Alan Howling

List of Publications by Citations

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	Frequency effects in silane plasmas for plasma enhanced chemical vapor deposition. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1992**, 10, 1080-1085	2.9	149
101	Time-resolved measurements of highly polymerized negative ions in radio frequency silane plasma deposition experiments. *Journal of Applied Physics*, **1994**, 75, 1340-1353	2.5	140
100	Improving plasma uniformity using lens-shaped electrodes in a large area very high frequency reactor. *Journal of Applied Physics*, **2004**, 95, 4559-4564	2.5	111
99	Diagnostics of particle genesis and growth in RF silane plasmas by ion mass spectrometry and light scattering. *Plasma Sources Science and Technology*, **1994**, 3, 278-285	3.5	111
98	Negative ion mass spectra and particulate formation in radio frequency silane plasma deposition experiments. *Applied Physics Letters*, **1993**, 62, 1341-1343	3.4	105
97	Plasma silane concentration as a determining factor for the transition from amorphous to microcrystalline silicon in SiH4/H2discharges. *Plasma Sources Science and Technology*, **2007**, 16, 80-89	3.5	97
96	Negative hydrogenated silicon ion clusters as particle precursors in RF silane plasma deposition experiments. *Journal Physics D: Applied Physics*, **1993**, 26, 1003-1006	3	97
95	Influences of a high excitation frequency (70 MHz) in the glow discharge technique on the process plasma and the properties of hydrogenated amorphous silicon. *Journal of Applied Physics*, **1992**, 71, 5665-5674	2.5	93
94	A voltage uniformity study in large-area reactors for RF plasma deposition. *Plasma Sources Science and Technology*, **1997**, 6, 170-178	3.5	89
93	Particle agglomeration study in rf silane plasmas: In situ study by polarization-sensitive laser light scattering. *Journal of Applied Physics*, **1996**, 80, 2069-2078	2.5	87
92	Electromagnetic field nonuniformities in large area, high-frequency capacitive plasma reactors, including electrode asymmetry effects. *Plasma Sources Science and Technology*, **2006**, 15, 302-313	3.5	70
91	The physics of plasma-enhanced chemical vapour deposition for large-area coating: industrial application to flat panel displays and solar cells. *Plasma Physics and Controlled Fusion*, **2000**, 42, B353-B363	2	69
90	Anionic clusters in dusty hydrocarbon and silane plasmas. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1996**, 14, 535-539	2.9	68
89	Direct visual observation of powder dynamics in rf plasma-assisted deposition. *Applied Physics Letters*, **1991**, 59, 1409-1411	3.4	64
88	Sheath impedance effects in very high frequency plasma experiments. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1996**, 14, 132-138	2.9	57
87	Spatiotemporal powder formation and trapping in radio frequency silane plasmas using two-dimensional polarization-sensitive laser scattering. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1995**, 13, 918-926	2.9	56
86	Powder dynamics in very high frequency silane plasmas. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1992**, 10, 1048-1052	2.9	49

85	Silicon oxide particle formation in RF plasmas investigated by infrared absorption spectroscopy and mass spectrometry. *Journal Physics D: Applied Physics*, **1998**, 31, 74-84	3	47
84	Nonuniform radio-frequency plasma potential due to edge asymmetry in large-area radio-frequency reactors. *Journal of Applied Physics*, **2004**, 96, 5429-5440	2.5	46
83	The role of metastable atoms in argon-diluted silane radiofrequency plasmas. *Journal Physics D: Applied Physics*, **1994**, 27, 1406-1411	3	46
82	Dependence of intrinsic stress in hydrogenated amorphous silicon on excitation frequency in a plasma-enhanced chemical vapor deposition process. *Journal of Applied Physics*, **1992**, 72, 3220-3222	2.5	46
81	R&D around a photoneutralizer-based NBI system (Siphore) in view of a DEMO Tokamak steady state fusion reactor. *Nuclear Fusion*, **2015**, 55, 123020	3.3	43
80	Anion reactions in silane plasma. *Journal of Applied Physics*, **2002**, 91, 5571-5580	2.5	42
79	Applications of the cavity ring-down technique to a large-area rf-plasma reactor. *Plasma Sources Science and Technology*, **1999**, 8, 448-456	3.5	40
78	VHF Plasma Deposition: A Comparative Overview. *Materials Research Society Symposia Proceedings*, **1992**, 258, 15		40
77	High-efficiency p-i-n a-Si:H solar cells with low boron cross-contamination prepared in a large-area single-chamber PECVD reactor. *Thin Solid Films*, **2004**, 451-452, 525-530	2.2	39
76	Degree of dissociation measured by FTIR absorption spectroscopy applied to VHF silane plasmas. *Plasma Sources Science and Technology*, **1998**, 7, 114-118	3.5	38
75	Fast equilibration of silane/hydrogen plasmas in large area RF capacitive reactors monitored by optical emission spectroscopy. *Plasma Sources Science and Technology*, **2007**, 16, 679-696	3.5	36
74	Partial-depth modulation study of anions and neutrals in low-pressure silane plasmas. *Plasma Sources Science and Technology*, **1996**, 5, 210-215	3.5	34
73	Microcrystalline silicon deposited at high rate on large areas from pure silane with efficient gas utilization. *Solar Energy Materials and Solar Cells*, **2007**, 91, 495-502	6.4	33
72	From molecules to particles in silane plasmas. *Pure and Applied Chemistry*, **1996**, 68, 1017-1022	2.1	33
71	A gas flow uniformity study in large-area showerhead reactors for RF plasma deposition. *Plasma Sources Science and Technology*, **2000**, 9, 205-209	3.5	32
70	Negative ion source development for a photoneutralization based neutral beam system for future fusion reactors. *New Journal of Physics*, **2016**, 18, 125005	2.9	30
69	Direct current breakdown in gases for complex geometries from high vacuum to atmospheric pressure. *Journal Physics D: Applied Physics*, **2013**, 46, 285205	3	26
68	Visible photoluminescence from hydrogenated silicon particles suspended in a silane plasma. *Journal of Applied Physics*, **1995**, 78, 61-66	2.5	25

67	Spectroscopic characterization ofH2andD2helicon plasmas generated by a resonant antenna for neutral beam applications in fusion. *Nuclear Fusion*, **2017**, 57, 036024	3.3	24
66	Probe measurements of plasma potential nonuniformity due to edge asymmetry in large-area radio-frequency reactors: The telegraph effect. *Journal of Applied Physics*, **2005**, 97, 123308	2.5	24
65	Helicon wave-generated plasmas for negative ion beams for fusion. *EPJ Web of Conferences*, **2017**, 157, 03014	0.3	22
64	Application of the shaped electrode technique to a large area rectangular capacitively coupled plasma reactor to suppress standing wave nonuniformity. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2006**, 24, 1425-1430	2.9	22
63	Resonant RF network antennas for large-area and large-volume inductively coupled plasma sources. *Plasma Sources Science and Technology*, **2013**, 22, 055021	3.5	20
62	Plasma deposition in an ideal showerhead reactor: a two-dimensional analytical solution. *Plasma Sources Science and Technology*, **2012**, 21, 015005	3.5	19
61	Optimization of the microcrystalline silicon deposition efficiency. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2007**, 25, 1198-1202	2.9	19
60	Highly Conductive Microcrystalline Silicon Layers for Tunnel Junctions in Stacked Amorphous Silicon based Solar Cells.. *Materials Research Society Symposia Proceedings*, **1991**, 219, 469		19
59	Dust Particle Diagnostics in Rf Plasma Deposition of Silicon and Silicon Oxide Films (Invited). *Materials Research Society Symposia Proceedings*, **1998**, 507, 547		18
58	Reduction of the boron cross-contamination for plasma deposition of pin devices in a single-chamber large area radio-frequency reactor. *Thin Solid Films*, **2004**, 468, 222-225	2.2	16
57	Fast Deposition of a-Si:H Layers and Solar Cells in a Large-Area (40×40 cm2) VHF-GD Reactor. *Materials Research Society Symposia Proceedings*, **1999**, 557, 121		16
56	Reconstruction of the time-averaged sheath potential profile in an argon radiofrequency plasma using the ion energy distribution. *Plasma Sources Science and Technology*, **1995**, 4, 373-378	3.5	16
55	Central mass and current density measurements in Tokamaks using the discrete Alfven wave spectrum. *Plasma Physics and Controlled Fusion*, **1987**, 29, 323-339	2	16
54	Mechanisms of Plasma-Seed Treatments as a Potential Seed Processing Technology. *Frontiers in Physics*, **2021**, 9,	3.9	15
53	Non-intrusive plasma diagnostics for the deposition of large area thin film silicon. *Thin Solid Films*, **2009**, 517, 6218-6224	2.2	14
52	Coherent mode activity in the edge of TOSCA Tokamak. *Plasma Physics and Controlled Fusion*, **1988**, 30, 1863-1877	2	14
51	Cold Atmospheric Plasma Inactivation of Microbial Spores Compared on Reference Surfaces and Powder Particles. *Food and Bioprocess Technology*, **2020**, 13, 827-837	5.1	11
50	Comment on [Ion energy uniformity in high-frequency capacitive discharges [Appl. Phys. Lett. 86, 021501 (2005)]. *Applied Physics Letters*, **2005**, 87, 076101	3.4	11

49	Large Area Deposition of Amorphous and Microcrystalline Silicon by Very High Frequency Plasma. *Materials Research Society Symposia Proceedings*, **1998**, 507, 541		11
48	Microstructure, Optoelectronic Properties and Saturated Defect Density of A-SL:H Prepared in VHF-Glow Discharge Using AR and XE Dilution. *Materials Research Society Symposia Proceedings*, **1992**, 258, 135		10
47	Cavity ring-down spectroscopy to measure negative ion density in a helicon plasma source for fusion neutral beams. *Review of Scientific Instruments*, **2018**, 89, 103504	1.7	10
46	Plasma generation by inductive coupling with a planar resonant RF network antenna. *Journal Physics D: Applied Physics*, **2012**, 45, 082001	3	9
45	Electromagnetic sources of nonuniformity in large area capacitive reactors. *Thin Solid Films*, **2007**, 515, 5059-5064	2.2	9
44	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. *Journal of Non-Crystalline Solids*, **1993**, 164-166, 59-62	3.9	9
43	Ion heating and flows in a high power helicon source. *Physics of Plasmas*, **2017**, 24, 063517	2.1	8
42	First B-dot measurements in the RAID device, an alternative negative ion source for DEMO neutral beams. *Fusion Engineering and Design*, **2019**, 146, 1140-1144	1.7	8
41	Resonant planar antenna as an inductive plasma source. *Journal of Applied Physics*, **2012**, 111, 083305	2.5	8
40	Plasma diagnostics as a tool for process optimization: the case of microcrystalline silicon deposition. *Plasma Physics and Controlled Fusion*, **2007**, 49, B411-B418	2	8
39	Measurements and consequences of nonuniform radio frequency plasma potential due to surface asymmetry in large area radio frequency capacitive reactors. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2005**, 23, 922-926	2.9	8
38	Global visualization of powder trapping in capacitive RF plasmas by two-dimensional laser scattering. *IEEE Transactions on Plasma Science*, **1996**, 24, 101-102	1.3	8
37	Uniformity of silicon microcrystallinity in large area RF capacitive reactors. *Progress in Photovoltaics: Research and Applications*, **2008**, 16, 687-691	6.8	7
36	Generation of whistler-wave heated discharges with planar resonant RF networks. *Physical Review Letters*, **2013**, 111, 125005	7.4	6
35	Complex image method for RF antenna-plasma inductive coupling calculation in planar geometry. Part I: basic concepts. *Plasma Sources Science and Technology*, **2015**, 24, 065014	3.5	6
34	Industrial plasmas in academia. *Plasma Physics and Controlled Fusion*, **2015**, 57, 014010	2	6
33	Analysis of resonant planar dissipative network antennas for rf inductively coupled plasma sources. *Plasma Sources Science and Technology*, **2014**, 23, 015006	3.5	6
32	Hydrogen-dominated plasma, due to silane depletion, for microcrystalline silicon deposition. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2010**, 28, 989-995	2.9	6

31	Negative ion characterization in a helicon plasma source for fusion neutral beams by cavity ring-down spectroscopy and Langmuir probe laser photodetachment. *Nuclear Fusion*, **2020**, 60, 026007	3.3	6
30	Low ion energy RF reactor using an array of plasmas through a grounded grid. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2013**, 31, 021302	2.9	5
29	Radio frequency breakdown between structured parallel plate electrodes with a millimetric gap in low pressure gases. *Physics of Plasmas*, **2010**, 17, 102111	2.1	5
28	Latest experimental and theoretical advances in the production of negative ions in caesium-free plasmas. *European Physical Journal D*, **2021**, 75, 1	1.3	5
27	Electromagnetic, complex image model of a large area RF resonant antenna as inductive plasma source. *Plasma Sources Science and Technology*, **2017**, 26, 035010	3.5	4
26	Two-fluid plasma model for radial Langmuir probes as a converging nozzle with sonic choked flow, and sonic passage to supersonic flow. *Physics of Plasmas*, **2019**, 26, 044502	2.1	4
25	Funnelling of rf current via a plasmoid through a grid hole in an rf capacitive plasma reactor. *Plasma Sources Science and Technology*, **2013**, 22, 055006	3.5	4
24	Plasma generation by inductive coupling with a planar resonant RF network antenna. *Journal Physics D: Applied Physics*, **2012**, 45, 409502	3	4
23	Input silane concentration effect on the a-Si:H to □-Si:H transition width. *Solar Energy Materials and Solar Cells*, **2010**, 94, 432-435	6.4	4
22	Experimental study of wakefields driven by a self-modulating proton bunch in plasma. *Physical Review Accelerators and Beams*, **2020**, 23,	1.8	4
21	Two-fluid solutions for Langmuir probes in collisionless and isothermal plasma, over all space and bias potential. *Physics of Plasmas*, **2018**, 25, 093519	2.1	4
20	Application of Thomson scattering to helicon plasma sources. *Journal of Plasma Physics*, **2020**, 86,	2.7	3
19	Complex image method for RF antenna-plasma inductive coupling calculation in planar geometry. Part II: measurements on a resonant network. *Plasma Sources Science and Technology*, **2015**, 24, 065015	3.5	3
18	Rapid deposition of hydrogenated microcrystalline silicon by a high current DC discharge. *Thin Solid Films*, **2001**, 383, 11-14	2.2	3
17	On the powder formation in industrial reactive RF plasmas **2000**, 169-176		3
16	Helicon wave plasma generated by a resonant birdcage antenna: magnetic field measurements and analysis in the RAID linear device. *Plasma Sources Science and Technology*, **2021**, 30, 075023	3.5	3
15	Gas breakdown mitigation in satellite slip rings. *Aerospace Science and Technology*, **2019**, 85, 229-233	4.9	2
14	Proton Bunch Self-Modulation in Plasma with Density Gradient. *Physical Review Letters*, **2020**, 125, 264801	9.4	2

13	Development of a plasma electroacoustic actuator for active noise control applications. *Journal Physics D: Applied Physics*, **2020**, 53, 495202	3	2
12	Entering the plasma agriculture field: An attempt to standardize protocols for plasma treatment of seeds. *Plasma Processes and Polymers*,e2100152	3.4	2
11	Slip Ring Test Assembly With Increased Breakdown Voltage Limit for High-Voltage Bus Satellites. *IEEE Aerospace and Electronic Systems Magazine*, **2020**, 35, 32-36	2.4	2
10	Advantages and Limitations of Surface Analysis Techniques on Plasma-Treated Arabidopsis thaliana Seeds. *Frontiers in Materials*,8,	4	2
9	Negative hydrogen ion dynamics inside the plasma volume of a linear device: Estimates from particle-in-cell calculations. *Physics of Plasmas*, **2021**, 28, 063503	2.1	2
8	Experimental study of extended timescale dynamics of a plasma wakefield driven by a self-modulated proton bunch. *Physical Review Accelerators and Beams*, **2021**, 24,	1.8	2
7	RF bias to suppress post-oxidation of a-Si:H films deposited by inductively-coupled plasma using a planar RF resonant antenna. *Vacuum*, **2018**, 147, 58-64	3.7	1
6	Gas Phase and Particle Diagnostic of Hmdso Plasmas by Infrared Absorption Spectroscopy. *Materials Research Society Symposia Proceedings*, **1998**, 544, 65		1
5	The effect of Lower Hybrid Current Drive on the discrete Alfven wave spectrum. *Plasma Physics and Controlled Fusion*, **1987**, 29, 1631-1636	2	1
4	Magnetic field configurational study on a helicon-based plasma source for future neutral beam systems. *Plasma Sources Science and Technology*, **2019**, 28, 095005	3.5	0
3	A 1.5D fluid–Monte Carlo model of a hydrogen helicon plasma. *Plasma Physics and Controlled Fusion*, **2022**, 64, 055012	2	0
2	Power laws for the spatial dependence of electrical parameters in the high-voltage capacitive RF sheath. *IEEE Transactions on Plasma Science*, **2000**, 28, 1713-1719	1.3	
1	Multiple dehydrogenation reactions of negative ions in low pressure silane plasma chemistry. *Plasma Sources Science and Technology*, **2020**, 29, 105015	3.5	