

# Jakub Zalesak

## List of Publications by Year in descending order

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34  
papers

623  
citations

566801

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610482

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docs citations

34  
times ranked

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citing authors

#	ARTICLE	IF	CITATIONS
1	Grain boundary design of thin films: Using tilted brittle interfaces for multiple crack deflection toughening. <i>Acta Materialia</i> , 2017, 122, 130-137.	3.8	71
2	Fracture toughness enhancement of brittle nanostructured materials by spatial heterogeneity: A micromechanical proof for CrN/Cr and TiN/SiO <sub>x</sub> multilayers. <i>Materials and Design</i> , 2016, 104, 227-234.	3.3	60
3	30 nm X-ray focusing correlates oscillatory stress, texture and structural defect gradients across multilayered TiN-SiO <sub>x</sub> thin film. <i>Acta Materialia</i> , 2018, 144, 862-873.	3.8	51
4	Al-rich cubic Al <sub>0.8</sub> Ti <sub>0.2</sub> N coating with self-organized nano-lamellar microstructure: Thermal and mechanical properties. <i>Surface and Coatings Technology</i> , 2016, 291, 89-93.	2.2	42
5	Cross-sectional structure-property relationship in a graded nanocrystalline Ti <sub>1-x</sub> Al <sub>x</sub> N thin film. <i>Acta Materialia</i> , 2016, 102, 212-219.	3.8	34
6	On the stability of the Higher Manganese Silicides. <i>Journal of Alloys and Compounds</i> , 2012, 512, 278-281.	2.8	32
7	Lignin-based multiwall carbon nanotubes. <i>Composites Part A: Applied Science and Manufacturing</i> , 2019, 121, 175-179.	3.8	32
8	Peculiarity of self-assembled cubic nanolamellae in the TiN/AlN system: Epitaxial self-stabilization by element deficiency/excess. <i>Acta Materialia</i> , 2017, 131, 391-399.	3.8	28
9	Microstructural characterization of medium entropy alloy thin films. <i>Scripta Materialia</i> , 2020, 177, 22-26.	2.6	28
10	Anisotropy of fracture toughness in nanostructured ceramics controlled by grain boundary design. <i>Materials and Design</i> , 2019, 161, 80-85.	3.3	26
11	Tuning the glass forming ability and mechanical properties of Ti-based bulk metallic glasses by Ga additions. <i>Journal of Alloys and Compounds</i> , 2019, 793, 552-563.	2.8	20
12	Combinatorial refinement of thin-film microstructure, properties and process conditions: iterative nanoscale search for self-assembled TiAlN nanolamellae. <i>Journal of Applied Crystallography</i> , 2016, 49, 2217-2225.	1.9	19
13	Biomimetic hard and tough nanoceramic TiAlN film with self-assembled six-level hierarchy. <i>Nanoscale</i> , 2019, 11, 7986-7995.	2.8	19
14	Nanoscale evolution of stress concentrations and crack morphology in multilayered CrN coating during indentation: Experiment and simulation. <i>Materials and Design</i> , 2020, 188, 108478.	3.3	18
15	Multi-scale interface design of strong and damage resistant hierarchical nanostructured materials. <i>Materials and Design</i> , 2020, 196, 109169.	3.3	16
16	Silver nanoparticles sintering at low temperature on a copper substrate: In situ characterization under inert atmosphere and air. <i>Journal of Mining and Metallurgy, Section B: Metallurgy</i> , 2012, 48, 63-71.	0.3	12
17	Gradients of microstructure, stresses and mechanical properties in a multi-layered diamond thin film revealed by correlative cross-sectional nano-analytics. <i>Carbon</i> , 2019, 144, 666-674.	5.4	12
18	Surface oxidation of nanocrystalline CVD TiB <sub>2</sub> hard coatings revealed by cross-sectional nano-analytics and in-situ micro-cantilever testing. <i>Surface and Coatings Technology</i> , 2020, 399, 126181.	2.2	12

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19	Cross-sectional stress distribution in Al <sub>x</sub> Ga <sub>1-x</sub> N heterostructure on Si(111) substrate characterized by ion beam layer removal method and precession electron diffraction. <i>Materials and Design</i> , 2016, 106, 476-481.	3.3	11
20	Point-defect engineering of MoN/TaN superlattice films: A first-principles and experimental study. <i>Materials and Design</i> , 2020, 186, 108211.	3.3	11
21	Evolution of stress fields during crack growth and arrest in a brittle-ductile CrN-Cr clamped-cantilever analysed by X-ray nanodiffraction and modelling. <i>Materials and Design</i> , 2021, 198, 109365.	3.3	10
22	Precipitation-based grain boundary design alters Inter- to Trans-granular Fracture in AlCrN Thin Films. <i>Acta Materialia</i> , 2022, 237, 118156.	3.8	10
23	Impact of hydrogen-assisted heat treatments on microstructure and transformation path in a Ni-rich NiTi shape memory alloy. <i>Journal of Alloys and Compounds</i> , 2013, 577, S287-S290.	2.8	9
24	Microstructural Effects on the Interfacial Adhesion of Nanometer-Thick Cu Films on Glass Substrates: Implications for Microelectronic Devices. <i>ACS Applied Nano Materials</i> , 2021, 4, 61-70.	2.4	8
25	Effect of Pressure and Temperature on Microstructure of Self-Assembled Gradient Al <sub>x</sub> Ti <sub>1-x</sub> N Coatings. <i>Coatings</i> , 2021, 11, 416.	1.2	5
26	Ab initio studies on the adsorption and implantation of Al and Fe to nitride materials. <i>Journal of Applied Physics</i> , 2015, 118, 125306.	1.1	4
27	Nanoscale stress distributions and microstructural changes at scratch track cross-sections of a deformed brittle-ductile CrN-Cr bilayer. <i>Materials and Design</i> , 2020, 195, 109023.	3.3	4
28	Oxide-stabilized microstructure of severe plastically deformed CuCo alloys. <i>Journal of Alloys and Compounds</i> , 2022, 901, 163616.	2.8	4
29	X-ray nanodiffraction analysis of residual stresses in polysilicon electrodes of vertical power transistors. <i>Materialia</i> , 2022, 24, 101484.	1.3	4
30	Interaction of silver nanopowder with copper substrate. <i>Science of Sintering</i> , 2011, 43, 33-38.	0.5	3
31	Ion irradiation-induced localized stress relaxation in W thin film revealed by cross-sectional X-ray nanodiffraction. <i>Thin Solid Films</i> , 2021, 722, 138571.	0.8	3
32	Powder Diffraction Data of Aluminum-Rich FCC-Ti <sub>1-x</sub> Al <sub>x</sub> N Prepared by CVD. <i>Coatings</i> , 2021, 11, 683.	1.2	2
33	Influence of Gradient Residual Stress and Tip Shape on Stress Fields Inside Indented TiN Hard Coating. <i>Advanced Engineering Materials</i> , 2021, 23, 2100130.	1.6	2
34	Waste Management and Attitudes Towards Cleanliness in Medieval Central Europe. <i>Journal of Landscape Ecology(Czech Republic)</i> , 2017, 10, 266-287.	0.2	1