Pavel Krakhmalev

List of Publications by Year
in descending order

73 papers	2,707 citations	279487 23 h-index	189595 50 g-index
75 all docs	75 docs citations	75 times ranked	2538 citing authors

#	Article	IF	Citations
1	Selective laser melting of Ti6Al4V alloy for biomedical applications: Temperature monitoring and microstructural evolution. Journal of Alloys and Compounds, 2014, 583, 404-409.	2.8	412
2	Energy input effect on morphology and microstructure of selective laser melting single track from metallic powder. Journal of Materials Processing Technology, 2013, 213, 606-613.	3.1	373
3	In situ heat treatment in selective laser melted martensitic AISI 420 stainless steels. Materials and Design, 2015, 87, 380-385.	3.3	185
4	Deformation Behavior and Microstructure of Ti6Al4V Manufactured by SLM. Physics Procedia, 2016, 83, 778-788.	1.2	120
5	Microstructure, Solidification Texture, and Thermal Stability of 316 L Stainless Steel Manufactured by Laser Powder Bed Fusion. Metals, 2018, 8, 643.	1.0	117
6	Influence of post treatment on microstructure, porosity and mechanical properties of additive manufactured H13 tool steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 742, 584-589.	2.6	114
7	Microstructure and properties of intermetallic composite coatings fabricated by selective laser melting of Tiâ€“SiC powder mixtures. Intermetallics, 2014, 46, 147-155.	1.8	96
8	Microstructural characterization and wear behavior of (Fe,Ni)â€“TiC MMC prepared by DMLS. Journal of Alloys and Compounds, 2006, 421, 166-171.	2.8	91
9	Hierarchical design principles of selective laser melting for high quality metallic objects. Additive Manufacturing, 2015, 7, 45-56.	1.7	85
10	Martensitic transformations in Ti-6Al-4V (ELI) alloy manufactured by 3D Printing. Materials Characterization, 2018, 146, 101-112.	1.9	64
11	Temperature effects on adhesive wear in dry sliding contacts. Wear, 2010, 268, 968-975.	1.5	62
12	Qualification of Ti6Al4V ELI Alloy Produced by Laser Powder Bed Fusion for Biomedical Applications. Jom, 2018, 70, 372-377.	0.9	55
13	Atomistic Insights on the Wear/Friction Behavior of Nanocrystalline Ferrite During Nanoscratching as Revealed by Molecular Dynamics. Tribology Letters, 2017, 65, 1.	1.2	50
14	Titanium Alloys Manufactured by In Situ Alloying During Laser Powder Bed Fusion. Jom, 2017, 69, 2725-2730.	0.9	49
15	Galling resistance and wear mechanisms â€“ cold work tool materials sliding against carbon steel sheets. Tribology Letters, 2007, 26, 67-72.	1.2	47
16	Topology optimization and characterization of Ti6Al4V ELI cellular lattice structures by laser powder bed fusion for biomedical applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 766, 138330.	2.6	47
17	Galling resistance and wear mechanisms for cold-work tool steels in lubricated sliding against high strength stainless steel sheets. Wear, 2012, 286-287, 92-97.	1.5	43
18	Influence of tool steel microstructure on origin of galling initiation and wear mechanisms under dry sliding against a carbon steel sheet. Wear, 2009, 267, 387-393.	1.5	41

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19	Wear mechanisms in deep drawing of carbon steel â€“ correlation to laboratory testing. TriboTest Journal: Tribology and Lubrication in Practice, 2008, 14, 1-9.	0.7	40
20	Functionalization of Biomedical Ti6Al4V via In Situ Alloying by Cu during Laser Powder Bed Fusion Manufacturing. Materials, 2017, 10, 1154.	1.3	34
21	Effect of microstructure on edge wear mechanisms in WCâ€“Co. International Journal of Refractory Metals and Hard Materials, 2007, 25, 171-178.	1.7	26
22	Wear Mechanisms in Galling: Cold Work Tool Materials Sliding Against High-strength Carbon Steel Sheets. Tribology Letters, 2009, 33, 45-53.	1.2	26
23	Oxygen and nitrogen concentrations in the Ti-6Al-4V alloy manufactured by direct metal laser sintering (DMLS) process. Materials Letters, 2017, 209, 311-314.	1.3	24
24	Fracture mechanisms in the as-built and stress-relieved laser powder bed fusion Ti6Al4V ELI alloy. Optics and Laser Technology, 2019, 109, 608-615.	2.2	24
25	Experimental study of the relationship between temperature and adhesive forces for low-alloyed steel, stainless steel, and titanium using atomic force microscopy in ultrahigh vacuum. Journal of Applied Physics, 2008, 103, .	1.1	22
26	Additively manufactured metals for medical applications. , 2018, , 261-309.		21
27	Influence of work material proof stress and tool steel microstructure on galling initiation and critical contact pressure. Tribology International, 2013, 60, 104-110.	3.0	20
28	Manufacturing and characterization of in-situ alloyed Ti6Al4V(ELI)-3 at.% Cu by laser powder bed fusion. Additive Manufacturing, 2020, 36, 101436.	1.7	20
29	Influence of microstructure on the abrasive edge wear of WCâ€“Co hardmetals. Wear, 2007, 263, 240-245.	1.5	19
30	Influence of tool steel microstructure on friction and initial material transfer. Wear, 2014, 319, 12-18.	1.5	17
31	Tool microstructure impact on the wear behavior of ferrite iron during nanoscratching: An atomic level simulation. Wear, 2017, 370-371, 39-45.	1.5	17
32	Mechanical behavior of in-situ alloyed Ti6Al4V(ELI)-3 at.% Cu lattice structures manufactured by laser powder bed fusion and designed for implant applications. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 113, 104130.	1.5	16
33	TENSILE PROPERTIES AND MICROSTRUCTURE OF DIRECT METAL LASER-SINTERED TI6AL4V (ELI) ALLOY. South African Journal of Industrial Engineering, 2016, 27, .	0.2	16
34	Microstructure and properties stability of Al-alloyed MoSi2 matrix composites. Intermetallics, 2004, 12, 225-233.	1.8	15
35	Tribological behavior and wear mechanisms of MoSi2-base composites sliding against AA6063 alloy at elevated temperature. Wear, 2006, 260, 450-457.	1.5	15
36	Measurements of the critical strain for rippling in carbon nanotubes. Applied Physics Letters, 2011, 98, .	1.5	15

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37	Mechanical behavior of carbon nanotubes in the rippled and buckled phase. Journal of Applied Physics, 2015, 117, 084318.	1.1	15
38	Thermally activated relaxation behaviour of shot-peened tool steels for cutting tool body applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 1773-1779.	2.6	14
39	Microstructure, hardness and indentation toughness of C40 Mo(Si,Al)2/ZrO2 composites prepared by SPS of MA powders. Scripta Materialia, 2003, 48, 725-729.	2.6	13
40	Sliding wear and fatigue cracking damage mechanisms in reciprocal and unidirectional sliding of high-strength steels in dry contact. Wear, 2020, 444-445, 203119.	1.5	13
41	Manufacturing of intermetallic Mn-46%Al by laser powder bed fusion. Procedia CIRP, 2018, 74, 64-67.	1.0	12
42	Preparation of Mo(Si,Al)2â€“ZrO2 nanocomposite powders by mechanical alloying. International Journal of Refractory Metals and Hard Materials, 2004, 22, 205-209.	1.7	11
43	Influence of heat treatment under hot isostatic pressing (HIP) on microstructure of intermetallic-reinforced tool steel manufactured by laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138699.	2.6	11
44	Evaluation of post-treatments of novel hot-work tool steel manufactured by laser powder bed fusion for aluminum die casting applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 800, 140305.	2.6	11
45	Processing, microstructure and properties of C40 Mo(Si,Al)2/Al2O3 composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 360, 207-213.	2.6	10
46	On the Abrasion of Ultrafine WCâ€“Co Hardmetals by Small SiC Abrasive. Tribology Letters, 2008, 30, 35-39.	1.2	10
47	Influence of nickel content on machinability of a hot-work tool steel in prehardened condition. Materials & Design, 2011, 32, 706-715.	5.1	10
48	Influence of surface topography on fatigue behavior of Ti6Al4V alloy by laser powder bed fusion. Procedia CIRP, 2018, 74, 49-52.	1.0	10
49	Laser Additive 3D Printing of Titanium Alloys: Current Status, Problems, Trends. Physics of Metals and Metallography, 2021, 122, 6-25.	0.3	10
50	Large variations in the onset of rippling in concentric nanotubes. Applied Physics Letters, 2014, 104, 021910.	1.5	9
51	Microstructure, hardness and indentation toughness of high-temperature C40 Mo(Si,Al)2/SiC composites prepared by SPS of MA powders. Materials Letters, 2003, 57, 3387-3391.	1.3	8
52	Comparison of two test methods for evaluation of forming tool materials. TriboTest Journal: Tribology and Lubrication in Practice, 2008, 14, 147-158.	0.7	8
53	Adhesion between ferrite ironâ€“iron/cementite countersurfaces: A molecular dynamics study. Tribology International, 2016, 103, 113-120.	3.0	8
54	Failure analyses and wear mechanisms of rock drill rods, a case study. Engineering Failure Analysis, 2019, 102, 69-78.	1.8	8

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55	Structural effect of low Al content in the in-situ additive manufactured CrFeCoNiAlx high-entropy alloy. Materials Letters, 2021, 303, 130487.	1.3	8
56	Galling resistance evaluation of tool steels by two different laboratory test methods for sheet metal forming. Lubrication Science, 2012, 24, 263-272.	0.9	7
57	Wear mechanisms and wear resistance of austempered ductile iron in reciprocal sliding contact. Wear, 2022, 498-499, 204305.	1.5	7
58	Systematic exploration of the L-PBF processing behavior and resulting properties of Î²-stabilized Ti-alloys prepared by in-situ alloy formation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 818, 141374.	2.6	6
59	MICROSTRUCTURAL AND THERMAL STABILITY OF SELECTIVE LASER MELTED 316L STAINLESS STEEL SINGLE TRACKS. South African Journal of Industrial Engineering, 2017, 28, .	0.2	6
60	Abrasion of ultrafine WC-Co by fine abrasive particles. Transactions of Nonferrous Metals Society of China, 2007, 17, 1287-1293.	1.7	5
61	VALIDATION OF MINIATURISED TENSILE TESTING ON DMLS TI6AL4V (ELI) SPECIMENS. South African Journal of Industrial Engineering, 2016, 27, .	0.2	5
62	Isothermal grain growth in mechanically alloyed nanostructured Fe80Ti8B12 alloy. Materials Letters, 2003, 57, 3671-3675.	1.3	4
63	Image formation mechanisms in scanning electron microscopy of carbon nanotubes, and retrieval of their intrinsic dimensions. Ultramicroscopy, 2013, 124, 35-39.	0.8	4
64	Microstructure of L-PBF alloys. , 2021, , 215-243.		4
65	Structural integrity I. , 2021, , 349-376.		4
66	Micromechanisms of Deformation and Fracture in Porous L-PBF 316L Stainless Steel at Different Strain Rates. Metals, 2021, 11, 1870.	1.0	4
67	In Vitro Characterization of In Situ Alloyed Ti6Al4V(ELI)-3 at.% Cu Obtained by Laser Powder Bed Fusion. Materials, 2021, 14, 7260.	1.3	4
68	Nano-Scale Friction of Multi-Phase Powder Metallurgy Tool Steels. Advanced Materials Research, 0, 1119, 70-74.	0.3	3
69	Study of the Influence of Contact Geometry and Contact Pressure on Sliding Distance to Galling in the Slider-on-Flat-Surface Wear Tester. Tribology Transactions, 2013, 56, 1137-1145.	1.1	2
70	Influence of Tool Steel Hard Phase Orientation and Shape on Galling. Advanced Materials Research, 0, 966-967, 249-258.	0.3	2
71	Development of a New PM Tool Steel for Optimization of Cold Working of Advanced High-Strength Steels. Metals, 2020, 10, 1326.	1.0	2
72	Surface integrity factors influencing fatigue crack nucleation of laser powder bed fusion Ti6Al4V alloy. Procedia CIRP, 2020, 94, 222-226.	1.0	1

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73	How hardmetals react to wear: Nano is not always the best. Metal Powder Report, 2007, 62, 30-35.	0.3	0