

Stefan K Stefanov

List of Publications by Year in descending order

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88
papers

1,379
citations

304368
22
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92
all docs

92
docs citations

92
times ranked

521
citing authors

#	ARTICLE	IF	CITATIONS
1	A symmetrized and simplified Bernoulli trial collision scheme in direct simulation Monte Carlo. Physics of Fluids, 2022, 34, .	1.6	24
2	Homogeneous relaxation and shock wave problems: Assessment of the simplified and generalized Bernoulli trial collision schemes. Physics of Fluids, 2021, 33, .	1.6	15
3	Evaluation of the generalized bernoulli trial-transient adaptive subcell (GBT-TAS) collision scheme in treating rarefied gas flows. Computers and Fluids, 2020, 213, 104740.	1.3	8
4	A kinetic model for gas adsorption-desorption at solid surfaces under non-equilibrium conditions. Vacuum, 2020, 174, 109166.	1.6	13
5	Periodically patterned radiometric pumps: Novel configurations and further applications. AIP Conference Proceedings, 2019, , .	0.3	0
6	DSMC calculations of binary gas mixing in simple micro-sized configurations. AIP Conference Proceedings, 2019, , .	0.3	0
7	Kinetic theory description of gas adsorption-desorption on a solid surface. AIP Conference Proceedings, 2019, , .	0.3	6
8	Assessment of composition and biological activity of Arctium lappa leaves extracts obtained with pressurized liquid and supercritical CO2 extraction. Journal of Supercritical Fluids, 2019, 152, 104573.	1.6	24
9	Hybrid numerical approach to study the interaction of the rarefied gas flow in a microchannel with a cantilever. International Journal of Non-Linear Mechanics, 2019, 117, 103239.	1.4	4
10	A dusty gas model-direct simulation Monte Carlo algorithm to simulate flow in micro-porous media. Physics of Fluids, 2019, 31, .	1.6	15
11	On the basic concepts of the direct simulation Monte Carlo method. Physics of Fluids, 2019, 31, .	1.6	22
12	Gas Mixing and Final Mixture Composition Control in Simple Geometry Micro-mixers via DSMC Analysis. Micromachines, 2019, 10, 178.	1.4	11
13	A Generalized Form of the Simplified Bernoulli Trial Collision Scheme Applied to Shock Waves. , 2019, , 895-902.		0
14	Reconsideration of the implicit boundary conditions in pressure driven rarefied gas flows through capillaries. Vacuum, 2019, 160, 114-122.	1.6	9
15	Antioxidant properties and color characteristics of sponge cakes containing functional components. Ukrainian Food Journal, 2019, 8, 260-270.	0.1	3
16	A generalized form of the Bernoulli Trial collision scheme in DSMC: Derivation and evaluation. Journal of Computational Physics, 2018, 354, 476-492.	1.9	52
17	On the consequences of successively repeated collisions in no-time-counter collision scheme in DSMC. Computers and Fluids, 2018, 161, 23-32.	1.3	16
18	Comparison of DSMC and CFD Models of Heat Transfer in a Rarefied Two-Dimensional Geometry. , 2018, , .		0

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19	Ballistic and Collisional Flow Contributions to Anti-Fourier Heat Transfer in Rarefied Cavity Flow. Scientific Reports, 2018, 8, 13533.	1.6	17
20	Curvature dependence of heat transfer at a fluid-solid interface. Physical Review E, 2018, 98, .	0.8	1
21	Continuum and Kinetic Simulations of Heat Transfer Trough Rarefied Gas in Annular and Planar Geometries in the Slip Regime. Journal of Heat Transfer, 2017, 139, .	1.2	10
22	A two-dimensional computational study of gas flow regimes past of square cylinder confined in a long microchannel. European Journal of Mechanics, B/Fluids, 2017, 64, 47-54.	1.2	3
23	On the convergence of the simplified Bernoulli trial collision scheme in rarefied Fourier flow. Physics of Fluids, 2017, 29, .	1.6	22
24	Analysis of flow induced by temperature fields in ratchet-like microchannels by Direct Simulation Monte Carlo. International Journal of Heat and Mass Transfer, 2016, 99, 672-680.	2.5	34
25	Collision partner selection schemes in DSMC: From micro/nano flows to hypersonic flows. Physics Reports, 2016, 656, 1-38.	10.3	96
26	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
27	Nonequilibrium Gas Flow and Heat Transfer in a Heated Square Microcavity. Heat Transfer Engineering, 2016, 37, 1085-1095.	1.2	7
28	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
29	Predicting the Knudsen paradox in long capillaries by decomposing the flow into ballistic and collision parts. Physical Review E, 2015, 91, 061001.	0.8	16
30	Effects of finite distance between a pair of opposite transversal dimensions in microchannel configurations: DSMC analysis in transitional regime. International Journal of Heat and Mass Transfer, 2015, 85, 568-576.	2.5	6
31	DSMC simulation of hypersonic flows using an improved SBT-TAS technique. Journal of Computational Physics, 2015, 303, 28-44.	1.9	43
32	DSMC simulation of micro/nano flows using SBT-TAS technique. , 2014, , .		0
33	Extension of the SBT-TAS algorithm to curved boundary geometries. , 2014, , .		2
34	Rarefied gas flow in a rectangular enclosure induced by non-isothermal walls. Physics of Fluids, 2014, 26, .	1.6	31
35	DSMC simulation of micro/nano flows using SBT-TAS technique. Computers and Fluids, 2014, 102, 266-276.	1.3	21
36	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

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37	Strouhal number analysis for a Karman vortex gas flow past a square in a microchannel at low Mach number. , 2014, , .		1
38	Determination of Zone of Flow Instability in a Gas Flow Past a Square Particle in a Narrow Microchannel. Modeling and Optimization in Science and Technologies, 2014, , 43-50.	0.7	0
39	The effect of Knudsen layers on rarefied cylindrical Couette gas flows. Microfluidics and Nanofluidics, 2013, 14, 31-43.	1.0	25
40	Transient heat transfer flow through a binary gaseous mixture confined between coaxial cylinders. International Journal of Heat and Mass Transfer, 2013, 59, 302-315.	2.5	14
41	On the degree of boundary slip over nonplanar surfaces. Microfluidics and Nanofluidics, 2013, 15, 807-816.	1.0	6
42	The Effects of the S -Layer on Nonplanar Microflows: A Critical View on the Accuracy of Slip Models. Journal of Computational and Theoretical Nanoscience, 2013, 10, 1990-1998.	0.4	0
43	Modeling of gas flows through microchannel configurations. AIP Conference Proceedings, 2013, , .	0.3	2
44	DSMC Simulation of Low Knudsen Micro/Nanoflows Using Small Number of Particles per Cells. Journal of Heat Transfer, 2013, 135, .	1.2	36
45	Role of surface shape on boundary slip and velocity defect. Physical Review E, 2012, 86, 016314.	0.8	5
46	DSMC simulation of the gas flow through a bend and a short microchannel. Journal of Physics: Conference Series, 2012, 362, 012007.	0.3	1
47	DSMC collision algorithms based on Kac stochastic model. , 2012, , .		4
48	Velocity inversion and predicting velocity slip on curved surfaces. , 2012, , .		0
49	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
50	Thermal and second-law analysis of a micro- or nanocavity using direct-simulation Monte Carlo. Physical Review E, 2012, 85, 056310.	0.8	60
51	Monte Carlo analysis of thermal transpiration effects in capacitance diaphragm gauges with helicoidal baffle system. Journal of Physics: Conference Series, 2012, 362, 012013.	0.3	1
52	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
53	Nonisothermal oscillatory cylindrical Couette gas flow in the slip regime: A computational study. European Journal of Mechanics, B/Fluids, 2012, 33, 14-24.	1.2	23
54	A Parallel Algorithm with Improved Performance of Finite Volume Method (SIMPLE-TS). Lecture Notes in Computer Science, 2012, , 351-358.	1.0	2

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55	Particle Monte Carlo Algorithms with Small Number of Particles in Grid Cells. Lecture Notes in Computer Science, 2011, , 110-117.	1.0	15
56	On DSMC Calculations of Rarefied Gas Flows with Small Number of Particles in Cells. SIAM Journal of Scientific Computing, 2011, 33, 677-702.	1.3	90
57	Particle Collision Algorithms Based on Kac Stochastic Model. , 2011, , .		2
58	On the Effect of the Boundary Conditions and the Collision Model on Rarefied Gas Flows. AIP Conference Proceedings, 2011, , .	0.3	2
59	Influence of Reservoirs on Pressure Driven Gas Flow in a Microchannel. , 2011, , .		0
60	Statistical Simulation of Gas Flows through Short Rough Microchannels. AIP Conference Proceedings, 2011, , .	0.3	0
61	Detailed Investigation of Thermal and Hydrodynamic Flow Behaviour in Micro/Nano Cavity Using DSMC and NSF Equations. , 2011, , .		3
62	Stationary Cylindrical Couette Flow at Different Temperature of Cylinders: the Local Knudsen Number Effect. , 2011, , .		8
63	Pressure based finite volume method for calculation of compressible viscous gas flows. Journal of Computational Physics, 2010, 229, 461-480.	1.9	34
64	Cylindrical Couette Flow of Rarefied Gas: Comparison between Navier-Stokes and DSMC Computations. AIP Conference Proceedings, 2010, , .	0.3	2
65	Unsteady State Gaseous Flow past a Square Confined in a Micro-channel. , 2010, , .		0
66	Direct Simulation Monte Carlo Algorithms for Simulation of Non-equilibrium Gas Flows. , 2010, , .		1
67	Modeling of Cylindrical Couette Flow of Rarefied Gas. The Case of Rotating Outer Cylinder. , 2009, , .		1
68	Effects of carbon fiber gas pressure, temperature and deposition distance on thermo fluids phenomena in vacuum deposition machine. Journal of Thermal Science, 2008, 17, 253-260.	0.9	0
69	The Monte Carlo Simulation of a Model Microactuator Driven by Rarefied Gas Thermal Effects. , 2008, , .		2
70	Nonplanar oscillatory shear flow: From the continuum to the free-molecular regime. Physics of Fluids, 2007, 19, .	1.6	49
71	Rayleigh-Bénard flow of a rarefied gas and its attractors. III. Three-dimensional computer simulations. Physics of Fluids, 2007, 19, .	1.6	15
72	A phenomenological and extended continuum approach for modelling non-equilibrium flows. Continuum Mechanics and Thermodynamics, 2007, 19, 273-283.	1.4	7

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73	Effects of Rarefaction on Cavity Flow in the Slip Regime. Journal of Computational and Theoretical Nanoscience, 2007, 4, 817-822.	0.4	33
74	Three-Dimensional Rayleigh-Bénard Convection of a Rarefied Gas: DSMC and Navier-Stokes Calculations. AIP Conference Proceedings, 2005, , .	0.3	1
75	Influence of Boundary Conditions and Chemical Reactions on the Rayleigh-Bénard Convection of a Rarefied Gas Mixture. AIP Conference Proceedings, 2005, , .	0.3	0
76	Comparison between Navier-Stokes and DSMC Calculations for Low Reynolds Number Slip Flow Past a Confined Microsphere. AIP Conference Proceedings, 2005, , .	0.3	9
77	Carbon Deposition on Blade Surfaces of Laser Microactuator for Optical MEMS. AIP Conference Proceedings, 2005, , .	0.3	0
78	Rayleigh-Bénard flow of a rarefied gas and its attractors. II. Chaotic and periodic convective regimes. Physics of Fluids, 2002, 14, 2270.	1.6	25
79	Rayleigh-Bénard flow of a rarefied gas and its attractors. I. Convection regime. Physics of Fluids, 2002, 14, 2255.	1.6	64
80	Monte Carlo analysis of macroscopic fluctuations in a rarefied hypersonic flow around a cylinder. Physics of Fluids, 2000, 12, 1226-1239.	1.6	29
81	Direct statistical simulation of gas mixture mass transfer in a porous layer with condensation of one of the components and absorption of another. International Journal of Heat and Mass Transfer, 1999, 42, 2063-2069.	2.5	6
82	Monte Carlo simulation and Navier-Stokes finite difference calculation of unsteady-state rarefied gas flows. Physics of Fluids, 1998, 10, 289-300.	1.6	54
83	Monte Carlo simulation of molecular beams in a hot-wall epitaxy system. Vacuum, 1994, 45, 857-865.	1.6	3
84	Kinetics of intense evaporative mass transfer through a porous layer. International Journal of Heat and Mass Transfer, 1993, 36, 3369-3374.	2.5	6
85	Monte Carlo simulation of the Taylor-Couette flow of a rarefied gas. Journal of Fluid Mechanics, 1993, 256, 199-213.	1.4	58
86	Benard's instability in kinetic theory. Transport Theory and Statistical Physics, 1992, 21, 371-381.	0.4	10
87	Direct statistical simulation of the evaporation into a vacuum from an aperture with axial symmetry. Journal of Engineering Physics, 1987, 52, 658-662.	0.0	0
88	Statistical simulation of the recondensation processes in the presence of a neutral gas. USSR Computational Mathematics and Mathematical Physics, 1985, 25, 168-175.	0.0	1