

Domenico Bruno

List of Publications by Year in descending order

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86
papers

1,542
citations

304743

22
h-index

330143

37
g-index

89
all docs

89
docs citations

89
times ranked

845
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental and theoretical comparison of single-pulse and double-pulse laser induced breakdown spectroscopy on metallic samples. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2008, 63, 805-816.	2.9	144
2	Non-equilibrium plasma kinetics: a state-to-state approach. <i>Plasma Sources Science and Technology</i> , 2007, 16, S30-S44.	3.1	101
3	Reduction of State-to-State Kinetics to Macroscopic Models in Hypersonic Flows. <i>Journal of Thermophysics and Heat Transfer</i> , 2006, 20, 477-486.	1.6	94
4	Classical transport collision integrals for a Lennard-Jones like phenomenological model potential. <i>Chemical Physics Letters</i> , 2007, 445, 133-139.	2.6	81
5	Fundamental Aspects of Plasma Chemical Physics. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , .	0.2	79
6	High temperature Mars atmosphere. Part I: transport cross sections. <i>European Physical Journal D</i> , 2009, 54, 607-612.	1.3	73
7	Transport properties of high-temperature Jupiter atmosphere components. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	67
8	Direct simulation of non-equilibrium kinetics under shock conditions in nitrogen. <i>Chemical Physics Letters</i> , 2002, 360, 31-37.	2.6	58
9	Effect of electronic excited states on transport in magnetized hydrogen plasma. <i>Physics of Plasmas</i> , 2007, 14, 022303.	1.9	54
10	Thermodynamics, Transport and Kinetics of Equilibrium and Non-Equilibrium Plasmas: A State-to-State Approach. <i>Plasma Chemistry and Plasma Processing</i> , 2012, 32, 427-450.	2.4	51
11	On the road to ITER NBIs: SPIDER improvement after first operation and MITICA construction progress. <i>Fusion Engineering and Design</i> , 2021, 168, 112622.	1.9	44
12	Relaxation of internal temperature and volume viscosity. <i>Physics of Fluids</i> , 2011, 23, .	4.0	38
13	Convergence of Chapman-Enskog calculation of transport coefficients of magnetized argon plasma. <i>Physics of Plasmas</i> , 2006, 13, 072307.	1.9	35
14	Gas-surface scattering models for particle fluid dynamics: a comparison between analytical approximate models and molecular dynamics calculations. <i>Chemical Physics Letters</i> , 2000, 320, 245-254.	2.6	33
15	DSMC modelling of vibrational and chemical kinetics for a reacting gas mixture. <i>Chemical Physics Letters</i> , 1998, 289, 141-149.	2.6	32
16	Transport of internal electronic energy in atomic hydrogen thermal plasmas. <i>Physics of Plasmas</i> , 2007, 14, .	1.9	31
17	Thermodynamics and transport properties of thermal plasmas: the role of electronic excitation. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 194005.	2.8	31
18	High temperature Mars atmosphere. Part II: transport properties. <i>European Physical Journal D</i> , 2009, 54, 613-621.	1.3	25

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19	Analytical Expressions of Thermodynamic and Transport Properties of the Martian Atmosphere in a Wide Temperature and Pressure Range. <i>Plasma Chemistry and Plasma Processing</i> , 2013, 33, 401-431.	2.4	25
20	A phenomenological approach for the transport properties of air plasmas. <i>European Physical Journal D</i> , 2012, 66, 1.	1.3	24
21	Electron-vibration energy exchange models in nitrogen-containing plasma flows. <i>Journal of Chemical Physics</i> , 2013, 138, 104319.	3.0	23
22	State-Specific Modeling of Vibrational Relaxation and Nitric Oxide Formation in Shock-Heated Air. <i>Journal of Thermophysics and Heat Transfer</i> , 2018, 32, 337-352.	1.6	23
23	Direct simulation Monte Carlo simulation of thermal fluctuations in gases. <i>Physics of Fluids</i> , 2019, 31, .	4.0	20
24	Oxygen transport properties estimation by classical trajectoryâ€œdirect simulation Monte Carlo. <i>Physics of Fluids</i> , 2015, 27, .	4.0	19
25	Collision Integrals for Interactions Involving Atoms in Electronically Excited States. <i>Journal of Physical Chemistry A</i> , 2009, 113, 15250-15256.	2.5	18
26	First measurements of optical emission spectroscopy on SPIDER negative ion source. <i>Review of Scientific Instruments</i> , 2020, 91, 013103.	1.3	18
27	Monte Carlo simulation of light scattering spectra in atomic gases. <i>Chemical Physics Letters</i> , 2006, 422, 571-574.	2.6	17
28	Cutoff criteria of electronic partition functions and transport properties of atomic hydrogen thermal plasmas. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	17
29	Non-equilibrium vibrational distributions and transport coefficients of N ₂ (v)â€œN mixtures. <i>Chemical Physics Letters</i> , 1999, 308, 463-472.	2.6	16
30	Effect of translational kinetics on chemical rates in a direct simulation Monte Carlo model gas phase detonation. <i>Chemical Physics Letters</i> , 2003, 380, 383-390.	2.6	13
31	State-to-state vibrational kinetics of H ₂ and H ₂ ⁺ in a post-shock cooling gas with primordial composition. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 457, 3732-3742.	4.4	13
32	Collision integrals of oxygen atoms and ions in electronically excited states. <i>Chemical Physics</i> , 2008, 344, 13-20.	1.9	12
33	Transport Properties of High-Temperature Jupiter-Atmosphere Components. , 2009, , .		11
34	Molecular simulation of Rayleigh-Brillouin scattering in binary gas mixtures and extraction of the rotational relaxation numbers. <i>Physical Review E</i> , 2021, 104, 035109.	2.1	11
35	Monte Carlo simulation of nearly kinematic shock fronts in rarefied gases. <i>EPJ Applied Physics</i> , 2002, 17, 233-241.	0.7	10
36	Transport Properties of High-Temperature Mars-Atmosphere Components. , 2007, , .		10

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37	Transport properties of high-temperature air in a magnetic field. <i>Physics of Plasmas</i> , 2011, 18, 012308.	1.9	10
38	Reactive and internal contributions to the thermal conductivity of local thermodynamic equilibrium nitrogen plasma: The effect of electronically excited states. <i>Physics of Plasmas</i> , 2012, 19, 122309.	1.9	10
39	Kinetic divertor modeling. <i>Chemical Physics</i> , 2012, 398, 27-32.	1.9	10
40	Rayleigh-Brillouin scattering in molecular Oxygen by CT-DSMC simulations. <i>European Journal of Mechanics, B/Fluids</i> , 2017, 64, 8-16.	2.5	10
41	Extracting Cross Sections from Rate Coefficients: Application to Molecular Gas Dissociation. <i>Journal of Thermophysics and Heat Transfer</i> , 2011, 25, 374-377.	1.6	9
42	Relaxation of rotational-vibrational energy and volume viscosity in H ₂ mixtures. <i>Journal of Chemical Physics</i> , 2013, 138, 084302.	3.0	9
43	Dense gas effects in the Rayleigh-Brillouin scattering spectra of SF ₆ . <i>Chemical Physics Letters</i> , 2019, 731, 136595.	2.6	9
44	Direct simulation of non-linear interparticle collisional relaxation of ensembles of two-level systems. <i>Chemical Physics</i> , 2000, 256, 265-273.	1.9	7
45	Transport Properties of Partially Ionized Argon in a Magnetic Field. <i>Journal of Thermophysics and Heat Transfer</i> , 2008, 22, 424-433.	1.6	7
46	Calculation of Transport Coefficients with Vibrational Nonequilibrium. <i>Journal of Thermophysics and Heat Transfer</i> , 2001, 15, 70-75.	1.6	6
47	Fully Coupled Maxwell/Navier-Stokes Simulation of Electromagnetic Hypersonics Including Accurate Transport Models. , 2009, , .		6
48	Molecular physics and kinetics of high-temperature planetary atmospheres. <i>Rendiconti Lincei</i> , 2011, 22, 201-210.	2.2	6
49	A Monte Carlo model for determination of binary diffusion coefficients in gases. <i>Journal of Computational Physics</i> , 2011, 230, 5716-5721.	3.8	6
50	Review: Modelling chemical kinetics and convective heating in giant planet entries. <i>Progress in Aerospace Sciences</i> , 2018, 96, 1-22.	12.1	6
51	A Monte Carlo model for the non-equilibrium coherent kinetics of ensembles of two level systems. <i>Chemical Physics Letters</i> , 2000, 316, 311-317.	2.6	5
52	Particle kinetic modelling of rarefied gases and plasmas. <i>Plasma Sources Science and Technology</i> , 2003, 12, S89-S97.	3.1	5
53	Relaxation of quantum state population and volume viscosity in He/H ₂ mixtures. <i>AIP Conference Proceedings</i> , 2014, , .	0.4	5
54	Study of shock waves interacting with Ar and N ₂ low pressure dc discharges. <i>European Physical Journal D</i> , 2010, 57, 375-385.	1.3	4

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55	Transport Cross Sections: Classical and Quantum Approaches. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 57-98.	0.2	4
56	Models for gas-phase coherent kinetics including correlations with flow quantities. Chemical Physics, 2001, 264, 211-220.	1.9	3
57	Direct Monte Carlo Simulation of Oxygen Dissociation Behind Shock Waves. , 2003, , .		3
58	Direct Simulation Monte Carlo Modeling of Non Equilibrium Reacting Flows. Issues for the Inclusion into a ab initio Molecular Processes Simulator. Lecture Notes in Computer Science, 2004, , 383-391.	1.3	3
59	Transport Properties of Partially Ionized Argon in a Magnetic Field. , 2007, , .		3
60	Thermodynamic Properties of Gases behind Shock Waves. , 2012, , 11-58.		3
61	Molecular dynamics calculation of the spectral densities of plasma fluctuations. Journal of Plasma Physics, 2018, 84, .	2.1	3
62	Direct Monte Carlo Methods in Nonequilibrium Kinetics. Contributions To Plasma Physics, 2004, 44, 485-491.	1.1	2
63	Transport Properties of Air Plasmas in the Presence of Magnetic Field. , 2008, , .		2
64	DSMC simulation of Rayleigh-Brillouin scattering in binary mixtures. AIP Conference Proceedings, 2016, , .	0.4	2
65	Simulation of nitrogen dissociation in a strong shock wave. , 2001, , .		1
66	Dynamics of Fluid Dynamics Fluctuations by Particle Simulations. AIP Conference Proceedings, 2005, , .	0.4	1
67	Plasma kinetics issues in an ESA study for a plasma laboratory in space. Plasma Physics and Controlled Fusion, 2008, 50, 074016.	2.1	1
68	The Role of Electronically Excited States on Transport Properties of Air Plasmas. , 2008, , .		1
69	Quantum Zeno Effect in a Model Multilevel Molecule. Journal of Physical Chemistry A, 2009, 113, 14875-14886.	2.5	1
70	Oxygen transport properties estimation by DSMC-CT simulations. , 2014, , .		1
71	Shock Waves Produced by Heat Deposition in Rarefied Gases. , 2002, , .		0
72	Particle Simulation of Detonation Waves in Rarefied Gases. AIP Conference Proceedings, 2003, , .	0.4	0

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73	MHD of Aircraft Re-entry: Limits and Perspectives. AIP Conference Proceedings, 2005, , .	0.4	0
74	Transport Properties of Equilibrium Argon Plasma in a Magnetic Field. AIP Conference Proceedings, 2005, , .	0.4	0
75	On the Reduction of State to State Chemical-Physical Models to Hybrid Macroscopic Models in Hypersonic Flows. , 2005, , .		0
76	A DSMC view of the problem of bulk viscosity in thermal nonequilibrium. , 2011, , .		0
77	Simulation of hypersonic rarefied flows with the immersed-boundary method. , 2011, , .		0
78	Relaxation of rotational-vibrational energy and volume viscosities in H_2 mixtures. , 2012, , .		0
79	Electronically Excited States and Transport Properties of Thermal Plasmas. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 165-204.	0.2	0
80	Transport Processes in Dilute Polyatomic Gases. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 1-43.	0.2	0
81	Transport Coefficient Evaluation. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 45-56.	0.2	0
82	Vibrational Excitation and Transport Properties of Reacting Gases: Beyond the Eucken Approximation. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 149-163.	0.2	0
83	Transport Properties of High Temperature Planetary Atmospheres. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 273-347.	0.2	0
84	Some Problems in the Calculation of Transport Properties of Partially Ionized Gases. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 247-271.	0.2	0
85	Vibrational specific simulation of nonequilibrium radiation from shock-heated air. AIP Conference Proceedings, 2016, , .	0.4	0
86	Investigations of vibrational kinetics relaxation within air shock wave plasma. Journal of Physics: Conference Series, 2017, 815, 012026.	0.4	0