Helmut Riedl

List of Publications by Year
in descending order

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62 papers	1,237 citations	21 h-index (331259)	32 g-index (414034)
62 all docs	62 docs citations	62 times ranked	857 citing authors

#	Article	IF	Citations
1	Origin of high temperature oxidation resistance of Tiâ€"Alâ€"Taâ€"N coatings. Surface and Coatings Technology, 2014, 257, 78-86.	2.2	77
2	Thermal stability and oxidation resistance of sputtered Ti Al Cr N hard coatings. Surface and Coatings Technology, 2017, 324, 48-56.	2.2	68
3	Microstructure and piezoelectric response of Y Al1â˜'N thin films. Acta Materialia, 2015, 100, 81-89.	3.8	60
4	Ab initio inspired design of ternary boride thin films. Scientific Reports, 2018, 8, 9288.	1.6	54
5	Phase stability, mechanical properties and thermal stability of Y alloyed Tiâ€"Alâ€"N coatings. Surface and Coatings Technology, 2013, 235, 174-180.	2.2	47
6	Solid solution hardening of vacancy stabilized Ti W1â˜'B2. Acta Materialia, 2015, 101, 55-61.	3.8	45
7	Thermal conductivity and mechanical properties of AlN-based thin films. Journal of Applied Physics, 2016, 119, .	1.1	41
8	Substoichiometry and tantalum dependent thermal stability of Î±-structured W-Ta-B thin films. Scripta Materialia, 2018, 155, 5-10.	2.6	38
9	Non-reactively sputtered ultra-high temperature Hf-C and Ta-C coatings. Surface and Coatings Technology, 2017, 309, 436-444.	2.2	35
10	Composition driven phase evolution and mechanical properties of Moâ€"Crâ€"N hard coatings. Journal of Applied Physics, 2015, 118, .	1.1	34
11	Influence of Mo on the structure and the tribomechanical properties of arc evaporated Ti-Al-N. Surface and Coatings Technology, 2017, 311, 330-336.	2.2	34
12	Assessment of ductile character in superhard Ta-C-N thin films. Acta Materialia, 2019, 179, 17-25.	3.8	32
13	Influence of Tantalum on phase stability and mechanical properties of WB2. MRS Communications, 2019, 9, 375-380.	0.8	31
14	Guidelines for increasing the oxidation resistance of Ti-Al-N based coatings. Thin Solid Films, 2019, 688, 137290.	0.8	30
15	Tuning structure and mechanical properties of Ta-C coatings by N-alloying and vacancy population. Scientific Reports, 2018, 8, 17669.	1.6	27
16	Thermal expansion of rock-salt cubic AlN. Applied Physics Letters, 2015, 107, .	1.5	25
17	Influence of carbon deficiency on phase formation and thermal stability of super-hard TaCy thin films. Scripta Materialia, 2018, 149, 150-154.	2.6	25
18	How to get noWear? â€" A new take on the design of in-situ formed high performing low-friction tribofilms. Materials and Design, 2020, 190, 108519.	3.3	25

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19	Reactive HiPIMS deposition of Ti-Al-N: Influence of the deposition parameters on the cubic to hexagonal phase transition. Surface and Coatings Technology, 2020, 382, 125007.	2.2	24
20	Influence of Si on the oxidation behavior of TM-Si-B2Â±z coatings (TMÂ=ÂTi, Cr, Hf, Ta, W). Surface and Coatings Technology, 2022, 434, 128178.	2.2	23
21	Ti-Al-N/Mo-Si-B multilayers: An architectural arrangement for high temperature oxidation resistant hard coatings. Surface and Coatings Technology, 2017, 328, 80-88.	2.2	22
22	Influence of the non-metal species on the oxidation kinetics of Hf, HfN, HfC, and HfB2 coatings. Materials and Design, 2021, 211, 110136.	3.3	22
23	Influence of oxygen impurities on growth morphology, structure and mechanical properties of Tiâ€“Alâ€“N thin films. Thin Solid Films, 2016, 603, 39-49.	0.8	21
24	Anisotropic super-hardness of hexagonal WB_{2Â±<i>z</i>} thin films. Materials Research Letters, 2022, 10, 70-77.	4.1	21
25	Thermally stable superhard diborides: An ab initio guided case study for V-W-diboride thin films. Acta Materialia, 2020, 186, 487-493.	3.8	20
26	Thermal stability and mechanical properties of boron enhanced Moâ€“Si coatings. Surface and Coatings Technology, 2015, 280, 282-290.	2.2	19
27	Arc evaporated W-alloyed Ti-Al-N coatings for improved thermal stability, mechanical, and tribological properties. Surface and Coatings Technology, 2017, 332, 275-282.	2.2	19
28	Effect of Mo on the thermal stability, oxidation resistance, and tribo-mechanical properties of arc evaporated Ti-Al-N coatings. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	0.9	18
29	Correlation between fracture characteristics and valence electron concentration of sputtered Hf-C-N based thin films. Surface and Coatings Technology, 2020, 399, 126212.	2.2	18
30	Influence of Ta on the oxidation resistance of WB2âˆ’z coatings. Journal of Alloys and Compounds, 2021, 864, 158121.	2.8	18
31	Cerium doping of Ti-Al-N coatings for excellent thermal stability and oxidation resistance. Surface and Coatings Technology, 2017, 326, 165-172.	2.2	16
32	Thermal stability and mechanical properties of Ti-Al-B-N thin films. International Journal of Refractory Metals and Hard Materials, 2018, 71, 320-324.	1.7	16
33	Oxidation behavior and tribological properties of multilayered Ti-Al-N/Mo-Si-B thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	0.9	14
34	Atomistic Modelingâ€Based Design of Novel Materials. Advanced Engineering Materials, 2017, 19, 1600688.	1.6	14
35	Crack path identification in a nanostructured pearlitic steel using atom probe tomography. Scripta Materialia, 2018, 142, 66-69.	2.6	13
36	Phase formation and mechanical properties of reactively and non-reactively sputtered Ti-B-N hard coatings. Surface and Coatings Technology, 2021, 420, 127327.	2.2	13

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37	Development of a multi-variate calibration approach for quantitative analysis of oxidation resistant Moâ€“Siâ€“B coatings using laser ablation inductively coupled plasma mass spectrometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 120, 57-62.	1.5	12
38	Adhesive wear formation on PVD coated tools applied in hot forming of Al-Si coated steel sheets. Wear, 2019, 430-431, 309-316.	1.5	12
39	Hard Tiâ€“Alâ€“N endowed with high heat-resistance through alloying with Ta and Ce. Surface and Coatings Technology, 2019, 372, 26-33.	2.2	12
40	Atomic scale investigations of thermally treated nano-structured Ti-Al-N/Mo-Si-B multilayers. Surface and Coatings Technology, 2018, 349, 480-487.	2.2	11
41	Structure and mechanical properties of reactive and non-reactive sputter deposited WC based coatings. Journal of Alloys and Compounds, 2021, 885, 161129.	2.8	11
42	Microstructure of Al-containing magnetron sputtered TiB2 thin films. Thin Solid Films, 2019, 688, 137361.	0.8	10
43	Interface controlled microstructure evolution in nanolayered thin films. Scripta Materialia, 2016, 123, 13-16.	2.6	9
44	Nano-structural investigation of Ti-Al-N/Mo-Si-B multilayer coatings: A comparative study by APT and HR-TEM. Vacuum, 2018, 157, 173-179.	1.6	9
45	Strain and stress analyses on thermally annealed Ti-Al-N/Mo-Si-B multilayer coatings by synchrotron X-ray diffraction. Surface and Coatings Technology, 2019, 361, 364-370.	2.2	9
46	Impact of lanthanum and boron on the growth, thermomechanical properties and oxidation resistance of Tiâ€“Alâ€“N thin films. Thin Solid Films, 2019, 688, 137239.	0.8	9
47	High temperature oxidation resistance of physical vapor deposited Hf-Si-B2Â±z thin films. Corrosion Science, 2022, 205, 110413.	3.0	8
48	TGO formation and oxygen diffusion in Al-rich gamma-TiAl PVD-coatings on TNM alloys. Scripta Materialia, 2022, 210, 114455.	2.6	7
49	Non-reactive HiPIMS deposition of NbCx thin films: Effect of the target power density on structure-mechanical properties. Surface and Coatings Technology, 2022, 444, 128674.	2.2	7
50	Laser based analysis of transition metal boride thin films using liquid standards. Microchemical Journal, 2020, 152, 104449.	2.3	6
51	The influence of synthetic air flow on the properties of arc evaporated Al-Cr-O-N coatings. Thin Solid Films, 2019, 688, 137252.	0.8	5
52	Processing Fiberâ€Reinforced Polymers: Specific Wear Phenomena Caused by Filler Materials. Polymer Engineering and Science, 2020, 60, 78-85.	1.5	5
53	How microalloying of the Al target can improve process and film characteristics of sputtered alumina. Surface and Coatings Technology, 2020, 393, 125762.	2.2	5
54	Ultra-high oxidation resistance of nano-structured thin films. Materials and Design, 2021, 201, 109499.	3.3	5

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55	Reactive HiPIMS deposition of Al-oxide thin films using W-alloyed Al targets. Surface and Coatings Technology, 2021, 422, 127467.	2.2	5
56	Time-averaged and time-resolved ion fluxes related to reactive HiPIMS deposition of Ti-Al-N films. Surface and Coatings Technology, 2021, 424, 127638.	2.2	5
57	Ab initio studies on the adsorption and implantation of Al and Fe to nitride materials. Journal of Applied Physics, 2015, 118, 125306.	1.1	4
58	Structure and mechanical properties of architecturally designed Ti-Al-N and Ti-Al-Ta-N-based multilayers. Surface and Coatings Technology, 2020, 385, 125355.	2.2	4
59	Thermomechanical properties and oxidation resistance of Ceâ€“Si alloyed Tiâ€“Alâ€“N thin films. Vacuum, 2019, 166, 231-238.	1.6	3
60	Influence of WC/C target composition and bias potential on the structure-mechanical properties of non-reactively sputtered WC coatings. Surface and Coatings Technology, 2022, 432, 128036.	2.2	3
61	Magnetron sputtered NiAl/TiBx multilayer thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	0.9	2
62	Quantitative Depth Profiling Using Online-Laser Ablation of Solid Samples in Liquid (LASIL) to Investigate the Oxidation Behavior of Transition Metal Borides. Molecules, 2022, 27, 3221.	1.7	0