

# Ehsan Roohi

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

106  
papers

2,275  
citations

27  
h-index

43  
g-index

118  
ext. papers

2,842  
ext. citations

3.5  
avg, IF

5.9  
L-index

#	Paper	IF	Citations
106	A symmetrized and simplified Bernoulli trial collision scheme in direct simulation Monte Carlo. <i>Physics of Fluids</i> , <b>2022</b> , 34, 012010	4.4	4
105	On the nonlinear thermal stress, thermal creep, and thermal edge flows in triangular cavities. <i>Physics of Fluids</i> , <b>2022</b> , 34, 052002	4.4	0
104	Thermally driven rarefied flows induced by a partially heated diamond in a channel. <i>International Communications in Heat and Mass Transfer</i> , <b>2022</b> , 135, 106095	5.8	0
103	Thermal and hydraulic performance analysis of a heat sink with corrugated channels and nanofluids. <i>Journal of Thermal Analysis and Calorimetry</i> , <b>2021</b> , 146, 2549	4.1	9
102	Homogeneous relaxation and shock wave problems: Assessment of the simplified and generalized Bernoulli trial collision schemes. <i>Physics of Fluids</i> , <b>2021</b> , 33, 032004	4.4	7
101	Pressure-Driven Nitrogen Flow in Divergent Microchannels with Isothermal Walls. <i>Applied Sciences (Switzerland)</i> , <b>2021</b> , 11, 3602	2.6	2
100	Shock polar investigation in supersonic rarefied gas flows over a circular cylinder. <i>Physics of Fluids</i> , <b>2021</b> , 33, 052006	4.4	3
99	Publisher's Note: Shock polar investigation in supersonic rarefied gas flows over a circular cylinder [Phys. Fluids 33, 052006 (2021)]. <i>Physics of Fluids</i> , <b>2021</b> , 33, 069902	4.4	
98	Generalized description of the Knudsen layer thickness in rarefied gas flows. <i>Physics of Fluids</i> , <b>2021</b> , 33, 061701	4.4	5
97	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> , <b>2021</b> , 235, 1205-1224	1.6	0
96	Binary gas mixtures separation using microscale radiometric pumps. <i>International Communications in Heat and Mass Transfer</i> , <b>2021</b> , 121, 105061	5.8	10
95	Assessment of anisotropic minimum-dissipation (AMD) subgrid-scale model: Gently-curved backward-facing step flow. <i>International Journal of Modern Physics C</i> , <b>2021</b> , 32, 2150068	1.1	3
94	Shear-driven micro/nano flows simulation using Fokker Planck approach: Investigating accuracy and efficiency. <i>Vacuum</i> , <b>2020</b> , 172, 109065	3.7	7
93	Evaluation of the generalized bernoulli trial-transient adaptive subcell (GBT-TAS) collision scheme in treating rarefied gas flows. <i>Computers and Fluids</i> , <b>2020</b> , 213, 104740	2.8	4
92	Numerical analysis of nonlinear thermal stress flow between concentric elliptical cylinders. <i>Physics of Fluids</i> , <b>2020</b> , 32, 102007	4.4	5
91	Prediction of peak and termination of novel coronavirus COVID-19 epidemic in Iran. <i>International Journal of Modern Physics C</i> , <b>2020</b> , 31, 2050152	1.1	9
90	LES study of unsteady cavitation characteristics of a 3-D hydrofoil with wavy leading edge. <i>International Journal of Multiphase Flow</i> , <b>2020</b> , 132, 103415	3.6	21

89	A novel hybrid DSMC-Fokker Planck algorithm implemented to rarefied gas flows. <i>Vacuum</i> , <b>2020</b> , 181, 109736	3.7	4
88	A dusty gas model-direct simulation Monte Carlo algorithm to simulate flow in micro-porous media. <i>Physics of Fluids</i> , <b>2019</b> , 31, 062007	4.4	11
87	Wavelet analysis and frequency spectrum of cloud cavitation around a sphere. <i>Ocean Engineering</i> , <b>2019</b> , 182, 235-247	3.9	18
86	A Generalized Form of the Simplified Bernoulli Trial Collision Scheme Applied to Shock Waves <b>2019</b> , 895-902		
85	Comprehensive assessment of newly-developed slip-jump boundary conditions in high-speed rarefied gas flow simulations. <i>Aerospace Science and Technology</i> , <b>2019</b> , 91, 656-668	4.9	6
84	LES investigation of sheet-cloud cavitation around a 3-D twisted wing with a NACA 16012 hydrofoil. <i>Ocean Engineering</i> , <b>2019</b> , 192, 106547	3.9	22
83	Direct Simulation Monte Carlo investigation of fluid characteristics and gas transport in porous microchannels. <i>Scientific Reports</i> , <b>2019</b> , 9, 17183	4.9	4
82	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> , <b>2019</b> , 180, 190-205	2.8	22
81	Radiometric flow in periodically patterned channels: fluid physics and improved configurations. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 860, 544-576	3.7	31
80	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> , <b>2018</b> , 125, 381-394	4.1	11
79	Cavitation characteristics around a sphere: An LES investigation. <i>International Journal of Multiphase Flow</i> , <b>2018</b> , 98, 1-23	3.6	57
78	Evaluating the modulated gradient model in large eddy simulation of channel flow with OpenFOAM. <i>Journal of Turbulence</i> , <b>2018</b> , 19, 600-620	2.1	13
77	A generalized form of the Bernoulli Trial collision scheme in DSMC: Derivation and evaluation. <i>Journal of Computational Physics</i> , <b>2018</b> , 354, 476-492	4.1	32
76	On the consequences of successively repeated collisions in no-time-counter collision scheme in DSMC. <i>Computers and Fluids</i> , <b>2018</b> , 161, 23-32	2.8	10
75	Rarefied transitional flow through diverging nano and microchannels: A TRT lattice Boltzmann study. <i>International Journal of Modern Physics C</i> , <b>2018</b> , 29, 1850117	1.1	4
74	Ballistic and Collisional Flow Contributions to Anti-Fourier Heat Transfer in Rarefied Cavity Flow. <i>Scientific Reports</i> , <b>2018</b> , 8, 13533	4.9	8
73	DSMC investigation of rarefied gas flow through diverging micro- and nanochannels. <i>Microfluidics and Nanofluidics</i> , <b>2017</b> , 21, 1	2.8	18
72	Thermally induced gas flows in ratchet channels with diffuse and specular boundaries. <i>Scientific Reports</i> , <b>2017</b> , 7, 41412	4.9	33

71	Regulation of anti-Fourier heat transfer for non-equilibrium gas flows through micro/nanochannels. <i>International Journal of Thermal Sciences</i> , <b>2017</b> , 118, 24-39	4.1	9
70	Evaluation of the SBT-TAS collision scheme on treating unsteady flows. <i>European Journal of Mechanics, B/Fluids</i> , <b>2017</b> , 64, 17-29	2.4	2
69	Evaluation of new collision-pair selection models in DSMC. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2017</b> , 2017, 103205	1.9	1
68	On the convergence of the simplified Bernoulli trial collision scheme in rarefied Fourier flow. <i>Physics of Fluids</i> , <b>2017</b> , 29, 062003	4.4	19
67	On the thermally-driven gas flow through divergent micro/nanochannels. <i>International Journal of Modern Physics C</i> , <b>2017</b> , 28, 1750143	1.1	4
66	Knudsen pump inspired by Crookes radiometer with a specular wall. <i>Physical Review Fluids</i> , <b>2017</b> , 2,	2.8	18
65	Simulation of three-dimensional cavitation behind a disk using various turbulence and mass transfer models. <i>Applied Mathematical Modelling</i> , <b>2016</b> , 40, 542-564	4.5	54
64	Collision partner selection schemes in DSMC: From micro/nano flows to hypersonic flows. <i>Physics Reports</i> , <b>2016</b> , 656, 1-38	27.7	72
63	Heat transfer and entropy generation in a microchannel with longitudinal vortex generators using nanofluids. <i>Energy</i> , <b>2016</b> , 101, 190-201	7.9	134
62	Nanofluid flow and heat transfer in a microchannel with longitudinal vortex generators: Two-phase numerical simulation. <i>Applied Thermal Engineering</i> , <b>2016</b> , 100, 179-189	5.8	41
61	Investigation of cavitation around 3D hemispherical head-form body and conical cavitators using different turbulence and cavitation models. <i>Ocean Engineering</i> , <b>2016</b> , 112, 287-306	3.9	60
60	A novel algorithm for implementing a specified wall heat flux in DSMC: Application to micro/nano flows and hypersonic flows. <i>Computers and Fluids</i> , <b>2016</b> , 127, 78-101	2.8	11
59	FLOW AND THERMAL FIELDS INVESTIGATION IN DIVERGENT MICRO/NANO CHANNELS. <i>Journal of Thermal Engineering</i> , <b>2016</b> , 2,	1.1	3
58	Rarefied gas flow behavior in micro/nanochannels under specified wall heat flux. <i>International Journal of Modern Physics C</i> , <b>2015</b> , 26, 1550087	1.1	8
57	Detailed investigation of flow and thermal field in micro/nano nozzles using Simplified Bernoulli Trial (SBT) collision scheme in DSMC. <i>Aerospace Science and Technology</i> , <b>2015</b> , 46, 236-255	4.9	21
56	Investigation of Different Droplet Formation Regimes in a T-junction Microchannel Using the VOF Technique in OpenFOAM. <i>Microgravity Science and Technology</i> , <b>2015</b> , 27, 231-243	1.6	23
55	Aircraft Propulsion. <i>AIAA Journal</i> , <b>2015</b> , 53, 1722-1722	2.1	
54	Numerical study of flow patterns and heat transfer in mini twisted oval tubes. <i>International Journal of Modern Physics C</i> , <b>2015</b> , 26, 1550140	1.1	19

53	DSMC simulation of hypersonic flows using an improved SBT-TAS technique. <i>Journal of Computational Physics</i> , <b>2015</b> , 303, 28-44	4.1	32
52	A new form of the second-order temperature jump boundary condition for the low-speed nanoscale and hypersonic rarefied gas flow simulations. <i>International Journal of Thermal Sciences</i> , <b>2015</b> , 98, 51-59	4.1	13
51	Investigation of cold-to-hot transfer and thermal separation zone through nano step geometries. <i>Physics of Fluids</i> , <b>2015</b> , 27, 072002	4.4	19
50	Effects of shear work on non-equilibrium heat transfer characteristics of rarefied gas flows through micro/nanochannels. <i>International Journal of Heat and Mass Transfer</i> , <b>2015</b> , 83, 69-74	4.9	30
49	Numerical study of liquid flow and heat transfer in rectangular microchannel with longitudinal vortex generators. <i>Applied Thermal Engineering</i> , <b>2015</b> , 78, 576-583	5.8	98
48	Some opinions on the review process of research papers destined for publication. <i>Science and Engineering Ethics</i> , <b>2015</b> , 21, 809-12	3.1	2
47	A novel simplified Bernoulli trials collision scheme in the direct simulation Monte Carlo with intelligence over particle distances. <i>Physics of Fluids</i> , <b>2015</b> , 27, 107104	4.4	20
46	Detailed investigation of cavitation and supercavitation around different geometries using various turbulence and mass transfer models. <i>Journal of Physics: Conference Series</i> , <b>2015</b> , 656, 012070	0.3	2
45	Numerical investigation of thermoacoustic refrigerator at weak and large amplitudes considering cooling effect. <i>Cryogenics</i> , <b>2015</b> , 67, 36-44	1.8	9
44	Low Mach number slip flow through diverging microchannel. <i>Computers and Fluids</i> , <b>2015</b> , 111, 46-61	2.8	21
43	Rarefied gas flow simulations of NACA 0012 airfoil and sharp 25 $\times$ 5-deg biconic subject to high order nonequilibrium boundary conditions in CFD. <i>Aerospace Science and Technology</i> , <b>2015</b> , 41, 274-288	4.9	16
42	Study of Physical Aspects of Rarefied Gas Flow Through Micro/Nano Scale Channels Using DSMC. <i>Arabian Journal for Science and Engineering</i> , <b>2014</b> , 39, 2331-2338		2
41	DSMC simulation of micro/nano flows using SBT-TAS technique. <i>Computers and Fluids</i> , <b>2014</b> , 102, 266-276	6.8	17
40	Thermal Rarefied Gas Flow Investigations Through Micro-/Nano-Backward-Facing Step: Comparison of DSMC and CFD Subject to Hybrid Slip and Jump Boundary Conditions. <i>Numerical Heat Transfer; Part A: Applications</i> , <b>2014</b> , 66, 733-755	2.3	17
39	Wall heat transfer effects on the hydro/thermal behaviour of Poiseuille flow in micro/nanochannels. <i>Physics of Fluids</i> , <b>2014</b> , 26, 092002	4.4	12
38	Three dimensional investigation of the shock train structure in a convergent-divergent nozzle. <i>Acta Astronautica</i> , <b>2014</b> , 105, 117-127	2.9	42
37	Investigation of convective heat transfer through constant wall heat flux micro/nano channels using DSMC. <i>International Journal of Heat and Mass Transfer</i> , <b>2014</b> , 71, 633-638	4.9	28
36	Heat transfer and fluid characteristics of rarefied flow in thermal cavities. <i>Vacuum</i> , <b>2014</b> , 109, 333-340	3.7	14

35	Investigation of aerodynamic characteristics of rarefied flow around NACA 0012 airfoil using DSMC and NS solvers. <i>European Journal of Mechanics, B/Fluids</i> , <b>2014</b> , 48, 59-74	2.4	25
34	Extension of a second order velocity slip/temperature jump boundary condition to simulate high speed micro/nanoflows. <i>Computers and Mathematics With Applications</i> , <b>2014</b> , 67, 2029-2040	2.7	18
33	Large eddy simulation of shock train in a convergent-divergent nozzle. <i>International Journal of Modern Physics C</i> , <b>2014</b> , 25, 1450003	1.1	33
32	Extension of the SBT-TAS algorithm to curved boundary geometries <b>2014</b> ,		2
31	A thorough study on thermal mass flux of rarefied flow through micro/nanochannels. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 073109	3.4	10
30	Mass flow rate prediction of pressure-temperature-driven gas flows through micro/nanoscale channels. <i>Continuum Mechanics and Thermodynamics</i> , <b>2014</b> , 26, 67-78	3.5	20
29	Numerical simulation of cavitation around a two-dimensional hydrofoil using VOF method and LES turbulence model. <i>Applied Mathematical Modelling</i> , <b>2013</b> , 37, 6469-6488	4.5	131
28	Direct simulation Monte Carlo investigation of mixed supersonic-subsonic flow through micro-/nano-scale channels. <i>Physica Scripta</i> , <b>2013</b> , 88, 015401	2.6	10
27	A Parallel DSMC Investigation of Monatomic/Diatomic Gas Flows in a Micro/Nano Cavity. <i>Numerical Heat Transfer; Part A: Applications</i> , <b>2013</b> , 63, 305-325	2.3	36
26	A hybrid DSMC/Navier-Stokes frame to solve mixed rarefied/nonrarefied hypersonic flows over nano-plate and micro-cylinder. <i>International Journal for Numerical Methods in Fluids</i> , <b>2013</b> , 72, 937-966	1.9	16
25	Applying a hybrid DSMC/Navier-Stokes frame to explore the effect of splitter catalyst plates in micro/nanopropulsion systems. <i>Sensors and Actuators A: Physical</i> , <b>2013</b> , 189, 409-419	3.9	18
24	Hydrodynamic behaviour of micro/nanoscale Poiseuille flow under thermal creep condition. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 073108	3.4	12
23	Second law analysis of micro/nano Couette flow using direct simulation Monte Carlo method. <i>International Journal of Exergy</i> , <b>2013</b> , 13, 320	1.2	3
22	DSMC Simulation of Low Knudsen Micro/Nanoflows Using Small Number of Particles per Cells. <i>Journal of Heat Transfer</i> , <b>2013</b> , 135,	1.8	26
21	PREDICTING CONTINUUM BREAKDOWN OF RAREFIED MICRO/NANO FLOWS USING ENTROPY AND ENTROPY GENERATION ANALYSIS. <i>International Journal of Modern Physics C</i> , <b>2013</b> , 24, 1350029	1.1	3
20	Thermal and second-law analysis of a micro- or nanocavity using direct-simulation Monte Carlo. <i>Physical Review E</i> , <b>2012</b> , 85, 056310	2.4	48
19	A new iterative wall heat flux specifying technique in DSMC for heating/cooling simulations of MEMS/NEMS. <i>International Journal of Thermal Sciences</i> , <b>2012</b> , 59, 111-125	4.1	43
18	Investigation of basic molecular gas structural effects on hydrodynamics and thermal behaviors of rarefied shear driven micro/nano flow using DSMC. <i>International Communications in Heat and Mass Transfer</i> , <b>2012</b> , 39, 439-448	5.8	28

17	Recommendations on performance of parallel DSMC algorithm in solving subsonic nanoflows. <i>Applied Mathematical Modelling</i> , <b>2012</b> , 36, 2314-2321	4.5	27
16	Thermal-Pressure-Driven Gas Flows through Micro Channels. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 362, 012045	0.3	
15	Low speed/low rarefaction flow simulation in micro/nano cavity using DSMC method with small number of particles per cell. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 362, 012007	0.3	5
14	Compressibility and rarefaction effects on entropy and entropy generation in micro/nano Couette flow using DSMC. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 362, 012008	0.3	2
13	DSMC simulation of subsonic flow through nanochannels and micro/nano backward-facing steps. <i>International Communications in Heat and Mass Transfer</i> , <b>2011</b> , 38, 1443-1448	5.8	36
12	Study of subsonic/supersonic gas flow through micro/nanoscale nozzles using unstructured DSMC solver. <i>Microfluidics and Nanofluidics</i> , <b>2011</b> , 10, 321-335	2.8	50
11	Detailed Investigation of Thermal and Hydrodynamic Flow Behaviour in Micro/Nano Cavity Using DSMC and NSF Equations <b>2011</b> ,		1
10	An open source, parallel DSMC code for rarefied gas flows in arbitrary geometries. <i>Computers and Fluids</i> , <b>2010</b> , 39, 2078-2089	2.8	192
9	Direct Simulation Monte Carlo Solution of Subsonic Flow Through Micro/Nanoscale Channels. <i>Journal of Heat Transfer</i> , <b>2009</b> , 131,	1.8	44
8	Application of the homotopy method for analytical solution of non-Newtonian channel flows. <i>Physica Scripta</i> , <b>2009</b> , 79, 065009	2.6	3
7	Extending the Navier-Stokes solutions to transition regime in two-dimensional micro- and nanochannel flows using information preservation scheme. <i>Physics of Fluids</i> , <b>2009</b> , 21, 082001	4.4	67
6	Transient simulations of cavitating flows using a modified volume-of-fluid (VOF) technique. <i>International Journal of Computational Fluid Dynamics</i> , <b>2008</b> , 22, 97-114	1.2	51
5	Application of the homotopy perturbation method to linear and nonlinear fourth-order boundary value problems. <i>Physica Scripta</i> , <b>2008</b> , 77, 055004	2.6	4
4	DSMC Solution of Supersonic Scale to Choked Subsonic Flow in Micro to Nano Channels <b>2008</b> ,		2
3	Conceptual linearization of Euler governing equations to solve high speed compressible flow using a pressure-based method. <i>Numerical Methods for Partial Differential Equations</i> , <b>2008</b> , 24, 583-604	2.5	15
2	Prediction of Peak and Termination of Novel Coronavirus Covid-19 Epidemic in Iran		4
1	Flow and thermal field investigation of rarefied gas in a trapezoidal micro/nano-cavity using DSMC. <i>International Journal of Modern Physics C</i> , 2150162	1.1	2