

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	On the road to ITER NBIs: SPIDER improvement after first operation and MITICA construction progress. Fusion Engineering and Design, 2021, 168, 112622.	1.9	44
2	Molecular simulation of Rayleigh-Brillouin scattering in binary gas mixtures and extraction of the rotational relaxation numbers. Physical Review E, 2021, 104, 035109.	2.1	11
3	First measurements of optical emission spectroscopy on SPIDER negative ion source. Review of Scientific Instruments, 2020, 91, 013103.	1.3	18
4	Direct simulation Monte Carlo simulation of thermal fluctuations in gases. Physics of Fluids, 2019, 31, .	4.0	20
5	Dense gas effects in the Rayleigh-Brillouin scattering spectra of SF6. Chemical Physics Letters, 2019, 731, 136595.	2.6	9
6	Review: Modelling chemical kinetics and convective heating in giant planet entries. Progress in Aerospace Sciences, 2018, 96, 1-22.	12.1	6
7	State-Specific Modeling of Vibrational Relaxation and Nitric Oxide Formation in Shock-Heated Air. Journal of Thermophysics and Heat Transfer, 2018, 32, 337-352.	1.6	23
8	Molecular dynamics calculation of the spectral densities of plasma fluctuations. Journal of Plasma Physics, 2018, 84, .	2.1	3
9	Rayleigh-Brillouin scattering in molecular Oxygen by CT-DSMC simulations. European Journal of Mechanics, B/Fluids, 2017, 64, 8-16.	2.5	10
10	Investigations of vibrational kinetics relaxation within air shock wave plasma. Journal of Physics: Conference Series, 2017, 815, 012026.	0.4	0
11	DSMC simulation of Rayleigh-Brillouin scattering in binary mixtures. AIP Conference Proceedings, 2016, , .	0.4	2
12	Vibrational specific simulation of nonequilibrium radiation from shock-heated air. AIP Conference Proceedings, 2016, , .	0.4	0
13	State-to-state vibrational kinetics of H ₂ and H ₂ ⁺ in a post-shock cooling gas with primordial composition. Monthly Notices of the Royal Astronomical Society, 2016, 457, 3732-3742.	4.4	13
14	Oxygen transport properties estimation by classical trajectory-direct simulation Monte Carlo. Physics of Fluids, 2015, 27, .	4.0	19
15	Oxygen transport properties estimation by DSMC-CT simulations. , 2014, , .		1
16	Relaxation of quantum state population and volume viscosity in He/H ₂ mixtures. AIP Conference Proceedings, 2014, , .	0.4	5
17	Fundamental Aspects of Plasma Chemical Physics. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , .	0.2	79
18	Electronically Excited States and Transport Properties of Thermal Plasmas. Springer Series on Atomic, Optical, and Plasma Physics, 2013, , 165-204.	0.2	0

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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	Transport Processes in Dilute Polyatomic Gases. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , 1-43.	0.2	0
21	Transport Coefficient Evaluation. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , 45-56.	0.2	0
22	Transport Cross Sections: Classical and Quantum Approaches. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , 57-98.	0.2	4
23	Vibrational Excitation and Transport Properties of Reacting Gases: Beyond the Eucken Approximation. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , 149-163.	0.2	0
24	Transport Properties of High Temperature Planetary Atmospheres. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , 273-347.	0.2	0
25	Some Problems in the Calculation of Transport Properties of Partially Ionized Gases. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2013, , 247-271.	0.2	0
26	Relaxation of rotational-vibrational energy and volume viscosity in H ₂ mixtures. <i>Journal of Chemical Physics</i> , 2013, 138, 084302.	3.0	9
27	Electron-vibration energy exchange models in nitrogen-containing plasma flows. <i>Journal of Chemical Physics</i> , 2013, 138, 104319.	3.0	23
28	Relaxation of rotational-vibrational energy and volume viscosities in H ₂ mixtures. , 2012, , .		0
29	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
30	Thermodynamic Properties of Gases behind Shock Waves. , 2012, , 11-58.		3
31	A phenomenological approach for the transport properties of air plasmas. <i>European Physical Journal D</i> , 2012, 66, 1.	1.3	24
32	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
33	Kinetic divertor modeling. <i>Chemical Physics</i> , 2012, 398, 27-32.	1.9	10
34	Relaxation of internal temperature and volume viscosity. <i>Physics of Fluids</i> , 2011, 23, .	4.0	38
35	Transport properties of high-temperature air in a magnetic field. <i>Physics of Plasmas</i> , 2011, 18, 012308.	1.9	10
36	Molecular physics and kinetics of high-temperature planetary atmospheres. <i>Rendiconti Lincei</i> , 2011, 22, 201-210.	2.2	6

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37	A Monte Carlo model for determination of binary diffusion coefficients in gases. Journal of Computational Physics, 2011, 230, 5716-5721.	3.8	6
38	A DSMC view of the problem of bulk viscosity in thermal nonequilibrium. , 2011, , .		0
39	Extracting Cross Sections from Rate Coefficients: Application to Molecular Gas Dissociation. Journal of Thermophysics and Heat Transfer, 2011, 25, 374-377.	1.6	9
40	Simulation of hypersonic rarefied flows with the immersed-boundary method. , 2011, , .		0
41	Study of shock waves interacting with Ar and N2 low pressure dc discharges. European Physical Journal D, 2010, 57, 375-385.	1.3	4
42	Transport properties of high-temperature Jupiter atmosphere components. Physics of Plasmas, 2010, 17, .	1.9	67
43	High temperature Mars atmosphere. Part I: transport cross sections. European Physical Journal D, 2009, 54, 607-612.	1.3	73
44	High temperature Mars atmosphere. Part II: transport properties. European Physical Journal D, 2009, 54, 613-621.	1.3	25
45	Thermodynamics and transport properties of thermal plasmas: the role of electronic excitation. Journal Physics D: Applied Physics, 2009, 42, 194005.	2.8	31
46	Fully Coupled Maxwell/Navier-Stokes Simulation of Electromagnetic Hypersonics Including Accurate Transport Models. , 2009, , .		6
47	Transport Properties of High-Temperature Jupiter-Atmosphere Components. , 2009, , .		11
48	Collision Integrals for Interactions Involving Atoms in Electronically Excited States. Journal of Physical Chemistry A, 2009, 113, 15250-15256.	2.5	18
49	Quantum Zeno Effect in a Model Multilevel Molecule. Journal of Physical Chemistry A, 2009, 113, 14875-14886.	2.5	1
50	Experimental and theoretical comparison of single-pulse and double-pulse laser induced breakdown spectroscopy on metallic samples. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2008, 63, 805-816.	2.9	144
51	Collision integrals of oxygen atoms and ions in electronically excited states. Chemical Physics, 2008, 344, 13-20.	1.9	12
52	Transport Properties of Partially Ionized Argon in a Magnetic Field. Journal of Thermophysics and Heat Transfer, 2008, 22, 424-433.	1.6	7
53	Cutoff criteria of electronic partition functions and transport properties of atomic hydrogen thermal plasmas. Physics of Plasmas, 2008, 15, .	1.9	17
54	Plasma kinetics issues in an ESA study for a plasma laboratory in space. Plasma Physics and Controlled Fusion, 2008, 50, 074016.	2.1	1

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55	Transport Properties of Air Plasmas in the Presence of Magnetic Field. , 2008, , .		2
56	The Role of Electronically Excited States on Transport Properties of Air Plasmas. , 2008, , .		1
57	Transport Properties of High-Temperature Mars-Atmosphere Components. , 2007, , .		10
58	Transport Properties of Partially Ionized Argon in a Magnetic Field. , 2007, , .		3
59	Non-equilibrium plasma kinetics: a state-to-state approach. Plasma Sources Science and Technology, 2007, 16, S30-S44.	3.1	101
60	Effect of electronic excited states on transport in magnetized hydrogen plasma. Physics of Plasmas, 2007, 14, 022303.	1.9	54
61	Transport of internal electronic energy in atomic hydrogen thermal plasmas. Physics of Plasmas, 2007, 14, .	1.9	31
62	Classical transport collision integrals for a Lennard-Jones like phenomenological model potential. Chemical Physics Letters, 2007, 445, 133-139.	2.6	81
63	Reduction of State-to-State Kinetics to Macroscopic Models in Hypersonic Flows. Journal of Thermophysics and Heat Transfer, 2006, 20, 477-486.	1.6	94
64	Monte Carlo simulation of light scattering spectra in atomic gases. Chemical Physics Letters, 2006, 422, 571-574.	2.6	17
65	Convergence of Chapman-Enskog calculation of transport coefficients of magnetized argon plasma. Physics of Plasmas, 2006, 13, 072307.	1.9	35
66	Dynamics of Fluid Dynamics Fluctuations by Particle Simulations. AIP Conference Proceedings, 2005, , .	0.4	1
67	MHD of Aircraft Re-entry: Limits and Perspectives. AIP Conference Proceedings, 2005, , .	0.4	0
68	Transport Properties of Equilibrium Argon Plasma in a Magnetic Field. AIP Conference Proceedings, 2005, , .	0.4	0
69	On the Reduction of State to State Chemical-Physical Models to Hybrid Macroscopic Models in Hypersonic Flows. , 2005, , .		0
70	Direct Monte Carlo Methods in Nonequilibrium Kinetics. Contributions To Plasma Physics, 2004, 44, 485-491.	1.1	2
71	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
72	Effect of translational kinetics on chemical rates in a direct simulation Monte Carlo model gas phase detonation. Chemical Physics Letters, 2003, 380, 383-390.	2.6	13

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73	Direct Monte Carlo Simulation of Oxygen Dissociation Behind Shock Waves. , 2003, , .		3
74	Particle kinetic modelling of rarefied gases and plasmas. Plasma Sources Science and Technology, 2003, 12, S89-S97.	3.1	5
75	Particle Simulation of Detonation Waves in Rarefied Gases. AIP Conference Proceedings, 2003, , .	0.4	0
76	Monte Carlo simulation of nearly kinematic shock fronts in rarefied gases. EPJ Applied Physics, 2002, 17, 233-241.	0.7	10
77	Shock Waves Produced by Heat Deposition in Rarefied Gases. , 2002, , .		0
78	Direct simulation of non-equilibrium kinetics under shock conditions in nitrogen. Chemical Physics Letters, 2002, 360, 31-37.	2.6	58
79	Simulation of nitrogen dissociation in a strong shock wave. , 2001, , .		1
80	Calculation of Transport Coefficients with Vibrational Nonequilibrium. Journal of Thermophysics and Heat Transfer, 2001, 15, 70-75.	1.6	6
81	Models for gas-phase coherent kinetics including correlations with flow quantities. Chemical Physics, 2001, 264, 211-220.	1.9	3
82	Gas-surface scattering models for particle fluid dynamics: a comparison between analytical approximate models and molecular dynamics calculations. Chemical Physics Letters, 2000, 320, 245-254.	2.6	33
83	A Monte Carlo model for the non-equilibrium coherent kinetics of ensembles of two level systems. Chemical Physics Letters, 2000, 316, 311-317.	2.6	5
84	Direct simulation of non-linear interparticle collisional relaxation of ensembles of two-level systems. Chemical Physics, 2000, 256, 265-273.	1.9	7
85	Non-equilibrium vibrational distributions and transport coefficients of N ₂ (v)â€“N mixtures. Chemical Physics Letters, 1999, 308, 463-472.	2.6	16
86	DSMC modelling of vibrational and chemical kinetics for a reacting gas mixture. Chemical Physics Letters, 1998, 289, 141-149.	2.6	32