics*, **1995**, 282, 187-201	3.7	20
131	Turbidity Currents With Equilibrium Basal Driving Layers: A Mechanism for Long Runout. *Geophysical Research Letters*, **2018**, 45, 1518-1526	4.9	19
130	Mean force on a finite-sized spherical particle due to an acoustic field in a viscous compressible medium. *Physical Review E*, **2014**, 89, 053008	2.4	19
129	A numerical investigation of lutocline dynamics and saturation of fine sediment in the oscillatory boundary layer. *Journal of Geophysical Research*, **2011**, 116,		19
128	Direct Numerical Simulation of Transverse Ripples: 1. Pattern Initiation and Bedform Interactions. *Journal of Geophysical Research F: Earth Surface*, **2018**, 123, 448-477	3.8	18
127	Effects of Initial Perturbations in the Early Moments of an Explosive Dispersal of Particles. *Journal of Fluids Engineering, Transactions of the ASME*, **2016**, 138,	2.1	18

126	Phenomenological theory of probability distributions in turbulence. *Journal of Scientific Computing*, **1990**, 5, 199-221	2.3	18
125	Toward particle-resolved accuracy in Euler–Lagrange simulations of multiphase flow using machine learning and pairwise interaction extended point-particle (PIEP) approximation. *Theoretical and Computational Fluid Dynamics*, **2020**, 34, 401-428	2.3	18
124	A compressible two-phase model for dispersed particle flows with application from dense to dilute regimes. *Journal of Applied Physics*, **2016**, 119, 174903	2.5	18
123	Effect of Mach number and volume fraction in air-shock interacting with a bed of randomly distributed spherical particles. *Physical Review Fluids*, **2019**, 4,	2.8	17
122	Equilibrium Eulerian approach for predicting the thermal field of a dispersion of small particles. *International Journal of Heat and Mass Transfer*, **2005**, 48, 681-689	4.9	16
121	History force on a sphere in a weak linear shear flow. *International Journal of Multiphase Flow*, **2005**, 31, 996-1014	3.6	16
120	Onset of vortex shedding in an inline and staggered array of rectangular cylinders. *Physics of Fluids*, **2002**, 14, 3714-3732	4.4	16
119	A numerical investigation of high-Reynolds-number constant-volume non-Boussinesq density currents in deep ambient. *Journal of Fluid Mechanics*, **2011**, 673, 574-602	3.7	15
118	A Divergence-Free Chebyshev Collocation Procedure for Incompressible Flows with Two Non-periodic Directions. *Journal of Computational Physics*, **1993**, 105, 199-206	4.1	15
117	Lagrangian investigation of pseudo-turbulence in multiphase flow using superposable wakes. *Physical Review Fluids*, **2019**, 4,	2.8	15
116	Direct Numerical Simulation of Transverse Ripples: 2. Self-Similarity, Bedform Coarsening, and Effect of Neighboring Structures. *Journal of Geophysical Research F: Earth Surface*, **2018**, 123, 478-500	3.8	14
115	Simulation of fine sediment transport in oscillatory boundary layer. *Journal of Hydro-Environment Research*, **2010**, 3, 247-259	2.3	14
114	Self-induced temperature correction for inter-phase heat transfer in Euler-Lagrange point-particle simulation. *Journal of Computational Physics*, **2019**, 396, 596-615	4.1	13
113	Dynamic hydrophobicity on flat and pillared graphite surfaces with different pillar surface fractions. *Journal of Mechanical Science and Technology*, **2014**, 28, 669-677	1.6	13
112	On the transport modes of fine sediment in the wave boundary layer due to resuspension/deposition: A turbulence-resolving numerical investigation. *Journal of Geophysical Research: Oceans*, **2015**, 120, 1918-1936	3.3	13
111	Compressible inviscid instability of rapidly expanding spherical material interfaces. *Physics of Fluids*, **2012**, 24, 034106	4.4	13
110	Natural convection in a horizontal fluid layer with a periodic array of internal square cylinders Need for very large aspect ratio 2D domains. *International Journal of Heat and Fluid Flow*, **2007**, 28, 978-987	3.4	13
109	Structure in turbulent thermal convection. *Physics of Fluids A, Fluid Dynamics*, **1992**, 4, 2715-2726		13

108	Shock interaction with deformable particles using a constrained interface reinitialization scheme. *Journal of Applied Physics*, **2016**, 119, 064904	2.5	12
107	A spectral-like turbulence-resolving scheme for fine sediment transport in the bottom boundary layer. *Computers and Geosciences*, **2013**, 61, 11-22	4.5	12
106	Direct numerical simulations of instability and boundary layer turbulence under a solitary wave. *Journal of Fluid Mechanics*, **2013**, 731, 545-578	3.7	11
105	Numerical Investigation of Turbulence Modulation by Sediment-Induced Stratification and Enhanced Viscosity in Oscillatory Flows. *Journal of Waterway, Port, Coastal and Ocean Engineering*, **2014**, 140, 160-172	1.7	11
104	Mean and fluctuating components of drag and lift forces on an isolated finite-sized particle in turbulence. *Theoretical and Computational Fluid Dynamics*, **2012**, 26, 185-204	2.3	10
103	A numerical source of small-scale number-density fluctuations in Eulerian Lagrangian simulations of multiphase flows. *Journal of Computational Physics*, **2010**, 229, 1828-1851	4.1	10
102	Slumping of non-Boussinesq density currents of various initial fractional depths: A comparison between direct numerical simulations and a recent shallow-water model. *Computers and Fluids*, **2010**, 39, 729-734	2.8	10
101	Kinematics of local vortex identification criteria. *Journal of Visualization*, **2007**, 10, 137-140	1.6	10
100	Reynolds number scaling of flow in a stirred tank with Rushton turbine. Part II Eigen decomposition of fluctuation. *Chemical Engineering Science*, **2005**, 60, 3185-3198	4.4	10
99	Investigation of theoretical scaling laws using large eddy simulations for airborne spreading of viral contagion from sneezing and coughing. *Physics of Fluids*, **2021**, 33, 063318	4.4	10
98	Large eddy simulation of passive scalar transport in a stirred tank for different diffusivities. *International Journal of Heat and Mass Transfer*, **2015**, 91, 885-897	4.9	9
97	Differential formulation of the viscous history force on a particle for efficient and accurate computation. *Journal of Fluid Mechanics*, **2018**, 844, 970-993	3.7	9
96	Dynamics of rapidly depressurized multiphase shock tubes. *Journal of Fluid Mechanics*, **2019**, 880, 441-477	3.7	9
95	Dynamics of non-circular finite-release gravity currents. *Journal of Fluid Mechanics*, **2015**, 783, 344-378	3.7	9
94	Viscous effects on the non-classical Rayleigh Taylor instability of spherical material interfaces. *Shock Waves*, **2013**, 23, 603-617	1.6	9
93	Propagation and deposition of non-circular finite release particle-laden currents. *Physics of Fluids*, **2015**, 27, 086604	4.4	9
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91	Equation of motion for a drop or bubble in viscous compressible flows. *Physics of Fluids*, **2012**, 24, 056103	2.4	9

90	EFFECTS OF INTRINSIC THREE DIMENSIONALITY ON HEAT TRANSFER AND FRICTION LOSS IN A PERIODIC ARRAY OF PARALLEL PLATES. *Numerical Heat Transfer; Part A: Applications*, **1997**, 31, 327-353[2.3]	9
89	High rayleigh number convection at infinite prandtl number with weakly temperature-dependent viscosity. *Geophysical and Astrophysical Fluid Dynamics*, **1996**, 83, 79-117	1.4	9
88	Lagrangian and Eulerian drag models that are consistent between Euler-Lagrange and Euler-Euler (two-fluid) approaches for homogeneous systems. *Physical Review Fluids*, **2020**, 5,	2.8	9
87	Front dynamics and entrainment of finite circular gravity currents on an unbounded uniform slope. *Journal of Fluid Mechanics*, **2016**, 801, 322-352	3.7	9
86	On the evolution of the plume function and entrainment in the near-source region of lazy plumes. *Journal of Fluid Mechanics*, **2017**, 830, 736-759	3.7	8
85	A numerical study of particle jetting in a dense particle bed driven by an air-blast. *Physics of Fluids*, **2020**, 32, 093301	4.4	8
84	Front conditions of high-Re gravity currents produced by constant and time-dependent influx: An analytical and numerical study. *European Journal of Mechanics, B/Fluids*, **2013**, 41, 109-122	2.4	8
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82	Modeling compressible multiphase flows with dispersed particles in both dense and dilute regimes. *Shock Waves*, **2018**, 28, 533-544	1.6	8
81	Evaluation of methods for calculating volume fraction in Eulerian‑agrangian multiphase flow simulations. *Journal of Computational Physics*, **2016**, 313, 775-798	4.1	7
80	Multiphase effects on spherical Rayleigh-Taylor interfacial instability. *Physics of Fluids*, **2014**, 26, 023301	4.4	7
79	Direct numerical simulation of cylindrical particle-laden gravity currents. *Computers and Fluids*, **2015**, 123, 23-31	2.8	7
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77	Peering inside a cough or sneeze to explain enhanced airborne transmission under dry weather. *Scientific Reports*, **2021**, 11, 9826	4.9	7
76	Mixing at a sediment concentration interface in turbulent open channel flow. *Environmental Fluid Mechanics*, **2018**, 18, 173-200	2.2	6
75	Onset of Vortex Shedding in a Periodic Array of Circular Cylinders. *Journal of Fluids Engineering, Transactions of the ASME*, **2006**, 128, 1101-1105	2.1	6
74	Preferential concentration of particles in isotropic turbulence: a comparison of the Lagrangian and the equilibrium Eulerian approaches. *Powder Technology*, **2004**, 141, 109-118	5.2	6
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69	Pseudo-turbulence in inviscid simulations of shock interacting with a bed of randomly distributed particles. *Shock Waves*, **2020**, 30, 49-62	1.6	6
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