Rakesh Kumar

List of Publications by Year
in descending order

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56	549	759233	713466
papers	citations	12	21
		h-index	g-index

56	56	56	318
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Detachment of strong shocks in confined granular flows. Journal of Fluid Mechanics, 2022, 935, .	3.4	2
2	A numerical investigation of granular shock waves over a circular cylinder using the discrete element method. Journal of Fluid Mechanics, 2022, 936, .	3.4	5
3	Conjugate flow-thermal analysis of a hypersonic reentry vehicle in the rarefied flow regime. Physics of Fluids, 2022, 34, .	4.0	7
4	Parametric study and scaling of Mach 1.5 jet manipulation using steady fluidic injection. Physics of Fluids, 2022, 34, .	4.0	1
5	In-depth analysis of reaction kinetics parameters of phenolic resin using molecular dynamics and unsupervised machine learning approach. Computational Materials Science, 2022, 206, 111215.	3.0	2
6	On the estimation of bulk viscosity of dilute nitrogen gas using equilibrium molecular dynamics approach. Physics of Fluids, 2022, 34, .	4.0	11
7	Experimental study on the mean flow characteristics of a supersonic multiple jet configuration. Aerospace Science and Technology, 2021, 108, 106377.	4.8	28
8	An experimental study on the control of plug nozzle jets. Shock Waves, 2021, 31, 31-47.	1.9	5
9	Estimation of Mach numbers in supersonic jets using schlieren images. Materials Today: Proceedings, 2021, 46, 2673-2676.	1.8	6
10	Modeling of dusty gas flows due to plume impingement on a lunar surface. Physics of Fluids, 2021, 33, .	4.0	20
11	Correlations for aerodynamic coefficients for prolate spheroids in the free molecular regime. Computers and Fluids, 2021, 223, 104934.	2.5	3
12	Experimental investigation of the effect of cross wire on the flow field of elliptic jet. International Journal of Heat and Fluid Flow, 2021, 90, 108834.	2.4	4
13	Effect of Thermal Ablation at the Fluid-Solid Interface of a Hypersonic Reentry Vehicle in Rarefied Flow Regime. International Journal of Computational Fluid Dynamics, 2021, 35, 610-631.	1.2	4
14	Shockâ€“shock interactions in granular flows. Journal of Fluid Mechanics, 2020, 884, .	3.4	12
15	Experimental study on enhancement of supersonic twin-jet mixing by vortex generators. Aerospace Science and Technology, 2020, 96, 105521.	4.8	31
16	Development of empirical relationships for surface accommodation coefficients through investigation of nano-poiseuille flows using molecular dynamics method. Microfluidics and Nanofluidics, 2020, 24, 1.	2.2	12
17	Effect of argon gas in oxygen catalytic recombination on a silica surface: A reactive molecular dynamics study. Acta Astronautica, 2020, 175, 531-539.	3.2	11
18	Experimental Study of Impinging Plug Nozzle Jet Using a Vortex Generator. Journal of Spacecraft and Rockets, 2020, 57, 1414-1418.	1.9	2

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19	Development of Mâ€“DSMC Numerical Algorithm for Hypersonic Flows. Lecture Notes in Mechanical Engineering, 2020, , 437-447.	0.4	0
20	Transport of non-spherical particle in free molecular regime using the DSMC method. AIP Conference Proceedings, 2019, , .	0.4	2
21	Estimation of bulk viscosity of dilute gases using a nonequilibrium molecular dynamics approach. Physical Review E, 2019, 100, 013309.	2.1	29
22	Co-axially rotating carbon nanotubes: A novel mechanism for nanoscale pumping of fluids. AIP Conference Proceedings, 2019, , .	0.4	0
23	Characteristics of plug nozzles in rarefied regime using the direct simulation Monte Carlo method. AIP Conference Proceedings, 2019, , .	0.4	0
24	Bulk viscosity of dilute gases using non-equilibrium molecular dynamics approach. AIP Conference Proceedings, 2019, , .	0.4	1
25	Study of mechanical response of CNT-polyethylene nanocomposite using molecular dynamics approach. AIP Conference Proceedings, 2019, , .	0.4	0
26	Molecular dynamics study of thermochemical behaviour of nickel-coated aluminium nanoparticles. AIP Conference Proceedings, 2019, , .	0.4	0
27	Single particle trajectory analysis for the evaluation of surface accommodation coefficients. AIP Conference Proceedings, 2019, , .	0.4	0
28	Molecular dynamics simulation of particle trajectory for the evaluation of surface accommodation coefficients. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	10
29	Transport dynamics of an ellipsoidal particle in free molecular gas flow regime. Physics of Fluids, 2019, 31, .	4.0	12
30	Experimental investigation of the effect of extended cowl on the flow field of planar plug nozzles. Aerospace Science and Technology, 2019, 88, 208-221.	4.8	17
31	Shocks and Shock Interactions in Granular flow Past Circular Cylinder. , 2019, , .		4
32	Systematic direct simulation Monte Carlo approach to characterize the effects of surface roughness on accommodation coefficients. Physical Review Fluids, 2019, 4, .	2.5	10
33	Denoising of Direct Simulation Monte Carlo Data Using Proper Orthogonal Decomposition Technique. Journal of Spacecraft and Rockets, 2018, 55, 841-847.	1.9	3
34	Experimental Study and Passive Control of Overexpanded Plug Nozzle Jet. Journal of Spacecraft and Rockets, 2018, 55, 778-782.	1.9	11
35	Ablative thermal protection systems: Pyrolysis modeling by scale-bridging molecular dynamics. Carbon, 2018, 130, 315-324.	10.3	42
36	A novel efficient hybrid DSMCâ€“dynamic collision limiter algorithm for multiscale transitional flows. International Journal for Numerical Methods in Fluids, 2018, 86, 565-581.	1.6	1

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37	Effect of cross wire tab orientation on twin jet mixing characteristics. Experimental Thermal and Fluid Science, 2018, 99, 344-356.	2.7	19
38	Development of an Efficient Kinetic Particle based Hybrid DSMC - DCL Numerical Approach for Hypersonic Rarefied Flows. , 2017, , .		0
39	Insights into flow and heat transfer aspects of hypersonic rarefied flow over a blunt body with aerospike using direct simulation Monte-Carlo approach. Aerospace Science and Technology, 2017, 66, 119-128.	4.8	33
40	Hybrid particleâ€“particle numerical algorithm for high speed non-equilibrium flows. Computers and Fluids, 2017, 152, 24-39.	2.5	7
41	Development of a multi-species, parallel, 3D Direct Simulation Monte-Carlo solver for rarefied gas flows. Computers and Fluids, 2017, 159, 204-216.	2.5	15
42	Novel Efficient Particle-Based Hybrid Approach for Modeling Hypersonic Rarefied Flows. Journal of Spacecraft and Rockets, 2017, 54, 1267-1277.	1.9	1
43	Numerical Investigation of Gas-Surface Interactions due to Ablation of High-Speed Vehicles. Journal of Spacecraft and Rockets, 2016, 53, 538-548.	1.9	10
44	Molecular Dynamics Study of Gasâ€“Surface Interactions in a Force-Driven Flow of Argon through a Rectangular Nanochannel. Nanoscale and Microscale Thermophysical Engineering, 2016, 20, 121-136.	2.6	8
45	Modeling of high speed gas-granular flow over a 2D cylinder in the direct simulation Monte-Carlo framework. Granular Matter, 2016, 18, 1.	2.2	13
46	Reconsideration of metal surface sputtering due to bombardment of high-energy argon ion particles: a molecular dynamics study. Computational Particle Mechanics, 2016, 3, 3-13.	3.0	10
47	Study of plume behaviour of a convergent-divergent and aerospike nozzle at high altitudes using DSMC. , 2014, , .		3
48	Development of a Particleâ€“Particle Hybrid Scheme to Simulate Multiscale Transitional Flows. AIAA Journal, 2013, 51, 200-217.	2.6	15
49	Towards the development of a hybrid statistical method for modeling reentry flows about blunt bodies. , 2011, , .		3
50	Simulation of Heat Loads on the CEV Orion Compression Pads During Reentry. , 2011, , .		2
51	In Depth Analysis of AVCOAT TPS Response to a Reentry Flow. AIP Conference Proceedings, 2011, , .	0.4	4
52	Molecular dynamics studies to understand the mechanism of heat accommodation in homogeneous condensing flow of carbon dioxide. Journal of Chemical Physics, 2011, 135, 064503.	3.0	4
53	Experiments on free and impinging supersonic microjets. Experiments in Fluids, 2008, 44, 819-830.	2.4	90
54	Simulation of the orbital decay of a spacecraft in low Earth orbit due to aerodynamic drag. Aeronautical Journal, 0, , 1-19.	1.6	0

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55	Ablative Thermal Response for Two-Dimensional Axisymmetric Problems. Journal of Thermophysics and Heat Transfer, 0, , 1-12.	1.6	3
56	Extraction of Thermal Properties of Organic Ablative Materials Using Molecular Dynamics Simulations. Journal of Thermophysics and Heat Transfer, 0, , 1-12.	1.6	1