Marcus Hans

List of Publications by Year
in descending order

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63 papers	1,202 citations	361296 20 h-index	434063 31 g-index
63 all docs	63 docs citations	63 times ranked	891 citing authors

#	Article	IF	Citations
1	Crystallization kinetics of amorphous Cr2AlC thin films. Surface and Coatings Technology, 2011, 206, 599-603.	2.2	78
2	Unprecedented thermal stability of inherently metastable titanium aluminum nitride by point defect engineering. Materials Research Letters, 2017, 5, 158-169.	4.1	73
3	Mechanical properties and thermal stability of reactively sputtered multi-principal-metal Hf-Ta-Ti-V-Zr nitrides. Surface and Coatings Technology, 2020, 389, 125674.	2.2	60
4	Effect of oxygen incorporation on the structure and elasticity of Ti-Al-O-N coatings synthesized by cathodic arc and high power pulsed magnetron sputtering. Journal of Applied Physics, 2014, 116, .	1.1	51
5	Thermal stability and mechanical properties of sputtered (Hf,Ta,V,W,Zr)-diborides. Acta Materialia, 2020, 200, 559-569.	3.8	50
6	Unprecedented Al supersaturation in single-phase rock salt structure VAlN films by Al+ subplantation. Journal of Applied Physics, 2017, 121, .	1.1	40
7	Surface chemistry of TiAlN and TiAlNO coatings deposited by means of high power pulsed magnetron sputtering. Journal Physics D: Applied Physics, 2013, 46, 084003.	1.3	34
8	Crystallite size-dependent metastable phase formation of TiAlN coatings. Scientific Reports, 2017, 7, 16096.	1.6	34
9	Modeling of metastable phase formation for sputtered Ti1-xAlxN thin films. Acta Materialia, 2019, 165, 615-625.	3.8	34
10	Oxidation behaviour of V2AlC MAX phase coatings. Journal of the European Ceramic Society, 2020, 40, 4436-4444.	2.8	33
11	Bonding and elastic properties of amorphous AlYB. Solid State Communications, 2013, 169, 6-9.	0.9	31
12	Substrate rotation-induced chemical modulation in Ti-Al-O-N coatings synthesized by cathodic arc in an industrial deposition plant. Surface and Coatings Technology, 2016, 305, 249-253.	2.2	30
13	From quantum to continuum mechanics: studying the fracture toughness of transition metal nitrides and oxynitrides. Materials Research Letters, 2018, 6, 142-151.	4.1	30
14	Are Mo2BC nanocrystalline coatings damage resistant? Insights from comparative tension experiments. Surface and Coatings Technology, 2016, 289, 213-218.	2.2	29
15	Remote Tracking of Phase Changes in Cr2AlC Thin Films by In-situ Resistivity Measurements. Scientific Reports, 2019, 9, 8266.	1.6	28
16	Enhanced thermal stability of (Ti,Al)N coatings by oxygen incorporation. Acta Materialia, 2021, 218, 117204.	3.8	26
17	Crystallization kinetics of V2AlC. Thin Solid Films, 2012, 520, 1930-1933.	0.8	24
18	Ion energy control via the electrical asymmetry effect to tune coating properties in reactive radio frequency sputtering. Plasma Sources Science and Technology, 2019, 28, 114001.	1.3	22

#	Article	IF	Citations
19	Strategies for damage tolerance enhancement in metal/ceramic thin films: Lessons learned from Ti/TiN. Acta Materialia, 2022, 228, 117777.	3.8	22
20	Electronic energy-loss mechanisms for H, He, and Ne in TiN. Physical Review A, 2017, 96, .	1.0	20
21	HPPMS deposition from composite targets: Effect of two orders of magnitude target power density changes on the composition of sputtered Cr-Al-C thin films. Vacuum, 2017, 145, 285-289.	1.6	20
22	Stress-Dependent Elasticity of TiAlN Coatings. Coatings, 2019, 9, 24.	1.2	20
23	Stress-dependent prediction of metastable phase formation for magnetron-sputtered V1â^'xAlxN and Ti1â^'xAlxN thin films. Acta Materialia, 2020, 196, 313-324.	3.8	20
24	Unravelling the ion-energy-dependent structure evolution and its implications for the elastic properties of (V,Al)N thin films. Acta Materialia, 2021, 214, 117003.	3.8	20
25	Extended metastable Al solubility in cubic VAlN by metal-ion bombardment during pulsed magnetron sputtering: film stress vs subplantation. Journal of Applied Physics, 2017, 122, .	1.1	19
26	Control over the Phase Formation in Metastable Transition Metal Nitride Thin Films by Tuning the Al+ Subplantation Depth. Coatings, 2019, 9, 17.	1.2	19
27	Strain-stabilized Al-containing high-entropy sublattice nitrides. Acta Materialia, 2022, 224, 117483.	3.8	19
28	Thermal stability enhancement of Cr2AlC coatings on Zr by utilizing a double layer diffusion barrier. Journal of the European Ceramic Society, 2020, 40, 1119-1124.	2.8	18
29	Direct MoB MBene domain formation in magnetron sputtered MoAlB thin films. Nanoscale, 2021, 13, 18077-18083.	2.8	18
30	Synthesis and Properties of Orthorhombic MoAlB Coatings. Coatings, 2019, 9, 510.	1.2	17
31	On the chemical composition of TiAlN thin films - Comparison of ion beam analysis and laser-assisted atom probe tomography with varying laser pulse energy. Thin Solid Films, 2019, 688, 137251.	0.8	17
32	Modifying the nanostructure and the mechanical properties of Mo2BC hard coatings: Influence of substrate temperature during magnetron sputtering. Materials and Design, 2018, 142, 203-211.	3.3	16
33	Photochromic Mechanism and Dualâ€Phase Formation in Oxygenâ€Containing Rareâ€Earth Hydride Thin Films. Advanced Optical Materials, 2020, 8, 2000822.	3.6	15
34	Holistic quantum design of thermoelectric niobium oxynitride. Solid State Communications, 2015, 212, 5-9.	0.9	14
35	Experimental quantification of carbon gradients in martensite and its multi-scale effects in a DP steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 718, 250-259.	2.6	14
36	Microstructural adjustment of carburized steel components towards reducing the quenching-induced distortion. Journal of Materials Processing Technology, 2019, 264, 313-327.	3.1	14

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37	Electric field strength-dependent accuracy of TiAlN thin film composition measurements by laser-assisted atom probe tomography. New Journal of Physics, 2020, 22, 033036.	1.2	14
38	Enhancing the high temperature oxidation behavior of Cr₂AlC coatings by reducing grain boundary nanoporosity. Materials Research Letters, 2021, 9, 127-133.	4.1	13
39	Influence of post-carburizing heat treatment on the core microstructural evolution and the resulting mechanical properties in case-hardened steel components. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 744, 778-789.	2.6	12
40	High-throughput exploration of thermoelectric and mechanical properties of amorphous NbO2 with transition metal additions. Journal of Applied Physics, 2016, 120, .	1.1	11
41	Metastable phase formation of Pt-X (Xâ€‰=â€‰Ir, Au) thin films. Scientific Reports, 2018, 8, 10198.	1.6	11
42	Spinodal decomposition of reactively sputtered (V0.64Al0.36)0.49N0.51 thin films. Surface and Coatings Technology, 2020, 389, 125641.	2.2	11
43	Enhanced thermoelectric performance of amorphous Nb based oxynitrides. Physica B: Condensed Matter, 2015, 479, 96-100.	1.3	10
44	Vacancy filling effect in thermoelectric NbO. Journal of Physics Condensed Matter, 2015, 27, 115501.	0.7	10
45	Precipitation-based grain boundary design alters Inter- to Trans-granular Fracture in AlCrN Thin Films. Acta Materialia, 2022, 237, 118156.	3.8	10
46	Ab Initio Guided Low Temperature Synthesis Strategy for Smooth Faceâ€“Centred Cubic FeMn Thin Films. Metals, 2018, 8, 384.	1.0	8
47	Phase formation of Nb2AlC investigated by combinatorial thin film synthesis and ab initio calculations. Journal of the European Ceramic Society, 2017, 37, 35-41.	2.8	7
48	Opportunities of combinatorial thin film materials design for the sustainable development of magnesium-based alloys. Scientific Reports, 2021, 11, 17454.	1.6	7
49	Probing the onset of wurtzite phase formation in (V,Al)N thin films by transmission electron microscopy and atom probe tomography. Surface and Coatings Technology, 2022, 442, 128235.	2.2	7
50	Influence of ion irradiation-induced defects on phase formation and thermal stability of Ti0.27Al0.21N0.52 coatings. Acta Materialia, 2022, 237, 118160.	3.8	7
51	Phase Formation and Thermal Stability of Reactively Sputtered YTaO4â€“ZrO2 Coatings. Materials, 2021, 14, 692.	1.3	6
52	Phase formation, thermal stability and mechanical properties of Nb-B-C coatings prepared by combinatorial magnetron sputtering. Surface and Coatings Technology, 2022, 433, 128137.	2.2	5
53	A Proposal for a Composite with Temperature-Independent Thermophysical Properties: HfV2â€“HfV2O7. Materials, 2020, 13, 5021.	1.3	4
54	Synthesis and oxidation behavior of Ti0.35Al0.65By (yÂ=Â1.7â€“2.4) coatings. Surface and Coatings Technology, 2022, 442, 128190.	2.2	4

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55	Electrical resistivity modulation of thermoelectric iron based nanocomposites. Vacuum, 2018, 157, 384-390.	1.6	3
56	Ag Surface and Bulk Segregations in Sputtered ZrCuAlNi Metallic Glass Thin Films. Materials, 2022, 15, 1635.	1.3	3
57	Isothermal Oxidation of Ti₃Al_{0.6}Ga_{0.4}C₂ MAX Phase Solid Solution in Air at 1000 Â°C to 1300 Â°C. Journal of the Electrochemical Society, 2022, 169, 031510.	1.3	3
58	Ab initio-guided X-ray photoelectron spectroscopy quantification of Ti vacancies in Ti<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi>Î´</mml:mi></mml:mrow></mml:msub></mml:math>O<mml:r xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si2.svg"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>N<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si3.svg"><mml:msub><mml:mrow /. Acta M	3.8	2
59	Photochromism: Photochromic Mechanism and Dualâ€Phase Formation in Oxygenâ€Containing Rareâ€Earth Hydride Thin Films (Advanced Optical Materials 19/2020). Advanced Optical Materials, 2020, 8, 2070078.	3.6	1
60	Boron Concentration Induced Co-Ta-B Composite Formation Observed in the Transition from Metallic to Covalent Glasses. Condensed Matter, 2020, 5, 18.	0.8	1
61	Electronic excitation of transition metal nitrides by light ions with keV energies. Journal of Physics Condensed Matter, 2020, 32, 405502.	0.7	1
62	Low temperature oxidation behavior of Mo2BC coatings. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 023403.	0.9	1
63	Orientation dependence of the fracture mechanisms in (V,Al)N coatings determined by micropillar compression. Journal of Materials Research, 2022, 37, 1003.	1.2	1