Shankar Subramaniam

List of Publications by Year
in descending order

61	2,507	257101 24	197535 49
papers	citations	h-index	g-index

62	62	62	1465
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Stochastic model for the hydrodynamic force in Eulerâ€“Lagrange simulations of particle-laden flows. Physical Review Fluids, 2022, 7, .	1.0	21
2	An index to characterize gasâ€solid and solidâ€solid mixing from average volume fraction fields. AICHE Journal, 2022, 68, .	1.8	2
3	Fluid-mediated sources of granular temperature at finite Reynolds numbers. Journal of Fluid Mechanics, 2022, 942, .	1.4	5
4	Particle-resolved simulation of freely evolving particle suspensions: Flow physics and modeling. International Journal of Multiphase Flow, 2021, 135, 103533.	1.6	25
5	Machine Learning Reduced Order Model for Cost and Emission Assessment of a Pyrolysis System. Energy & Fuels, 2021, 35, 9950-9960.	2.5	12
6	What We Are Learning from COVID-19 for Respiratory Protection: Contemporary and Emerging Issues. Polymers, 2021, 13, 4165.	2.0	5
7	Fully resolved simulation of dense suspensions of freely evolving buoyant particles using an improved immersed boundary method. International Journal of Multiphase Flow, 2020, 132, 103396.	1.6	6
8	Stochastic models for capturing dispersion in particle-laden flows. Journal of Fluid Mechanics, 2020, 903, .	1.4	23
9	A review of granular flow in screw feeders and conveyors. Powder Technology, 2020, 366, 369-381.	2.1	39
10	Multiphase flows: Rich physics, challenging theory, and big simulations. Physical Review Fluids, 2020, 5, .	1.0	19
11	Implementation of pseudo-turbulence closures in an Eulerianâ€“Eulerian two-fluid model for non-isothermal gasâ€“solid flow. Chemical Engineering Science, 2019, 207, 663-671.	1.9	19
12	The rheology of slurries of athermal cohesive micro-particles immersed in fluid: A computational and experimental comparison. Chemical Engineering Science, 2019, 193, 411-420.	1.9	3
13	Effect of density ratio on velocity fluctuations in dispersed multiphase flow from simulations of finite-size particles. Acta Mechanica, 2019, 230, 469-484.	1.1	20
14	Detailed experimental and numerical investigation of fluidâ€“particle interactions of a fixed train of spherical particles inside a square duct. International Journal of Multiphase Flow, 2018, 103, 16-29.	1.6	5
15	Towards Combined Deterministic and Statistical Approaches to Modeling Dispersed Multiphase Flows. Energy, Environment, and Sustainability, 2018, , 7-42.	0.6	2
16	A direct comparison of particle-resolved and point-particle methods in decaying turbulence. Journal of Fluid Mechanics, 2018, 850, 336-369.	1.4	44
17	Rheological transition in simple shear of moderately dense assemblies of dry cohesive granules. Physical Review E, 2018, 97, 062902.	0.8	1
18	Mechanism of kinetic energy transfer in homogeneous bidisperse gas-solid flow and its implications for segregation. Physics of Fluids, 2017, 29, .	1.6	6

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19	Binary collision outcomes for inelastic soft-sphere models with cohesion. Powder Technology, 2017, 305, 462-476.	2.1	14
20	A Constitutive Model for Dense Granular Flows Based on Microstructural Descriptors. Industrial & Engineering Chemistry Research, 2016, 55, 10178-10190.	1.8	4
21	Pseudo-turbulent heat flux and average gasâ€“phase conduction during gasâ€“solid heatÂtransfer: flow past random fixed particleÂassemblies. Journal of Fluid Mechanics, 2016, 798, 299-349.	1.4	45
22	Stochastic Lagrangian model for hydrodynamic acceleration of inertial particles in gasâ€“solid suspensions. Journal of Fluid Mechanics, 2016, 788, 695-729.	1.4	37
23	Importance of the fluid-particle drag model in predicting segregation in bidisperse gas-solid flow. International Journal of Multiphase Flow, 2016, 86, 99-114.	1.6	20
24	Development of a gasâ€“solid drag law for clustered particles using particle-resolved direct numerical simulation. Chemical Engineering Science, 2016, 152, 199-212.	1.9	43
25	Filtration model for polydisperse aerosols in gasâ€solid flow using granuleâ€resolved direct numerical simulation. AICHE Journal, 2015, 61, 3594-3606.	1.8	7
26	Freely cooling granular gases with short-ranged attractive potentials. Physics of Fluids, 2015, 27, .	1.6	22
27	Pseudo-turbulent gas-phase velocity fluctuations in homogeneous gasâ€“solid flow: fixed particle assemblies and freely evolving suspensions. Journal of Fluid Mechanics, 2015, 770, 210-246.	1.4	84
28	Modeling average gasâ€“solid heat transfer using particle-resolved direct numerical simulation. International Journal of Heat and Mass Transfer, 2015, 86, 898-913.	2.5	98
29	Trends in Multiphase Modeling and Simulation of Sprays. International Journal of Spray and Combustion Dynamics, 2014, 6, 317-356.	0.4	14
30	Investigation of Pseudo Turbulent Scalar Transport in Two Phase Fluid Flow and Passive Scalar Mixing Using Simultaneous SPIV/PLIF. , 2014, , .		0
31	Particle-Resolved Direct Numerical Simulation for Gas-Solid Flow Model Development. Annual Review of Fluid Mechanics, 2014, 46, 199-230.	10.8	256
32	Characterization of sheared colloidal aggregation using Langevin dynamics simulation. Physical Review E, 2014, 89, 062312.	0.8	17
33	Role of fluid heating in dense gasâ€“solid flow as revealed by particle-resolved direct numerical simulation. International Journal of Heat and Mass Transfer, 2013, 58, 471-479.	2.5	77
34	Lagrangianâ€“Eulerian methods for multiphase flows. Progress in Energy and Combustion Science, 2013, 39, 215-245.	15.8	232
35	Granular Flow in Silo Discharge: Discrete Element Method Simulations and Model Assessment. Industrial & Engineering Chemistry Research, 2013, 52, 13171-13182.	1.8	49
36	Enskog kinetic theory for monodisperse gasâ€“solid flows. Journal of Fluid Mechanics, 2012, 712, 129-168.	1.4	101

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37	Coarse-Graining Approach to Infer Mesoscale Interaction Potentials from Atomistic Interactions for Aggregating Systems. Industrial & Engineering Chemistry Research, 2012, 51, 16116-16134.	1.8	7
38	Two-way coupled stochastic model for dispersion of inertial particles in turbulence. Journal of Fluid Mechanics, 2012, 700, 29-62.	1.4	14
39	Granular rheology and phase transition: DEM simulations and order-parameter based constitutive model. Chemical Engineering Science, 2012, 72, 20-34.	1.9	11
40	Experimental and computational studies of dense granular flow: Transition from quasi-static to intermediate regime in a Couette shear device. Powder Technology, 2012, 220, 7-14.	2.1	15
41	Drag law for monodisperse gasâ€“solid systems using particle-resolved direct numerical simulation of flow past fixed assemblies of spheres. International Journal of Multiphase Flow, 2011, 37, 1072-1092.	1.6	328
42	A test method for determining adhesion forces and Hamaker constants of cementitious materials using atomic force microscopy. Cement and Concrete Research, 2011, 41, 1157-1166.	4.6	77
43	Direct numerical simulation of gasâ€“solid suspensions at moderate Reynolds number: Quantifying the coupling between hydrodynamic forces and particle velocity fluctuations. Powder Technology, 2010, 203, 57-69.	2.1	74
44	Effect of Particle Clusters on Carrier Flow Turbulence: A Direct Numerical Simulation Study. Flow, Turbulence and Combustion, 2010, 85, 735-761.	1.4	45
45	A fully coupled quadrature-based moment method for dilute to moderately dilute fluidâ€“particle flows. Chemical Engineering Science, 2010, 65, 2267-2283.	1.9	65
46	A numerically convergent Lagrangianâ€“Eulerian simulation method for dispersed two-phase flows. International Journal of Multiphase Flow, 2009, 35, 376-388.	1.6	50
47	A comprehensive probability density function formalism for multiphase flows. Journal of Fluid Mechanics, 2009, 628, 181-228.	1.4	37
48	On Brownian Dynamics Simulation of Nanoparticle Aggregation. Industrial & Engineering Chemistry Research, 2008, 47, 3338-3345.	1.8	19
49	Hybrid Two-Fluid DEM Simulation of Gas-Solid Fluidized Beds. Journal of Fluids Engineering, Transactions of the ASME, 2007, 129, 1394-1403.	0.8	36
50	Consistent modeling of interphase turbulent kinetic energy transfer in particle-laden turbulent flows. Physics of Fluids, 2007, 19, 085101.	1.6	22
51	Modeling droplet dispersion and interphase turbulent kinetic energy transfer using a new dual-timescale Langevin model. International Journal of Multiphase Flow, 2007, 33, 252-281.	1.6	14
52	Accurate numerical estimation of interphase momentum transfer in Lagrangianâ€“Eulerian simulations of dispersed two-phase flows. International Journal of Multiphase Flow, 2007, 33, 1337-1364.	1.6	75
53	Momentum Transfer Between Polydisperse Particles in Dense Granular Flow. Journal of Fluids Engineering, Transactions of the ASME, 2006, 128, 62-68.	0.8	9
54	A multiscale model for dilute turbulent gas-particle flows based on the equilibration of energy concept. Physics of Fluids, 2006, 18, 033301.	1.6	26

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55	ACCURATE NUMERICAL SOLUTION OF THE SPRAY EQUATION USING PARTICLE METHODS. , 2006, 16, 159-194.		7
56	MODELING INTERPHASE TURBULENT KINETIC ENERGY TRANSFER IN LAGRANGIAN-EULERIAN SPRAY COMPUTATIONS. , 2006, 16, 807-826.		16
57	Objective decomposition of the stress tensor in granular flows. Physical Review E, 2005, 71, 021302.	0.8	19
58	Statistical modeling of sprays using the droplet distribution function. Physics of Fluids, 2001, 13, 624-642.	1.6	53
59	Statistical representation of a spray as a point process. Physics of Fluids, 2000, 12, 2413.	1.6	50
60	A probability density function method for turbulent mixing and combustion on three-dimensional unstructured deforming meshes. International Journal of Engine Research, 2000, 1, 171-190.	1.4	51
61	Direct Numerical Simulation of Gas-Solids Flow Based on the Immersed Boundary Method. Advances in Chemical and Materials Engineering Book Series, 0, , 245-276.	0.2	9