Varvara A Romanova

List of Publications by Year
in descending order

125	1,385	331670 21	395702 33
papers	citations	h-index	g-index

125	125	125	746
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Computational parametric study for plastic strain localization and fracture in a polycrystalline material with a porous ceramic coating. Mechanics of Advanced Materials and Structures, 2022, 29, 2390-2403.	2.6	2
2	A microstructure-based mechanical model of deformation-induced surface roughening in polycrystalline Î±-titanium at the mesoscale. Mechanics of Advanced Materials and Structures, 2022, 29, 7364-7374.	2.6	3
3	A physically-based computational approach for processing-microstructure-property linkage of materials additively manufactured by laser powder bed fusion. International Journal of Mechanical Sciences, 2022, 219, 107103.	6.7	12
4	Mechanical Aspects of Nonhomogeneous Deformation of Aluminum Single Crystals under Compression along [100] and [110] Directions. Metals, 2022, 12, 397.	2.3	0
5	Micromechanical simulations of additively manufactured aluminum alloys. Computers and Structures, 2021, 244, 106412.	4.4	23
6	A method of step-by-step packing and its application in generating 3D microstructures of polycrystalline and composite materials. Engineering With Computers, 2021, 37, 241-250.	6.1	38
7	A Numerical Study of the Stress-Strain Behavior of Additively Manufactured Aluminum-Silicon Alloy at the Scale of Dendritic Structure. Physical Mesomechanics, 2021, 24, 32-39.	1.9	6
8	A Numerical Study of the Contribution of Different Slip Systems to the Deformation Response of Polycrystalline Titanium. Physical Mesomechanics, 2021, 24, 166-177.	1.9	12
9	MESOSCALE DEFORMATION-INDUCED SURFACE PHENOMENA IN LOADED POLYCRYSTALS. Facta Universitatis, Series: Mechanical Engineering, 2021, 19, 187.	4.6	3
10	COMPUTATIONAL MICROSTRUCTURE-BASED ANALYSIS OF RESIDUAL STRESS EVOLUTION IN METAL-MATRIX COMPOSITE MATERIALS DURING THERMOMECHANICAL LOADING. Facta Universitatis, Series: Mechanical Engineering, 2021, 19, 241.	4.6	17
11	Microstructure-Based Computational Analysis of Deformation and Fracture in Composite and Coated Materials Across Multiple Spatial Scales. Springer Tracts in Mechanical Engineering, 2021, , 377-419.	0.3	0
12	Plastic strain localization in surface-hardened titanium polycrystals. Journal of Physics: Conference Series, 2020, 1459, 012011.	0.4	0
13	Three-dimensional analysis of grain structure and texture of additively manufactured 316L austenitic stainless steel. Additive Manufacturing, 2020, 36, 101521.	3.0	18
14	Mechanical Aspects of Deformation-Induced Surface Roughening in the Presence of Inclusions in a Subsurface Layer. Numerical Modeling. Frontiers in Mechanical Engineering, 2020, 6, .	1.8	2
15	Influence of Polycrystalline Structure on Dynamic Strength and Fracture Character of an Aluminum Alloy in Different Welding Joint Zones. Russian Physics Journal, 2020, 63, 721-730.	0.4	0
16	Formation of Bulk Tensile Regions in Metal Matrix Composites and Coatings under Uniaxial and Multiaxial Compression. Physical Mesomechanics, 2020, 23, 135-146.	1.9	18
17	The effects of surface-layer grain size and texture on deformation-induced surface roughening in polycrystalline titanium hardened by ultrasonic impact treatment. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 793, 139896.	5.6	14
18	Plastic Strain Localization in Polycrystalline Titanium. Numerical Simulation. Russian Physics Journal, 2020, 62, 1539-1551.	0.4	4

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19	Microstructure-based analysis of deformation and fracture in metal-matrix composite materials. Engineering Failure Analysis, 2020, 110, 104412.	4.0	38
20	Numerical study of the texture effect on deformation-induced surface roughening in titanium polycrystals. Engineering Failure Analysis, 2020, 110, 104437.	4.0	14
21	Step-by-step generation of aluminum grain structure produced by selective laser melting. AIP Conference Proceedings, 2020, , .	0.4	0
22	A comparative analysis of grain-scale stress and strain fields in two- and three-dimensional polycrystals. AIP Conference Proceedings, 2020, , .	0.4	0
23	Effect of hatch distance on the microstructure of additively manufactured 316â€…L steel. AIP Conference Proceedings, 2020, , .	0.4	3
24	Contribution of different slip systems to the deformation behavior of polycrystalline titanium. Numerical study. AIP Conference Proceedings, 2020, , .	0.4	0
25	On the importance of three-dimensional analysis of additively manufactured microstructures. AIP Conference Proceedings, 2020, , .	0.4	0
26	Stress concentration and plastic strain localization in metal-matrix composites: Comparative computational analysis for 3D and 2D. AIP Conference Proceedings, 2020, , .	0.4	0
27	Simulation of deformation and fracture of metal-matrix composites with consideration of residual stresses. AIP Conference Proceedings, 2020, , .	0.4	0
28	Simulation of quasistatic deformation of polycrystals in terms of dynamics. AIP Conference Proceedings, 2020, , .	0.4	0
29	A review of microstructure and mechanical properties of additively manufactured aluminum alloys. AIP Conference Proceedings, 2020, , .	0.4	4
30	Early prediction of macroscale plastic strain localization in titanium from observation of mesoscale surface roughening. International Journal of Mechanical Sciences, 2019, 161-162, 105047.	6.7	24
31	On the Solution of Quasi-Static Micro- and Mesomechanical Problems in a Dynamic Formulation. Physical Mesomechanics, 2019, 22, 296-306.	1.9	24
32	A numerical study of plastic strain localization and fracture across multiple spatial scales in materials with metal-matrix composite coatings. Theoretical and Applied Fracture Mechanics, 2019, 101, 342-355.	4.7	38
33	Modeling the deformation behavior of titanium single crystals. AIP Conference Proceedings, 2019, , .	0.4	0
34	Strain rate effect on the deformation and fracture in different zones of friction stir welded aluminum. AIP Conference Proceedings, 2019, , .	0.4	0
35	Microstructure and mechanical properties of the aluminum-zirconium tungstate composite. AIP Conference Proceedings, 2019, , .	0.4	0
36	Numerical study of plastic strain localization in aluminum single crystals compressed along [001]-axis. AIP Conference Proceedings, 2019, , .	0.4	0

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37	The effect of a textured surface layer on the deformation behavior of polycrystalline titanium. AIP Conference Proceedings, 2019, , .	0.4	0
38	A comparative analysis of plastic strain localization in aluminum single crystals and polycrystalline grains. AIP Conference Proceedings, 2019, , .	0.4	0
39	Numerical simulation of deformation and fracture in polycrystalline aluminum at different strain rates. AIP Conference Proceedings, 2019, , .	0.4	0
40	Numerical study of the texture effect on plastic strain localization in polycrystalline titanium. AIP Conference Proceedings, 2019, , .	0.4	0
41	ON THE PROBLEM OF STRAIN LOCALIZATION AND FRACTURE SITE PREDICTION IN MATERIALS WITH IRREGULAR GEOMETRY OF INTERFACES. Facta Universitatis, Series: Mechanical Engineering, 2019, 17, 169.	4.6	4
42	MICROSTRUCTURE-BASED SIMULATIONS OF QUASISTATIC DEFORMATION USING AN EXPLICIT DYNAMIC APPROACH. Facta Universitatis, Series: Mechanical Engineering, 2019, 17, 243.	4.6	19
43	Strain Localization in Titanium with a Modified Surface Layer. Physical Mesomechanics, 2018, 21, 32-42.	1.9	26
44	Modeling of 3D microstructures produced by additive manufacturing. AIP Conference Proceedings, 2018, , .	0.4	3
45	Microstructure-based mechanical model of metal-matrix composite materials and coatings. AIP Conference Proceedings, 2018, , .	0.4	0
46	Microstructure-based numerical analysis of the dynamic deformation of polycrystalline aluminum. AIP Conference Proceedings, 2018, , .	0.4	0
47	Strain-Induced Surface Roughening in Polycrystalline VT1-0 Titanium Specimens under Uniaxial Tension. Physical Mesomechanics, 2018, 21, 249-257.	1.9	5
48	Strategy of computational predictions for mechanical behaviour of additively manufactured materials. Materials Science and Technology, 2018, 34, 1591-1605.	1.6	17
49	A NUMERICAL STUDY OF THE MICROSCALE PLASTIC STRAIN LOCALIZATION IN FRICTION STIR WELD ZONES. Facta Universitatis, Series: Mechanical Engineering, 2018, 16, 77.	4.6	13
50	The effect of ultrasonic impact treatment on the deformation behavior of commercially pure titanium under uniaxial tension. Materials and Design, 2017, 117, 371-381.	7.0	36
51	Micro- and mesomechanical aspects of deformation-induced surface roughening in polycrystalline titanium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 697, 248-258.	5.6	34
52	Computational mesomechanics of titanium surface-hardened by ultrasonic treatment. Physical Mesomechanics, 2017, 20, 334-342.	1.9	3
53	Micromechanical model of deformation-induced surface roughening in polycrystalline materials. Physical Mesomechanics, 2017, 20, 324-333.	1.9	16
54	A computational study of the dynamic deformation and fracture in a coated material. AIP Conference Proceedings, 2016, , .	0.4	0

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55	A crystal plasticity model for the deformation behavior of aluminum single crystals. AIP Conference Proceedings, 2016, , .	0.4	0
56	Strain-induced surface roughening in polycrystalline aluminum alloys. Experiment and simulation. AIP Conference Proceedings, 2016, , .	0.4	0
57	Numerical simulation of deformation and fracture of a material with a polysilazane-based coating. Physical Mesomechanics, 2016, 19, 430-440.	1.9	7
58	Computational mesomechanics of surface-modified titanium. AIP Conference Proceedings, 2016, , .	0.4	0
59	On the numerical simulation of the microstructural evolution induced by laser additive manufacturing of steel products. AIP Conference Proceedings, 2016, , .	0.4	3
60	Mesoscale plastic strain localization in a titanium alloy with a modified surface layer. AIP Conference Proceedings, 2016, , .	0.4	0
61	The influence of the mechanical properties of a steel substrate on the macroscopic strength of a coated material. AIP Conference Proceedings, 2016, , .	0.4	0
62	The effect of ultrasonic impact treatment on surface roughening of commercially pure titanium during tensile test. AIP Conference Proceedings, 2016, , .	0.4	0
63	Strain localization of commercially pure titanium subjected to ultrasonic impact treatment followed by uniaxial tension. AIP Conference Proceedings, 2016, , .	0.4	0
64	Crystal plasticity-based simulations of polycrystalline titanium deformation behavior. AIP Conference Proceedings, 2016, , .	0.4	0
65	Computational study of the mechanical behavior of steel produced by selective laser melting. AIP Conference Proceedings, 2016, , .	0.4	1
66	Mesomechanical response of microstructure formed on the advancing side of friction stir welded aluminum. AIP Conference Proceedings, 2016, , .	0.4	0
67	Evolution of grain structure during laser additive manufacturing. Simulation by a cellular automata method. Materials and Design, 2016, 106, 321-329.	7.0	167
68	A computational study of the microstructural effect on the deformation and fracture of friction stir welded aluminum. Computational Materials Science, 2016, 116, 2-10.	3.0	30
69	A micromechanical analysis of deformation-induced surface roughening in surface-modified polycrystalline materials. Meccanica, 2016, 51, 359-370.	2.0	14
70	The computational micromechanics of materials with porous ceramic coatings. Meccanica, 2016, 51, 415-428.	2.0	32
71	Numerical study of the surface hardening effect on the deformation-induced roughening in titanium polycrystals. Computational Materials Science, 2016, 116, 96-102.	3.0	9
72	A mesomechanical analysis of the stressâ€“strain localisation in friction stir welds of polycrystalline aluminium alloys. Meccanica, 2016, 51, 319-328.	2.0	10

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73	NUMERICAL STUDY OF STRESS-STRAIN LOCALIZATION IN THE TITANIUM SURFACE MODIFIED BY AN ELECTRON BEAM TREATMENT. Facta Universitatis, Series: Mechanical Engineering, 2016, 14, 329.	4.6	2
74	A numerical investigation of the crystallographic texture effect on the surface roughening in aluminum polycrystals. AIP Conference Proceedings, 2015, , .	0.4	0
75	Evolution of stress concentration along curvilinear modified surface layerâ€"base material interface. Numerical simulation. AIP Conference Proceedings, 2015, , .	0.4	0
76	Modeling of the mechanical behavior of aluminum alloys with friction stir welds. AIP Conference Proceedings, 2015, , .	0.4	0
77	A numerical investigation of grain shape and crystallographic texture effects on the plastic strain localization in friction stir weld zones. AIP Conference Proceedings, 2015, , .	0.4	1
78	A micromechanical model for the deformation behavior of titanium polycrystals. AIP Conference Proceedings, 2015, , .	0.4	0
79	Numerical simulation of deformation and fracture in a coated material using curvilinear regular meshes. IOP Conference Series: Materials Science and Engineering, 2015, 71, 012072.	0.6	1
80	A mesomechanical analysis of the deformation and fracture in polycrystalline materials with ceramic porous coatings. AIP Conference Proceedings, 2015, , .	0.4	1
81	A solution to the problem of the mesh anisotropy in cellular automata simulations of grain growth. Computational Materials Science, 2015, 108, 168-176.	3.0	21
82	Special features of strain-induced surface roughness formed in specimens with curvilinear geometry of the hardened surface layer-substrate interface. Physical Mesomechanics, 2015, 18, 81-87.	1.9	5
83	Two dimensional cellular automata simulation of grain growth during solidification and recrystallization. IOP Conference Series: Materials Science and Engineering, 2015, 71, 012073.	0.6	2
84	A computational analysis of the interfacial curvature effect on the strength of a material with a modified surface layer. , 2014, , .		0
85	Mesomechanical numerical modeling of the stress-strain localization and fracture in an aluminum alloy with a composite coating. , 2014, , .		0
86	A numerical simulation of the deformation and fracture of a material with a porous polysilazane coating. , 2014, , .		0
87	Numerical study of the surface-hardening effect on surface phenomena in 3D polycrystalline specimens. , 2014, , .		1
88	A numerical analysis of formation of the surface relief: A single inclusion model. , 2014, , .		1
89	Numerical analysis of strain-induced surface phenomena in aluminum alloys. , 2014, , .		0
90	A mesomechanical analysis of plastic strain and fracture localization in a material with a bilayer coating. Composites Part B: Engineering, 2014, 66, 276-286.	12.0	20

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91	Simulation of deformation and fracture of coated material with account for propagation of a LÃ¼ders-Chernov band in the steel substrate. Physical Mesomechanics, 2013, 16, 133-140.	1.9	11
92	Numerical study of mesoscale surface roughening in aluminum polycrystals under tension. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 564, 255-263.	5.6	48
93	Numerical analysis of mesoscale surface roughening in a coated plate. Computational Materials Science, 2012, 61, 71-75.	3.0	13
94	Mesoscale analysis of deformation and fracture in coated materials. Computational Materials Science, 2012, 64, 306-311.	3.0	18
95	Mesoscopic surface folding in EK-181 steel polycrystals under uniaxial tension. Physical Mesomechanics, 2012, 15, 94-103.	1.9	21
96	THE INFLUENCE OF LUDERS FRONT PROPAGATION ON THE STRENGTH OF THE "COATING-SUBSTRATE" COMPOSITE. NUMERICAL SIMULATION. Composites: Mechanics, Computations, Applications, 2012, 3, 283-305.	0.3	0
97	On the role of internal interfaces in the development of mesoscale surface roughness in loaded materials. Physical Mesomechanics, 2011, 14, 159-166.	1.9	30
98	THE INFLUENCE OF THE STRAIN RATE ON THE STRENGTH OF THE COATING-SUBSTRATE COMPOSITION. NUMERICAL MODELING. International Journal of Nanomechanics Science and Technology, 2011, 2, 231-253.	0.5	0
99	Three-dimensional analysis of mesoscale deformation phenomena in welded low-carbon steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 5271-5277.	5.6	18
100	The effect of plastic flow in the neck on the scale levels of fracture in polycrystals. Experiment and modeling. Physical Mesomechanics, 2011, 14, 16-23.	1.9	5
101	The deformation and fracture of composite materials with different coating thickness. Numerical simulation. Physical Mesomechanics, 2010, 13, 28-37.	1.9	8
102	A comparative analysis of the mesoscale stress-strain state in two- and three-dimensional polycrystalline specimens. Physical Mesomechanics, 2010, 13, 178-183.	1.9	6
103	Impact of 3D-model thickness on FE-simulations of microstructure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 802-811.	5.6	6
104	INFLUENCE OF THE COATING THICKNESS ON STRENGTH OF THE COATING-BASE MATERIAL COMPOSITE. NUMERICAL SIMULATION. Composites: Mechanics, Computations, Applications, 2010, 1, 81-93.	0.3	0
105	Finite-element and finite-difference simulations of the mechanical behavior of austenitic steels at different strain rates and temperatures. Mechanics of Materials, 2009, 41, 1277-1287.	3.2	20
106	The effect of the irregular interface geometry in deformation and fracture of a steel substrateâ€“boride coating composite. International Journal of Plasticity, 2009, 25, 2025-2044.	8.8	30
107	A numerical simulation of the nucleation and evolution of localized plastic deformation in welded low-carbon steel specimens. Physical Mesomechanics, 2009, 12, 66-73.	1.9	3
108	Numerical simulation of surface and bulk deformation in three-dimensional polycrystals. Physical Mesomechanics, 2009, 12, 130-140.	1.9	7

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109	The influence of the reinforcing particle shape and interface strength on the fracture behavior of a metal matrix composite. Acta Materialia, 2009, 57, 97-107.	7.9	92
110	Comparative analysis of two- and three-dimensional simulations of Al/Al2O3 behavior on the meso-scale level. Computational Materials Science, 2007, 39, 274-281.	3.0	9
111	Numerical modeling of the thermomechanical behavior of steels with allowance for the propagation of Luders bands. Journal of Applied Mechanics and Technical Physics, 2007, 48, 743-750.	0.5	4
112	Computational analysis of deformation and fracture in a composite material on the mesoscale level. Computational Materials Science, 2006, 37, 110-118.	3.0	23
113	Three_Dimensional Simulation of Fracture Behavior of Elastic-Brittle Material with Initial Crack Pattern. International Journal of Fracture, 2006, 139, 537-544.	2.2	5
114	Mesomechanical analysis of the ELASTO-PLASTIC behavior of a 3D composite-structure under tension. Computational Mechanics, 2005, 36, 475-483.	4.0	22
115	Numerical simulation of intermittent yielding at the macro and mesolevels. Computational Materials Science, 2005, 32, 261-267.	3.0	9
116	Numerical simulation of deformation and fracture in low-carbon steel coated by diffusion borating. Theoretical and Applied Fracture Mechanics, 2004, 41, 9-14.	4.7	5
117	Simulation of mesoâ€“macro dynamic behavior using steel as an example. Computational Materials Science, 2003, 28, 505-511.	3.0	19
118	Simulation of elasto-plastic behaviour of an artificial 3D-structure under dynamic loading. Computational Materials Science, 2003, 28, 518-528.	3.0	33
119	Simulation of elasticâ€“plastic deformation and fracture of materials at micro-, meso- and macrolevels. Theoretical and Applied Fracture Mechanics, 2001, 37, 183-244.	4.7	42
120	Mesoscale plastic flow generation and development for polycrystals. Theoretical and Applied Fracture Mechanics, 2000, 33, 1-7.	4.7	14
121	Numerical modeling of multi-scale shear stability loss in polycrystals under shock wave loading. European Physical Journal Special Topics, 2000, 10, Pr9-515-Pr9-520.	0.2	4
122	Mesomechanics of interface in surface-hardened and coated materials. Russian Physics Journal, 1999, 42, 247-263.	0.4	6
123	Simulation of crystal plasticity under dynamic loading. Computational Materials Science, 1999, 16, 355-361.	3.0	20
124	Plastic deformation behavior of mild steel subjected to ultrasonic treatment. Theoretical and Applied Fracture Mechanics, 1997, 28, 141-146.	4.7	12
125	Numerical Simulation of Ultrasonic Surface Treatment. European Physical Journal Special Topics, 1997, 07, C3-55-C3-60.	0.2	1