Pavel Krakhmalev

List of Publications by Year
in descending order

73 papers	2,707 citations	279798 23 h-index	189892 50 g-index
75 all docs	75 docs citations	75 times ranked	2538 citing authors

#	Article	IF	Citations
1	Wear mechanisms and wear resistance of austempered ductile iron in reciprocal sliding contact. Wear, 2022, 498-499, 204305.	3.1	7
2	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.	5.6	11
3	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.	3.1	16
4	Microstructure of L-PBF alloys. , 2021, , 215-243.		4
5	Laser Additive 3D Printing of Titanium Alloys: Current Status, Problems, Trends. Physics of Metals and Metallography, 2021, 122, 6-25.	1.0	10
6	Structural integrity I. , 2021, , 349-376.		4
7	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.	5.6	6
8	Structural effect of low Al content in the in-situ additive manufactured CrFeCoNiAlx high-entropy alloy. Materials Letters, 2021, 303, 130487.	2.6	8
9	Micromechanisms of Deformation and Fracture in Porous L-PBF 316L Stainless Steel at Different Strain Rates. Metals, 2021, 11, 1870.	2.3	4
10	In Vitro Characterization of In Situ Alloyed Ti6Al4V(ELI)-3 at.% Cu Obtained by Laser Powder Bed Fusion. Materials, 2021, 14, 7260.	2.9	4
11	Sliding wear and fatigue cracking damage mechanisms in reciprocal and unidirectional sliding of high-strength steels in dry contact. Wear, 2020, 444-445, 203119.	3.1	13
12	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.	5.6	11
13	Surface integrity factors influencing fatigue crack nucleation of laser powder bed fusion Ti6Al4V alloy. Procedia CIRP, 2020, 94, 222-226.	1.9	1
14	Development of a New PM Tool Steel for Optimization of Cold Working of Advanced High-Strength Steels. Metals, 2020, 10, 1326.	2.3	2
15	Manufacturing and characterization of in-situ alloyed Ti6Al4V(ELI)-3 at.% Cu by laser powder bed fusion. Additive Manufacturing, 2020, 36, 101436.	3.0	20
16	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.	5.6	114
17	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.	5.6	47
18	Failure analyses and wear mechanisms of rock drill rods, a case study. Engineering Failure Analysis, 2019, 102, 69-78.	4.0	8

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19	Fracture mechanisms in the as-built and stress-relieved laser powder bed fusion Ti6Al4V ELI alloy. Optics and Laser Technology, 2019, 109, 608-615.	4.6	24
20	Qualification of Ti6Al4V ELI Alloy Produced by Laser Powder Bed Fusion for Biomedical Applications. Jom, 2018, 70, 372-377.	1.9	55
21	Influence of surface topography on fatigue behavior of Ti6Al4V alloy by laser powder bed fusion. Procedia CIRP, 2018, 74, 49-52.	1.9	10
22	Manufacturing of intermetallic Mn-46%Al by laser powder bed fusion. Procedia CIRP, 2018, 74, 64-67.	1.9	12
23	Martensitic transformations in Ti-6Al-4V (ELI) alloy manufactured by 3D Printing. Materials Characterization, 2018, 146, 101-112.	4.4	64
24	Microstructure, Solidification Texture, and Thermal Stability of 316 L Stainless Steel Manufactured by Laser Powder Bed Fusion. Metals, 2018, 8, 643.	2.3	117
25	Additively manufactured metals for medical applications. , 2018, , 261-309.		21
26	Titanium Alloys Manufactured by In Situ Alloying During Laser Powder Bed Fusion. Jom, 2017, 69, 2725-2730.	1.9	49
27	Oxygen and nitrogen concentrations in the Ti-6Al-4V alloy manufactured by direct metal laser sintering (DMLS) process. Materials Letters, 2017, 209, 311-314.	2.6	24
28	Atomistic Insights on the Wear/Friction Behavior of Nanocrystalline Ferrite During Nanoscratching as Revealed by Molecular Dynamics. Tribology Letters, 2017, 65, 1.	2.6	50
29	Tool microstructure impact on the wear behavior of ferrite iron during nanoscratching: An atomic level simulation. Wear, 2017, 370-371, 39-45.	3.1	17
30	Functionalization of Biomedical Ti6Al4V via In Situ Alloying by Cu during Laser Powder Bed Fusion Manufacturing. Materials, 2017, 10, 1154.	2.9	34
31	MICROSTRUCTURAL AND THERMAL STABILITY OF SELECTIVE LASER MELTED 316L STAINLESS STEEL SINGLE TRACKS. South African Journal of Industrial Engineering, 2017, 28, .	0.2	6
32	Adhesion between ferrite ironâ€"iron/cementite countersurfaces: A molecular dynamics study. Tribology International, 2016, 103, 113-120.	5.9	8
33	Deformation Behavior and Microstructure of Ti6Al4V Manufactured by SLM. Physics Procedia, 2016, 83, 778-788.	1.2	120
34	VALIDATION OF MINIATURISED TENSILE TESTING ON DMLS TI6AL4V (ELI) SPECIMENS. South African Journal of Industrial Engineering, 2016, 27, .	0.2	5
35	TENSILE PROPERTIES AND MICROSTRUCTURE OF DIRECT METAL LASER-SINTERED TI6AL4V (ELI) ALLOY. South African Journal of Industrial Engineering, 2016, 27, .	0.2	16
36	Mechanical behavior of carbon nanotubes in the rippled and buckled phase. Journal of Applied Physics, 2015, 117, 084318.	2.5	15

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37	In situ heat treatment in selective laser melted martensitic AISI 420 stainless steels. Materials and Design, 2015, 87, 380-385.	7.0	185
38	Hierarchical design principles of selective laser melting for high quality metallic objects. Additive Manufacturing, 2015, 7, 45-56.	3.0	85
39	Large variations in the onset of rippling in concentric nanotubes. Applied Physics Letters, 2014, 104, 021910.	3.3	9
40	Influence of tool steel microstructure on friction and initial material transfer. Wear, 2014, 319, 12-18.	3.1	17
41	Selective laser melting of Ti6Al4V alloy for biomedical applications: Temperature monitoring and microstructural evolution. Journal of Alloys and Compounds, 2014, 583, 404-409.	5.5	412
42	Microstructure and properties of intermetallic composite coatings fabricated by selective laser melting of Tiâ€"SiC powder mixtures. Intermetallics, 2014, 46, 147-155.	3.9	96
43	Influence of work material proof stress and tool steel microstructure on galling initiation and critical contact pressure. Tribology International, 2013, 60, 104-110.	5.9	20
44	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.	2.0	2
45	Image formation mechanisms in scanning electron microscopy of carbon nanotubes, and retrieval of their intrinsic dimensions. Ultramicroscopy, 2013, 124, 35-39.	1.9	4
46	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.	6.3	373
47	Galling resistance evaluation of tool steels by two different laboratory test methods for sheet metal forming. Lubrication Science, 2012, 24, 263-272.	2.1	7
48	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.	3.1	43
49	Influence of nickel content on machinability of a hot-work tool steel in prehardened condition. Materials & Design, 2011, 32, 706-715.	5.1	10
50	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.	5.6	14
51	Measurements of the critical strain for rippling in carbon nanotubes. Applied Physics Letters, 2011, 98, .	3.3	15
52	Temperature effects on adhesive wear in dry sliding contacts. Wear, 2010, 268, 968-975.	3.1	62
53	Wear Mechanisms in Galling: Cold Work Tool Materials Sliding Against High-strength Carbon Steel Sheets. Tribology Letters, 2009, 33, 45-53.	2.6	26
54	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.	3.1	41

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55	On the Abrasion of Ultrafine WCâ€"Co Hardmetals by Small SiC Abrasive. Tribology Letters, 2008, 30, 35-39.	2.6	10
56	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
57	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, .	2.5	22
58	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
59	Abrasion of ultrafine WC-Co by fine abrasive particles. Transactions of Nonferrous Metals Society of China, 2007, 17, 1287-1293.	4.2	5
60	Influence of microstructure on the abrasive edge wear of WCâ€"Co hardmetals. Wear, 2007, 263, 240-245.	3.1	19
61	Effect of microstructure on edge wear mechanisms in WCâ€"Co. International Journal of Refractory Metals and Hard Materials, 2007, 25, 171-178.	3.8	26
62	How hardmetals react to wear: Nano is not always the best. Metal Powder Report, 2007, 62, 30-35.	0.1	0
63	Galling resistance and wear mechanisms â€" cold work tool materials sliding against carbon steel sheets. Tribology Letters, 2007, 26, 67-72.	2.6	47
64	Microstructural characterization and wear behavior of (Fe,Ni)â€"TiC MMC prepared by DMLS. Journal of Alloys and Compounds, 2006, 421, 166-171.	5.5	91
65	Tribological behavior and wear mechanisms of MoSi2-base composites sliding against AA6063 alloy at elevated temperature. Wear, 2006, 260, 450-457.	3.1	15
66	Preparation of Mo(Si,Al)2â€"ZrO2 nanocomposite powders by mechanical alloying. International Journal of Refractory Metals and Hard Materials, 2004, 22, 205-209.	3.8	11
67	Microstructure and properties stability of Al-alloyed MoSi2 matrix composites. Intermetallics, 2004, 12, 225-233.	3.9	15
68	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.	5.2	13
69	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.	5.6	10
70	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.	2.6	8
71	Isothermal grain growth in mechanically alloyed nanostructured Fe80Ti8B12 alloy. Materials Letters, 2003, 57, 3671-3675.	2.6	4
72	Influence of Tool Steel Hard Phase Orientation and Shape on Galling. Advanced Materials Research, 0, 966-967, 249-258.	0.3	2

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73	Nano-Scale Friction of Multi-Phase Powder Metallurgy Tool Steels. Advanced Materials Research, 0, 1119, 70-74.	0.3	3