Nils Brenning

List of Publications by Year
in descending order

54	2,363	236925 25	206112 48
papers	citations	h-index	g-index

54	54	54	1231
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High power impulse magnetron sputtering discharge. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	2.1	568
2	The ion energy distributions and ion flux composition from a high power impulse magnetron sputtering discharge. Thin Solid Films, 2006, 515, 1522-1526.	1.8	279
3	An ionization region model for high-power impulse magnetron sputtering discharges. Plasma Sources Science and Technology, 2011, 20, 065007.	3.1	101
4	An ionization region model of the reactive Ar/O₂high power impulse magnetron sputtering discharge. Plasma Sources Science and Technology, 2016, 25, 065004.	3.1	94
5	Gas rarefaction and the time evolution of long high-power impulse magnetron sputtering pulses. Plasma Sources Science and Technology, 2012, 21, 045004.	3.1	82
6	A unified treatment of self-sputtering, process gas recycling, and runaway for high power impulse sputtering magnetrons. Plasma Sources Science and Technology, 2017, 26, 125003.	3.1	79
7	On sheath energization and Ohmic heating in sputtering magnetrons. Plasma Sources Science and Technology, 2013, 22, 045005.	3.1	72
8	Measurement of the magnetic field change in a pulsed high current magnetron discharge. Plasma Sources Science and Technology, 2004, 13, 654-661.	3.1	64
9	Understanding deposition rate loss in high power impulse magnetron sputtering: I. Ionization-driven electric fields. Plasma Sources Science and Technology, 2012, 21, 025005.	3.1	64
10	Particle-balance models for pulsed sputtering magnetrons. Journal Physics D: Applied Physics, 2017, 50, 354003.	2.8	59
11	On the origin of magnetosheath plasmoids and their relation to magnetosheath jets. Journal of Geophysical Research: Space Physics, 2015, 120, 7390-7403.	2.4	56
12	On the road to self-sputtering in high power impulse magnetron sputtering: particle balance and discharge characteristics. Plasma Sources Science and Technology, 2014, 23, 025017.	3.1	55
13	Localized density enhancements in the magnetosheath: Threeâ€dimensional morphology and possible importance for impulsive penetration. Journal of Geophysical Research, 2012, 117, .	3.3	52
14	Faster-than-Bohm Cross-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>B</mml:mi></mml:math>Electron Transport in Strongly Pulsed Plasmas. Physical Review Letters, 2009, 103, 225003.	7.8	49
15	Optimizing the deposition rate and ionized flux fraction by tuning the pulse length in high power impulse magnetron sputtering. Plasma Sources Science and Technology, 2020, 29, 05LT01.	3.1	46
16	The Effect of Magnetic Field Strength and Geometry on the Deposition Rate and Ionized Flux Fraction in the HiPIMS Discharge. Plasma, 2019, 2, 201-221.	1.8	45
17	On three different ways to quantify the degree of ionization in sputtering magnetrons. Plasma Sources Science and Technology, 2018, 27, 105005.	3.1	44
18	Size-controlled growth of nanoparticles in a highly ionized pulsed plasma. Applied Physics Letters, 2013, 102, .	3.3	42

#	Article	IF	Citations
19	The role of Ohmic heating in dc magnetron sputtering. Plasma Sources Science and Technology, 2016, 25, 065024.	3.1	41
20	Optimization of HiPIMS discharges: The selection of pulse power, pulse length, gas pressure, and magnetic field strength. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	2.1	35
21	Fast growth of nanoparticles in a hollow cathode plasma through orbit motion limited ion collection. Applied Physics Letters, 2013, 103, 193108.	3.3	33
22	Argon metastables in HiPIMS: validation of the ionization region model by direct comparison to time resolved tunable diode-laser diagnostics. Plasma Sources Science and Technology, 2015, 24, 045011.	3.1	33
23	AlfvÃ©n's critical ionization velocity observed in high power impulse magnetron sputtering discharges. Physics of Plasmas, 2012, 19, 093505.	1.9	28
24	High-pressure pulsed avalanche discharges: formulas for required preionization density and rate for homogeneity. IEEE Transactions on Plasma Science, 1997, 25, 83-88.	1.3	26
25	Are the argon metastables important in high power impulse magnetron sputtering discharges?. Physics of Plasmas, 2015, 22, .	1.9	26
26	Formation of Electric Field Spikes in Electron-Beamâ€"Plasma Interaction. Physical Review Letters, 1996, 77, 5059-5062.	7.8	20
27	Influence of the magnetic field on the discharge physics of a high power impulse magnetron sputtering discharge. Journal Physics D: Applied Physics, 2022, 55, 015202.	2.8	20
28	HiPIMS optimization by using mixed high-power and low-power pulsing. Plasma Sources Science and Technology, 2021, 30, 015015.	3.1	19
29	Experimental verification of deposition rate increase, with maintained high ionized flux fraction, by shortening the HiPIMS pulse. Plasma Sources Science and Technology, 2021, 30, 045006.	3.1	18
30	Modeling the extraction of sputtered metal from high power impulse hollow cathode discharges. Plasma Sources Science and Technology, 2013, 22, 035006.	3.1	17
31	On how to measure the probabilities of target atom ionization and target ion back-attraction in high-power impulse magnetron sputtering. Journal of Applied Physics, 2021, 129, .	2.5	17
32	Small Helical Magnetic Flux-Compression Generators: Experiments and Analysis. IEEE Transactions on Plasma Science, 2008, 36, 2673-2683.	1.3	16
33	Catalytic Nanotruss Structures Realized by Magnetic Self-Assembly in Pulsed Plasma. Nano Letters, 2018, 18, 3132-3137.	9.1	16
34	Sideways deposition rate and ionized flux fraction in dc and high power impulse magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	2.1	15
35	On the electron energy distribution function in the high power impulse magnetron sputtering discharge. Plasma Sources Science and Technology, 2021, 30, 045011.	3.1	15
36	Modeling of a Small Helical Magnetic Flux-Compression Generator. IEEE Transactions on Plasma Science, 2008, 36, 2662-2672.	1.3	14

#	Article	IF	Citations
37	Plasma reactivity in high-power impulse magnetron sputtering through oxygen kinetics. Applied Physics Letters, 2013, 103, .	3.3	14
38	The influence of pressure and gas flow on size and morphology of titanium oxide nanoparticles synthesized by hollow cathode sputtering. Journal of Applied Physics, 2016, 120, 044308.	2.5	14
39	On the work function and the charging of small (râ‰ 5â€‰nm) nanoparticles in plasmas. Physics of Plasmas, 2017, 24, .	1.9	11
40	Numerical experiments on plasmoids entering a transverse magnetic field. Physics of Plasmas, 2009, 16, 112901.	1.9	10
41	Dynamics of bipolar HiPIMS discharges by plasma potential probe measurements. Plasma Sources Science and Technology, 2022, 31, 025007.	3.1	10
42	Magnetically Collected Platinum/Nickel Alloy Nanoparticles as Catalysts for Hydrogen Evolution. ACS Applied Nano Materials, 2021, 4, 12957-12965.	5.0	9
43	Operating modes and target erosion in high power impulse magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	2.1	9
44	Modeling of high power impulse magnetron sputtering discharges with graphite target. Plasma Sources Science and Technology, 2021, 30, 115017.	3.1	6
45	Radiation from an electron beam in a magnetized plasma: Whistler mode wave packets. Journal of Geophysical Research, 2006, 111, .	3.3	5
46	Nanoparticle growth by collection of ions: orbital motion limited theory and collision-enhanced collection. Journal Physics D: Applied Physics, 2016, 49, 395208.	2.8	5
47	Nucleation of titanium nanoparticles in an oxygen-starved environment. II: theory. Journal Physics D: Applied Physics, 2018, 51, 455202.	2.8	4
48	Nucleation of titanium nanoparticles in an oxygen-starved environment. I: experiments. Journal Physics D: Applied Physics, 2018, 51, 455201.	2.8	3
49	Interaction between a dust cloud and a magnetized plasma in relative motion. IEEE Transactions on Plasma Science, 2001, 29, 302-306.	1.3	2
50	On the population density of the argon excited levels in a high power impulse magnetron sputtering discharge. Physics of Plasmas, 2022, 29, 023506.	1.9	1
51	Two-dimensional Particle Simulations Of The Low Frequency Electric Fields In Ionospheric Injection Experiments. , 0, , .		0
52	Narrow, stationary and stable electric field spikes produced by an electron beam in an inhomogeneous plasma. , 0, , .		0
53	Dust-driven and plasma-driven currents in the inner magnetosphere of Saturn. Physics of Plasmas, 2012, 19, 042903.	1.9	0
54	On Electron Heating In Magnetron Sputtering Discharges. , 2017, , .		0