

Mario Lino da Silva

List of Publications by Year in descending order

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52
papers

784
citations

516710

16
h-index

526287

27
g-index

52
all docs

52
docs citations

52
times ranked

572
citing authors

#	ARTICLE	IF	CITATIONS
1	The LibOn Kinetics Boltzmann solver. Plasma Sources Science and Technology, 2019, 28, 043001.	3.1	79
2	Kinetics of highly vibrationally excited O ₂ (X) molecules in inductively-coupled oxygen plasmas. Plasma Sources Science and Technology, 2018, 27, 045006.	3.1	56
3	State-Resolved Dissociation Rates for Extremely Nonequilibrium Atmospheric Entries. Journal of Thermophysics and Heat Transfer, 2007, 21, 40-49.	1.6	54
4	Vibrational distributions in N ₂ with an improved calculation of energy levels using the RKR method. Chemical Physics, 2008, 348, 187-194.	1.9	51
5	The case for <i>in situ</i> resource utilisation for oxygen production on Mars by non-equilibrium plasmas. Plasma Sources Science and Technology, 2017, 26, 11LT01.	3.1	51
6	Two-temperature models for nitrogen dissociation. Chemical Physics, 2007, 342, 275-287.	1.9	44
7	An adaptive line-by-line statistical model for fast and accurate spectral simulations in low-pressure plasmas. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 108, 106-125.	2.3	44
8	Arrays of radiative transition probabilities for plasmas. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 102, 348-386.	2.3	41
9	A multiquantum dataset for vibrational excitation and dissociation in high-temperature O ₂ -O ₂ collisions. Chemical Physics Letters, 2012, 531, 28-33.	2.6	37
10	Nonequilibrium Dissociation Processes in Hyperbolic Atmospheric Entries. Journal of Thermophysics and Heat Transfer, 2007, 21, 303-310.	1.6	32
11	Non-equilibrium kinetics in N ₂ discharges and post-discharges: a full picture by modelling and impact on the applications. Plasma Sources Science and Technology, 2011, 20, 024007.	3.1	31
12	A review of non-equilibrium dissociation rates and models for atmospheric entry studies. Plasma Sources Science and Technology, 2009, 18, 034023.	3.1	30
13	Contribution of CO ₂ IR Radiation to Martian Entries Radiative Wall Fluxes. , 2011, , .		29
14	Microwave plasma source operating with atmospheric pressure air-water mixtures. Journal of Applied Physics, 2012, 112, .	2.5	27
15	Heavy Particle Impact Vibrational Excitation and Dissociation Processes in CO ₂ . Journal of Physical Chemistry A, 2021, 125, 493-512.	2.5	19
16	Radiation from an equilibrium CO ₂ -N ₂ plasma in the [250-850 nm] spectral region: I. Experiment. Plasma Sources Science and Technology, 2008, 17, 035012.	3.1	18
17	Radiation from an equilibrium CO ₂ -N ₂ plasma in the [250-850 nm] spectral region: II. Spectral modelling. Plasma Sources Science and Technology, 2008, 17, 035013.	3.1	16
18	Air-water "tornado"-type microwave plasmas applied for sugarcane biomass treatment. Journal Physics D: Applied Physics, 2014, 47, 055201.	2.8	16

#	ARTICLE	IF	CITATIONS
19	GPRD, a database for the spectral properties of diatomic molecules of atmospheric interest. Journal of Molecular Spectroscopy, 2006, 236, 148-149.	1.2	12
20	Hot and super-hot hydrogen atoms in microwave plasma. Applied Physics Letters, 2009, 95, .	3.3	10
21	Computational fluid radiative dynamics of the Galileo Jupiter entry. Physics of Fluids, 2019, 31, 106104.	4.0	10
22	Non-Boltzmann Analysis of Hypersonic Air Re-Entry Flows. , 2014, , .		9
23	Nonequilibrium dissociation and recombination rates in nitrogen: From shock waves to discharge conditions. Chemical Physics, 2009, 358, 123-131.	1.9	7
24	Qualification of the European Shock-Tube for High Enthalpy Research. , 2020, , .		7
25	Influence of nitrogen impurities on the formation of active species in Ar-O ₂ plasmas. EPJ Applied Physics, 2011, 56, 24004.	0.7	6
26	CDSdv: A compact database for the modeling of high-temperature CO_2 radiation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 245, 106848.	2.3	6
27	Modelling of a CO ₂ -N ₂ Plasma Flow in a Supersonic Arcjet Facility. Journal of Thermophysics and Heat Transfer, 2006, 20, 680-688.	1.6	5
28	Kinetic simulation of discharges and afterglows in molecular gases. High Temperature Material Processes, 2010, 14, 141-156.	0.6	5
29	A Line-by-Line Spectroscopic Code for the Simulation of Plasma Radiation During Planetary Entries: The SESAM Code. , 2004, , .		4
30	Rotational nonequilibrium in state-resolved models for shock-heated flows. Chemical Physics, 2012, 398, 96-103.	1.9	4
31	SPARK: A Software Package for Aerodynamics, Radiation and Kinetics. , 2016, , .		4
32	Radiative Trail of the PHOENIX Entry. , 2009, , .		3
33	Modelling and Experimental Analysis of CO ₂ /N ₂ Plasma Flows With and Without the Presence of an Obstacle. , 2003, , .		2
34	Modelling of the Arc-Jet Plasma Flow in the SR5 Nozzle Using a Thermochemical Nonequilibrium and a State-to-State Approach. AIP Conference Proceedings, 2005, , .	0.4	2
35	Mars EXPRESS observation of the PHOENIX entry: simulations, planning, results and lessons learned. CEAS Space Journal, 2014, 6, 3-11.	2.3	2
36	High-Pressure H ₂ /He/O ₂ Combustion Experiments for the Design of the ESTHER Shock-Tube Driver. , 2016, , .		2

#	ARTICLE	IF	CITATIONS
37	Refitting of detailed CO2 IR databases to vibrationally specific databases tailored for aerothermodynamic flows. , 2018, , .		2
38	Refitting of Ro-Vibrational Specific CO2 Radiation Database to Vibrationally Specific. , 2019, , .		2
39	Modelling of arc jet plasma flow in transitional regime by Navier Stokes and state-to-state coupling. AIP Conference Proceedings, 2005, , .	0.4	1
40	Strong Shock-Wave Interaction With an Expanding Plasma Flow: Influence on the CN Molecule Internal Modes. AIP Conference Proceedings, 2005, , .	0.4	1
41	Coupled Hydrodynamic/State-Specific High-Temperature Modeling of Nitrogen Vibrational Excitation and Dissociation. , 2013, , .		1
42	Feasibility study of a control system based on PLC and EPICS for the ESTHER combustion gas injection. , 2015, , .		1
43	Hypersonic transatmospheric and exoatmospheric vehicle design using the SUAVE tool. CEAS Space Journal, 2020, 12, 171-190.	2.3	1
44	Evolution of the Internal Energy States of a Molecule Through an Hypersonic Bow Shock. , 2004, , .		0
45	Nonequilibrium Dissociation Processes in Hyperbolic Atmospheric Entries. , 2006, , .		0
46	Plasma Radiation in Earth and Mars Atmospheric Entries. , 2006, , .		0
47	Thermodynamics equilibrium and non equilibrium of plasma flows. IOP Conference Series: Materials Science and Engineering, 2012, 29, 012005.	0.6	0
48	The gas injection control and diagnostic system for the ESTHER shock tube. , 2016, , .		0
49	Reply to Comment on "The case for in situ resource utilisation for oxygen production on Mars by non-equilibrium plasmas"™. Plasma Sources Science and Technology, 2018, 27, 028002.	3.1	0
50	High Temperature Applications Of New Vibrationally Specific Kinetics and Radiation Models For CO2. , 2020, , .		0
51	MODELING OF THE RADIATIVE EMISSION OF A PLASMA SURROUNDING A SPACE PROBE ENTERING MARS ATMOSPHERE. High Temperature Material Processes, 2003, 7, 115-125.	0.6	0
52	Comment on "Collision and radiative processes in emission of atmospheric carbon dioxide"™. Journal Physics D: Applied Physics, 2022, 55, 358001.	2.8	0