

# Alan Howling

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

102 papers	2,731 citations	32 h-index	49 g-index
108 ext. papers	2,932 ext. citations	3 avg, IF	4.52 L-index

#	Paper	IF	Citations
102	A 1.5D fluidMonte Carlo model of a hydrogen helicon plasma. <i>Plasma Physics and Controlled Fusion</i> , <b>2022</b> , 64, 055012	2	0
101	Mechanisms of Plasma-Seed Treatments as a Potential Seed Processing Technology. <i>Frontiers in Physics</i> , <b>2021</b> , 9,	3.9	15
100	Negative hydrogen ion dynamics inside the plasma volume of a linear device: Estimates from particle-in-cell calculations. <i>Physics of Plasmas</i> , <b>2021</b> , 28, 063503	2.1	2
99	Helicon wave plasma generated by a resonant birdcage antenna: magnetic field measurements and analysis in the RAID linear device. <i>Plasma Sources Science and Technology</i> , <b>2021</b> , 30, 075023	3.5	3
98	Latest experimental and theoretical advances in the production of negative ions in caesium-free plasmas. <i>European Physical Journal D</i> , <b>2021</b> , 75, 1	1.3	5
97	Experimental study of extended timescale dynamics of a plasma wakefield driven by a self-modulated proton bunch. <i>Physical Review Accelerators and Beams</i> , <b>2021</b> , 24,	1.8	2
96	Cold Atmospheric Plasma Inactivation of Microbial Spores Compared on Reference Surfaces and Powder Particles. <i>Food and Bioprocess Technology</i> , <b>2020</b> , 13, 827-837	5.1	11
95	Application of Thomson scattering to helicon plasma sources. <i>Journal of Plasma Physics</i> , <b>2020</b> , 86,	2.7	3
94	Experimental study of wakefields driven by a self-modulating proton bunch in plasma. <i>Physical Review Accelerators and Beams</i> , <b>2020</b> , 23,	1.8	4
93	Proton Bunch Self-Modulation in Plasma with Density Gradient. <i>Physical Review Letters</i> , <b>2020</b> , 125, 264801	14	2
92	Development of a plasma electroacoustic actuator for active noise control applications. <i>Journal Physics D: Applied Physics</i> , <b>2020</b> , 53, 495202	3	2
91	Multiple dehydrogenation reactions of negative ions in low pressure silane plasma chemistry. <i>Plasma Sources Science and Technology</i> , <b>2020</b> , 29, 105015	3.5	
90	Negative ion characterization in a helicon plasma source for fusion neutral beams by cavity ring-down spectroscopy and Langmuir probe laser photodetachment. <i>Nuclear Fusion</i> , <b>2020</b> , 60, 026007	3.3	6
89	Slip Ring Test Assembly With Increased Breakdown Voltage Limit for High-Voltage Bus Satellites. <i>IEEE Aerospace and Electronic Systems Magazine</i> , <b>2020</b> , 35, 32-36	2.4	2
88	Gas breakdown mitigation in satellite slip rings. <i>Aerospace Science and Technology</i> , <b>2019</b> , 85, 229-233	4.9	2
87	Two-fluid plasma model for radial Langmuir probes as a converging nozzle with sonic choked flow, and sonic passage to supersonic flow. <i>Physics of Plasmas</i> , <b>2019</b> , 26, 044502	2.1	4
86	First B-dot measurements in the RAID device, an alternative negative ion source for DEMO neutral beams. <i>Fusion Engineering and Design</i> , <b>2019</b> , 146, 1140-1144	1.7	8

85	Magnetic field configurational study on a helicon-based plasma source for future neutral beam systems. <i>Plasma Sources Science and Technology</i> , <b>2019</b> , 28, 095005	3.5	0
84	RF bias to suppress post-oxidation of B-Si:H films deposited by inductively-coupled plasma using a planar RF resonant antenna. <i>Vacuum</i> , <b>2018</b> , 147, 58-64	3.7	1
83	Two-fluid solutions for Langmuir probes in collisionless and isothermal plasma, over all space and bias potential. <i>Physics of Plasmas</i> , <b>2018</b> , 25, 093519	2.1	4
82	Cavity ring-down spectroscopy to measure negative ion density in a helicon plasma source for fusion neutral beams. <i>Review of Scientific Instruments</i> , <b>2018</b> , 89, 103504	1.7	10
81	Spectroscopic characterization of H <sub>2</sub> and D <sub>2</sub> helicon plasmas generated by a resonant antenna for neutral beam applications in fusion. <i>Nuclear Fusion</i> , <b>2017</b> , 57, 036024	3.3	24
80	Electromagnetic, complex image model of a large area RF resonant antenna as inductive plasma source. <i>Plasma Sources Science and Technology</i> , <b>2017</b> , 26, 035010	3.5	4
79	Ion heating and flows in a high power helicon source. <i>Physics of Plasmas</i> , <b>2017</b> , 24, 063517	2.1	8
78	Helicon wave-generated plasmas for negative ion beams for fusion. <i>EPJ Web of Conferences</i> , <b>2017</b> , 157, 03014	0.3	22
77	Negative ion source development for a photoneutralization based neutral beam system for future fusion reactors. <i>New Journal of Physics</i> , <b>2016</b> , 18, 125005	2.9	30
76	Complex image method for RF antenna-plasma inductive coupling calculation in planar geometry. Part I: basic concepts. <i>Plasma Sources Science and Technology</i> , <b>2015</b> , 24, 065014	3.5	6
75	Complex image method for RF antenna-plasma inductive coupling calculation in planar geometry. Part II: measurements on a resonant network. <i>Plasma Sources Science and Technology</i> , <b>2015</b> , 24, 065015	3.5	3
74	R&D around a photoneutralizer-based NBI system (Siphore) in view of a DEMO Tokamak steady state fusion reactor. <i>Nuclear Fusion</i> , <b>2015</b> , 55, 123020	3.3	43
73	Industrial plasmas in academia. <i>Plasma Physics and Controlled Fusion</i> , <b>2015</b> , 57, 014010	2	6
72	Analysis of resonant planar dissipative network antennas for rf inductively coupled plasma sources. <i>Plasma Sources Science and Technology</i> , <b>2014</b> , 23, 015006	3.5	6
71	Direct current breakdown in gases for complex geometries from high vacuum to atmospheric pressure. <i>Journal Physics D: Applied Physics</i> , <b>2013</b> , 46, 285205	3	26
70	Resonant RF network antennas for large-area and large-volume inductively coupled plasma sources. <i>Plasma Sources Science and Technology</i> , <b>2013</b> , 22, 055021	3.5	20
69	Funnelling of rf current via a plasmoid through a grid hole in an rf capacitive plasma reactor. <i>Plasma Sources Science and Technology</i> , <b>2013</b> , 22, 055006	3.5	4
68	Generation of whistler-wave heated discharges with planar resonant RF networks. <i>Physical Review Letters</i> , <b>2013</b> , 111, 125005	7.4	6

67	Low ion energy RF reactor using an array of plasmas through a grounded grid. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2013</b> , 31, 021302	2.9	5
66	Plasma generation by inductive coupling with a planar resonant RF network antenna. <i>Journal Physics D: Applied Physics</i> , <b>2012</b> , 45, 082001	3	9
65	Resonant planar antenna as an inductive plasma source. <i>Journal of Applied Physics</i> , <b>2012</b> , 111, 083305	2.5	8
64	Plasma generation by inductive coupling with a planar resonant RF network antenna. <i>Journal Physics D: Applied Physics</i> , <b>2012</b> , 45, 409502	3	4
63	Plasma deposition in an ideal showerhead reactor: a two-dimensional analytical solution. <i>Plasma Sources Science and Technology</i> , <b>2012</b> , 21, 015005	3.5	19
62	Radio frequency breakdown between structured parallel plate electrodes with a millimetric gap in low pressure gases. <i>Physics of Plasmas</i> , <b>2010</b> , 17, 102111	2.1	5
61	Hydrogen-dominated plasma, due to silane depletion, for microcrystalline silicon deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2010</b> , 28, 989-995	2.9	6
60	Input silane concentration effect on the a-Si:H to $\mu$ -Si:H transition width. <i>Solar Energy Materials and Solar Cells</i> , <b>2010</b> , 94, 432-435	6.4	4
59	Non-intrusive plasma diagnostics for the deposition of large area thin film silicon. <i>Thin Solid Films</i> , <b>2009</b> , 517, 6218-6224	2.2	14
58	Uniformity of silicon microcrystallinity in large area RF capacitive reactors. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2008</b> , 16, 687-691	6.8	7
57	Plasma silane concentration as a determining factor for the transition from amorphous to microcrystalline silicon in SiH <sub>4</sub> /H <sub>2</sub> discharges. <i>Plasma Sources Science and Technology</i> , <b>2007</b> , 16, 80-89	3.5	97
56	Microcrystalline silicon deposited at high rate on large areas from pure silane with efficient gas utilization. <i>Solar Energy Materials and Solar Cells</i> , <b>2007</b> , 91, 495-502	6.4	33
55	Electromagnetic sources of nonuniformity in large area capacitive reactors. <i>Thin Solid Films</i> , <b>2007</b> , 515, 5059-5064	2.2	9
54	Optimization of the microcrystalline silicon deposition efficiency. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2007</b> , 25, 1198-1202	2.9	19
53	Plasma diagnostics as a tool for process optimization: the case of microcrystalline silicon deposition. <i>Plasma Physics and Controlled Fusion</i> , <b>2007</b> , 49, B411-B418	2	8
52	Fast equilibration of silane/hydrogen plasmas in large area RF capacitive reactors monitored by optical emission spectroscopy. <i>Plasma Sources Science and Technology</i> , <b>2007</b> , 16, 679-696	3.5	36
51	Application of the shaped electrode technique to a large area rectangular capacitively coupled plasma reactor to suppress standing wave nonuniformity. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2006</b> , 24, 1425-1430	2.9	22
50	Electromagnetic field nonuniformities in large area, high-frequency capacitive plasma reactors, including electrode asymmetry effects. <i>Plasma Sources Science and Technology</i> , <b>2006</b> , 15, 302-313	3.5	70

49	Comment on Ion energy uniformity in high-frequency capacitive discharges[Appl. Phys. Lett. 86, 021501 (2005)]. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 076101	3.4	11
48	Probe measurements of plasma potential nonuniformity due to edge asymmetry in large-area radio-frequency reactors: The telegraph effect. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 123308	2.5	24
47	Measurements and consequences of nonuniform radio frequency plasma potential due to surface asymmetry in large area radio frequency capacitive reactors. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2005</b> , 23, 922-926	2.9	8
46	Improving plasma uniformity using lens-shaped electrodes in a large area very high frequency reactor. <i>Journal of Applied Physics</i> , <b>2004</b> , 95, 4559-4564	2.5	111
45	Nonuniform radio-frequency plasma potential due to edge asymmetry in large-area radio-frequency reactors. <i>Journal of Applied Physics</i> , <b>2004</b> , 96, 5429-5440	2.5	46
44	High-efficiency p-i-n a-Si:H solar cells with low boron cross-contamination prepared in a large-area single-chamber PECVD reactor. <i>Thin Solid Films</i> , <b>2004</b> , 451-452, 525-530	2.2	39
43	Reduction of the boron cross-contamination for plasma deposition of p-i-n devices in a single-chamber large area radio-frequency reactor. <i>Thin Solid Films</i> , <b>2004</b> , 468, 222-225	2.2	16
42	Anion reactions in silane plasma. <i>Journal of Applied Physics</i> , <b>2002</b> , 91, 5571-5580	2.5	42
41	Rapid deposition of hydrogenated microcrystalline silicon by a high current DC discharge. <i>Thin Solid Films</i> , <b>2001</b> , 383, 11-14	2.2	3
40	Power laws for the spatial dependence of electrical parameters in the high-voltage capacitive RF sheath. <i>IEEE Transactions on Plasma Science</i> , <b>2000</b> , 28, 1713-1719	1.3	
39	A gas flow uniformity study in large-area showerhead reactors for RF plasma deposition. <i>Plasma Sources Science and Technology</i> , <b>2000</b> , 9, 205-209	3.5	32
38	The physics of plasma-enhanced chemical vapour deposition for large-area coating: industrial application to flat panel displays and solar cells. <i>Plasma Physics and Controlled Fusion</i> , <b>2000</b> , 42, B353-B363	2.6	69
37	On the powder formation in industrial reactive RF plasmas <b>2000</b> , 169-176		3
36	Applications of the cavity ring-down technique to a large-area rf-plasma reactor. <i>Plasma Sources Science and Technology</i> , <b>1999</b> , 8, 448-456	3.5	40
35	Fast Deposition of a-Si:H Layers and Solar Cells in a Large-Area (4000 cm <sup>2</sup> ) VHF-GD Reactor. <i>Materials Research Society Symposia Proceedings</i> , <b>1999</b> , 557, 121		16
34	Degree of dissociation measured by FTIR absorption spectroscopy applied to VHF silane plasmas. <i>Plasma Sources Science and Technology</i> , <b>1998</b> , 7, 114-118	3.5	38
33	Silicon oxide particle formation in RF plasmas investigated by infrared absorption spectroscopy and mass spectrometry. <i>Journal Physics D: Applied Physics</i> , <b>1998</b> , 31, 74-84	3	47
32	Large Area Deposition of Amorphous and Microcrystalline Silicon by Very High Frequency Plasma. <i>Materials Research Society Symposia Proceedings</i> , <b>1998</b> , 507, 541		11

31	Dust Particle Diagnostics in RF Plasma Deposition of Silicon and Silicon Oxide Films (Invited). <i>Materials Research Society Symposia Proceedings</i> , <b>1998</b> , 507, 547		18
30	Gas Phase and Particle Diagnostic of Hmdso Plasmas by Infrared Absorption Spectroscopy. <i>Materials Research Society Symposia Proceedings</i> , <b>1998</b> , 544, 65		1
29	A voltage uniformity study in large-area reactors for RF plasma deposition. <i>Plasma Sources Science and Technology</i> , <b>1997</b> , 6, 170-178	3.5	89
28	Partial-depth modulation study of anions and neutrals in low-pressure silane plasmas. <i>Plasma Sources Science and Technology</i> , <b>1996</b> , 5, 210-215	3.5	34
27	Global visualization of powder trapping in capacitive RF plasmas by two-dimensional laser scattering. <i>IEEE Transactions on Plasma Science</i> , <b>1996</b> , 24, 101-102	1.3	8
26	Particle agglomeration study in rf silane plasmas: In situ study by polarization-sensitive laser light scattering. <i>Journal of Applied Physics</i> , <b>1996</b> , 80, 2069-2078	2.5	87
25	From molecules to particles in silane plasmas. <i>Pure and Applied Chemistry</i> , <b>1996</b> , 68, 1017-1022	2.1	33
24	Sheath impedance effects in very high frequency plasma experiments. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>1996</b> , 14, 132-138	2.9	57
23	Anionic clusters in dusty hydrocarbon and silane plasmas. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>1996</b> , 14, 535-539	2.9	68
22	Spatiotemporal powder formation and trapping in radio frequency silane plasmas using two-dimensional polarization-sensitive laser scattering. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>1995</b> , 13, 918-926	2.9	56
21	Visible photoluminescence from hydrogenated silicon particles suspended in a silane plasma. <i>Journal of Applied Physics</i> , <b>1995</b> , 78, 61-66	2.5	25
20	Reconstruction of the time-averaged sheath potential profile in an argon radiofrequency plasma using the ion energy distribution. <i>Plasma Sources Science and Technology</i> , <b>1995</b> , 4, 373-378	3.5	16
19	Diagnostics of particle genesis and growth in RF silane plasmas by ion mass spectrometry and light scattering. <i>Plasma Sources Science and Technology</i> , <b>1994</b> , 3, 278-285	3.5	111
18	Time-resolved measurements of highly polymerized negative ions in radio frequency silane plasma deposition experiments. <i>Journal of Applied Physics</i> , <b>1994</b> , 75, 1340-1353	2.5	140
17	The role of metastable atoms in argon-diluted silane radiofrequency plasmas. <i>Journal Physics D: Applied Physics</i> , <b>1994</b> , 27, 1406-1411	3	46
16	Influence of higher deposition temperature on a-Si:H material properties, powder formation and light-induced degradation, using the VHF (70 MHz) glow discharge technique. <i>Journal of Non-Crystalline Solids</i> , <b>1993</b> , 164-166, 59-62	3.9	9
15	Negative hydrogenated silicon ion clusters as particle precursors in RF silane plasma deposition experiments. <i>Journal Physics D: Applied Physics</i> , <b>1993</b> , 26, 1003-1006	3	97
14	Negative ion mass spectra and particulate formation in radio frequency silane plasma deposition experiments. <i>Applied Physics Letters</i> , <b>1993</b> , 62, 1341-1343	3.4	105

13	Dependence of intrinsic stress in hydrogenated amorphous silicon on excitation frequency in a plasma-enhanced chemical vapor deposition process. <i>Journal of Applied Physics</i> , <b>1992</b> , 72, 3220-3222	2.5	46
12	Frequency effects in silane plasmas for plasma enhanced chemical vapor deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>1992</b> , 10, 1080-1085	2.9	149
11	VHF Plasma Deposition: A Comparative Overview. <i>Materials Research Society Symposia Proceedings</i> , <b>1992</b> , 258, 15		40
10	Microstructure, Optoelectronic Properties and Saturated Defect Density of A-SL:H Prepared in VHF-Glow Discharge Using AR and XE Dilution. <i>Materials Research Society Symposia Proceedings</i> , <b>1992</b> , 258, 135		10
9	Influences of a high excitation frequency (70 MHz) in the glow discharge technique on the process plasma and the properties of hydrogenated amorphous silicon. <i>Journal of Applied Physics</i> , <b>1992</b> , 71, 5665-5674	2.5	93
8	Powder dynamics in very high frequency silane plasmas. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>1992</b> , 10, 1048-1052	2.9	49
7	Highly Conductive Microcrystalline Silicon Layers for Tunnel Junctions in Stacked Amorphous Silicon based Solar Cells.. <i>Materials Research Society Symposia Proceedings</i> , <b>1991</b> , 219, 469		19
6	Direct visual observation of powder dynamics in rf plasma-assisted deposition. <i>Applied Physics Letters</i> , <b>1991</b> , 59, 1409-1411	3.4	64
5	Coherent mode activity in the edge of TOSCA Tokamak. <i>Plasma Physics and Controlled Fusion</i> , <b>1988</b> , 30, 1863-1877	2	14
4	The effect of Lower Hybrid Current Drive on the discrete Alfven wave spectrum. <i>Plasma Physics and Controlled Fusion</i> , <b>1987</b> , 29, 1631-1636	2	1
3	Central mass and current density measurements in Tokamaks using the discrete Alfven wave spectrum. <i>Plasma Physics and Controlled Fusion</i> , <b>1987</b> , 29, 323-339	2	16
2	Entering the plasma agriculture field: An attempt to standardize protocols for plasma treatment of seeds. <i>Plasma Processes and Polymers</i> , e2100152	3.4	2
1	Advantages and Limitations of Surface Analysis Techniques on Plasma-Treated Arabidopsis thaliana Seeds. <i>Frontiers in Materials</i> , 8,	4	2