Aldo Frezzotti

List of Publications by Year
in descending order

84	1,375	331670	377865
papers	citations	21	34
		h-index	g-index

85	85	85	613
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mean field kinetic theory description of evaporation of a fluid into vacuum. Physics of Fluids, 2005, 17, 012102.	4.0	97
2	Nonequilibrium molecular-dynamics simulation of net evaporation and net condensation, and evaluation of the gas-kinetic boundary condition at the interphase. Physics of Fluids, 2004, 16, 223-243.	4.0	93
3	A particle scheme for the numerical solution of the Enskog equation. Physics of Fluids, 1997, 9, 1329-1335.	4.0	88
4	Boundary conditions at the vapor-liquid interface. Physics of Fluids, 2011, 23, .	4.0	75
5	A numerical investigation of the steady evaporation of a polyatomic gas. European Journal of Mechanics, B/Fluids, 2007, 26, 93-104.	2.5	51
6	A kinetic theory description of liquid menisci at the microscale. Kinetic and Related Models, 2015, 8, 235-254.	0.9	51
7	The paradox of the inverted temperature profiles between an evaporating and a condensing surface. Physics of Fluids, 1985, 28, 3237.	1.4	48
8	The structure of an infinitely strong shock wave. Physics of Fluids, 1999, 11, 2757-2764.	4.0	45
9	Direct simulation Monte Carlo applications to liquid-vapor flows. Physics of Fluids, 2019, 31, .	4.0	39
10	Solving the Boltzmann equation on GPUs. Computer Physics Communications, 2011, 182, 2445-2453.	7.5	38
11	On the application of the BGK kinetic model to the analysis of gas-structure interactions in MEMS. Computers and Structures, 2007, 85, 810-817.	4.4	37
12	Mean-field kinetic theory approach to evaporation of a binary liquid into vacuum. Physical Review Fluids, 2018, 3, .	2.5	35
13	Conductive heat transfer in rarefied polyatomic gases confined between parallel plates via various kinetic models and the DSMC method. International Journal of Heat and Mass Transfer, 2015, 88, 636-651.	4.8	30
14	Kinetic theory aspects of non-equilibrium liquid-vapor flows. Mechanical Engineering Reviews, 2017, 4, 16-00540-16-00540.	4.7	29
15	Monte Carlo simulation of the heat flow in a dense hard sphere gas. European Journal of Mechanics, B/Fluids, 1999, 18, 103-119.	2.5	28
16	Kinetic Approach to Gas Flows in Microchannels. Nanoscale and Microscale Thermophysical Engineering, 2007, 11, 211-226.	2.6	26
17	Evaporation boundary conditions for the R13 equations of rarefied gas dynamics. Physics of Fluids, 2017, 29, .	4.0	25
18	Numerical analysis of a shock-wave solution of the Enskog equation obtained via a Monte Carlo method. Journal of Statistical Physics, 1993, 73, 193-207.	1.2	24

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19	Evidence of an inverted temperature gradient during evaporation/condensation of a Lennard-Jones fluid. Physics of Fluids, 2003, 15, 2837.	4.0	24
20	Kinetic theory study of steady condensation of a polyatomic gas. Physics of Fluids, 2006, 18, 027101.	4.0	24
21	Effect of vibrational degrees of freedom on the heat transfer in polyatomic gases confined between parallel plates. International Journal of Heat and Mass Transfer, 2016, 102, 162-173.	4.8	23
22	Conductive heat transfer in a rarefied polyatomic gas confined between coaxial cylinders. International Journal of Heat and Mass Transfer, 2014, 79, 378-389.	4.8	22
23	High-order harmonic generation in a microfluidic glass device. JPhys Photonics, 2020, 2, 024005.	4.6	20
24	A moment method for low speed microflows. Continuum Mechanics and Thermodynamics, 2009, 21, 495-509.	2.2	19
25	Solving model kinetic equations on GPUs. Computers and Fluids, 2011, 50, 136-146.	2.5	19
26	Oxygen transport properties estimation by classical trajectory–direct simulation Monte Carlo. Physics of Fluids, 2015, 27, .	4.0	19
27	A comparison of models for the evaporation of the Lennard-Jones fluid. European Journal of Mechanics, B/Fluids, 2017, 64, 69-80.	2.5	17
28	Rarefied gas mixtures flows driven by surface absorption. Vacuum, 2012, 86, 1731-1738.	3.5	16
29	Numerical study of the strong evaporation of a binary mixture. Fluid Dynamics Research, 1991, 8, 175-187.	1.3	15
30	A kinetic model for fluid–wall interaction. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2008, 222, 787-795.	2.1	15
31	DSMC simulation of rarefied gas mixtures flows driven by arrays of absorbing plates. Vacuum, 2014, 103, 57-67.	3.5	14
32	Twenty-six moment equations for the Enskog–Vlasov equation. Journal of Fluid Mechanics, 2022, 940, .	3.4	14
33	Role of diffusion on molecular tagging velocimetry technique for rarefied gas flow analysis. Microfluidics and Nanofluidics, 2015, 19, 1335-1348.	2.2	13
34	A kinetic model for gas adsorption-desorption at solid surfaces under non-equilibrium conditions. Vacuum, 2020, 174, 109166.	3.5	13
35	Non-equilibrium structure of the vapor-liquid interface of a binary fluid. AIP Conference Proceedings, 2011, , .	0.4	12
36	Aerothermodynamic modelling of meteor entry flows. Monthly Notices of the Royal Astronomical Society, 2020, 492, 2308-2325.	4.4	12

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37	Molecular dynamics and Enskog theory calculation of one dimensional problems in the dynamics of dense gases. Physica A: Statistical Mechanics and Its Applications, 1997, 240, 202-211.	2.6	11
38	Molecular dynamics and Enskog theory calculation of shock profiles in a dense hard sphere gas. Computers and Mathematics With Applications, 1998, 35, 103-112.	2.7	11
39	Monte Carlo simulation of the uniform shear flow in a dense rough sphere fluid. Physica A: Statistical Mechanics and Its Applications, 2000, 278, 161-180.	2.6	11
40	Molecular tagging velocimetry by direct phosphorescence in gas microflows: Correction of Taylor dispersion. Experimental Thermal and Fluid Science, 2017, 83, 177-190.	2.7	11
41	Rayleighâ€"Brillouin scattering in molecular Oxygen by CT-DSMC simulations. European Journal of Mechanics, B/Fluids, 2017, 64, 8-16.	2.5	10
42	Gradâ€™s 13 moments approximation for Enskog-Vlasov equation. AIP Conference Proceedings, 2019, , .	0.4	10
43	Dense gas effects in the Rayleigh-Brillouin scattering spectra of SF6. Chemical Physics Letters, 2019, 731, 136595.	2.6	9
44	Interaction of evaporating and condensing particles in the freeâ€molecular regime. Physics of Fluids, 1995, 7, 1775-1781.	4.0	8
45	Kinetic theory study of steady evaporation from a spherical condensed phase containing inert solid particles. Physics of Fluids, 1997, 9, 211-225.	4.0	8
46	Femtosecond Laser-Micromachining of Glass Micro-Chip for High Order Harmonic Generation in Gases. Micromachines, 2020, 11, 165.	2.9	8
47	Direct numerical solution of the Boltzmann equation for a relaxation problem of a binary mixture of hard sphere gases. Meccanica, 1989, 24, 139-143.	2.0	7
48	Comparison of Molecular Dynamics and Kinetic Modeling of Gas-Surface Interaction. , 2008, , .		7
49	Development of a melting model for meteors. AIP Conference Proceedings, 2016, , .	0.4	7
50	Simulation of shock induced vapor condensation flows in the Lennard-Jones fluid by microscopic and continuum models. Physics of Fluids, 2020, 32, .	4.0	7
51	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.	4.8	6
52	Kinetic theory description of gas adsorption-desorption on a solid surface. AIP Conference Proceedings, 2019, , .	0.4	6
53	Numerical Investigation of Reversed Gas-Feed Configurations for Hall Thrusters. Journal of Propulsion and Power, 2021, 37, 919-927.	2.2	6
54	On the Application of the Boltzmann Equation to the Simulation of Fluid Structure Interaction in Micro-Electro-Mechanical-Systems. Sensor Letters, 2008, 6, 121-129.	0.4	6

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55	On the absence of motion in certain nonequilibrium states of gases and vapors in free‑molecular regime: General considerations and pipe flow. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2551-2556.	1.6	5
56	A Kinetic Model for Equilibrium and Non-Equilibrium Structure of the Vapor-Liquid Interface. AIP Conference Proceedings, 2003, , .	0.4	5
57	Direct solution of the Boltzmann equation for a binary mixture on GPUs. , 2011, , .		5
58	Hypersonic rarefied flows DSMC analysis by a simplified chemical model. Meccanica, 1995, 30, 93-104.	2.0	4
59	Slip effects at the vapor-liquid boundary. AIP Conference Proceedings, 2012, , .	0.4	4
60	A comparison of molecular dynamics and diffuse interface model predictions of Lennard-Jones fluid evaporation. , 2014, , .		4
61	Aerothermodynamic modelling of meteor entry flows in the rarefied regime. , 2018, , .		4
62	Direct numerical solution of the Boltzmann equation on a parallel computer. Computers and Fluids, 1993, 22, 1-8.	2.5	3
63	A kinetic model for collisional effects in dense adsorbed gas layers. , 2011, , .		3
64	Evaporation/condensation boundary conditions for the regularized 13 moment equations. AIP Conference Proceedings, 2016, , .	0.4	3
65	The propagation of infinitesimal disturbances in an ultrarelativistic gas according to the method of elementary solutions. Journal of Statistical Physics, 1987, 46, 255-272.	1.2	2
66	Direct simulation of hypersonic rarefied flows past a delta wing. Transport Theory and Statistical Physics, 1992, 21, 343-356.	0.4	2
67	DSMC simulation of Rayleigh-Brillouin scattering in binary mixtures. AIP Conference Proceedings, 2016, , .	0.4	2
68	DSMC simulation of the vertical structure of planetary rings. Astronomy and Astrophysics, 2001, 380, 761-775.	5.1	2
69	Analysis of Gas Flow in MEMS by a Deterministic 3D BGK Kinetic Model. Sensor Letters, 2008, 6, 69-75.	0.4	2
70	High mach number flow of a rarefied gas past an almost specularly reflecting plate. Transport Theory and Statistical Physics, 1986, 15, 973-984.	0.4	1
71	Comments on â€˜â€˜Extension of the Mottâ€Smith method to denser gasesâ€™â€™ [Phys. Fluids A 4, 1856 (1992)]. Physics of Fluids, 1995, 7, 1507-1509.	4.0	1
72	Using the Kinetic Equations for MEMS and NEMS. Computational and Experimental Methods in Structures, 2008, , 37-80.	0.3	1

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73	A kinetic model for capillary flows in MEMS. , 2012, , .		1
74	Oxygen transport properties estimation by DSMC-CT simulations. , 2014, , .		1
75	Simulations of condensation flows induced by reflection of weak shocks from liquid surfaces. AIP Conference Proceedings, 2016, , .	0.4	1
76	A Kinetic Model for Vapor-liquid Flows. AIP Conference Proceedings, 2005, , .	0.4	0
77	On the application of the BGK model to the simulation of fluid structure interaction in MEMS. , 0, , .		0
78	GPU Acceleration of Rarefied Gas Dynamic Simulations. , 2012, , 173-186.		0
79	A kinetic model for evaporation of a simple fluid from nanopores. , 2019, , .		0
80	Integrated Filter for the Separation between XUV and IR Beam in High-order Harmonic Generation in a chip. , 2021, , .		0
81	KINETIC MODELS FOR NANOFLUIDICS. , 2007, , .		0
82	High-order Harmonic Generation in Microfluidic Femtosecond Laser Micromachined Devices for Ultrafast X-ray Spectroscopy. , 2020, , .		0
83	High-order Harmonic Generation in Femtosecond Laser Micromachined Microfluidic Glass Devices for Ultrafast X-ray Spectroscopy. , 2020, , .		0
84	Time-Resolved Imaging of Femtosecond Laser-Induced Plasma Expansion in a Nitrogen Microjet. Applied Sciences (Switzerland), 2022, 12, 1978.	2.5	0