Jiri Houska

List of Publications by Year
in descending order

82 papers	1,506 citations	279798 23 h-index	377865 34 g-index
82 all docs	82 docs citations	82 times ranked	1067 citing authors

#	Article	IF	Citations
1	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.	2.1	76
2	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.	4.8	72
3	Benefits of the controlled reactive high-power impulse magnetron sputtering of stoichiometric ZrO2 films. Vacuum, 2015, 114, 131-141.	3.5	56
4	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.	3.9	55
5	Overview of optical properties of Al2O3 films prepared by various techniques. Thin Solid Films, 2012, 520, 5405-5408.	1.8	53
6	High-rate reactive high-power impulse magnetron sputtering of hard and optically transparent HfO 2 films. Surface and Coatings Technology, 2016, 290, 58-64.	4.8	49
7	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.	6.2	46
8	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.	4.8	42
9	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.	2.8	38
10	Properties of nanocrystalline Alâ€“Cuâ€“O films reactively sputtered by DC pulse dual magnetron. Applied Surface Science, 2011, 258, 1762-1767.	6.1	36
11	Effect of nitrogen content on electronic structure and properties of SiBCN materials. Acta Materialia, 2011, 59, 2341-2349.	7.9	36
12	Atomistic simulations of the characteristics of TiSiN nanocomposites of various compositions. Surface and Coatings Technology, 2009, 203, 3348-3355.	4.8	35
13	Effect of B and the Si/C ratio on high-temperature stability of Siâ€“Bâ€“Câ€“N materials. Europhysics Letters, 2006, 76, 512-518.	2.0	34
14	Characterization of thermochromic VO2 (prepared at 250 Â°C) in a wide temperature range by spectroscopic ellipsometry. Applied Surface Science, 2017, 421, 529-534.	6.1	34
15	Pathway for a low-temperature deposition of Î±-Al2O3: A molecular dynamics study. Surface and Coatings Technology, 2013, 235, 333-341.	4.8	30
16	Experimental and molecular dynamics study of the growth of crystalline TiO2. Journal of Applied Physics, 2012, 112, 073527.	2.5	29
17	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.	1.8	29
18	High-performance thermochromic VO2-based coatings with a low transition temperature deposited on glass by a scalable technique. Scientific Reports, 2020, 10, 11107.	3.3	29

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19	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.	1.8	26
20	Ab initiosimulations of nitrogen evolution in quenchedCNxand SiBCN amorphous materials. Physical Review B, 2005, 72, .	3.2	25
21	Trends in formation energies and elastic moduli of ternary and quaternary transition metal nitrides. Journal of Materials Science, 2013, 48, 7642-7651.	3.7	25
22	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.	7.9	25
23	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.	1.8	25
24	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.	5.5	24
25	Mechanical and optical properties of quaternary Siâ€“Bâ€“Câ€“N films prepared by reactive magnetron sputtering. Thin Solid Films, 2008, 516, 7286-7293.	1.8	23
26	Atom-by-atom simulations of chemical vapor deposition of nanoporous hydrogenated silicon nitride. Journal of Applied Physics, 2010, 107, .	2.5	22
27	Pulsed reactive magnetron sputtering of high-temperature Siâ€“Bâ€“Câ€“N films with high optical transparency. Surface and Coatings Technology, 2013, 226, 34-39.	4.8	22
28	Structure and properties of Hf-O-N films prepared by high-rate reactive HiPIMS with smoothly controlled composition. Ceramics International, 2017, 43, 5661-5667.	4.8	22
29	Bonding statistics and electronic structure of novel Siâ€“Bâ€“Câ€“N materials: Ab initio calculations and experimental verification. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2007, 25, 1411-1416.	2.1	21
30	Hard multifunctional Hfâ€“Bâ€“Siâ€“C films prepared by pulsed magnetron sputtering. Surface and Coatings Technology, 2014, 257, 301-307.	4.8	20
31	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.	6.1	20
32	Thermal, mechanical and electrical properties of hard B4C, BCN, ZrBC and ZrBCN ceramics. Ceramics International, 2016, 42, 4361-4369.	4.8	20
33	Tribological properties and oxidation resistance of tungsten and tungsten nitride films at temperatures up to 500â€Â°C. Tribology International, 2019, 132, 211-220.	5.9	20
34	The effect of argon on the structure of amorphous SiBCN materials: an experimental andab initiostudy. Journal of Physics Condensed Matter, 2006, 18, 2337-2348.	1.8	19
35	Design and reactive magnetron sputtering of thermochromic coatings. Journal of Applied Physics, 2022, 131, .	2.5	19
36	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.	1.8	17

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37	Formation and behavior of unbonded hydrogen in a-C:H of various compositions and densities. Surface and Coatings Technology, 2009, 203, 3770-3776.	4.8	15
38	Molecular dynamics study of the growth of crystalline ZrO2. Surface and Coatings Technology, 2016, 304, 23-30.	4.8	15
39	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.	1.8	14
40	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.	1.8	14
41	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.	1.8	14
42	Quantitative investigation of the role of high-energy particles in Al2O3 thin film growth: A molecular-dynamics study. Surface and Coatings Technology, 2014, 254, 131-137.	4.8	13
43	Force field for realistic molecular dynamics simulations of ZrO 2 growth. Computational Materials Science, 2016, 111, 209-217.	3.0	13
44	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.	4.8	12
45	High-rate reactive high-power impulse magnetron sputtering of transparent conductive Al-doped ZnO thin films prepared at ambient temperature. Thin Solid Films, 2019, 679, 35-41.	1.8	12
46	Molecular dynamics and experimental study of the growth, structure and properties of Zrâ€“Cu films. Journal of Alloys and Compounds, 2020, 828, 154433.	5.5	12
47	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.	2.6	11
48	Dependence of structure and properties of hard nanocrystalline conductive films MBCN (M = Ti, Zr,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	1.8	10
49	Effect of annealing on structure and properties of Taâ€“Oâ€“N films prepared by high power impulse magnetron sputtering. Ceramics International, 2019, 45, 9454-9461.	4.8	10
50	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.	2.8	10
51	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.	4.8	10
52	SiBCN materials for high-temperature applications: Atomistic origin of electrical conductivity. Journal of Applied Physics, 2010, 108, .	2.5	9
53	Dependence of the ZrO2 growth on the crystal orientation: growth simulations and magnetron sputtering. Applied Surface Science, 2022, 572, 151422.	6.1	9
54	Ab initiomodeling of complex amorphous transition-metal-based ceramics. Journal of Physics Condensed Matter, 2011, 23, 025502.	1.8	8

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55	In-Ga-Zn-O thin films with tunable optical and electrical properties prepared by high-power impulse magnetron sputtering. Thin Solid Films, 2018, 658, 27-32.	1.8	8
56	Relationships between composition and properties of (Cr/Ti)SiN and (Cr/Ti)CN alloys: anab initiostudy. Journal of Physics Condensed Matter, 2009, 21, 285302.	1.8	7
57	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.	2.1	7
58	Effect of energetic particles on pulsed magnetron sputtering of hard nanocrystalline MBCN (Mâ€¯=â€¯Ti, Zr,) Tj ETQq0 0 0 rgBT /Overloc	1.8	7
59	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.	7.9	7
60	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.	4.8	7
61	Ion-bombardment characteristics during deposition of TiN films using a grid-assisted magnetron system with enhanced plasma potential. Vacuum, 2007, 81, 1109-1113.	3.5	6
62	Relationships between the distribution of O atoms on partially oxidized metal (Al, Ag, Cu, Ti, Zr, Hf) surfaces and the adsorption energy: A density-functional theory study. Journal of Applied Physics, 2017, 121, 225303.	2.5	6
63	Ageing resistance of SiBCN ceramics. Ceramics International, 2015, 41, 7921-7928.	4.8	5
64	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.	4.8	5
65	Maximum N content in a-CNx by ab-initio simulations. Acta Materialia, 2019, 174, 189-194.	7.9	5
66	Self-organization of vapor-deposited polyolefins at the solid/vacuum interface. Progress in Organic Coatings, 2020, 143, 105630.	3.9	5
67	Tunable composition and properties of Al-O-N films prepared by reactive deep oscillation magnetron sputtering. Surface and Coatings Technology, 2020, 392, 125716.	4.8	5
68	Extraordinary high-temperature behavior of electrically conductive Hf7B23Si22C6N40 ceramic film. Surface and Coatings Technology, 2020, 391, 125686.	4.8	5
69	Distribution of O atoms on partially oxidized metal targets, and the consequences for reactive sputtering of individual metal oxides. Surface and Coatings Technology, 2020, 392, 125685.	4.8	5
70	A study on the energy distribution for grid-assisting magnetron sputtering. Surface and Coatings Technology, 2005, 200, 421-424.	4.8	4
71	Toward colorless smart windows. Solar Energy Materials and Solar Cells, 2021, 230, 111210.	6.2	4
72	Hard and electrically conductive multicomponent diboride-based films with high thermal stability. Ceramics International, 2021, , .	4.8	4

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73	Thermal stability and transformation phenomena in magnetron sputtered Alâ€“Cuâ€“O films. Ceramics International, 2015, 41, 6020-6029.	4.8	3
74	Force field for realistic molecular dynamics simulations of TiO 2 growth. Computational Materials Science, 2017, 134, 1-7.	3.0	3
75	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.	3.1	3
76	Vacancies and substitutional defects in multicomponent diboride Ti_{0.25}Zr_{0.25}Hf_{0.25}Ta_{0.25}B₂: first-principle study. Journal of Physics Condensed Matter, 2022, 34, 095901.	1.8	3
77	Stress reduction in cubic boron nitride by oxygen addition: Explanation of the mechanism by ab-initio simulations. Surface and Coatings Technology, 2012, 206, 2541-2544.	4.8	2
78	Maximum Achievable N Content in Atom-by-Atom Growth of Amorphous Siâ€“Câ€“N. ACS Applied Materials & Interfaces, 2020, 12, 41666-41673.	8.0	2
79	Maximum Achievable N Content in Atom-by-Atom Growth of Amorphous Si-B-C-N Materials. Materials, 2021, 14, 5744.	2.9	2
80	Bixbyite-Ta2N2O film prepared by HiPIMS and postdeposition annealing: Structure and properties. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	2.1	1
81	Strong effect of the interaction potential cut-off on the crystallinity of films grown by simulations. Molecular Simulation, 2017, 43, 1436-1441.	2.0	0
82	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.	1.8	0