Nils Brenning

List of Publications by Year
in descending order

54 papers	2,363 citations	236925 25 h-index	206112 48 g-index
54 all docs	54 docs citations	54 times ranked	1231 citing authors

#	Article	IF	Citations
1	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
2	Dynamics of bipolar HiPIMS discharges by plasma potential probe measurements. Plasma Sources Science and Technology, 2022, 31, 025007.	3.1	10
3	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
4	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
5	HiPIMS optimization by using mixed high-power and low-power pulsing. Plasma Sources Science and Technology, 2021, 30, 015015.	3.1	19
6	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
7	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
8	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
9	Modeling of high power impulse magnetron sputtering discharges with graphite target. Plasma Sources Science and Technology, 2021, 30, 115017.	3.1	6
10	Magnetically Collected Platinum/Nickel Alloy Nanoparticles as Catalysts for Hydrogen Evolution. ACS Applied Nano Materials, 2021, 4, 12957-12965.	5.0	9
11	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
12	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
13	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
14	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
15	Catalytic Nanotruss Structures Realized by Magnetic Self-Assembly in Pulsed Plasma. Nano Letters, 2018, 18, 3132-3137.	9.1	16
16	Nucleation of titanium nanoparticles in an oxygen-starved environment. II: theory. Journal Physics D: Applied Physics, 2018, 51, 455202.	2.8	4
17	Nucleation of titanium nanoparticles in an oxygen-starved environment. I: experiments. Journal Physics D: Applied Physics, 2018, 51, 455201.	2.8	3
18	On three different ways to quantify the degree of ionization in sputtering magnetrons. Plasma Sources Science and Technology, 2018, 27, 105005.	3.1	44

#	Article	IF	Citations
19	On the work function and the charging of small (râ‰ 5â€‰nm) nanoparticles in plasmas. Physics of Plasmas, 2017, 24, .	1.9	11
20	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
21	Particle-balance models for pulsed sputtering magnetrons. Journal Physics D: Applied Physics, 2017, 50, 354003.	2.8	59
22	On Electron Heating In Magnetron Sputtering Discharges. , 2017, , .		0
23	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
24	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
25	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
26	The role of Ohmic heating in dc magnetron sputtering. Plasma Sources Science and Technology, 2016, 25, 065024.	3.1	41
27	Are the argon metastables important in high power impulse magnetron sputtering discharges?. Physics of Plasmas, 2015, 22, .	1.9	26
28	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
29	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
30	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
31	On sheath energization and Ohmic heating in sputtering magnetrons. Plasma Sources Science and Technology, 2013, 22, 045005.	3.1	72
32	Plasma reactivity in high-power impulse magnetron sputtering through oxygen kinetics. Applied Physics Letters, 2013, 103, .	3.3	14
33	Size-controlled growth of nanoparticles in a highly ionized pulsed plasma. Applied Physics Letters, 2013, 102, .	3.3	42
34	Modeling the extraction of sputtered metal from high power impulse hollow cathode discharges. Plasma Sources Science and Technology, 2013, 22, 035006.	3.1	17
35	Fast growth of nanoparticles in a hollow cathode plasma through orbit motion limited ion collection. Applied Physics Letters, 2013, 103, 193108.	3.3	33
36	High power impulse magnetron sputtering discharge. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	2.1	568

#	Article	IF	Citations
37	AlfvÃ©n's critical ionization velocity observed in high power impulse magnetron sputtering discharges. Physics of Plasmas, 2012, 19, 093505.	1.9	28
38	Dust-driven and plasma-driven currents in the inner magnetosphere of Saturn. Physics of Plasmas, 2012, 19, 042903.	1.9	0
39	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
40	Localized density enhancements in the magnetosheath: Threeâ€dimensional morphology and possible importance for impulsive penetration. Journal of Geophysical Research, 2012, 117, .	3.3	52
41	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
42	An ionization region model for high-power impulse magnetron sputtering discharges. Plasma Sources Science and Technology, 2011, 20, 065007.	3.1	101
43	Numerical experiments on plasmoids entering a transverse magnetic field. Physics of Plasmas, 2009, 16, 112901.	1.9	10
44	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
45	Small Helical Magnetic Flux-Compression Generators: Experiments and Analysis. IEEE Transactions on Plasma Science, 2008, 36, 2673-2683.	1.3	16
46	Modeling of a Small Helical Magnetic Flux-Compression Generator. IEEE Transactions on Plasma Science, 2008, 36, 2662-2672.	1.3	14
47	Radiation from an electron beam in a magnetized plasma: Whistler mode wave packets. Journal of Geophysical Research, 2006, 111, .	3.3	5
48	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
49	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
50	Interaction between a dust cloud and a magnetized plasma in relative motion. IEEE Transactions on Plasma Science, 2001, 29, 302-306.	1.3	2
51	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
52	Formation of Electric Field Spikes in Electron-Beamâ€“Plasma Interaction. Physical Review Letters, 1996, 77, 5059-5062.	7.8	20
53	Two-dimensional Particle Simulations Of The Low Frequency Electric Fields In Ionospheric Injection Experiments. , 0, , .		0
54	Narrow, stationary and stable electric field spikes produced by an electron beam in an inhomogeneous plasma. , 0, , .		0