Jaroslav VlÄek

List of Publications by Year
in descending order

130 papers	4,616 citations	94269 37 h-index	118652 62 g-index
130 all docs	130 docs citations	130 times ranked	2649 citing authors

#	Article	IF	Citations
1	Transfer of the sputter technique for deposition of strongly thermochromic VO2-based coatings on ultrathin flexible glass to large-scale roll-to-roll device. Surface and Coatings Technology, 2022, 442, 128273.	2.2	10
2	Multifunctional MoOx and MoOxNy films with 2.5 < x < 3.0 and y < 0.2 prepared using controlled reactive deep oscillation magnetron sputtering. Thin Solid Films, 2021, 717, 138442.	0.8	0
3	Enhancement of high-temperature oxidation resistance and thermal stability of hard and optically transparent Hfâ€“Bâ€“Siâ€“Câ€“N films by Y or Ho addition. Journal of Non-Crystalline Solids, 2021, 553, 120470.	1.5	3
4	Dependence of characteristics of Hf(M)SiBCN (MÂ=ÂY, Ho, Ta, Mo) thin films on the M choice: Ab-initio and experimental study. Acta Materialia, 2021, 206, 116628.	3.8	7
5	Microstructure of high-performance thermochromic ZrO2/V0.984W0.016O2/ZrO2 coating with a low transition temperature (22ÂÂ°C) prepared on flexible glass. Surface and Coatings Technology, 2021, 424, 127654.	2.2	7
6	High-performance thermochromic VO2-based coatings with a low transition temperature deposited on glass by a scalable technique. Scientific Reports, 2020, 10, 11107.	1.6	29
7	Microstructure of High Temperature Oxidation Resistant Hf6B10Si31C2N50 and Hf7B10Si32C2N44 Films. Coatings, 2020, 10, 1170.	1.2	2
8	Pulsed Magnetron Sputtering of Strongly Thermochromic VO2-Based Coatings with a Transition Temperature of 22 Â°C onto Ultrathin Flexible Glass. Coatings, 2020, 10, 1258.	1.2	11
9	Tunable composition and properties of Al-O-N films prepared by reactive deep oscillation magnetron sputtering. Surface and Coatings Technology, 2020, 392, 125716.	2.2	5
10	Extraordinary high-temperature behavior of electrically conductive Hf7B23Si22C6N40 ceramic film. Surface and Coatings Technology, 2020, 391, 125686.	2.2	5
11	Effect of energetic particles on pulsed magnetron sputtering of hard nanocrystalline MBCN (Mâ€¯=â€¯Ti, Zr,) Tj ETQq1 1 0.784314 rgBT	0.8	7
12	Microstructure evolution in amorphous Hf-B-Si-C-N high temperature resistant coatings after annealing to 1500 Â°C in air. Scientific Reports, 2019, 9, 3603.	1.6	11
13	Effects of power per pulse on reactive HiPIMS deposition of ZrO2 films: A time-resolved optical emission spectroscopy study. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, 061305.	0.9	0
14	Significant improvement of the performance of ZrO2/V1-W O2/ZrO2 thermochromic coatings by utilizing a second-order interference. Solar Energy Materials and Solar Cells, 2019, 191, 365-371.	3.0	46
15	Ion-flux characteristics during low-temperature (300 Â°C) deposition of thermochromic VO₂ films using controlled reactive HiPIMS. Journal Physics D: Applied Physics, 2019, 52, 025205.	1.3	10
16	Thermal stability of structure, microstructure and enhanced properties of Zrâ€“Taâ€“O films with a low and high Ta content. Surface and Coatings Technology, 2018, 335, 95-103.	2.2	5
17	Study of the high-temperature oxidation resistance mechanism of magnetron sputtered Hf7B23Si17C4N45 film. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	0.9	7
18	Magnetron sputtered Hfâ€“Bâ€“Siâ€“Câ€“N films with controlled electrical conductivity and optical transparency, and with ultrahigh oxidation resistance. Thin Solid Films, 2018, 653, 333-340.	0.8	14

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19	Enhancement of the deposition rate in reactive mid-frequency ac magnetron sputtering of hard and optically transparent ZrO 2 films. Surface and Coatings Technology, 2018, 336, 54-60.	2.2	12
20	Properties of thermochromic VO2 films prepared by HiPIMS onto unbiased amorphous glass substrates at a low temperature of 300â€¯Â°C. Thin Solid Films, 2018, 660, 463-470.	0.8	26
21	Improved performance of thermochromic VO2/SiO2 coatings prepared by low-temperature pulsed reactive magnetron sputtering: Prediction and experimental verification. Journal of Alloys and Compounds, 2018, 767, 46-51.	2.8	24
22	Structure and properties of Hf-O-N films prepared by high-rate reactive HiPIMS with smoothly controlled composition. Ceramics International, 2017, 43, 5661-5667.	2.3	22
23	Optical emission spectroscopy during the deposition of zirconium dioxide films by controlled reactive high-power impulse magnetron sputtering. Journal of Applied Physics, 2017, 121, .	1.1	14
24	Reactive high-power impulse magnetron sputtering of ZrO2 films with gradient ZrOx interlayers on pretreated steel substrates. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, 031503.	0.9	7
25	Dynamics of processes during the deposition of ZrO2 films by controlled reactive high-power impulse magnetron sputtering: A modelling study. Journal of Applied Physics, 2017, 122, 043304.	1.1	8
26	Controlled reactive HiPIMSâ€"effective technique for low-temperature (300 Â°C) synthesis of VO₂films with semiconductor-to-metal transition. Journal Physics D: Applied Physics, 2017, 50, 38LT01.	1.3	38
27	Characterization of thermochromic VO2 (prepared at 250 Â°C) in a wide temperature range by spectroscopic ellipsometry. Applied Surface Science, 2017, 421, 529-534.	3.1	34
28	Microstructure of hard and optically transparent HfO2 films prepared by high-power impulse magnetron sputtering with a pulsed oxygen flow control. Thin Solid Films, 2016, 619, 239-249.	0.8	25
29	Dependence of characteristics of MSiBCN (M = Ti, Zr, Hf) on the choice of metal element: Experimental and ab-initio study. Thin Solid Films, 2016, 616, 359-365.	0.8	14
30	Absolute OH and O radical densities in effluent of a He/H₂O micro-scaled atmospheric pressure plasma jet. Plasma Sources Science and Technology, 2016, 25, 045013.	1.3	46
31	Thermal, mechanical and electrical properties of hard B4C, BCN, ZrBC and ZrBCN ceramics. Ceramics International, 2016, 42, 4361-4369.	2.3	20
32	Superior high-temperature oxidation resistance of magnetron sputtered Hfâ€“Bâ€“Siâ€“Câ€“N film. Ceramics International, 2016, 42, 4853-4859.	2.3	28
33	A parametric model for reactive high-power impulse magnetron sputtering of films. Journal Physics D: Applied Physics, 2016, 49, 055202.	1.3	34
34	High-rate reactive high-power impulse magnetron sputtering of hard and optically transparent HfO 2 films. Surface and Coatings Technology, 2016, 290, 58-64.	2.2	49
35	Effect of the Si content on the microstructure of hard, multifunctional Hfâ€“Bâ€“Siâ€“C films prepared by pulsed magnetron sputtering. Applied Surface Science, 2015, 357, 1343-1354.	3.1	20
36	Dependence of structure and properties of hard nanocrystalline conductive films MBCN (M = Ti, Zr,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.8	10

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37	Benefits of the controlled reactive high-power impulse magnetron sputtering of stoichiometric ZrO2 films. Vacuum, 2015, 114, 131-141.	1.6	56
38	Hard multifunctional Hfâ€“Bâ€“Siâ€“C films prepared by pulsed magnetron sputtering. Surface and Coatings Technology, 2014, 257, 301-307.	2.2	20
39	A study of the microstructure evolution of hard Zrâ€“Bâ€“Câ€“N films by high-resolution transmission electron microscopy. Acta Materialia, 2014, 77, 212-222.	3.8	25
40	High-rate reactive high-power impulse magnetron sputtering of Taâ€“Oâ€“N films with tunable composition and properties. Thin Solid Films, 2014, 566, 70-77.	0.8	29
41	Transport and ionization of sputtered atoms in high-power impulse magnetron sputtering discharges. Journal Physics D: Applied Physics, 2013, 46, 105203.	1.3	19
42	Effect of voltage pulse characteristics on high-power impulse magnetron sputtering of copper. Plasma Sources Science and Technology, 2013, 22, 015009.	1.3	6
43	Hard nanocrystalline Zrâ€“Bâ€“Câ€“N films with high electrical conductivity prepared by pulsed magnetron sputtering. Surface and Coatings Technology, 2013, 215, 186-191.	2.2	23
44	Effect of N and Zr content on structure, electronic structure and properties of ZrBCN materials: An ab-initio study. Thin Solid Films, 2013, 542, 225-231.	0.8	14
45	Process stabilization and a significant enhancement of the deposition rate in reactive high-power impulse magnetron sputtering of ZrO2 and Ta2O5 films. Surface and Coatings Technology, 2013, 236, 550-556.	2.2	72
46	Microstructure characterization of high-temperature, oxidation-resistant Si-B-C-N films. Thin Solid Films, 2013, 542, 167-173.	0.8	35
47	Pulsed reactive magnetron sputtering of high-temperature Siâ€“Bâ€“Câ€“N films with high optical transparency. Surface and Coatings Technology, 2013, 226, 34-39.	2.2	22
48	Thermal conductivity of high-temperature Siâ€“Bâ€“Câ€“N thin films. Surface and Coatings Technology, 2011, 206, 2030-2033.	2.2	17
49	Ion Flux Characteristics in Pulsed Dual Magnetron Discharges Used for Deposition of Photoactive TiO₂ Films. Plasma Processes and Polymers, 2011, 8, 191-199.	1.6	10
50	Effect of nitrogen content on electronic structure and properties of SiBCN materials. Acta Materialia, 2011, 59, 2341-2349.	3.8	36
51	Comparison of hydrophilic properties of TiO2 thin films prepared by solâ€“gel method and reactive magnetron sputtering system. Thin Solid Films, 2011, 519, 6944-6950.	0.8	41
52	Effect of ion bombarding energies on photocatalytic TiO2 films growing in a pulsed dual magnetron discharge. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	0.9	6
53	Thermal stability of magnetron sputtered Siâ€“Bâ€“Câ€“N materials at temperatures up to 1700Â°C. Thin Solid Films, 2010, 519, 306-311.	0.8	41
54	Ion flux characteristics and efficiency of the deposition processes in high power impulse magnetron sputtering of zirconium. Journal of Applied Physics, 2010, 108, .	1.1	26

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55	A phenomenological equilibrium model applicable to high-power pulsed magnetron sputtering. Plasma Sources Science and Technology, 2010, 19, 065010.	1.3	66
56	High-temperature stability of the mechanical and optical properties of Siâ€“Bâ€“Câ€“N films prepared by magnetron sputtering. Thin Solid Films, 2009, 518, 174-179.	0.8	27
57	Electron energy distributions and plasma parameters in high-power pulsed magnetron sputtering discharges. Plasma Sources Science and Technology, 2009, 18, 025008.	1.3	76
58	Mechanical and optical properties of quaternary Siâ€“Bâ€“Câ€“N films prepared by reactive magnetron sputtering. Thin Solid Films, 2008, 516, 7286-7293.	0.8	23
59	Effect of the gas mixture composition on high-temperature behavior of magnetron sputtered Siâ€“Bâ€“Câ€“N coatings. Surface and Coatings Technology, 2008, 203, 466-469.	2.2	42
60	Highly ionized fluxes of sputtered titanium atoms in high-power pulsed magnetron discharges. Plasma Sources Science and Technology, 2008, 17, 025010.	1.3	58
61	Hard amorphous nanocomposite coatings with oxidation resistance above 1000Â°C. Advances in Applied Ceramics, 2008, 107, 148-154.	0.6	68
62	Magnetron sputtered Siâ€“Bâ€“Câ€“N films with high oxidation resistance and thermal stability in air at temperatures above 1500â€‰Â°C. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2008, 26, 1101-1108.	0.9	27
63	Effect of implanted argon on hardness of novel magnetron sputtered Siâ€“Bâ€“Câ€“N materials: experiments andab initiosimulations. Journal of Physics Condensed Matter, 2007, 19, 196228.	0.7	17
64	High-power pulsed sputtering using a magnetron with enhanced plasma confinement. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2007, 25, 42-47.	0.9	75
65	Bonding statistics and electronic structure of novel Siâ€“Bâ€“Câ€“N materials: <i>Ab initio</i> calculations and experimental verification. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2007, 25, 1411-1416.	0.9	21
66	Ion flux characteristics in high-power pulsed magnetron sputtering discharges. Europhysics Letters, 2007, 77, 45002.	0.7	61
67	Influence of substrate bias voltage on structure and properties of hard Siâ€“Bâ€“Câ€“N films prepared by reactive magnetron sputtering. Diamond and Related Materials, 2007, 16, 29-36.	1.8	55
68	Ion-bombardment characteristics during deposition of TiN films using a grid-assisted magnetron system with enhanced plasma potential. Vacuum, 2007, 81, 1109-1113.	1.6	6
69	Effect of B and the Si/C ratio on high-temperature stability of Siâ€“Bâ€“Câ€“N materials. Europhysics Letters, 2006, 76, 512-518.	0.7	34
70	The effect of argon on the structure of amorphous SiBCN materials: an experimental andab initiostudy. Journal of Physics Condensed Matter, 2006, 18, 2337-2348.	0.7	19
71	Reactive magnetron sputtering of thin films: present status and trends. Thin Solid Films, 2005, 475, 208-218.	0.8	329
72	Reactive magnetron sputtering of TiOx films. Surface and Coatings Technology, 2005, 193, 107-111.	2.2	69

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73	Synthesis of TiO2 photocatalyst and study on their improvement technology of photocatalytic activity. Surface and Coatings Technology, 2005, 200, 534-538.	2.2	13
74	Optical emission spectra and ion energy distribution functions in TiN deposition process by reactive pulsed magnetron sputtering. Surface and Coatings Technology, 2005, 200, 835-840.	2.2	15
75	Ab initiosimulations of nitrogen evolution in quenchedCNxand SiBCN amorphous materials. Physical Review B, 2005, 72, .	1.1	25
76	Reactive magnetron sputtering of hard Siâ€"Bâ€"Câ€"N films with a high-temperature oxidation resistance. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2005, 23, 1513-1522.	0.9	76
77	Mechanical and optical properties of hard SiCN coatings prepared by PECVD. Thin Solid Films, 2004, 447-448, 201-207.	0.8	145
78	Pulsed dc Magnetron Discharges and their Utilization in Plasma Surface Engineering. Contributions To Plasma Physics, 2004, 44, 426-436.	0.5	110
79	Effect of ion bombardment on properties of hard reactively sputtered Ti(Fe)Nx films. Surface and Coatings Technology, 2004, 177-178, 289-298.	2.2	43
80	Thermal annealing of sputtered Alâ€"Siâ€"Cuâ€"N films. Vacuum, 2003, 72, 21-28.	1.6	13
81	Measurement of hardness of superhard films by microindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 340, 281-285.	2.6	33
82	Structure-hardness relations in sputtered Tiâ€"Alâ€"Vâ€"N films. Thin Solid Films, 2003, 444, 189-198.	0.8	54
83	Reactive magnetron sputtering of Siâ€"Câ€"N films with controlled mechanical and optical properties. Diamond and Related Materials, 2003, 12, 1287-1294.	1.8	34
84	The effect of nitrogen on analytical glow discharges studied by high resolution Fourier transform spectroscopy. Journal of Analytical Atomic Spectrometry, 2003, 18, 549-556.	1.6	21
85	Morphology and Microstructure of Hard and Superhard Zrâ€"Cuâ€"N Nanocomposite Coatings. Japanese Journal of Applied Physics, 2002, 41, 6529-6533.	0.8	22
86	Effective nitriding of steels outside low-pressure microwave discharges. Surface and Coatings Technology, 2002, 156, 182-184.	2.2	1
87	The depth profile analysis of W-Si-N coatings after thermal annealing. Surface and Coatings Technology, 2002, 161, 111-119.	2.2	18
88	Influence of nitrogenâ€"argon gas mixtures on reactive magnetron sputtering of hard Siâ€"Câ€"N films. Surface and Coatings Technology, 2002, 160, 74-81.	2.2	46
89	Pulsed dc magnetron discharge for high-rate sputtering of thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 420-424.	0.9	71
90	Magnetron sputtering of hard nanocomposite coatings and their properties. Surface and Coatings Technology, 2001, 142-144, 557-566.	2.2	205

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91	Magnetron with gas injection through hollow cathodes machined in sputtered target. Surface and Coatings Technology, 2001, 148, 296-304.	2.2	8
92	Recent progress in plasma nitriding. Vacuum, 2000, 59, 940-951.	1.6	37
93	Microwave plasma nitriding of a low-alloy steel. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 2715-2721.	0.9	14
94	New approach to understanding the reactive magnetron sputtering of hard carbon nitride films. Diamond and Related Materials, 2000, 9, 582-586.	1.8	5
95	Influence of substrate bias voltage on the properties of CNx films prepared by reactive magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 899-908.	0.9	29
96	A perspective of magnetron sputtering in surface engineering. Surface and Coatings Technology, 1999, 112, 162-169.	2.2	50
97	Microstructure and properties of nanocomposite Tiâ€"Bâ€"N and Tiâ€"Bâ€"C coatings. Surface and Coatings Technology, 1999, 120-121, 405-411.	2.2	170
98	Langmuir probe measurements of plasma parameters in a planar magnetron with additional plasma confinement. Vacuum, 1999, 55, 165-170.	1.6	28
99	Magnetron sputtering of alloy and alloy-based films. Thin Solid Films, 1999, 343-344, 47-50.	0.8	53
100	Reactive magnetron sputtering of CNx films: Ion bombardment effects and process characterization using optical emission spectroscopy. Journal of Applied Physics, 1999, 86, 3646-3654.	1.1	61
101	Magnetron sputtering of alloy-based films and its specifity. European Physical Journal D, 1998, 48, 1209-1224.	0.4	17
102	Collisional-radiative model for an argon glow discharge. Journal of Applied Physics, 1998, 84, 121-136.	1.1	223
103	Phase transformation in sputtered Tiâ€"SS alloy film during plasma nitriding. Thin Solid Films, 1998, 317, 458-462.	0.8	1
104	Magnetron sputtering of films with controlled texture and grain size. Materials Chemistry and Physics, 1998, 54, 116-122.	2.0	111
105	Fundamentals of elementary processes in plasmas. Surface and Coatings Technology, 1998, 98, 1557-1564.	2.2	1
106	High-temperature oxidation of TiN/CrN multilayers reactively sputtered at low temperatures. Surface and Coatings Technology, 1998, 98, 1497-1502.	2.2	59
107	Modeling of glow discharge optical emission spectrometry: Calculation of the argon atomic optical emission spectrum. Spectrochimica Acta, Part B: Atomic Spectroscopy, 1998, 53, 1517-1526.	1.5	50
108	A comparison of internal plasma parameters in a conventional planar magnetron and a magnetron with additional plasma confinement. Plasma Sources Science and Technology, 1997, 6, 46-52.	1.3	24

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109	Plasma nitriding combined with a hollow cathode discharge sputtering at high pressures. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 2636-2643.	0.9	17
110	Magnesium as a representative analyte metal in argon inductively coupled plasmas. I. An extensive collisional-radiative model. Spectrochimica Acta, Part B: Atomic Spectroscopy, 1997, 52, 599-608.	1.5	16
111	Magnesium as a representative analyte metal in argon inductively coupled plasmas. II. Population mechanisms in analytical zones of different spectrochemical systems. Spectrochimica Acta, Part B: Atomic Spectroscopy, 1997, 52, 609-619.	1.5	15
112	Tribological study of CNx films prepared by reactive d.c. magnetron sputtering. Wear, 1997, 213, 80-89.	1.5	66
113	Depth profile analysis of minor elements by GD-OES: Applications to diffusion phenomena. Fresenius' Journal of Analytical Chemistry, 1996, 354, 188-192.	1.5	5
114	Interdiffusion between Ti and steel elements in Ti coating/steel substrate couple. Vacuum, 1996, 47, 871-877.	1.6	2
115	Formation of high temperature phases in sputter deposited Tiâ€based films below 100â€‰Â°C. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1996, 14, 2247-2250.	0.9	29
116	Production of Ti films with controlled texture. Surface and Coatings Technology, 1995, 76-77, 274-279.	2.2	14
117	Mutual interdiffusion of elements in steel and Ti coating and aluminium and Ti coating couples during plasma nitriding. Surface and Coatings Technology, 1995, 74-75, 609-613.	2.2	4
118	Anodic plasma nitriding with a molybdenum cathode. Vacuum, 1995, 46, 43-47.	1.6	11
119	Planar magnetron with additional plasma confinement. Vacuum, 1995, 46, 341-347.	1.6	14
120	Surface morphology of sputter deposited low melting point metallic thin films. European Physical Journal D, 1994, 44, 565-574.	0.4	11
121	Emission spectroscopy of the plasma in the cathode region of N2-H2abnormal glow discharges for steel surface nitriding. Journal Physics D: Applied Physics, 1993, 26, 585-589.	1.3	29
122	Comment on two new collisional-radiative models for an argon plasma. Journal of Quantitative Spectroscopy and Radiative Transfer, 1992, 47, 431-432.	1.1	0
123	Collisional-radiative ionization and recombination in an inductively coupled argon plasma. Spectrochimica Acta, Part B: Atomic Spectroscopy, 1992, 47, 681-688.	1.5	11
124	A collisional-radiative model applicable to argon discharge over a wide range of conditions. IV. Application to inductively coupled plasmas. Journal Physics D: Applied Physics, 1991, 24, 309-317.	1.3	22
125	A collisional-radiative model applicable to argon discharges over a wide range of conditions. I. Formulation and basic data. Journal Physics D: Applied Physics, 1989, 22, 623-631.	1.3	215
126	A collisional-radiative model applicable to argon discharges over a wide range of conditions. II. Application to low-pressure, hollow-cathode arc and low-pressure glow discharges. Journal Physics D: Applied Physics, 1989, 22, 632-643.	1.3	45

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127	Excited level populations of argon atoms in a non-isothermal plasma. Journal Physics D: Applied Physics, 1986, 19, 1879-1888.	1.3	4
128	Electron energy distribution function in the collisional-radiative model of an argon plasma. Journal Physics D: Applied Physics, 1985, 18, 347-358.	1.3	9
129	Coronal and Collisional â€" Radiative Model of the Plasma for the Case of Hydrogen Glow Discharge. Beitrage Aus Der Plasmaphysik, 1983, 23, 373-379.	0.1	2
130	Seebeck effect in polycrystalline semiconductors. Thin Solid Films, 1982, 92, 259-271.	0.8	8