Aleksey V Makarov

List of Publications by Year
in descending order

95	906	567144 15	580701 25
papers	citations	h-index	g-index

95	95	95	326
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Deformation-induced phase transitions in a high-carbon steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 346, 196-207.	2.6	96
2	Effect of hardening friction treatment with hard-alloy indenter on microstructure, mechanical properties, and deformation and fracture features of constructional steel under static and cyclic tension. Surface and Coatings Technology, 2010, 205, 841-852.	2.2	36
3	Finite element simulation of nanostructuring burnishing. Physical Mesomechanics, 2013, 16, 62-72.	1.0	36
4	Tribological aspects in nanostructuring burnishing of structural steels. Physical Mesomechanics, 2014, 17, 250-264.	1.0	35
5	The Behavior of Gas Powder Laser Clad NiCrBSi Coatings Under Contact Loading. Journal of Materials Engineering and Performance, 2016, 25, 1068-1075.	1.2	31
6	Role of the strengthening phases in abrasive wear resistance of laser-clad NiCrBSi coatings. Journal of Friction and Wear, 2017, 38, 272-278.	0.1	28
7	Improvement of wear resistance of quenched structural steel by nanostructuring frictional treatment. Journal of Friction and Wear, 2012, 33, 433-442.	0.1	26
8	Mechanical properties and fracture upon static tension of the high-carbon steel with different types of pearlite structure. Physics of Metals and Metallography, 2007, 104, 522-534.	0.3	23
9	Structure, mechanical characteristics, and deformation and fracture features of quenched structural steel under static and cyclic loading after combined strain-heat nanostructuring treatment. Physical Mesomechanics, 2015, 18, 43-57.	1.0	23
10	Effect of the Conditions of the Nanostructuring Frictional Treatment Process on the Structural and Phase States and the Strengthening of Metastable Austenitic Steel. Physics of Metals and Metallography, 2017, 118, 1225-1235.	0.3	23
11	Effect of nanostructuring frictional treatment on the properties of high-carbon pearlitic steel. Part I: microstructure and surface properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 734, 506-512.	2.6	23
12	Raising the heat and wear resistances of hardened carbon steels by friction strengthening treatment. Metal Science and Heat Treatment, 2007, 49, 150-156.	0.2	21
13	Effect of strengthening friction treatment on the chemical composition, structure, and tribological properties of a high-carbon steel. Physics of Metals and Metallography, 2010, 110, 507-521.	0.3	21
14	Formation of Wear-Resistant Chromium-Nickel Coating with Extra High Thermal Stability by Combined Laser-and-Heat Treatment. Metal Science and Heat Treatment, 2015, 57, 161-168.	0.2	19
15	Eddy-current testing of the hardness, wear resistance, and thickness of coatings prepared by gas-powder laser cladding. Russian Journal of Nondestructive Testing, 2009, 45, 797-805.	0.3	18
16	Effect of laser quenching and subsequent heat treatment on the structure and wear resistance of a cemented steel 20KhN3A. Physics of Metals and Metallography, 2007, 103, 507-518.	0.3	17
17	Ultralow friction behaviour of B4C-BN-MeO composite ceramic coatings deposited on steel. Surface and Coatings Technology, 2020, 390, 125664.	2.2	17
18	Influence of prolonged heating on thermal softening, chemical composition, and evolution of the nanocrystalline structure formed in quenched high-carbon steel upon friction treatment. Physics of Metals and Metallography, 2014, 115, 303-314.	0.3	16

#	Article	IF	Citations
19	Structural features of the behavior of a high-carbon pearlitic steel upon cyclic loading. Physics of Metals and Metallography, 2011, 111, 95-109.	0.3	15
20	Arc-Sprayed Fe-Based Coatings from Cored Wires for Wear and Corrosion Protection in Power Engineering. Coatings, 2018, 8, 71.	1.2	15
21	Metallophysical Foundations of Nanostructuring Frictional Treatment of Steels. Physics of Metals and Metallography, 2019, 120, 303-311.	0.3	15
22	Effect of friction-induced hardening on the features of magnetic and eddy-current behavior of an annealed structural steel under cyclic loading conditions. Russian Journal of Nondestructive Testing, 2008, 44, 496-508.	0.3	14
23	Features of electromagnetic methods for testing the wear resistance of medium-carbon structural steel subjected to laser or bulk hardening and tempering. Russian Journal of Nondestructive Testing, 2006, 42, 443-451.	0.3	13
24	Application of an Eddy-current method for the assessment of stored plastic deformation and residual mechanical properties after cyclic loading of an annealed medium-carbon steel. Russian Journal of Nondestructive Testing, 2007, 43, 228-233.	0.3	12
25	Deformation-Induced Dissolution and Precipitation of Nitrides in Austenite and Ferrite of a High-Nitrogen Stainless Steel. Physics of Metals and Metallography, 2018, 119, 180-190.	0.3	12
26	Improving the properties of a rapidly crystallized NiCrBSi laser clad coating by high-temperature processing. Journal of Crystal Growth, 2019, 525, 125200.	0.7	12
27	Crystallization of dissimilar Ti/Cu/steel laser welds. Journal of Crystal Growth, 2019, 526, 125212.	0.7	12
28	Structural and phase transformations and micromechanical properties of the high-nitrogen austenitic steel deformed by shear under pressure. Physics of Metals and Metallography, 2017, 118, 52-64.	0.3	11
29	Effect of oxygen in surface layers formed during sliding wear of Niâ€“ZrO2 coatings. Surface and Coatings Technology, 2022, 434, 128174.	2.2	11
30	Application of the eddy-current method for estimating the wear resistance of hydrogen-alloyed Î²-titanium alloy BT35. Russian Journal of Nondestructive Testing, 2007, 43, 21-26.	0.3	10
31	Effect of the technological conditions of frictional treatment on the structure, phase composition and hardening of metastable austenitic steel. AIP Conference Proceedings, 2016, , .	0.3	10
32	Estimating the Contact Endurance of the AISI 321 Stainless Steel Under Contact Gigacycle Fatigue Tests. Journal of Materials Engineering and Performance, 2018, 27, 601-611.	1.2	10
33	Effect of Heating on the Structure, Phase Composition, and Micromechanical Properties of the Metastable Austenitic Steel Strengthened by Nanostructuring Frictional Treatment. Physics of Metals and Metallography, 2018, 119, 1196-1203.	0.3	10
34	Structure of the Surface Layers of Metastable Austenitic Stainless Steel Nitrided in Electron Beam Plasma. Physics of Metals and Metallography, 2018, 119, 755-763.	0.3	10
35	XPS characterization of surface layers of stainless steel nitrided in electron beam plasma at low temperature. Surface and Coatings Technology, 2020, 386, 125492.	2.2	10
36	Tribological performance of boron-based superhard coatings sliding against different materials. Wear, 2021, 477, 203835.	1.5	10

#	Article	IF	Citations
37	Behavior of magnetic characteristics in promising nitrogen-containing steels upon elastoplastic deformation. Physics of Metals and Metallography, 2015, 116, 838-849.	0.3	9
38	Eddy-current testing of fatigue degradation under contact loading of NiCrBSi coatings obtained through gasâ€“powder laser cladding. Russian Journal of Nondestructive Testing, 2015, 51, 692-704.	0.3	9
39	Effect of nanostructuring frictional treatment on the properties of high-carbon pearlitic steel. Part II: mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 734, 513-518.	2.6	9
40	Eddy-current testing of fatigue degradation upon contact fatigue loading of gas powder laser clad NiCrBSiâ€“Cr3C2 composite coating. AIP Conference Proceedings, 2017, , .	0.3	8
41	Structure and Surface Properties of Metastable Austenitic Steel Subjected to Liquid Carburizing at a Reduced Temperature. Physics of Metals and Metallography, 2020, 121, 65-71.	0.3	8
42	Wear-resistant nickel-based laser clad coatings for high-temperature applications. Letters on Materials, 2019, 9, 470-474.	0.2	8
43	Eddy-current control of the phase composition and hardness of metastable austenitic steel after different regimes of nanostructuring frictional treatment. Russian Journal of Nondestructive Testing, 2016, 52, 627-637.	0.3	7
44	Effect of preliminary nanostructuring frictional treatment on the efficiency of nitriding of metastable austenitic steel in electron beam plasma. AIP Conference Proceedings, 2017, , .	0.3	7
45	Eddy-Current Evaluation of Wear Resistance of Case-Hardened Chromiumâ€“Nickel 20KhN3A Steel. Russian Journal of Nondestructive Testing, 2001, 37, 136-144.	0.3	6
46	Eddy-current and coercive-force testing of abrasion-resistant ball bearing steel IIIX15 subjected to laser and bulk thermal processing. Russian Journal of Nondestructive Testing, 2006, 42, 639-647.	0.3	6
47	The peculiarities of magnetic and eddy-current testing of quenched structural steel hardened by nanostructuring frictional treatment. Russian Journal of Nondestructive Testing, 2012, 48, 615-622.	0.3	6
48	Model experiment on reactive phase formation and solidification of B4C-BN composites via nanosecond pulse laser processing. European Physical Journal: Special Topics, 2020, 229, 217-224.	1.2	6
49	Application of magnetic and electromagnetic-acoustic methods for assessing plastic deformations under cyclic loading of annealed intermediate-carbon steel. Russian Journal of Nondestructive Testing, 2006, 42, 309-314.	0.3	5
50	Estimation of the quality of strengthening frictional treatment and subsequent tempering of eutectoid steel by the eddy-current method. Russian Journal of Nondestructive Testing, 2009, 45, 133-142.	0.3	5
51	The influence of a combined strain-heat treatment on the features of electromagnetic testing of fatigue degradation of quenched constructional steel. Russian Journal of Nondestructive Testing, 2013, 49, 690-704.	0.3	5
52	Wear resistance of a laser-clad NiCrBSi coating hardened by frictional finishing. AIP Conference Proceedings, 2016, , .	0.3	5
53	Effect of a continuous and gas-cyclic plasma nitriding on the quality of nanostructured austenitic stainless steel. Metal Working and Material Science, 2017, , 55-66.	0.0	5
54	Magnetic and eddy-current testing of hardened constructional steel subjected to combined strain-thermal treatment. Russian Journal of Nondestructive Testing, 2012, 48, 673-685.	0.3	4

#	Article	IF	Citations
55	Structure and mechanical properties of a high-carbon steel subjected to severe deformation. Physics of Metals and Metallography, 2017, 118, 1006-1014.	0.3	4
56	Eddy-current testing of fatigue degradation in additionally heat-treated gas powder laser clad NiCrBSi coating under contact fatigue loading. AIP Conference Proceedings, 2018, , .	0.3	4
57	Microstructure of a Laser-Welded Joint between a Chromiumâ€“Nickel Steel and a Titanium Alloy with a Copper Insert. Physics of Metals and Metallography, 2019, 120, 775-781.	0.3	4
58	Improving the scratch test properties of plasma-nitrided stainless austenitic steel by preliminary nanostructuring frictional treatment. AIP Conference Proceedings, 2018, , .	0.3	4
59	Magnetic inspection of fatigue degradation of a high-carbon pearlitic steel. Russian Journal of Nondestructive Testing, 2011, 47, 803-809.	0.3	3
60	Thermal stability of a laser-clad NiCrBSi coating hardened by frictional finishing. AIP Conference Proceedings, 2017, , .	0.3	3
61	The Effect of Thickness on the Properties of Laser-Deposited NiBSi-WC Coating on a Cu-Cr-Zr Substrate. Photonics, 2019, 6, 127.	0.9	3
62	Improving the tribological properties of austenitic 12Kh18N10T steel by nanostructuring frictional treatment. Metal Working and Material Science, 2015, , 80-92.	0.0	3
63	Use of a magnetic method for estimating the deformation stability of retained austenite in sheet high-strength economically alloyed steels used in the automotive industry. Russian Journal of Nondestructive Testing, 2006, 42, 203-207.	0.3	2
64	Coercive-force and eddy-current testing of the abrasive wear resistance of quenched and tempered hypereutectoid carbon steels: I. Steels subjected to standard low-temperature quenching and tempering. Russian Journal of Nondestructive Testing, 2007, 43, 281-287.	0.3	2
65	Coercive-force and eddy-current testing of the abrasive wear resistance of quenched and tempered hypereutectoid carbon steels: II. Steels subjected to different quenching regimes, subzero treatment, and tempering after high-temperature quenching. Russian Journal of Nondestructive Testing, 2007, 43, 288-301.	0.3	2
66	Eddy-current testing of the wear resistance of laser-hardened carburized chromonickel steel and the quality of laser hardening of drill bits. Russian Journal of Nondestructive Testing, 2009, 45, 698-710.	0.3	2
67	The influence of strain-heat nanostructuring treatment on the deformation and fracture features of quenched steel 50 under static and cyclic loading. AIP Conference Proceedings, 2016, , .	0.3	2
68	NiCrBSi coating obtained by laser cladding and subsequent deformation processing. Journal of Physics: Conference Series, 2018, 946, 012004.	0.3	2
69	Nanostructuring and surface hardening of structural steels by ultrasonic impact-frictional treatment. AIP Conference Proceedings, 2018, , .	0.3	2
70	Increasing the resistance of a NiCrBSi coating to heat wear by means of combined laser heat treatment. AIP Conference Proceedings, 2018, , .	0.3	2
71	Structure Modification of High-Nitrogen and High-Carbon Austenitic Steels by Megadeformation. Physics of Metals and Metallography, 2018, 119, 1087-1092.	0.3	2
72	The effect of load during frictional treatment with a DBN indenter on the surface finish of the NiCrBSiâ€“Cr3C2 laser clad coating. AIP Conference Proceedings, 2019, , .	0.3	2

#	Article	IF	Citations
73	The effect of ultrasonic impact-frictional treatment on the surface roughness and hardening of 09Mn2Si constructional steel. Letters on Materials, 2019, 9, 310-315.	0.2	2
74	Effect of Low-Temperature Carburization in Electron Beam Plasma on the Hardening and Surface Roughness of the Metastable Austenitic Steel. Metal Working and Material Science, 2019, 21, 97-109.	0.0	2
75	Features of frictional treatment of the composite NiCrBSi-Cr3C2 laser clad coating. Letters on Materials, 2020, 10, 506-511.	0.2	2
76	Wear Resistance of Carbon Steel with a Structure of Thin-Plate Pearlite. Metal Science and Heat Treatment, 2001, 43, 30-33.	0.2	1
77	Title is missing!. Russian Journal of Nondestructive Testing, 2002, 38, 767-787.	0.3	1
78	Magnetic and electromagnetic inspection of mechanical properties of high-carbon steel with an initial fine-pearlite structure subjected to high-temperature annealing. Russian Journal of Nondestructive Testing, 2008, 44, 117-131.	0.3	1
79	Evolution of the structure of the U8A steel under severe plastic deformation by hydrostatic extrusion. AIP Conference Proceedings, 2016, , .	0.3	1
80	The effect of temperature on the mechanical characteristics of the nitrogen-containing 04Kh20N6G11M2AFB steel under static tension. AIP Conference Proceedings, 2016, , .	0.3	1
81	Effect of frictional treatment on the microstructure and surface properties of low-carbon steel. AIP Conference Proceedings, 2018, , .	0.3	1
82	The use of intermediate inserts for CO2 laser welding of steel AISI 321 and a Grade 2 titanium alloy. AIP Conference Proceedings, 2018, , .	0.3	1
83	Increasing the micromechanical and tribological characteristics of an austenitic steel by surface deformation processing. AIP Conference Proceedings, 2018, , .	0.3	1
84	Studying the diffusion interaction between a copper plate and steel AISI 321 under laser treatment. AIP Conference Proceedings, 2018, , .	0.3	1
85	Features of eddy-current testing of the fatigue degradation of laser clad cobalt-nickel-chromium coating under contact loading. Letters on Materials, 2020, 10, 315-321.	0.2	1
86	Effect of Laser Alloying with the Powder Mixtures of Cuâ€“Znâ€“Ti and Siâ€“Cu on the Structure and Properties of Cast Aluminum Alloy. Metal Working and Material Science, 2019, 21, 70-84.	0.0	1
87	The Effect of Ultrasonic Impact-Friction Treatment on a Surface Roughness of 09Mn2Si Structural Steel. Metal Working and Material Science, 2020, 22, 16-29.	0.0	1
88	Normal force influence on smoothing and hardening of steel 03Cr16Ni15Mo3Ti1 surface layer during dry diamond burnishing with spherical indenter. Metal Working and Material Science, 2022, 24, 6-22.	0.0	1
89	Specific features of magnetic testing of the mechanical properties of high-carbon steel with the structure of lamellar pearlite. Russian Journal of Nondestructive Testing, 2007, 43, 436-445.	0.3	0
90	Investigation of the structure and properties of the material of various zones of the welded joint of the austenitic nitrogen-containing steel upon elastoplastic deformation. Physics of Metals and Metallography, 2016, 117, 1152-1162.	0.3	0

#	Article	IF	Citations
91	Properties of arc-sprayed coatings from Fe-based cored wires for high-temperature applications. AIP Conference Proceedings, 2017, , .	0.3	0
92	Analytical and experimental assessment of ultimate tensile strength of a hardened layer on a material surface. AIP Conference Proceedings, 2018, , .	0.3	0
93	Mathematical simulation of plasma nitriding of stainless steel in view of the effect of residual stresses. AIP Conference Proceedings, 2016, , .	0.3	0
94	Influence of Thermal Effects on the Micromechanical Properties of the Nickel-Chromium Coating obtained by Gas Powder Laser Cladding. Metal Working and Material Science, 2020, 22, 104-117.	0.0	0
95	Comparative study of cavitation erosion resistance of austenitic steels with different levels of metastability. Metal Working and Material Science, 2022, 24, 61-72.	0.0	0