

Alexey V Panin

List of Publications by Year in descending order

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125
papers

1,360
citations

279487

23
h-index

454577

30
g-index

126
all docs

126
docs citations

126
times ranked

901
citing authors

#	ARTICLE	IF	CITATIONS
1	Plastic distortion as a fundamental mechanism in nonlinear mesomechanics of plastic deformation and fracture. <i>Physical Mesomechanics</i> , 2016, 19, 255-268.	1.0	53
2	The effect of crystallographic grain orientation of polycrystalline Ti on ploughing under scratch testing. <i>Wear</i> , 2018, 408-409, 214-221.	1.5	45
3	Hydrogen-Induced Phase Transformation and Microstructure Evolution for Ti-6Al-4V Parts Produced by Electron Beam Melting. <i>Metals</i> , 2018, 8, 301.	1.0	45
4	Physical mesomechanics of a deformed solid as a multilevel system. II. Chessboard-like mesoeffect of the interface in heterogeneous media in external fields. <i>Physical Mesomechanics</i> , 2007, 10, 5-14.	1.0	43
5	PECVD synthesis, optical and mechanical properties of silicon carbon nitride films. <i>Applied Surface Science</i> , 2015, 339, 102-108.	3.1	40
6	Nonlinear wave processes in a deformable solid as in a multiscale hierarchically organized system. <i>Physics-Uspexhi</i> , 2012, 55, 1260-1267.	0.8	37
7	Fundamental role of crystal structure curvature in plasticity and strength of solids. <i>Physical Mesomechanics</i> , 2015, 18, 89-99.	1.0	36
8	The effect of ultrasonic impact treatment on the deformation behavior of commercially pure titanium under uniaxial tension. <i>Materials and Design</i> , 2017, 117, 371-381.	3.3	36
9	Numerical study of atomic scale deformation mechanisms of Ti grains with different crystallographic orientation subjected to scratch testing. <i>Applied Surface Science</i> , 2019, 471, 318-327.	3.1	36
10	Micro- and mesomechanical aspects of deformation-induced surface roughening in polycrystalline titanium. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 697, 248-258.	2.6	34
11	Mechanisms of surface roughening of commercial purity titanium during ultrasonic impact treatment. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 647, 43-50.	2.6	33
12	Mechanical Properties of Thin Ag Films on a Silicon Substrate Studied Using the Nanoindentation Technique. <i>Physics of the Solid State</i> , 2005, 47, 2055.	0.2	32
13	Multiscale Deformation of Commercial Titanium and Ti-6Al-4V Alloy Subjected to Electron Beam Surface Treatment. <i>Physical Mesomechanics</i> , 2018, 21, 441-451.	1.0	32
14	Mesosopic Structural States at the Nanoscale in Surface Layers of Titanium and Its Alloy Ti-6Al-4V in Ultrasonic and Electron Beam Treatment. <i>Physical Mesomechanics</i> , 2019, 22, 345-354.	1.0	30
15	Nanostructuring of surface layers and production of nanostructured coatings as an effective method of strengthening modern structural and tool materials. <i>Physics of Metals and Metallography</i> , 2007, 104, 627-636.	0.3	29
16	Continuous Electron Beam Post-Treatment of EBF3-Fabricated Ti-6Al-4V Parts. <i>Metals</i> , 2019, 9, 699.	1.0	29
17	The chess-board effect in the stress-strain distribution at interfaces of a loaded solid. <i>Doklady Physics</i> , 2006, 51, 408-411.	0.2	27
18	On the nature of low-temperature brittleness of BCC steels. <i>Physical Mesomechanics</i> , 2014, 17, 89-96.	1.0	26

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19	Strain Localization in Titanium with a Modified Surface Layer. <i>Physical Mesomechanics</i> , 2018, 21, 32-42.	1.0	26
20	Different Approaches for Manufacturing Ti-6Al-4V Alloy with Triply Periodic Minimal Surface Sheet-Based Structures by Electron Beam Melting. <i>Materials</i> , 2021, 14, 4912.	1.3	26
21	Specific features of the determination of the mechanical characteristics of thin films by the nanoindentation technique. <i>Physics of the Solid State</i> , 2008, 50, 1050-1055.	0.2	25
22	The effect of electron beam treatment on hydrogen sorption ability of commercially pure titanium. <i>Applied Surface Science</i> , 2013, 284, 750-756.	3.1	25
23	The plastic shear channeling effect and the nonlinear waves of localized plastic deformation and fracture. <i>Physical Mesomechanics</i> , 2010, 13, 215-232.	1.0	24
24	Scale invariance of structural transformations in plastically deformed nanostructured solids. <i>Physical Mesomechanics</i> , 2017, 20, 55-68.	1.0	23
25	Mesoscopic surface folding in EK-181 steel polycrystals under uniaxial tension. <i>Physical Mesomechanics</i> , 2012, 15, 94-103.	1.0	21
26	The effect of ultrasonic treatment on mechanical behavior of titanium and steel specimens. <i>Theoretical and Applied Fracture Mechanics</i> , 2004, 41, 163-172.	2.1	19
27	Morphological changes of the red blood cells treated with metal oxide nanoparticles. <i>Toxicology in Vitro</i> , 2016, 37, 34-40.	1.1	19
28	Study of crack resistance of TiAlN coatings by scratch testing. <i>Physical Mesomechanics</i> , 2017, 20, 185-192.	1.0	19
29	Effect of the nanostructuring of a Cu substrate on the fracture of heat-resistant Si-Al-N coatings during uniaxial tension. <i>Technical Physics</i> , 2012, 57, 779-786.	0.2	18
30	Deformation macrolocalisation and fracture in ultrafine-grained armco iron. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 486, 267-272.	2.6	17
31	Physical mesomechanics of a deformed solid as a multilevel system. III. Inelastic precursor of plastic shear generation. <i>Physical Mesomechanics</i> , 2007, 10, 15-24.	1.0	16
32	Micromechanical model of deformation-induced surface roughening in polycrystalline materials. <i>Physical Mesomechanics</i> , 2017, 20, 324-333.	1.0	16
33	Strength enhancement of structural steel EK-181 based on the multilevel approach of physical mesomechanics. <i>Physical Mesomechanics</i> , 2008, 11, 85-96.	1.0	15
34	Wrinkling of the metal-polymer bilayer: the effect of periodical distribution of stresses and strains. <i>RSC Advances</i> , 2014, 4, 7389.	1.7	15
35	Fractal analysis of electromigration-induced changes of surface topography in Au conductor lines. <i>Surface Science</i> , 2003, 524, 191-198.	0.8	14
36	On the nature of plastic strain localization in solids. <i>Technical Physics</i> , 2007, 52, 1024-1030.	0.2	14

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37	Scale levels of quasi-static and dynamic fracture behavior of Ti-6Al-4V parts built by various additive manufacturing methods. <i>Theoretical and Applied Fracture Mechanics</i> , 2020, 110, 102781.	2.1	14
38	Influence of multiscale localized plastic flow on stress-strain patterns. <i>Physical Mesomechanics</i> , 2015, 18, 8-12.	1.0	13
39	Modification of the structure of surface layers of commercial titanium in the process of treatment by low-energy high-current electron beams. <i>Physics of Metals and Metallography</i> , 2016, 117, 550-561.	0.3	13
40	Mechanisms of periodic deformation of the film-substrate system under compressive stress. <i>Physical Mesomechanics</i> , 2010, 13, 79-87.	1.0	12
41	Role of local nanostructural states in plastic deformation and fracture of solids. <i>Physical Mesomechanics</i> , 2012, 15, 1-12.	1.0	12
42	Effects of Water Cooling on the Microstructure of Electron Beam Additive-Manufactured Ti-6Al-4V. <i>Metals</i> , 2021, 11, 1742.	1.0	12
43	O,N-coordinated Ni(II) beta-diketonate derivatives: Synthesis, thermal properties, MOCVD applications. <i>Surface and Coatings Technology</i> , 2013, 230, 290-296.	2.2	11
44	The effect of phase transformations on the recovery of pulsed electron beam irradiated Ti-6Al-4V titanium alloy during scratching. <i>Journal of Alloys and Compounds</i> , 2019, 795, 275-283.	2.8	11
45	Transformations of the Microstructure and Phase Compositions of Titanium Alloys during Ultrasonic Impact Treatment. Part I. Commercially Pure Titanium. <i>Metals</i> , 2021, 11, 562.	1.0	11
46	Transformations of the Microstructure and Phase Compositions of Titanium Alloys during Ultrasonic Impact Treatment Part II: Ti-6Al-4V Titanium Alloy. <i>Metals</i> , 2022, 12, 732.	1.0	10
47	Scaling effects in structural-phase self-organization at the α - β thin film - substrate interface. <i>Physical Mesomechanics</i> , 2007, 10, 117-128.	1.0	9
48	Sclerometric study of galvanic AuNi and AuCo coatings. <i>Technical Physics Letters</i> , 2011, 37, 223-225.	0.2	9
49	Structural modification of TiAlN coatings by preliminary Ti Ion bombardment of a steel substrate. <i>Technical Physics</i> , 2016, 61, 409-415.	0.2	9
50	Multiscale Translation-Rotation Plastic Flow in Polycrystals. , 2018, , 1-38.		9
51	Recovery of Scratch Grooves in Ti-6Al-4V Alloy Caused by Reversible Phase Transformations. <i>Metals</i> , 2020, 10, 1332.	1.0	9
52	Molecular dynamics study of dislocation-twin boundary interaction in titanium subjected to scratching. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 800, 140327.	2.6	9
53	The effect of ultrasonic impact treatment on deformation and fracture of electron beam additive manufactured Ti-6Al-4V under uniaxial tension. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 832, 142458.	2.6	9
54	Field theory of multilevel plastic flow in the neck of a deformed solid. <i>Physical Mesomechanics</i> , 2007, 10, 225-234.	1.0	8

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55	Nanocrystalline structure formation in EK-181 steel surface layers on ultrasonic treatment. <i>Physical Mesomechanics</i> , 2009, 12, 150-159.	1.0	8
56	The role of stress distribution at the film/barrier interface in formation of copper silicides. <i>Semiconductors</i> , 2010, 44, 116-122.	0.2	8
57	Lattice Curvature, Shear Bands, and Electroplastic Effect. <i>Physical Mesomechanics</i> , 2018, 21, 390-395.	1.0	8
58	Fundamental role of nanoscale structural level of plastic strain in solids. <i>Metal Science and Heat Treatment</i> , 2006, 48, 533-538.	0.2	7
59	Impact toughness of Ti-6Al-4V parts fabricated by additive manufacturing. <i>AIP Conference Proceedings</i> , 2019, , .	0.3	7
60	Deformation Behavior of Wrought and EBAM Ti-6Al-4V under Scratch Testing. <i>Metals</i> , 2021, 11, 1882.	1.0	7
61	Strengthening of the RAFMS RUSFER EK181 through nanostructuring surface layers. <i>Journal of Nuclear Materials</i> , 2009, 386-388, 466-470.	1.3	6
62	Nonlinear wave processes in a deformable solid as a hierarchically organized system. <i>Physical Mesomechanics</i> , 2012, 15, 133-146.	1.0	6
63	Effect of Ta alloying on isothermal oxidation behavior of DC magnetron sputtered Ti _{1-x} Al _x N coatings on titanium substrate. <i>Surface and Coatings Technology</i> , 2021, 421, 127488.	2.2	6
64	Physical mesomechanics of a deformed solid as a multilevel system. IV. Effect of particle interpenetration without continuity violation under the action of concentrated energy fluxes. <i>Physical Mesomechanics</i> , 2007, 10, 25-31.	1.0	5
65	Fractal analysis of the evolution of friction surfaces of galvanic AuNi coatings. <i>Technical Physics Letters</i> , 2012, 38, 484-487.	0.2	5
66	Effect of local curvature of internal and external interfaces on mass transfer responsible for thin film degradation. <i>Physical Mesomechanics</i> , 2013, 16, 348-354.	1.0	5
67	Wear of electroplated gold-based coatings. <i>Physical Mesomechanics</i> , 2016, 19, 407-419.	1.0	5
68	Effect of local curvature of the coating-substrate interface on deformation and fracture of ceramic coatings under uniaxial tension. <i>Physical Mesomechanics</i> , 2017, 20, 472-479.	1.0	5
69	Strain-Induced Surface Roughening in Polycrystalline VT1-0 Titanium Specimens under Uniaxial Tension. <i>Physical Mesomechanics</i> , 2018, 21, 249-257.	1.0	5
70	Concentration-Dependent Transformation Plasticity Effect During Hydrogenation of Technically Pure Titanium Irradiated with an Electron Beam. <i>Russian Physics Journal</i> , 2019, 61, 1992-2000.	0.2	5
71	Effect of the Lattice Curvature of Ti-6Al-4V Titanium Alloy on Their Fatigue Life and Fracture Toughness. <i>Physical Mesomechanics</i> , 2020, 23, 369-375.	1.0	5
72	The Effect of Nanoscale Mesoscopic Structural States Associated with Lattice Curvature on the Mechanical Behavior of Ti-6Al-4V Alloy. <i>Physical Mesomechanics</i> , 2020, 23, 457-465.	1.0	5

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73	Multi-level deformation of thin films caused by stress-strain distribution at the film-substrate interface. <i>Procedia Engineering</i> , 2009, 1, 23-26.	1.2	4
74	Effect of the number of layers in Zr-Y-O/Si-Al-N multilayer coatings on their mechanical properties and wear resistance. <i>Journal of Friction and Wear</i> , 2014, 35, 426-433.	0.1	4
75	Magnetic and Mechanical Properties of Deformed Iron Nitride <small>xmlns:mml="http://www.w3.org/1998/Math/MathML" id="M1"><mml:mrow><mml:msup><mml:mrow><mml:mi>Î³</mml:mi></mml:mrow><mml:mrow><mml:mi>â€²</mml:mi></mml:mrow></mml:mrow></small> <i>Journal of Applied Mathematics</i> , 2015, 2015, 1-9.	0.4	4
76	MOCVD growth and study of magnetic Co films. <i>Surface Engineering</i> , 2016, 32, 8-14.	1.1	4
77	Structural Analysis of Armco Iron Subjected to Equal Channel Angular Extrusion. <i>Russian Physics Journal</i> , 2005, 48, 406-411.	0.2	3
78	The influence of the initial structural state of armco iron on the ultrasonic treatment effect. <i>Russian Physics Journal</i> , 2009, 52, 85-93.	0.2	3
79	Surface modification of structural materials by low-energy high-current pulsed electron beam treatment. <i>AIP Conference Proceedings</i> , 2014, , .	0.3	3
80	Computational mesomechanics of titanium surface-hardened by ultrasonic treatment. <i>Physical Mesomechanics</i> , 2017, 20, 334-342.	1.0	3
81	Improvement of Thermal Cycling Resistance of Al _x Si _{1-âˆ™x} N Coatings on Cu Substrates by Optimizing Al/Si Ratio. <i>Materials</i> , 2019, 12, 2249.	1.3	3
82	Microstructure and mechanical behaviour of additive manufactured Ti-6Al-4V parts under tension. <i>EPJ Web of Conferences</i> , 2019, 221, 01037.	0.1	3
83	Combustion of Titanium-Carbon Black High-Energy Ball-Milled Mixtures in Nitrogen: Formation of Titanium Carbonitrides at Atmospheric Pressure. <i>Materials</i> , 2020, 13, 1810.	1.3	3
84	Improving mechanical properties of wire-based EBAM Ti-6Al-4V parts by adding TiC powders. <i>Material Design and Processing Communications</i> , 2021, 3, e136.	0.5	3
85	Surface modification of EBF3-Fabricated Ti-6Al-4V parts by ultrasonic impact treatment. <i>AIP Conference Proceedings</i> , 2020, , .	0.3	3
86	Effect of sulfur and selenium on the surface relief of insulating films and electrical characteristics of metal-insulator-p-GaAs structures. <i>Semiconductors</i> , 2001, 35, 80-85.	0.2	2
87	Elastic deformation of Ti films during alternating bending. <i>Technical Physics</i> , 2010, 55, 1583-1587.	0.2	2
88	Structure changes in the surface layers of Ti-6Al-4V titanium alloy under electron beam treatment. <i>AIP Conference Proceedings</i> , 2017, , .	0.3	2
89	NUMERICAL STUDY OF STRESS-STRAIN LOCALIZATION IN THE TITANIUM SURFACE MODIFIED BY AN ELECTRON BEAM TREATMENT. <i>Facta Universitatis, Series: Mechanical Engineering</i> , 2016, 14, 329.	2.3	2
90	Mechanical Behavior of Hydrogenated Commercial VT1-0 Titanium. <i>Materials Science</i> , 2004, 40, 756-763.	0.3	1

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91	Features Of Plastic Deformation And Fracture Of Commercial Titanium Subjected To Hydrogenation. AIP Conference Proceedings, 2006, , .	0.3	1
92	Viscoelastic wrinkling in compression-stressed metal film-polymer sublayer system. Technical Physics Letters, 2011, 37, 896-899.	0.2	1
93	Strain mechanisms in annealed thin copper films on a viscoelastic sublayer. Physical Mesomechanics, 2011, 14, 49-56.	1.0	1
94	Effect of a hard sublayer on contact interaction and wear behavior of electrodeposited gold-based coatings. , 2014, , .		1
95	Mechanisms of stress generation and relaxation in thin films and coatings. AIP Conference Proceedings, 2014, , .	0.3	1
96	Multiscale surface roughening of commercial purity titanium during uniaxial tension. AIP Conference Proceedings, 2015, , .	0.3	1
97	The effect of pretreatment by titanium ion beam on the internal stresses and microstructure of the TiAlN coating obtained by magnetron sputtering. AIP Conference Proceedings, 2015, , .	0.3	1
98	The study of crack resistance of TiAlN coatings under mechanical loading and thermal cycle testing. AIP Conference Proceedings, 2015, , .	0.3	1
99	The effect of laser treatment of WC-Co coatings on their failure under thermal cycling. AIP Conference Proceedings, 2016, , .	0.3	1
100	Microstructure and phase composition of 3D-printed titanium alloy Ti-6Al-4V parts subjected to thermal post-processing. AIP Conference Proceedings, 2018, , .	0.3	1
101	Electron beam additive manufacturing of TiB ₂ /Ti-6Al-4V composite. AIP Conference Proceedings, 2019, , .	0.3	1
102	Change in the Phase Composition and Lattice Parameters of the Solid Solution Based on δ -Ti in the Surface Layers of the Ti-6Al-4V Alloy Subjected to Electron-Beam Treatment. Physics of Metals and Metallography, 2020, 121, 143-149.	0.3	1
103	Multiscale Translation-Rotation Plastic Flow in Polycrystals. , 2019, , 1255-1292.		1
104	Surface Morphology, Microstructure and Mechanical Properties of Thin Ag Films. Journal of Korean Powder Metallurgy Institute, 2003, 10, 190-194.	0.2	1
105	Fracture toughness and oxidation resistance of Ti-Al-N coatings on stainless steel substrates. AIP Conference Proceedings, 2016, , .	0.3	1
106	Effect of dopants and interlayers on the growth of thin insulating films. Theoretical and Applied Fracture Mechanics, 2001, 36, 51-56.	2.1	0
107	Some aspects of erythrocyte preparation for AFM-study. , 2014, , .		0
108	Thermal effect of low-energy high-current pulsed electron beam on titanium alloy structure. , 2014, , .		0

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109	The deformation behavior of commercially pure titanium subjected to electron beam treatment. AIP Conference Proceedings, 2015, , .	0.3	0
110	Improvement of the wear resistance of electroplated Au-Ni coatings by Zr ion bombardment of Ni-B sublayer. AIP Conference Proceedings, 2015, , .	0.3	0
111	Structure fragmentation of a surface layer of commercial purity titanium during ultrasonic impact treatment. AIP Conference Proceedings, 2015, , .	0.3	0
112	Computational mesomechanics of surface-modified titanium. AIP Conference Proceedings, 2016, , .	0.3	0
113	Mesoscale plastic strain localization in a titanium alloy with a modified surface layer. AIP Conference Proceedings, 2016, , .	0.3	0
114	The effect of ultrasonic impact treatment on surface roughening of commercially pure titanium during tensile test. AIP Conference Proceedings, 2016, , .	0.3	0
115	Strain localization of commercially pure titanium subjected to ultrasonic impact treatment followed by uniaxial tension. AIP Conference Proceedings, 2016, , .	0.3	0
116	Crystal plasticity-based simulations of polycrystalline titanium deformation behavior. AIP Conference Proceedings, 2016, , .	0.3	0
117	The effect of Al intermediate layer on thermal resistance of EB-PVD yttria-stabilized zirconia coatings on titanium substrate. AIP Conference Proceedings, 2017, , .	0.3	0
118	Scratch testing of polycrystalline titanium. AIP Conference Proceedings, 2018, , .	0.3	0
119	The influence of the irregular interface geometry on fracture of EB-PVD yttria-stabilized zirconia coatings. AIP Conference Proceedings, 2018, , .	0.3	0
120	Unstable state of the β -Ti crystal lattice in the surface layers of titanium alloys samples treated by a low-energy high-current pulsed electron beam. AIP Conference Proceedings, 2018, , .	0.3	0
121	The effect of microstructure and phase composition of Ti-6Al-4V titanium alloy hardened surface layer on its mechanical properties. AIP Conference Proceedings, 2018, , .	0.3	0
122	Surface modification of 3D-printed Ti-6Al-4V parts by continuous electron beam. AIP Conference Proceedings, 2018, , .	0.3	0
123	The effect of deposition parameters on microstructure and mechanical properties of Ti-Al-Ta-N coatings. AIP Conference Proceedings, 2018, , .	0.3	0
124	Effect of Ta content on fracture of Ti- γ Al γ Ta γ N coatings under uniaxial tension. AIP Conference Proceedings, 2019, , .	0.3	0
125	Numerical study on combined electropulsing and ultrasonic surface impact treatments of Ti-6Al-4V + TiC composite. AIP Conference Proceedings, 2020, , .	0.3	0