

# Aldo Frezzotti

## List of Publications by Year in descending order

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84  
papers

1,375  
citations

331259

21  
h-index

377514

34  
g-index

85  
all docs

85  
docs citations

85  
times ranked

613  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mean field kinetic theory description of evaporation of a fluid into vacuum. <i>Physics of Fluids</i> , 2005, 17, 012102.	1.6	97
2	Nonequilibrium molecular-dynamics simulation of net evaporation and net condensation, and evaluation of the gas-kinetic boundary condition at the interphase. <i>Physics of Fluids</i> , 2004, 16, 223-243.	1.6	93
3	A particle scheme for the numerical solution of the Enskog equation. <i>Physics of Fluids</i> , 1997, 9, 1329-1335.	1.6	88
4	Boundary conditions at the vapor-liquid interface. <i>Physics of Fluids</i> , 2011, 23, .	1.6	75
5	A numerical investigation of the steady evaporation of a polyatomic gas. <i>European Journal of Mechanics, B/Fluids</i> , 2007, 26, 93-104.	1.2	51
6	A kinetic theory description of liquid menisci at the microscale. <i>Kinetic and Related Models</i> , 2015, 8, 235-254.	0.5	51
7	The paradox of the inverted temperature profiles between an evaporating and a condensing surface. <i>Physics of Fluids</i> , 1985, 28, 3237.	1.4	48
8	The structure of an infinitely strong shock wave. <i>Physics of Fluids</i> , 1999, 11, 2757-2764.	1.6	45
9	Direct simulation Monte Carlo applications to liquid-vapor flows. <i>Physics of Fluids</i> , 2019, 31, .	1.6	39
10	Solving the Boltzmann equation on GPUs. <i>Computer Physics Communications</i> , 2011, 182, 2445-2453.	3.0	38
11	On the application of the BGK kinetic model to the analysis of gas-structure interactions in MEMS. <i>Computers and Structures</i> , 2007, 85, 810-817.	2.4	37
12	Mean-field kinetic theory approach to evaporation of a binary liquid into vacuum. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	35
13	Conductive heat transfer in rarefied polyatomic gases confined between parallel plates via various kinetic models and the DSMC method. <i>International Journal of Heat and Mass Transfer</i> , 2015, 88, 636-651.	2.5	30
14	Kinetic theory aspects of non-equilibrium liquid-vapor flows. <i>Mechanical Engineering Reviews</i> , 2017, 4, 16-00540-16-00540.	4.7	29
15	Monte Carlo simulation of the heat flow in a dense hard sphere gas. <i>European Journal of Mechanics, B/Fluids</i> , 1999, 18, 103-119.	1.2	28
16	Kinetic Approach to Gas Flows in Microchannels. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2007, 11, 211-226.	1.4	26
17	Evaporation boundary conditions for the R13 equations of rarefied gas dynamics. <i>Physics of Fluids</i> , 2017, 29, .	1.6	25
18	Numerical analysis of a shock-wave solution of the Enskog equation obtained via a Monte Carlo method. <i>Journal of Statistical Physics</i> , 1993, 73, 193-207.	0.5	24

#	ARTICLE	IF	CITATIONS
19	Evidence of an inverted temperature gradient during evaporation/condensation of a Lennard-Jones fluid. <i>Physics of Fluids</i> , 2003, 15, 2837.	1.6	24
20	Kinetic theory study of steady condensation of a polyatomic gas. <i>Physics of Fluids</i> , 2006, 18, 027101.	1.6	24
21	Effect of vibrational degrees of freedom on the heat transfer in polyatomic gases confined between parallel plates. <i>International Journal of Heat and Mass Transfer</i> , 2016, 102, 162-173.	2.5	23
22	Conductive heat transfer in a rarefied polyatomic gas confined between coaxial cylinders. <i>International Journal of Heat and Mass Transfer</i> , 2014, 79, 378-389.	2.5	22
23	High-order harmonic generation in a microfluidic glass device. <i>JPhys Photonics</i> , 2020, 2, 024005.	2.2	20
24	A moment method for low speed microflows. <i>Continuum Mechanics and Thermodynamics</i> , 2009, 21, 495-509.	1.4	19
25	Solving model kinetic equations on GPUs. <i>Computers and Fluids</i> , 2011, 50, 136-146.	1.3	19
26	Oxygen transport properties estimation by classical trajectoryâ€“direct simulation Monte Carlo. <i>Physics of Fluids</i> , 2015, 27, .	1.6	19
27	A comparison of models for the evaporation of the Lennard-Jones fluid. <i>European Journal of Mechanics, B/Fluids</i> , 2017, 64, 69-80.	1.2	17
28	Rarefied gas mixtures flows driven by surface absorption. <i>Vacuum</i> , 2012, 86, 1731-1738.	1.6	16
29	Numerical study of the strong evaporation of a binary mixture. <i>Fluid Dynamics Research</i> , 1991, 8, 175-187.	0.6	15
30	A kinetic model for fluidâ€“wall interaction. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2008, 222, 787-795.	1.1	15
31	DSMC simulation of rarefied gas mixtures flows driven by arrays of absorbing plates. <i>Vacuum</i> , 2014, 103, 57-67.	1.6	14
32	Twenty-six moment equations for the Enskogâ€“Vlasov equation. <i>Journal of Fluid Mechanics</i> , 2022, 940, .	1.4	14
33	Role of diffusion on molecular tagging velocimetry technique for rarefied gas flow analysis. <i>Microfluidics and Nanofluidics</i> , 2015, 19, 1335-1348.	1.0	13
34	A kinetic model for gas adsorption-desorption at solid surfaces under non-equilibrium conditions. <i>Vacuum</i> , 2020, 174, 109166.	1.6	13
35	Non-equilibrium structure of the vapor-liquid interface of a binary fluid. <i>AIP Conference Proceedings</i> , 2011, , .	0.3	12
36	Aerothermodynamic modelling of meteor entry flows. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 492, 2308-2325.	1.6	12

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37	Molecular dynamics and Enskog theory calculation of one dimensional problems in the dynamics of dense gases. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1997, 240, 202-211.	1.2	11
38	Molecular dynamics and Enskog theory calculation of shock profiles in a dense hard sphere gas. <i>Computers and Mathematics With Applications</i> , 1998, 35, 103-112.	1.4	11
39	Monte Carlo simulation of the uniform shear flow in a dense rough sphere fluid. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 278, 161-180.	1.2	11
40	Molecular tagging velocimetry by direct phosphorescence in gas microflows: Correction of Taylor dispersion. <i>Experimental Thermal and Fluid Science</i> , 2017, 83, 177-190.	1.5	11
41	Rayleigh-Brillouin scattering in molecular Oxygen by CT-DSMC simulations. <i>European Journal of Mechanics, B/Fluids</i> , 2017, 64, 8-16.	1.2	10
42	Grad's 13 moments approximation for Enskog-Vlasov equation. <i>AIP Conference Proceedings</i> , 2019, , .	0.3	10
43	Dense gas effects in the Rayleigh-Brillouin scattering spectra of SF6. <i>Chemical Physics Letters</i> , 2019, 731, 136595.	1.2	9
44	Interaction of evaporating and condensing particles in the free-molecular regime. <i>Physics of Fluids</i> , 1995, 7, 1775-1781.	1.6	8
45	Kinetic theory study of steady evaporation from a spherical condensed phase containing inert solid particles. <i>Physics of Fluids</i> , 1997, 9, 211-225.	1.6	8
46	Femtosecond Laser-Micromachining of Glass Micro-Chip for High Order Harmonic Generation in Gases. <i>Micromachines</i> , 2020, 11, 165.	1.4	8
47	Direct numerical solution of the Boltzmann equation for a relaxation problem of a binary mixture of hard sphere gases. <i>Meccanica</i> , 1989, 24, 139-143.	1.2	7
48	Comparison of Molecular Dynamics and Kinetic Modeling of Gas-Surface Interaction. , 2008, , .		7
49	Development of a melting model for meteors. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	7
50	Simulation of shock induced vapor condensation flows in the Lennard-Jones fluid by microscopic and continuum models. <i>Physics of Fluids</i> , 2020, 32, .	1.6	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. <i>International Journal of Heat and Mass Transfer</i> , 1999, 42, 2063-2069.	2.5	6
52	Kinetic theory description of gas adsorption-desorption on a solid surface. <i>AIP Conference Proceedings</i> , 2019, , .	0.3	6
53	Numerical Investigation of Reversed Gas-Feed Configurations for Hall Thrusters. <i>Journal of Propulsion and Power</i> , 2021, 37, 919-927.	1.3	6
54	On the Application of the Boltzmann Equation to the Simulation of Fluid Structure Interaction in Micro-Electro-Mechanical-Systems. <i>Sensor Letters</i> , 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 freeâ€molecular regime: General considerations and pipe flow. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 2551-2556.	1.6	5
56	A Kinetic Model for Equilibrium and Non-Equilibrium Structure of the Vapor-Liquid Interface. <i>AIP Conference Proceedings</i> , 2003, , .	0.3	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. <i>Meccanica</i> , 1995, 30, 93-104.	1.2	4
59	Slip effects at the vapor-liquid boundary. <i>AIP Conference Proceedings</i> , 2012, , .	0.3	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. <i>Computers and Fluids</i> , 1993, 22, 1-8.	1.3	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. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	3
65	The propagation of infinitesimal disturbances in an ultrarelativistic gas according to the method of elementary solutions. <i>Journal of Statistical Physics</i> , 1987, 46, 255-272.	0.5	2
66	Direct simulation of hypersonic rarefied flows past a delta wing. <i>Transport Theory and Statistical Physics</i> , 1992, 21, 343-356.	0.4	2
67	DSMC simulation of Rayleigh-Brillouin scattering in binary mixtures. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	2
68	DSMC simulation of the vertical structure of planetary rings. <i>Astronomy and Astrophysics</i> , 2001, 380, 761-775.	2.1	2
69	Analysis of Gas Flow in MEMS by a Deterministic 3D BGK Kinetic Model. <i>Sensor Letters</i> , 2008, 6, 69-75.	0.4	2
70	High mach number flow of a rarefied gas past an almost specularly reflecting plate. <i>Transport Theory and Statistical Physics</i> , 1986, 15, 973-984.	0.4	1
71	Comments on â€ˆExtension of the Mottâ€Smith method to denser gasesâ€™ [Phys. Fluids A 4, 1856 (1992)]. <i>Physics of Fluids</i> , 1995, 7, 1507-1509.	1.6	1
72	Using the Kinetic Equations for MEMS and NEMS. <i>Computational and Experimental Methods in Structures</i> , 2008, , 37-80.	0.2	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, , .	0.3	1
76	A Kinetic Model for Vapor-liquid Flows. AIP Conference Proceedings, 2005, , .	0.3	0
77	On the application of the BCK 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 NANOFUIDICS. , 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.	1.3	0