Nikola KoutnÃ¡

List of Publications by Year
in descending order

31 papers	586 citations	567281 15 h-index	610901 24 g-index
31 all docs	31 docs citations	31 times ranked	465 citing authors

#	Article	IF	Citations
1	Toughness enhancement in TiN/WN superlattice thin films. Acta Materialia, 2019, 172, 18-29.	7.9	72
2	Point defects stabilise cubic Mo-N and Ta-N. Journal Physics D: Applied Physics, 2016, 49, 375303.	2.8	64
3	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
4	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
5	Correlating structural and mechanical properties of AlN/TiN superlattice films. Scripta Materialia, 2019, 165, 159-163.	5.2	29
6	Atomistic mechanisms underlying plasticity and crack growth in ceramics: a case study of AlN/TiN superlattices. Acta Materialia, 2022, 229, 117809.	7.9	29
7	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
8	Mechanistic study of superlattice-enabled high toughness and hardness in MoN/TaN coatings. Communications Materials, 2020, 1, .	6.9	27
9	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
10	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
11	High-throughput first-principles search for ceramic superlattices with improved ductility and fracture resistance. Acta Materialia, 2021, 206, 116615.	7.9	19
12	First principles studies on the impact of point defects on the phase stability of (AlxCr1âˆ’x)2O3 solid solutions. AIP Advances, 2016, 6, .	1.3	18
13	Correlating point defects with mechanical properties in nanocrystalline TiN thin films. Materials and Design, 2021, 207, 109844.	7.0	18
14	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
15	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
16	Ab initio supported development of TiN/MoN superlattice thin films with improved hardness and toughness. Acta Materialia, 2022, 231, 117871.	7.9	14
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	Point-defect engineering of MoN/TaN superlattice films: A first-principles and experimental study. Materials and Design, 2020, 186, 108211.	7.0	11
20	Erosion and cathodic arc plasma of Nbâ€“Al cathodes: composite versus intermetallic. Plasma Sources Science and Technology, 2020, 29, 025022.	3.1	10
21	Multi-phase ELAStic Aggregates (MELASA) software tool for modeling anisotropic elastic properties of lamellar composites. Computer Physics Communications, 2020, 247, 106863.	7.5	9
22	Experimental Chemistry and Structural Stability of AlNb3 Enabled by Antisite Defects Formation. Materials, 2019, 12, 1104.	2.9	8
23	The MoNâ€“TaN system: Role of vacancies in phase stability and mechanical properties. Materials and Design, 2021, 202, 109568.	7.0	8
24	Heavy-element-alloying for toughness enhancement of hard nitrides on the example Ti-W-N. Acta Materialia, 2022, 231, 117897.	7.9	8
25	Non-equilibrium solid solution of molybdenum and sodium: Atomic scale experimental and first principles studies. Acta Materialia, 2018, 144, 700-706.	7.9	6
26	An Ab Initio Study of Magnetism in Disordered Fe-Al Alloys with Thermal Antiphase Boundaries. Nanomaterials, 2020, 10, 44.	4.1	6
27	Mapping the mechanical properties in nitride coatings at the nanometer scale. Acta Materialia, 2020, 194, 343-353.	7.9	6
28	Synthesis and characterization of Taâ€“Bâ€“C coatings prepared by DCMS and HiPIMS co-sputtering. Vacuum, 2022, 199, 110937.	3.5	4
29	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
30	Study of Local Mechanical Properties of Fe₇₈Al₂₂ Alloy. Key Engineering Materials, 2018, 784, 27-32.	0.4	1
31	Toughness Enhancement in TiN/WN Superlattice Thin Films. SSRN Electronic Journal, 0, , .	0.4	0