

# Ehsan Roohi

## List of Publications by Year in descending order

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115  
papers

3,334  
citations

134610

34  
h-index

190340

53  
g-index

118  
all docs

118  
docs citations

118  
times ranked

1657  
citing authors

#	ARTICLE	IF	CITATIONS
1	A symmetrized and simplified Bernoulli trial collision scheme in direct simulation Monte Carlo. <i>Physics of Fluids</i> , 2022, 34, .	1.6	24
2	On the nonlinear thermal stress, thermal creep, and thermal edge flows in triangular cavities. <i>Physics of Fluids</i> , 2022, 34, .	1.6	8
3	Thermally driven rarefied flows induced by a partially heated diamond in a channel. <i>International Communications in Heat and Mass Transfer</i> , 2022, 135, 106095.	2.9	4
4	A study on micro-step flow using a hybrid direct simulation Monte Carlo–Fokker–Planck approach. <i>Physics of Fluids</i> , 2022, 34, .	1.6	3
5	Numerical investigation of wave interactions in an experimental wave-energy converter using OpenFOAM. <i>Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy</i> , 2021, 235, 1205-1224.	0.8	1
6	Binary gas mixtures separation using microscale radiometric pumps. <i>International Communications in Heat and Mass Transfer</i> , 2021, 121, 105061.	2.9	19
7	Assessment of anisotropic minimum-dissipation (AMD) subgrid-scale model: Gently-curved backward-facing step flow. <i>International Journal of Modern Physics C</i> , 2021, 32, 2150068.	0.8	13
8	Homogeneous relaxation and shock wave problems: Assessment of the simplified and generalized Bernoulli trial collision schemes. <i>Physics of Fluids</i> , 2021, 33, .	1.6	15
9	Advances in micro/nano fluid flows: In Memory of Professor Jason Reese. <i>Physics of Fluids</i> , 2021, 33, .	1.6	3
10	Pressure-Driven Nitrogen Flow in Divergent Microchannels with Isothermal Walls. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 3602.	1.3	15
11	Shock polar investigation in supersonic rarefied gas flows over a circular cylinder. <i>Physics of Fluids</i> , 2021, 33, .	1.6	8
12	Generalized description of the Knudsen layer thickness in rarefied gas flows. <i>Physics of Fluids</i> , 2021, 33, .	1.6	14
13	Thermal and hydraulic performance analysis of a heat sink with corrugated channels and nanofluids. <i>Journal of Thermal Analysis and Calorimetry</i> , 2021, 146, 2549-2560.	2.0	23
14	Shear-driven micro/nano flows simulation using Fokker Planck approach: Investigating accuracy and efficiency. <i>Vacuum</i> , 2020, 172, 109065.	1.6	9
15	Evaluation of the generalized bernoulli trial-transient adaptive subcell (GBT-TAS) collision scheme in treating rarefied gas flows. <i>Computers and Fluids</i> , 2020, 213, 104740.	1.3	8
16	Numerical analysis of nonlinear thermal stress flow between concentric elliptical cylinders. <i>Physics of Fluids</i> , 2020, 32, .	1.6	10
17	Prediction of peak and termination of novel coronavirus COVID-19 epidemic in Iran. <i>International Journal of Modern Physics C</i> , 2020, 31, 2050152.	0.8	14
18	LES study of unsteady cavitation characteristics of a 3-D hydrofoil with wavy leading edge. <i>International Journal of Multiphase Flow</i> , 2020, 132, 103415.	1.6	54

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19	A novel hybrid DSMC-Fokker Planck algorithm implemented to rarefied gas flows. <i>Vacuum</i> , 2020, 181, 109736.	1.6	8
20	Periodically patterned radiometric pumps: Novel configurations and further applications. <i>AIP Conference Proceedings</i> , 2019, , .	0.3	0
21	Comprehensive assessment of newly-developed slip-jump boundary conditions in high-speed rarefied gas flow simulations. <i>Aerospace Science and Technology</i> , 2019, 91, 656-668.	2.5	13
22	LES investigation of sheet-cloud cavitation around a 3-D twisted wing with a NACA 16012 hydrofoil. <i>Ocean Engineering</i> , 2019, 192, 106547.	1.9	44
23	A dusty gas model-direct simulation Monte Carlo algorithm to simulate flow in micro-porous media. <i>Physics of Fluids</i> , 2019, 31, .	1.6	15
24	Wavelet analysis and frequency spectrum of cloud cavitation around a sphere. <i>Ocean Engineering</i> , 2019, 182, 235-247.	1.9	50
25	A Generalized Form of the Simplified Bernoulli Trial Collision Scheme Applied to Shock Waves. , 2019, , 895-902.		0
26	Direct Simulation Monte Carlo investigation of fluid characteristics and gas transport in porous microchannels. <i>Scientific Reports</i> , 2019, 9, 17183.	1.6	14
27	Anisotropic minimum-dissipation (AMD) subgrid-scale model implemented in OpenFOAM: Verification and assessment in single-phase and multi-phase flows. <i>Computers and Fluids</i> , 2019, 180, 190-205.	1.3	51
28	Radiometric flow in periodically patterned channels: fluid physics and improved configurations. <i>Journal of Fluid Mechanics</i> , 2019, 860, 544-576.	1.4	42
29	On the vortical characteristics and cold-to-hot transfer of rarefied gas flow in a lid driven isosceles orthogonal triangular cavity with isothermal walls. <i>International Journal of Thermal Sciences</i> , 2018, 125, 381-394.	2.6	19
30	Cavitation characteristics around a sphere: An LES investigation. <i>International Journal of Multiphase Flow</i> , 2018, 98, 1-23.	1.6	90
31	A generalized form of the Bernoulli Trial collision scheme in DSMC: Derivation and evaluation. <i>Journal of Computational Physics</i> , 2018, 354, 476-492.	1.9	52
32	On the consequences of successively repeated collisions in no-time-counter collision scheme in DSMC. <i>Computers and Fluids</i> , 2018, 161, 23-32.	1.3	16
33	Rarefied transitional flow through diverging nano and microchannels: A TRT lattice Boltzmann study. <i>International Journal of Modern Physics C</i> , 2018, 29, 1850117.	0.8	6
34	Ballistic and Collisional Flow Contributions to Anti-Fourier Heat Transfer in Rarefied Cavity Flow. <i>Scientific Reports</i> , 2018, 8, 13533.	1.6	17
35	Evaluating the modulated gradient model in large eddy simulation of channel flow with OpenFOAM. <i>Journal of Turbulence</i> , 2018, 19, 600-620.	0.5	31
36	DSMC investigation of rarefied gas flow through diverging micro- and nanochannels. <i>Microfluidics and Nanofluidics</i> , 2017, 21, 1.	1.0	30

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37	Thermally induced gas flows in ratchet channels with diffuse and specular boundaries. Scientific Reports, 2017, 7, 41412.	1.6	40
38	Regulation of anti-Fourier heat transfer for non-equilibrium gas flows through micro/nanochannels. International Journal of Thermal Sciences, 2017, 118, 24-39.	2.6	12
39	Evaluation of the SBT-TAS collision scheme on treating unsteady flows. European Journal of Mechanics, B/Fluids, 2017, 64, 17-29.	1.2	2
40	Evaluation of new collision-pair selection models in DSMC. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 103205.	0.9	1
41	On the convergence of the simplified Bernoulli trial collision scheme in rarefied Fourier flow. Physics of Fluids, 2017, 29, .	1.6	22
42	On the thermally-driven gas flow through divergent micro/nanochannels. International Journal of Modern Physics C, 2017, 28, 1750143.	0.8	7
43	Knudsen pump inspired by Crookes radiometer with a specular wall. Physical Review Fluids, 2017, 2, .	1.0	27
44	Collision partner selection schemes in DSMC: From micro/nano flows to hypersonic flows. Physics Reports, 2016, 656, 1-38.	10.3	96
45	On the accuracy of the simplified Bernoulli trials collision algorithm in treating flows at nano scale and hypersonic regime. AIP Conference Proceedings, 2016, , .	0.3	1
46	Heat transfer and entropy generation in a microchannel with longitudinal vortex generators using nanofluids. Energy, 2016, 101, 190-201.	4.5	184
47	Nanofluid flow and heat transfer in a microchannel with longitudinal vortex generators: Two-phase numerical simulation. Applied Thermal Engineering, 2016, 100, 179-189.	3.0	51
48	Investigation of cavitation around 3D hemispherical head-form body and conical cavitators using different turbulence and cavitation models. Ocean Engineering, 2016, 112, 287-306.	1.9	87
49	A novel algorithm for implementing a specified wall heat flux in DSMC: Application to micro/nano flows and hypersonic flows. Computers and Fluids, 2016, 127, 78-101.	1.3	11
50	Simulation of three-dimensional cavitation behind a disk using various turbulence and mass transfer models. Applied Mathematical Modelling, 2016, 40, 542-564.	2.2	75
51	FLOW AND THERMAL FIELDS INVESTIGATION IN DIVERGENT MICRO/NANO CHANNELS. Journal of Thermal Engineering, 2016, 2, .	0.8	5
52	A novel simplified Bernoulli trials collision scheme in the direct simulation Monte Carlo with intelligence over particle distances. Physics of Fluids, 2015, 27, .	1.6	34
53	Detailed investigation of cavitation and supercavitation around different geometries using various turbulence and mass transfer models. Journal of Physics: Conference Series, 2015, 656, 012070.	0.3	5
54	Numerical investigation of thermoacoustic refrigerator at weak and large amplitudes considering cooling effect. Cryogenics, 2015, 67, 36-44.	0.9	11

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55	Low Mach number slip flow through diverging microchannel. Computers and Fluids, 2015, 111, 46-61.	1.3	35
56	Rarefied gas flow simulations of NACA 0012 airfoil and sharp 25°-55-deg biconic subject to high order nonequilibrium boundary conditions in CFD. Aerospace Science and Technology, 2015, 41, 274-288.	2.5	20
57	Rarefied gas flow behavior in micro/nanochannels under specified wall heat flux. International Journal of Modern Physics C, 2015, 26, 1550087.	0.8	9
58	Detailed investigation of flow and thermal field in micro/nano nozzles using Simplified Bernoulli Trial (SBT) collision scheme in DSMC. Aerospace Science and Technology, 2015, 46, 236-255.	2.5	35
59	Investigation of Different Droplet Formation Regimes in a T-junction Microchannel Using the VOF Technique in OpenFOAM. Microgravity Science and Technology, 2015, 27, 231-243.	0.7	50
60	Aircraft Propulsion. AIAA Journal, 2015, 53, 1722-1722.	1.5	0
61	Numerical study of flow patterns and heat transfer in mini twisted oval tubes. International Journal of Modern Physics C, 2015, 26, 1550140.	0.8	28
62	DSMC simulation of hypersonic flows using an improved SBT-TAS technique. Journal of Computational Physics, 2015, 303, 28-44.	1.9	43
63	A new form of the second-order temperature jump boundary condition for the low-speed nanoscale and hypersonic rarefied gas flow simulations. International Journal of Thermal Sciences, 2015, 98, 51-59.	2.6	19
64	Investigation of cold-to-hot transfer and thermal separation zone through nano step geometries. Physics of Fluids, 2015, 27, .	1.6	25
65	Effects of shear work on non-equilibrium heat transfer characteristics of rarefied gas flows through micro/nanochannels. International Journal of Heat and Mass Transfer, 2015, 83, 69-74.	2.5	39
66	Numerical study of liquid flow and heat transfer in rectangular microchannel with longitudinal vortex generators. Applied Thermal Engineering, 2015, 78, 576-583.	3.0	134
67	Some Opinions on the Review Process of Research Papers Destined for Publication. Science and Engineering Ethics, 2015, 21, 809-812.	1.7	3
68	Large eddy simulation of shock train in a convergent-divergent nozzle. International Journal of Modern Physics C, 2014, 25, 1450003.	0.8	48
69	Second order temperature jump boundary condition for nano/microscale and hypersonic rarefied gas flow simulations. , 2014, , .		0
70	Effects of shear work on non-equilibrium heat transfer characteristics of rarefied gas flow through micro/nanochannels. , 2014, , .		0
71	DSMC simulation of micro/nano flows using SBT-TAS technique. , 2014, , .		0
72	Extension of the SBT-TAS algorithm to curved boundary geometries. , 2014, , .		2

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73	A thorough study on thermal mass flux of rarefied flow through micro/nanochannels. Applied Physics Letters, 2014, 104, .	1.5	11
74	Mass flow rate prediction of pressure-temperature-driven gas flows through micro/nanoscale channels. Continuum Mechanics and Thermodynamics, 2014, 26, 67-78.	1.4	24
75	Study of Physical Aspects of Rarefied Gas Flow Through Micro/Nano Scale Channels Using DSMC. Arabian Journal for Science and Engineering, 2014, 39, 2331-2338.	1.1	2
76	DSMC simulation of micro/nano flows using SBT-TAS technique. Computers and Fluids, 2014, 102, 266-276.	1.3	21
77	Thermal Rarefied Gas Flow Investigations Through Micro-/Nano-Backward-Facing Step: Comparison of DSMC and CFD Subject to Hybrid Slip and Jump Boundary Conditions. Numerical Heat Transfer; Part A: Applications, 2014, 66, 733-755.	1.2	22
78	Wall heat transfer effects on the hydro/thermal behaviour of Poiseuille flow in micro/nanochannels. Physics of Fluids, 2014, 26, .	1.6	14
79	Three dimensional investigation of the shock train structure in a convergent-divergent nozzle. Acta Astronautica, 2014, 105, 117-127.	1.7	58
80	Investigation of convective heat transfer through constant wall heat flux micro/nano channels using DSMC. International Journal of Heat and Mass Transfer, 2014, 71, 633-638.	2.5	37
81	Heat transfer and fluid characteristics of rarefied flow in thermal cavities. Vacuum, 2014, 109, 333-340.	1.6	17
82	Investigation of aerodynamic characteristics of rarefied flow around NACA 0012 airfoil using DSMC and NS solvers. European Journal of Mechanics, B/Fluids, 2014, 48, 59-74.	1.2	40
83	Extension of a second order velocity slip/temperature jump boundary condition to simulate high speed micro/nanoflows. Computers and Mathematics With Applications, 2014, 67, 2029-2040.	1.4	21
84	Numerical simulation of cavitation around a two-dimensional hydrofoil using VOF method and LES turbulence model. Applied Mathematical Modelling, 2013, 37, 6469-6488.	2.2	172
85	Direct simulation Monte Carlo investigation of mixed supersonic-subsonic flow through micro-/nano-scale channels. Physica Scripta, 2013, 88, 015401.	1.2	11
86	A Parallel DSMC Investigation of Monatomic/Diatomic Gas Flows in a Micro/Nano Cavity. Numerical Heat Transfer; Part A: Applications, 2013, 63, 305-325.	1.2	49
87	A hybrid DSMC/Navier-Stokes frame to solve mixed rarefied/nonrarefied hypersonic flows over nano-plate and micro-cylinder. International Journal for Numerical Methods in Fluids, 2013, 72, 937-966.	0.9	27
88	Applying a hybrid DSMC/Navier-Stokes frame to explore the effect of splitter catalyst plates in micro/nanopropulsion systems. Sensors and Actuators A: Physical, 2013, 189, 409-419.	2.0	23
89	Hydrodynamic behaviour of micro/nanoscale Poiseuille flow under thermal creep condition. Applied Physics Letters, 2013, 103, .	1.5	14
90	Second law analysis of micro/nano Couette flow using direct simulation Monte Carlo method. International Journal of Exergy, 2013, 13, 320.	0.2	6

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91	DSMC Simulation of Low Knudsen Micro/Nanoflows Using Small Number of Particles per Cells. Journal of Heat Transfer, 2013, 135, .	1.2	36
92	PREDICTING CONTINUUM BREAKDOWN OF RAREFIED MICRO/NANO FLOWS USING ENTROPY AND ENTROPY GENERATION ANALYSIS. International Journal of Modern Physics C, 2013, 24, 1350029.	0.8	3
93	Thermal-Pressure-Driven Gas Flows through Micro Channels. Journal of Physics: Conference Series, 2012, 362, 012045.	0.3	0
94	DSMC simulation of rarefied gas flows under cooling conditions using a new iterative wall heat flux specifying technique. , 2012, , .		0
95	Low speed/low rarefaction flow simulation in micro/nano cavity using DSMC method with small number of particles per cell. Journal of Physics: Conference Series, 2012, 362, 012007.	0.3	6
96	Compressibility and rarefaction effects on entropy and entropy generation in micro/nano Couette flow using DSMC. Journal of Physics: Conference Series, 2012, 362, 012008.	0.3	5
97	Thermal and second-law analysis of a micro- or nanocavity using direct-simulation Monte Carlo. Physical Review E, 2012, 85, 056310.	0.8	60
98	A new iterative wall heat flux specifying technique in DSMC for heating/cooling simulations of MEMS/NEMS. International Journal of Thermal Sciences, 2012, 59, 111-125.	2.6	53
99	Investigation of basic molecular gas structural effects on hydrodynamics and thermal behaviors of rarefied shear driven micro/nano flow using DSMC. International Communications in Heat and Mass Transfer, 2012, 39, 439-448.	2.9	41
100	Recommendations on performance of parallel DSMC algorithm in solving subsonic nanoflows. Applied Mathematical Modelling, 2012, 36, 2314-2321.	2.2	40
101	DSMC simulation of subsonic flow through nanochannels and micro/nano backward-facing steps. International Communications in Heat and Mass Transfer, 2011, 38, 1443-1448.	2.9	43
102	Study of subsonicâ€“supersonic gas flow through micro/nanoscale nozzles using unstructured DSMC solver. Microfluidics and Nanofluidics, 2011, 10, 321-335.	1.0	74
103	Detailed Investigation of Thermal and Hydrodynamic Flow Behaviour in Micro/Nano Cavity Using DSMC and NSF Equations. , 2011, , .		3
104	An open source, parallel DSMC code for rarefied gas flows in arbitrary geometries. Computers and Fluids, 2010, 39, 2078-2089.	1.3	245
105	Study of Gas Flow in Micronozzles Using an Unstructured DSMC Method. , 2009, , .		0
106	Direct Simulation Monte Carlo Solution of Subsonic Flow Through Micro/Nanoscale Channels. Journal of Heat Transfer, 2009, 131, .	1.2	56
107	Application of the homotopy method for analytical solution of non-Newtonian channel flows. Physica Scripta, 2009, 79, 065009.	1.2	4
108	Extending the Navierâ€“Stokes solutions to transition regime in two-dimensional micro- and nanochannel flows using information preservation scheme. Physics of Fluids, 2009, 21, .	1.6	77

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109	Physical Aspects of Rarefied Gas Flow in Micro to Nano Scale Geometries Using DSMC. , 2009, , .		0
110	Mass Flow Rate Scaling of the Continuum-Based Equations Using Information Preservation Method. , 2009, , .		0
111	Conceptual linearization of Euler governing equations to solve high speed compressible flow using a pressure-based method. Numerical Methods for Partial Differential Equations, 2008, 24, 583-604.	2.0	20
112	Transient simulations of cavitating flows using a modified volume-of-fluid (VOF) technique. International Journal of Computational Fluid Dynamics, 2008, 22, 97-114.	0.5	74
113	Application of the homotopy perturbation method to linear and nonlinear fourth-order boundary value problems. Physica Scripta, 2008, 77, 055004.	1.2	4
114	DSMC Solution of Supersonic Scale to Choked Subsonic Flow in Micro to Nano Channels. , 2008, , .		6
115	Flow and thermal field investigation of rarefied gas in a trapezoidal micro/nano-cavity using DSMC. International Journal of Modern Physics C, 0, , 2150162.	0.8	6