Nikola KoutnÃ¡

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/1389891/publications.pdf

Version: 2024-02-01

31	586	567281 15	610901 24
papers	citations	h-index	g-index

31	31	31	465
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Synthesis and characterization of Taâ€“Bâ€“C coatings prepared by DCMS and HiPIMS co-sputtering. Vacuum, 2022, 199, 110937.	3.5	4
2	Atomistic mechanisms underlying plasticity and crack growth in ceramics: a case study of AlN/TiN superlattices. Acta Materialia, 2022, 229, 117809.	7.9	29
3	Ab initio supported development of TiN/MoN superlattice thin films with improved hardness and toughness. Acta Materialia, 2022, 231, 117871.	7.9	14
4	Heavy-element-alloying for toughness enhancement of hard nitrides on the example Ti-W-N. Acta Materialia, 2022, 231, 117897.	7.9	8
5	Structure evolution and mechanical properties of co-sputtered Zr-Al-B₂ thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, 033414.	2.1	4
6	High-throughput first-principles search for ceramic superlattices with improved ductility and fracture resistance. Acta Materialia, 2021, 206, 116615.	7.9	19
7	The MoNâ€“TaN system: Role of vacancies in phase stability and mechanical properties. Materials and Design, 2021, 202, 109568.	7.0	8
8	Correlating point defects with mechanical properties in nanocrystalline TiN thin films. Materials and Design, 2021, 207, 109844.	7.0	18
9	Multi-phase ELAStic Aggregates (MELASA) software tool for modeling anisotropic elastic properties of lamellar composites. Computer Physics Communications, 2020, 247, 106863.	7.5	9
10	Point-defect engineering of MoN/TaN superlattice films: A first-principles and experimental study. Materials and Design, 2020, 186, 108211.	7.0	11
11	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
12	Erosion and cathodic arc plasma of Nbâ€“Al cathodes: composite versus intermetallic. Plasma Sources Science and Technology, 2020, 29, 025022.	3.1	10
13	Mechanistic study of superlattice-enabled high toughness and hardness in MoN/TaN coatings. Communications Materials, 2020, 1, .	6.9	27
14	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.	7.0	25
15	An Ab Initio Study of Magnetism in Disordered Fe-Al Alloys with Thermal Antiphase Boundaries. Nanomaterials, 2020, 10, 44.	4.1	6
16	Mapping the mechanical properties in nitride coatings at the nanometer scale. Acta Materialia, 2020, 194, 343-353.	7.9	6
17	Elasticity of Phases in Fe-Al-Ti Superalloys: Impact of Atomic Order and Anti-Phase Boundaries. Crystals, 2019, 9, 299.	2.2	11
18	An Ab Initio Study of Vacancies in Disordered Magnetic Systems: A Case Study of Fe-Rich Fe-Al Phases. Materials, 2019, 12, 1430.	2.9	11

#	Article	IF	Citations
19	Toughness enhancement in TiN/WN superlattice thin films. Acta Materialia, 2019, 172, 18-29.	7.9	72
20	Correlating structural and mechanical properties of AlN/TiN superlattice films. Scripta Materialia, 2019, 165, 159-163.	5.2	29
21	Experimental Chemistry and Structural Stability of AlNb3 Enabled by Antisite Defects Formation. Materials, 2019, 12, 1104.	2.9	8
22	Stability and elasticity of metastable solid solutions and superlattices in the MoNâ€“TaN system: First-principles calculations. Materials and Design, 2018, 144, 310-322.	7.0	29
23	Influence of carbon deficiency on phase formation and thermal stability of super-hard TaCy thin films. Scripta Materialia, 2018, 149, 150-154.	5.2	25
24	Non-equilibrium solid solution of molybdenum and sodium: Atomic scale experimental and first principles studies. Acta Materialia, 2018, 144, 700-706.	7.9	6
25	Study of Local Mechanical Properties of Fe₇₈Al₂₂ Alloy. Key Engineering Materials, 2018, 784, 27-32.	0.4	1
26	Impact of Nano-Scale Distribution of Atoms on Electronic and Magnetic Properties of Phases in Fe-Al Nanocomposites: An Ab Initio Study. Nanomaterials, 2018, 8, 1059.	4.1	15
27	Peculiarity of self-assembled cubic nanolamellae in the TiN/AlN system: Epitaxial self-stabilization by element deficiency/excess. Acta Materialia, 2017, 131, 391-399.	7.9	28
28	The impact of nitrogen content and vacancies on structure and mechanical properties of Moâ€“N thin films. Journal of Applied Physics, 2016, 120, .	2.5	55
29	Point defects stabilise cubic Mo-N and Ta-N. Journal Physics D: Applied Physics, 2016, 49, 375303.	2.8	64
30	First principles studies on the impact of point defects on the phase stability of (AlxCr1â^'x)2O3 solid solutions. AIP Advances, 2016, 6, .	1.3	18
31	Toughness Enhancement in TiN/WN Superlattice Thin Films. SSRN Electronic Journal, 0, , .	0.4	0