Jean-Paul Booth

List of Publications by Year
in descending order

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103	4,218	94433	118850
papers	citations	37 h-index	62 g-index

104	104	104	1641
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Standing wave and skin effects in large-area, high-frequency capacitive discharges. Plasma Sources Science and Technology, 2002, 11, 283-293.	3.1	324
2	CF2 production and loss mechanisms in fluorocarbon discharges: Fluorine-poor conditions and polymerization. Journal of Applied Physics, 1999, 85, 3952-3959.	2.5	173
3	A novel electrostatic probe method for ion flux measurements. Plasma Sources Science and Technology, 1996, 5, 677-684.	3.1	152
4	CFx radical production and loss in a CF4 reactive ion etching plasma: Fluorine rich conditions. Journal of Applied Physics, 1999, 85, 3097-3107.	2.5	149
5	Oxygen and fluorine atom kinetics in electron cyclotron resonance plasmas by timeâ€resolved actinometry. Journal of Applied Physics, 1991, 70, 611-620.	2.5	148
6	Spatially and temporally resolved laserâ€induced fluorescence measurements of CF2and CF radicals in a CF4rf plasma. Journal of Applied Physics, 1989, 66, 5251-5257.	2.5	143
7	Ion flux nonuniformities in large-area high-frequency capacitive discharges. Applied Physics Letters, 2003, 83, 243-245.	3.3	135
8	Oxygen atom actinometry reinvestigated: Comparison with absolute measurements by resonance absorption at 130 nm. Journal of Applied Physics, 1991, 69, 618-626.	2.5	108
9	Dual-frequency capacitive radiofrequency discharges: effect of low-frequency power on electron density and ion flux. Plasma Sources Science and Technology, 2010, 19, 015005.	3.1	101
10	Strong Ionization Asymmetry in a Geometrically Symmetric Radio Frequency Capacitively Coupled Plasma Induced by Sawtooth Voltage Waveforms. Physical Review Letters, 2015, 114, 125002.	7.8	101
11	Absolute radical densities in etching plasmas determined by broad-band UV absorption spectroscopy. Plasma Sources Science and Technology, 1998, 7, 423-430.	3.1	91
12	Electron beam pulses produced by heliconâ€wave excitation. Physics of Plasmas, 1995, 2, 1807-1809.	1.9	88
13	Optical and electrical diagnostics of fluorocarbon plasma etching processes. Plasma Sources Science and Technology, 1999, 8, 249-257.	3.1	85
14	Separate control of the ion flux and ion energy in capacitively coupled radio-frequency discharges using voltage waveform tailoring. Applied Physics Letters, 2012, 101, 124104.	3.3	85
15	Enhanced sheath heating in capacitively coupled discharges due to non-sinusoidal voltage waveforms. Applied Physics Letters, 2012, 100, .	3.3	79
16	Nanocrystalline silicon film growth morphology control through RF waveform tailoring. Journal Physics D: Applied Physics, 2010, 43, 412001.	2.8	73
17	Secondary electron induced asymmetry in capacitively coupled plasmas. Journal Physics D: Applied Physics, 2013, 46, 135201.	2.8	71
18	A novel technique for plasma density measurement using surface-wave transmission spectra. Plasma Sources Science and Technology, 2005, 14, 777-786.	3.1	68

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19	Electron heating in capacitively coupled plasmas revisited. Plasma Sources Science and Technology, 2014, 23, 035010.	3.1	66
20	Control of the ion flux and ion energy in CCP discharges using non-sinusoidal voltage waveforms. Journal Physics D: Applied Physics, 2012, 45, 395203.	2.8	62
21	Radio-frequency capacitively coupled plasmas excited by tailored voltage waveforms: comparison of experiment and particle-in-cell simulations. Journal Physics D: Applied Physics, 2013, 46, 235201.	2.8	62
22	Chemical kinetics in an atmospheric pressure helium plasma containing humidity. Physical Chemistry Chemical Physics, 2018, 20, 24263-24286.	2.8	62
23	Laser induced fluorescence detection of CF and CF2radicals in a CF4/O2plasma. Applied Physics Letters, 1987, 50, 318-319.	3.3	61
24	Absolute atomic oxygen and nitrogen densities in radio-frequency driven atmospheric pressure cold plasmas: Synchrotron vacuum ultra-violet high-resolution Fourier-transform absorption measurements. Applied Physics Letters, 2013, 103, .	3.3	60
25	Kinetics of highly vibrationally excited O<sub>2(X) molecules in inductively-coupled oxygen plasmas. Plasma Sources Science and Technology, 2018, 27, 045006.	3.1	56
26	Ion flux asymmetry in radiofrequency capacitively-coupled plasmas excited by sawtooth-like waveforms. Plasma Sources Science and Technology, 2014, 23, 065010.	3.1	54
27	Experimental and simulation study of a capacitively coupled oxygen discharge driven by tailored voltage waveforms. Plasma Sources Science and Technology, 2016, 25, 015004.	3.1	51
28	The transition from symmetric to asymmetric discharges in pulsed 13.56 MHz capacitively coupled plasmas. Journal of Applied Physics, 1997, 82, 552-560.	2.5	50
29	Laser-induced fluorescence detection of as a primary product of Si and reactive ion etching with gas. Plasma Sources Science and Technology, 1997, 6, 349-360.	3.1	49
30	Microcrystalline silicon solar cells deposited using a plasma process excited by tailored voltage waveforms. Applied Physics Letters, 2012, 100, .	3.3	47
31	High mass positive ions and molecules in capacitively-coupled radio-frequency CF4 plasmas. Journal of Applied Physics, 1999, 85, 7562-7568.	2.5	43
32	CF and CF2radical kinetics and transport in a pulsed CF4ICP. Plasma Sources Science and Technology, 2005, 14, 273-282.	3.1	42
33	QDB: a new database of plasma chemistries and reactions. Plasma Sources Science and Technology, 2017, 26, 055014.	3.1	42
34	Electric field measurements in discharges by 2+1 photon laser Stark spectroscopy of atomic hydrogen. Applied Physics Letters, 1994, 65, 819-821.	3.3	41
35	Power coupling mode transitions induced by tailored voltage waveforms in capacitive oxygen discharges. Plasma Sources Science and Technology, 2017, 26, 034002.	3.1	41
36	CF2kinetics and related mechanisms in the presence of polymers in fluorocarbon plasmas. Journal of Applied Physics, 1997, 81, 2124-2130.	2.5	39

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37	Hydrogenated microcrystalline silicon thin films deposited by RF-PECVD under low ion bombardment energy using voltage waveform tailoring. Journal of Non-Crystalline Solids, 2012, 358, 1974-1977.	3.1	39
38	Oxygen (³P) atom recombination on a Pyrex surface in an O₂ plasma. Plasma Sources Science and Technology, 2019, 28, 055005.	3.1	38
39	Foundations of plasma surface functionalization of polymers for industrial and biological applications. Plasma Sources Science and Technology, 2022, 31, 103001.	3.1	38
40	Surface loss rates of H and Cl radicals in an inductively coupled plasma etcher derived from time-resolved electron density and optical emission measurements. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2010, 28, 360-372.	2.1	36
41	Use of the ultraviolet absorption spectrum of CF2 to determine the spatially resolved absolute CF2 density, rotational temperature, and vibrational distribution in a plasma etching reactor. Journal of Chemical Physics, 2004, 120, 9499-9508.	3.0	35
42	Measurements of characteristic transients of planar electrostatic probes in cold plasmas. Review of Scientific Instruments, 2000, 71, 2722-2727.	1.3	33
43	Fluorine negative ion density measurement in a dual frequency capacitive plasma etch reactor by cavity ring-down spectroscopy. Applied Physics Letters, 2006, 88, 151502.	3.3	33
44	TALIF measurements of oxygen atom density in the afterglow of a capillary nanosecond discharge. Plasma Sources Science and Technology, 2015, 24, 025010.	3.1	33
45	Similarity law for rf breakdown. Europhysics Letters, 2008, 82, 15001.	2.0	31
46	Ozone kinetics in low-pressure discharges: vibrationally excited ozone and molecule formation on surfaces. Plasma Sources Science and Technology, 2013, 22, 055018.	3.1	30
47	Chlorine dissociation fraction in an inductively coupled plasma measured by ultraviolet absorption spectroscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 225-229.	2.1	29
48	Oxygen atom kinetics in CO₂ plasmas ignited in a DC glow discharge. Plasma Sources Science and Technology, 2019, 28, 075010.	3.1	29
49	Quantitative Laser-Induced Fluorescence Spectroscopy of the CF A2Î£+â^'X2Î Transition:Â Electronic Transition Dipole Moment Function and Predissociation. The Journal of Physical Chemistry, 1996, 100, 47-53.	2.9	28
50	Frequency dependence of the electrical asymmetry effect in dual-frequency capacitively coupled discharges. Applied Physics Letters, 2013, 102, .	3.3	28
51	Control and optimization of the slope asymmetry effect in tailored voltage waveforms for capacitively coupled plasmas. Plasma Sources Science and Technology, 2015, 24, 015021.	3.1	28
52	CF Aâ€Š2Î£+â€“Xâ€Š2Î and Bâ€Š2Î”â€“Xâ€Š2Î study by broadband absorption spectroscopy in a plasma etch reactor: Determination of transition probabilities, CF Xâ€Š2Î concentrations, and gas temperatures. Journal of Chemical Physics, 2003, 118, 622-632.	3.0	27
53	Controlled production of atomic oxygen and nitrogen in a pulsed radio-frequency atmospheric-pressure plasma. Journal Physics D: Applied Physics, 2017, 50, 455204.	2.8	27
54	Multi frequency matching for voltage waveform tailoring. Plasma Sources Science and Technology, 2018, 27, 095012.	3.1	26

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55	Capacitively coupled radio-frequency plasmas excited by tailored voltage waveforms. Plasma Physics and Controlled Fusion, 2013, 55, 124002.	2.1	25
56	Global (volume-averaged) model of inductively coupled chlorine plasma: Influence of Cl wall recombination and external heating on continuous and pulse-modulated plasmas. Plasma Sources Science and Technology, 2014, 23, 045002.	3.1	24
57	A computational analysis of the vibrational levels of molecular oxygen in low-pressure stationary and transient radio-frequency oxygen plasma. Plasma Sources Science and Technology, 2016, 25, 025025.	3.1	24
58	Plasma non-uniformity in a symmetric radiofrequency capacitively-coupled reactor with dielectric side-wall: a two dimensional particle-in-cell/Monte Carlo collision simulation. Plasma Sources Science and Technology, 2018, 27, 025006.	3.1	24
59	Highly vibrationally excited O₂molecules in low-pressure inductively-coupled plasmas detected by high sensitivity ultra-broad-band optical absorption spectroscopy. Plasma Sources Science and Technology, 2015, 24, 042001.	3.1	22
60	Absolute atomic chlorine densities in a Cl2inductively coupled plasma determined by two-photon laser-induced fluorescence with a new calibration method. Journal Physics D: Applied Physics, 2012, 45, 195201.	2.8	21
61	Laser Induced Fluorescence and Optical Emission Studies of Fluorocarbon Plasmas. Materials Research Society Symposia Proceedings, 1987, 98, 135.	0.1	19
62	Electron transport coefficients in mixtures of CF4and CF2radicals. Plasma Sources Science and Technology, 2009, 18, 035008.	3.1	19
63	Direct observation of ozone formation on SiO₂ surfaces in O₂ discharges. Journal Physics D: Applied Physics, 2013, 46, 032001.	2.8	19
64	Controlling the shape of the ion energy distribution at constant ion flux and constant mean ion energy with tailored voltage waveforms. Plasma Sources Science and Technology, 2016, 25, 025006.	3.1	19
65	The role of thermal energy accommodation and atomic recombination probabilities in low pressure oxygen plasmas. Plasma Physics and Controlled Fusion, 2017, 59, 024004.	2.1	19
66	Experimental demonstration of multifrequency impedance matching for tailored voltage waveform plasmas. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	2.1	19
67	Radio frequency current-voltage probe for impedance and power measurements in multi-frequency unmatched loads. Review of Scientific Instruments, 2013, 84, 015001.	1.3	18
68	Chemical kinetics and density measurements of OH in an atmospheric pressure He + O2 + H2O radiofrequency plasma. Journal Physics D: Applied Physics, 2021, 54, 285201.	2.8	17
69	â€œAnomalousâ€•collisionality in low-pressure plasmas. Physics of Plasmas, 2013, 20, 124503.	1.9	16
70	Theory for the self-bias formation in capacitively coupled plasmas excited by arbitrary waveforms. Plasma Sources Science and Technology, 2013, 22, 065013.	3.1	16
71	Determination of absolute O(³P) and O₂(a¹ Î” _g) densities and kinetics in fully modulated O₂ dc glow discharges from the O₂(X³ Î£ _g ^â) afterglow recovery dynamics. Plasma Sources Science and Technology, 2020, 29, 115009.	3.1	15
72	Equivalence of the hard-wall and kinetic-fluid models of collisionless electron heating in capacitively coupled discharges. Plasma Sources Science and Technology, 2014, 23, 015016.	3.1	14

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73	High sensitivity ultra-broad-band absorption spectroscopy of inductively coupled chlorine plasma. Plasma Sources Science and Technology, 2016, 25, 035019.	3.1	14
74	On the formation and loss of S2molecules in a reactive ion etching reactor operating with SF6. Journal of Applied Physics, 1995, 78, 6957-6966.	2.5	13
75	Pressure broadening of atomic oxygen two-photon absorption laser induced fluorescence. Plasma Sources Science and Technology, 2016, 25, 06LT03.	3.1	13
76	Experimental benchmark of kinetic simulations of capacitively coupled plasmas in molecular gases. Plasma Physics and Controlled Fusion, 2018, 60, 014010.	2.1	13
77	Chlorine atom densities in the $(3{m p}^{5})^{2} {m P}_{1/2}^{m o}$ excited spinâ€“orbit state measured by two-photon absorption laser-induced fluorescence in a chlorine inductively coupled plasma. Journal Physics D: Applied Physics, 2013, 46, 295203.	2.8	12
78	Measurement of the isotope shift of the $2{{m{p}}}^{4}{}^{3}{{P}}_{2} ightarrow 2{{m{p}}}^{3}3{m{p}}{}^{3}{{P}}_{2}$ two-photon transition of O I and a revision of the triplet energy levels of atomic oxygen. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 065003.	1.5	11
79	Broadband absorption and ab initio results on the CF Câ€Š2Î£+â€“Xâ€Š2Î system. Journal of Chemical Physics, 2003, 118, 1206-1213.	3.0	10
80	A dc-pulsed capacitively coupled planar Langmuir probe for plasma process diagnostics and monitoring. Plasma Sources Science and Technology, 2012, 21, 065004.	3.1	9
81	Calculated electron impact dissociation cross sections for molecular chlorine (Cl₂). Plasma Sources Science and Technology, 2018, 27, 095008.	3.1	9
82	Plasma Diagnostics by Laser-Induced Fluorescence. Materials Research Society Symposia Proceedings, 1988, 117, 47.	0.1	8
83	Fine-structure-resolved electron collisions from chlorine atoms in the(3p5)2P3/2oand(3p5)2P1/2ostates. Physical Review A, 2013, 87, .	2.5	8
84	Capacitively coupled hydrogen plasmas sustained by tailored voltage waveforms: vibrational kinetics and negative ions control. Plasma Sources Science and Technology, 2017, 26, 075007.	3.1	8
85	Quenching of O₂(b¹Î£_g ⁺) by O(³P) atoms. Effect of gas temperature. Plasma Sources Science and Technology, 2022, 31, 065012.	3.1	8
86	Effect of frequency on the uniformity of symmetrical RF CCP discharges. Plasma Sources Science and Technology, 2018, 27, 055012.	3.1	7
87	Fast quenching of metastable O₂(a ¹Î”_g) and O₂(b) Tj ETQq1 1 0.784314 rgBT Plasma Sources Science and Technology, 2020, 29, 115020.	3.1	7
88	Diagnostics of etching plasmas. Pure and Applied Chemistry, 2002, 74, 397-400.	1.9	6
89	Tailored Voltage Waveform Deposition of Microcrystalline Silicon Thin Films from Hydrogen-Diluted Silane and Silicon Tetrafluoride: Optoelectronic Properties of Films. Japanese Journal of Applied Physics, 2012, 51, 08HF01.	1.5	6
90	Normal regime of the weak-current mode of an rf capacitive discharge. Plasma Sources Science and Technology, 2013, 22, 015018.	3.1	6

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91	The Effect of Discharge Chamber Geometry on the Characteristics of Low-Pressure RF Capacitive Discharges. IEEE Transactions on Plasma Science, 2007, 35, 416-424.	1.3	5
92	Experimental and numerical study of fast gas heating and O atom production in a capillary nanosecond discharge. , 2014, , .		5
93	Developments of Basic Researches on Fluorocarbon Plasmas for Material Processing. 7. CFx Radical Creation and Destruction at Surfaces in Fluorocarbon Plasmas.. Journal of Plasma and Fusion Research, 1999, 75, 821-829.	0.4	5
94	Metastable CF and CF2molecules in CF4inductively-coupled plasmas. Plasma Sources Science and Technology, 2006, 15, 112-116.	3.1	4
95	Gas molecule dissociation effect on rf discharge burning in low pressure ammonia. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 2238-2243.	2.1	3
96	Tailored Voltage Waveform Deposition of Microcrystalline Silicon Thin Films from Hydrogen-Diluted Silane and Silicon Tetrafluoride: Optoelectronic Properties of Films. Japanese Journal of Applied Physics, 2012, 51, 08HF01.	1.5	3
97	Control of Nanocrystalline Silicon Growth Phase and Deposition Rate through Voltage Waveform Tailoring during PECVD. Materials Research Society Symposia Proceedings, 2011, 1339, 1.	0.1	2
98	Gas temperature measurement in Ar and Ar-Cl<inf>2</inf> based ICP discharge: Comparison between experiments and simulations. , 2012, , .		1
99	Global model of inductively coupled radio-frequency Cl<inf>2</inf> plasma: Dissociation, excitation and power modulation. , 2013, , .		0
100	Electron power absorption dynamics and ion energy distributions in capacitive discharges driven by customized voltage waveforms in argon and CF4. , 2016, , .		0
101	Single-mode nanosecond Ti:Sapphire laser for high resolution Two-Photon Absorption Laser induced-Fluorescence (TALIF). , 2017, , .		0
102	Kinetics of Radicals in Fluorocarbon Plasmas for Treatment of Polymers. , 1997, , 129-146.		0
103	Optical Diagnostics of Plasmas: A Tool for Process Control. , 1997, , 339-358.		0