Petr VaÅ¡ina

List of Publications by Year
in descending order

81 papers	1,046 citations	471509 17 h-index	580821 25 g-index
81 all docs	81 docs citations	81 times ranked	778 citing authors

#	Article	IF	Citations
1	Single-shot spatial-resolved optical emission spectroscopy of argon and titanium species within the spoke. Journal Physics D: Applied Physics, 2022, 55, 035205.	2.8	2
2	Dynamics of bipolar HiPIMS discharges by plasma potential probe measurements. Plasma Sources Science and Technology, 2022, 31, 025007.	3.1	10
3	W 4f electron binding energies in amorphous W-B-C systems. Applied Surface Science, 2022, 586, 152824.	6.1	4
4	Predicting the composition of W-B-C coatings sputtered from industrial cylindrical segmented target. Surface and Coatings Technology, 2022, 438, 128411.	4.8	3
5	Spatially resolved study of spokes in reactive HiPIMS discharge. Plasma Sources Science and Technology, 2022, 31, 055010.	3.1	2
6	Spoke behaviour in reactive HiPIMS. Plasma Sources Science and Technology, 2021, 30, 055016.	3.1	4
7	Enhancing mechanical properties and cutting performance of industrially sputtered AlCrN coatings by inducing cathodic arc glow discharge. Surface and Coatings Technology, 2021, 422, 127563.	4.8	9
8	Microstructure of titanium coatings controlled by pulse sequence in multipulse HiPIMS. Surface and Coatings Technology, 2021, 423, 127624.	4.8	7
9	Al2O3-Ta2O5 multilayer thin films deposited by pulsed direct current magnetron sputtering for dielectric applications. , 2021, , .		0
10	MAGNETRON SPUTTERING DEPOSITION OF HIGH ENTROPY NITRIDES FROM ChRomium-HaFnium-MOlybdenum-TAntalum-Wolfram SYSTEM. , 2021, , .		0
11	INDUSTRIAL MAGNETRON SPUTTERING OF ZrN/Cu NANOSTRUCTURED COATINGS FOR ANTI-BACTERIAL PURPOSES. , 2021, , .		0
12	Adhesion and dynamic impact wear of nanocomposite TiC-based coatings prepared by DCMS and HiPIMS. International Journal of Refractory Metals and Hard Materials, 2020, 86, 105123.	3.8	17
13	The effect of chemical composition on the structure, chemistry and mechanical properties of magnetron sputtered W-B-C coatings: Modeling and experiments. Surface and Coatings Technology, 2020, 383, 125274.	4.8	16
14	A transition from petal-state to lotus-state in AZ91 magnesium surface by tailoring the microstructure. Surface and Coatings Technology, 2020, 383, 125239.	4.8	11
15	Influence of sputtered species ionisation on the hysteresis behaviour of reactive HiPIMS with oxygen admixture. Plasma Sources Science and Technology, 2020, 29, 025027.	3.1	12
16	The Effect of a Taper Angle on Micro-Compression Testing of Mo-B-C Coatings. Materials, 2020, 13, 3054.	2.9	5
17	DYNAMIC IMPACT WEAR AND IMPACT RESISTANCE OF W-B-C COATINGS. Acta Polytechnica CTU Proceedings, 2020, 27, 37-41.	0.3	0
18	Revisiting particle dynamics in HiPIMS discharges. I. General effects. Journal of Applied Physics, 2020, 128, .	2.5	18

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19	Revisiting particle dynamics in HiPIMS discharges. II. Plasma pulse effects. Journal of Applied Physics, 2020, 128, .	2.5	14
20	Composition, Structure and Mechanical Properties of Industrially Sputtered Taâ€"Bâ€"C Coatings. Coatings, 2020, 10, 853.	2.6	5
21	Effect of substrate bias voltage on the composition, microstructure and mechanical properties of W-B-C coatings. Applied Surface Science, 2020, 528, 146966.	6.1	19
22	Ionisation fractions of sputtered titanium species at target and substrate region in HiPIMS. Plasma Sources Science and Technology, 2020, 29, 055010.	3.1	18
23	Study of the transition from self-organised to homogeneous plasma distribution in chromium HiPIMS discharge. Journal Physics D: Applied Physics, 2020, 53, 155201.	2.8	13
24	On the origin of multilayered structure of W-B-C coatings prepared by non-reactive magnetron sputtering from a single segmented target. Surface and Coatings Technology, 2019, 377, 124864.	4.8	8
25	Optical Characterization of Non-Stoichiometric Silicon Nitride Films Exhibiting Combined Defects. Coatings, 2019, 9, 416.	2.6	13
26	Optical characterization of inhomogeneous thin films containing transition layers using the combined method of spectroscopic ellipsometry and spectroscopic reflectometry based on multiple-beam interference model. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	8
27	Study of W-B-C thin films prepared by magnetron sputtering using a combinatorial approach. International Journal of Refractory Metals and Hard Materials, 2019, 85, 105066.	3.8	8
28	Evolution of discharge parameters and sputtered species ionization in reactive HiPIMS with oxygen, nitrogen and acetylene. Plasma Sources Science and Technology, 2019, 28, 025011.	3.1	9
29	Microstructural changes of amorphous Moâ€"Bâ€"C coatings upon thermal annealing. Surface and Coatings Technology, 2019, 379, 125052.	4.8	7
30	The statistics of spoke configurations in high-power impulse magnetron sputtering discharges. Journal Physics D: Applied Physics, 2019, 52, 125201.	2.8	7
31	The tribological properties of short range ordered W-B-C protective coatings prepared by pulsed magnetron sputtering. Surface and Coatings Technology, 2019, 357, 364-371.	4.8	18
32	Approximate methods for the optical characterization of inhomogeneous thin films: Applications to silicon nitride films. Journal of Electrical Engineering, 2019, 70, 16-26.	0.7	4
33	Evolution of structure and mechanical properties of hard yet fracture resistant Wâ€Bâ€C coatings with varying C/W ratio. Surface and Coatings Technology, 2018, 340, 103-111.	4.8	22
34	Effect of magnetic field on spoke behaviour in HiPIMS plasma. Journal Physics D: Applied Physics, 2018, 51, 095204.	2.8	28
35	Use of the Richardson extrapolation in optics of inhomogeneous layers: Application to optical characterization. Surface and Interface Analysis, 2018, 50, 757-765.	1.8	15
36	Fracture Resistance Enhancement in Hard Mo-B-C Coatings Tailored by Composition and Microstructure. Journal of Nanomaterials, 2018, 2018, 1-7.	2.7	11

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37	Superhard nanocomposite nc-TiC/a-C:H coatings: The effect of HiPIMS on coating microstructure and mechanical properties. Surface and Coatings Technology, 2017, 311, 257-267.	4.8	52
38	On the significance of running-in of hard nc-TiC/a-C:H coating for short-term repeating machining. Surface and Coatings Technology, 2017, 315, 17-23.	4.8	3
39	Cathode voltage and discharge current oscillations in HiPIMS. Plasma Sources Science and Technology, 2017, 26, 055015.	3.1	11
40	Simultaneous electrical and optical study of spoke rotation, merging and splitting in HiPIMS plasma. Journal Physics D: Applied Physics, 2017, 50, 015209.	2.8	14
41	Thermal stability of hard nanocomposite Mo-B-C coatings. Vacuum, 2017, 138, 199-204.	3.5	18
42	On the effect of the substrate to target position on the properties of titanium carbide/carbon coatings. Surface and Coatings Technology, 2017, 328, 462-468.	4.8	9
43	Ti atom and Ti ion number density evolution in standard and multi-pulse HiPIMS. Journal Physics D: Applied Physics, 2017, 50, 365202.	2.8	22
44	Investigation of the Influence of Ni Doping on the Structure and Hardness of Ti-Ni-C Coatings. Journal of Nanomaterials, 2017, 2017, 1-13.	2.7	3
45	On the study of the mechanical properties of Mo-B-C coatings. EPJ Applied Physics, 2016, 75, 24716.	0.7	17
46	Principles and practice of an automatic process control for the deposition of hard nc-TiC/a-C:H coatings by hybrid PVD-PECVD under industrial conditions. Surface and Coatings Technology, 2016, 304, 9-15.	4.8	7
47	Determination of titanium atom and ion densities in sputter deposition plasmas by optical emission spectroscopy. Plasma Sources Science and Technology, 2015, 24, 065022.	3.1	18
48	Comparative analysis of thermal stability of two different nc-TiC/a-C:H coatings. Surface and Coatings Technology, 2015, 267, 32-39.	4.8	6
49	Study of the thermal dependence of mechanical properties, chemical composition and structure of nanocomposite TiC/a-C:H coatings. Surface and Coatings Technology, 2014, 242, 62-67.	4.8	9
50	Reprint of "Study of the thermal dependence of mechanical properties, chemical composition and structure of nanocomposite TiC/a-C:H coatings". Surface and Coatings Technology, 2014, 255, 158-163.	4.8	0
51	On the control of deposition process for enhanced mechanical properties of nc-TiC/a-C:H coatings with DC magnetron sputtering at low or high ion flux. Surface and Coatings Technology, 2014, 255, 8-14.	4.8	18
52	Tribological properties of nc-TiC/a-C:H coatings prepared by magnetron sputtering at low and high ion bombardment of the growing film. Surface and Coatings Technology, 2014, 241, 64-73.	4.8	12
53	Understanding of hybrid PVDâ€"PECVD process with the aim of growing hard nc-TiC/a-C:H coatings using industrial devices with a rotating cylindrical magnetron. Surface and Coatings Technology, 2014, 255, 118-123.	4.8	6
54	Titanium carbide/carbon nanocomposite hard coatings: A comparative study between various chemical analysis tools. Surface and Coatings Technology, 2014, 256, 41-46.	4.8	12

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55	Non-monotonous evolution of hybrid PVDâ€“PECVD process characteristics on hydrocarbon supply. Surface and Coatings Technology, 2013, 232, 283-289.	4.8	18
56	Laser desorption ionisation quadrupole ion trap timeâ€ofâ€flight mass spectrometry of titaniumâ€carbon thin films. Rapid Communications in Mass Spectrometry, 2013, 27, 1196-1202.	1.5	8
57	Evaluation of composition, mechanical properties and structure of nc-TiC/a-C:H coatings prepared by balanced magnetron sputtering. Surface and Coatings Technology, 2012, 211, 111-116.	4.8	27
58	Characterization of a periodic instability in filamentary surface wave discharge at atmospheric pressure in argon. Journal Physics D: Applied Physics, 2012, 45, 055201.	2.8	25
59	Air DCSBD plasma treatment of Al surface at atmospheric pressure. Surface and Coatings Technology, 2012, 206, 3011-3016.	4.8	34
60	Depth profile analyses of nc-TiC/a-C:H coating prepared by balanced magnetron sputtering. Surface and Coatings Technology, 2011, 205, S53-S56.	4.8	16
61	Study of hybrid PVDâ€“PECVD process of Ti sputtering in argon and acetylene. Surface and Coatings Technology, 2011, 205, S299-S302.	4.8	14
62	Complex analysis of SiOxCyHz films deposited by an atmospheric pressure dielectric barrier discharge. Surface and Coatings Technology, 2011, 205, S330-S334.	4.8	15
63	Visualization of Revolving Modes in RF and MW Nonthermal Atmospheric Pressure Plasma Jets. IEEE Transactions on Plasma Science, 2011, 39, 2350-2351.	1.3	8
64	Plasma diagnostics using electron paramagnetic resonance. Journal Physics D: Applied Physics, 2010, 43, 124020.	2.8	4
65	Monitoring of PVD, PECVD and etching plasmas using Fourier components of RF voltage. Plasma Physics and Controlled Fusion, 2010, 52, 124011.	2.1	3
66	Monitoring of magnetron target poisoning by measurement of higher harmonics of discharge voltages. Plasma Sources Science and Technology, 2010, 19, 055016.	3.1	3
67	On the oxygen addition into nitrogen post-discharges. Journal Physics D: Applied Physics, 2009, 42, 075202.	2.8	19
68	Modelling of the reactive sputtering process with non-uniform discharge current density and different temperature conditions. Plasma Sources Science and Technology, 2009, 18, 025011.	3.1	9
69	Harmonic analysis of discharge voltages as a tool to control the RF sputtering deposition process. Europhysics Letters, 2009, 85, 15002.	2.0	10
70	Study of a fast high power pulsed magnetron discharge: role of plasma deconfinement on the charged particle transport. Plasma Sources Science and Technology, 2008, 17, 035007.	3.1	26
71	Self-consistent spatio-temporal simulation of pulsed microwave discharge. Journal Physics D: Applied Physics, 2008, 41, 015210.	2.8	8
72	Experimental study of a pre-ionized high power pulsed magnetron discharge. Plasma Sources Science and Technology, 2007, 16, 501-510.	3.1	58

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73	Analysis of the Transport of Ionized Titanium Atoms in a Highly Ionized Sputter Deposition Process. Plasma Processes and Polymers, 2007, 4, S424-S429.	3.0	15
74	Dissociation increase due to admixtures. European Physical Journal D, 2006, 56, B877-B881.	0.4	3
75	An experimental study of high power microwave pulsed discharge in nitrogen. Plasma Sources Science and Technology, 2006, 15, 574-581.	3.1	10
76	Theoretical study of pulsed microwave discharge in nitrogen. Plasma Sources Science and Technology, 2005, 14, 751-756.	3.1	30
77	Spatial characterization of an IPVD reactor: neutral gas temperature and interpretation of optical spectroscopy measurements. Plasma Sources Science and Technology, 2005, 14, 321-328.	3.1	19
78	Reduction of transient regime in fast preionized high-power pulsed-magnetron discharge. Europhysics Letters, 2005, 72, 390-395.	2.0	37
79	Electron density measurements in afterglow of high power pulsed microwave discharge. Plasma Sources Science and Technology, 2004, 13, 562-568.	3.1	15
80	Simultaneous measurement of N and O densities in plasma afterglow by means of NO titration. Plasma Sources Science and Technology, 2004, 13, 668-674.	3.1	25
81	Temporal studies of titanium ionised density fraction in reactive HiPIMS with nitrogen admixture. Plasma Sources Science and Technology, 0, , .	3.1	3