Olivier Simonin

List of Publications by Citations

66 papers	1,790 citations	21 h-index	41 g-index
77 ext. papers	2,022 ext. citations	3.4 avg, IF	4.79 L-index

#	Paper	IF	Citations
66	Direct numerical simulation of turbulence modulation by particles in isotropic turbulence. *Journal of Fluid Mechanics*, **1998**, 375, 235-263	3.7	272
65	A functional subgrid drift velocity model for filtered drag prediction in dense fluidized bed. *AICHE Journal*, **2012**, 58, 1084-1098	3.6	166
64	Partitioning of particle velocities in gas–solid turbulent flows into a continuous field and a spatially uncorrelated random distribution: theoretical formalism and numerical study. *Journal of Fluid Mechanics*, **2005**, 533,	3.7	147
63	On the prediction of gas–solid flows with two-way coupling using large eddy simulation. *Physics of Fluids*, **2000**, 12, 2080-2090	4.4	118
62	Two statistical models for predicting collision rates of inertial particles in homogeneous isotropic turbulence. *Physics of Fluids*, **2003**, 15, 2995	4.4	94
61	Numerical study of the subgrid fluid turbulence effects on the statistics of heavy colliding particles. *Physics of Fluids*, **2006**, 18, 045103	4.4	91
60	Fluid dynamic numerical simulation of a gas phase polymerization reactor. *International Journal for Numerical Methods in Fluids*, **2003**, 43, 1199-1220	1.9	74
59	Hydrodynamic and solid residence time distribution in a circulating fluidized bed: Experimental and 3D computational study. *Chemical Engineering and Processing: Process Intensification*, **2008**, 47, 463-473	3.7	54
58	Properties of the particle velocity field in gas-solid turbulent channel flow. *Physics of Fluids*, **2006**, 18, 063302	4.4	53
57	A Lagrangian VOF tensorial penalty method for the DNS of resolved particle-laden flows. *Journal of Computational Physics*, **2014**, 256, 582-614	4.1	45
56	Sand-assisted fluidization of large cylindrical and spherical biomass particles: Experiments and simulation. *Chemical Engineering Science*, **2015**, 126, 543-559	4.4	42
55	3D numerical simulation of a lab-scale pressurized dense fluidized bed focussing on the effect of the particle-particle restitution coefficient and particle–wall boundary conditions. *Chemical Engineering Science*, **2016**, 142, 215-235	4.4	38
54	Dynamics of bidisperse suspensions under Stokes flows: Linear shear flow and sedimentation. *Physics of Fluids*, **2006**, 18, 121504	4.4	36
53	Large eddy simulation of turbulent gas-solid flows in a vertical channel and evaluation of second-order models. *International Journal of Heat and Fluid Flow*, **1998**, 19, 505-511	2.4	35
52	On the spatial distribution of heavy-particle velocities in turbulent flow: from continuous field to particulate chaos. *Journal of Turbulence*, **2002**, 3, N40	2.1	33
51	Collision rates of bidisperse inertial particles in isotropic turbulence. *Physics of Fluids*, **2006**, 18, 035110	4.4	31
50	Development of Gas-Particle Euler-Euler LES Approach: A Priori Analysis of Particle Sub-Grid Models in Homogeneous Isotropic Turbulence. *Flow, Turbulence and Combustion*, **2010**, 84, 295-324	2.5	29

49	Direct numerical simulations of heat transfer by solid particles suspended in homogeneous isotropic turbulence. *International Journal of Heat and Fluid Flow*, **1998**, 19, 187-192	2.4	29
48	Transition boiling at jet impingement. *International Journal of Heat and Mass Transfer*, **2004**, 47, 5059-5070	4.9	26
47	LES–DPS of the effect of wall roughness on dispersed-phase transport in particle-laden turbulent channel flow. *International Journal of Heat and Fluid Flow*, **2006**, 27, 619-626	2.4	25
46	Turbulent collision rates of arbitrary-density particles. *International Journal of Heat and Mass Transfer*, **2010**, 53, 1613-1620	4.9	22
45	k–Macro-scale modeling of turbulence based on a two scale analysis in porous media. *International Journal of Heat and Fluid Flow*, **2006**, 27, 955-966	2.4	21
44	The Mesoscopic Eulerian Approach for Evaporating Droplets Interacting with Turbulent Flows. *Flow, Turbulence and Combustion*, **2011**, 86, 563-583	2.5	20
43	Dense gas-particle suspension upward flow used as heat transfer fluid in solar receiver: PEPT experiments and 3D numerical simulations. *Powder Technology*, **2017**, 307, 25-36	5.2	19
42	Connection between two statistical approaches for the modelling of particle velocity and concentration distributions in turbulent flow: The mesoscopic Eulerian formalism and the two-point probability density function method. *Physics of Fluids*, **2006**, 18, 125107	4.4	19
41	Massively parallel numerical simulation using up to 36,000 CPU cores of an industrial-scale polydispersed reactive pressurized fluidized bed with a mesh of one billion cells. *Powder Technology*, **2020**, 366, 906-924	5.2	17
40	Unsteady three-dimensional theoretical model and numerical simulation of a 120-kW chemical looping combustion pilot plant. *Chemical Engineering Science*, **2019**, 193, 102-119	4.4	17
39	Monte-Carlo simulation of colliding particles or coalescing droplets transported by a turbulent flow in the framework of a joint fluid–particle pdf approach. *International Journal of Multiphase Flow*, **2015**, 74, 165-183	3.6	15
38	Improved CFD transport and boundary conditions models for low-inertia particles. *Computers and Fluids*, **2011**, 40, 79-91	2.8	15
37	A hybrid Eulerian–Lagrangian method to simulate the dispersed phase in turbulent gas-particle flows. *International Journal of Multiphase Flow*, **2007**, 33, 766-788	3.6	15
36	DROPLET SIZE AND VELOCITY MEASUREMENTS AT THE OUTLET OF A HOLLOW CONE SPRAY NOZZLE. *Atomization and Sprays*, **2011**, 21, 893-905	1.2	14
35	Particle-resolved numerical simulations of the gas–solid heat transfer in arrays of random motionless particles. *Acta Mechanica*, **2019**, 230, 541-567	2.1	12
34	Three-dimensional numerical simulation of upflow bubbling fluidized bed in opaque tube under high flux solar heating. *AICHE Journal*, **2018**, 64, 3857-3867	3.6	11
33	Detached eddy simulations and particle Lagrangian tracking of horizontal rough wall turbulent channel flow. *Journal of Turbulence*, **2011**, 12, N22	2.1	11
32	Numerical study of solid–liquid fluidization dynamics. *AICHE Journal*, **2010**, 56, 2781-2794	3.6	9

31	Algebraic-Closure-Based Moment Method for Unsteady Eulerian Simulations of Non-Isothermal Particle-Laden Turbulent Flows at Moderate Stokes Numbers in Dilute Regime. *Flow, Turbulence and Combustion*, **2014**, 92, 121-145	2.5	8
30	Shear-induced self-diffusion of inertial particles in a viscous fluid. *Physical Review E*, **2009**, 79, 036313	2.4	8
29	Development and Validation of a Binary Collision Detection Algorithm for a Polydispersed Particle Mixture **2008**,		8
28	Experiments support simulations by the NEPTUNE_CFD code in an Upflow Bubbling Fluidized Bed reactor. *Chemical Engineering Journal*, **2020**, 385, 123568	14.7	8
27	Lattice Boltzmann model for predicting the deposition of inertial particles transported by a turbulent flow. *International Journal of Multiphase Flow*, **2015**, 76, 187-197	3.6	7
26	Flow of particles suspended in a sheared viscous fluid: Effects of finite inertia and inelastic collisions. *AICHE Journal*, **2010**, 56, 2523-2538	3.6	7
25	A massively parallel CFD/DEM approach for reactive gas-solid flows in complex geometries using unstructured meshes. *Computers and Fluids*, **2020**, 198, 104402	2.8	7
24	Stochastic modelling of three-dimensional particle rebound from isotropic rough wall surface. *International Journal of Multiphase Flow*, **2018**, 109, 35-50	3.6	6
23	Macroscale turbulence modeling for flows in media laden with solid structures. *Comptes Rendus - Mecanique*, **2007**, 335, 13-19	2.1	6
22	Numerical Study and Lagrangian Modelling of Turbulent Heat Transport. *Flow, Turbulence and Combustion*, **2008**, 80, 37-46	2.5	6
21	Gas-solid fluidized bed simulations using the filtered approach: Validation against pilot-scale experiments. *Chemical Engineering Science*, **2020**, 217, 115472	4.4	5
20	An Environment-Based Methodology to Design Reactive Multi-agent Systems for Problem Solving. *Lecture Notes in Computer Science*, **2006**, 32-49	0.9	5
19	Numerical Simulation of Multiphase Reactive Flows. *Advances in Chemical Engineering*, **2018**, 52, 51-124	0.6	4
18	Monte Carlo Simulation of Colliding Particles in Gas-Solid Turbulent Flows From a Joint Fluid-Particle PDF Equation **2002**, 431		4
17	Monte Carlo Simulation of Colliding Particles Suspended in Gas-Solid Homogeneous Turbulent Shear Flows **2003**,		4
16	Numerical Simulations of Short- and Long-Range Interaction Forces in Turbulent Particle-Laden Gas Flows. *Flow, Turbulence and Combustion*, **2020**, 105, 989-1015	2.5	3
15	Application of a Perturbated Two-Maxwellian Approach for the Modelling of Kinetic Stress Transfer by Collision in Non-Equilibrium Binary Mixture of Inelastic Particles **2005**, 581		3
14	Modelling of the mean electric charge transport equation in a mono-dispersed gas–particle flow. *Journal of Fluid Mechanics*, **2020**, 902,	3.7	3

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13	A Simplified Particle-Turbulence Interaction PDF Model: Application to Deposition Modelling in Turbulent Boundary Layer **2009**,		2
12	Construction of numerical potential fields with reactive agents **2005**,		2
11	Euler-Euler Large-Eddy Simulation Approach for Non Isothermal Particle-Laden Turbulent Jet **2008**,		2
10	Direct Numerical Simulation of the Motion of Particles Larger Than the Kolmogorov Scale in a Homogeneous Isotropic Turbulence **2008**,		2
9	Direct Simulation Monte-Carlo predictions of coarse elastic particle statistics in fully developed turbulent channel flows: Comparison with deterministic discrete particle simulation results and moment closure assumptions. *International Journal of Multiphase Flow*, **2018**, 108, 25-41	3.6	2
8	Simulation of a Fluidized Bed Using a Hybrid Eulerian-Lagrangian Method for Particle Tracking. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, **2010**, 103-110	0.3	1
7	Modelling of three-dimensional particle rebound from an anisotropic rough wall. *Powder Technology*, **2021**, 393, 165-183	5.2	1
6	Eulerian modelling of the powder discharge of a silo: Attempting to shed some light on the origin of jet expansion. *Powder Technology*, **2021**, 379, 49-57	5.2	0
5	Modeling heat transfer in gas-particle mixtures: Calculation of the macro-scale heat exchange in Eulerian–Lagrangian approaches using spatial averaging. *International Journal of Multiphase Flow*, **2019**, 117, 64-80	3.6	
4	Simulation of the flow past random arrays of spherical particles: Microstructure-based tensor quantities as a tool to predict fluid–particle forces. *International Journal of Multiphase Flow*, **2022**, 149, 103970	3.6	
3	On Fluid-Particle and Particle-Particle Interactons in Gas-Solid Turbulent Channel Flow **2006**, 11-20		
2	Numerical Simulation and Statistical Modeling of Inertial Droplet Coalescence in Homogeneous Isotropic Turbulence. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, **2010**, 401-407	0.3	
1	Soft-Sphere DEM Simulation of Coarse Particles Transported by a Fully Developed Turbulent Gas Vertical Channel Flow. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, **2021**, 150-160	0.3	