Nikolai A Usov

List of Publications by Year
in descending order

132	2,868	218677	197818
papers	citations	26 h-index	49 g-index

134	134	134	1802
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Residual quenching stresses in glass-coated amorphous ferromagnetic microwires. Journal Physics D: Applied Physics, 2000, 33, 1161-1168.	2.8	220
2	Theory of giant magneto-impedance effect in amorphous wires with different types of magnetic anisotropy. Journal of Magnetism and Magnetic Materials, 1998, 185, 159-173.	2.3	216
3	Magnetization curling in a fine cylindrical particle. Journal of Magnetism and Magnetic Materials, 1993, 118, L290-L294.	2.3	184
4	Dynamics of magnetic nanoparticle in a viscous liquid: Application to magnetic nanoparticle hyperthermia. Journal of Applied Physics, 2012, 112, .	2.5	147
5	Low frequency hysteresis loops of superparamagnetic nanoparticles with uniaxial anisotropy. Journal of Applied Physics, 2010, 107, .	2.5	114
6	Highly sensitive magnetometer based on the offâ€diagonal GMI effect in Coâ€rich glassâ€coated microwire. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 980-985.	1.8	94
7	Hysteresis loops of an assembly of superparamagnetic nanoparticles with uniaxial anisotropy. Journal of Applied Physics, 2009, 106, .	2.5	77
8	Length effect in a Co-rich amorphous wire. Physical Review B, 2002, 65, .	3.2	66
9	Interaction Effects in Assembly of Magnetic Nanoparticles. Nanoscale Research Letters, 2017, 12, 489.	5.7	62
10	Ground state magnetization distribution and characteristic width of head to head domain wall in Feâ€rich amorphous microwire. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 613-617.	1.8	61
11	Magnetic Vortices as Efficient Nano Heaters in Magnetic Nanoparticle Hyperthermia. Scientific Reports, 2018, 8, 1224.	3.3	60
12	Theoretical hysteresis loops for single-domain particles with cubic anisotropy. Journal of Magnetism and Magnetic Materials, 1997, 174, 247-260.	2.3	50
13	Local nucleation fields of Fe-rich microwires and their dependence on applied stresses. Physica B: Condensed Matter, 2008, 403, 379-381.	2.7	49
14	Theory of giant magneto-impedance effect in composite amorphous wire. Journal of Magnetism and Magnetic Materials, 1997, 171, 64-68.	2.3	48
15	Domain walls and magnetization reversal process in soft magnetic nanowires and nanotubes. Journal of Magnetism and Magnetic Materials, 2007, 316, 255-261.	2.3	47
16	Flower state micromagnetic structure in fine cylindrical particles. Journal of Magnetism and Magnetic Materials, 1994, 130, 275-287.	2.3	46
17	Possible origin for the bamboo domain structure in Co-rich amorphous wire. Journal of Magnetism and Magnetic Materials, 1997, 174, 127-132.	2.3	42
18	Nonuniform magnetization structures in thin soft type ferromagnetic elements of elliptical shape. Journal of Applied Physics, 2001, 89, 7591-7593.	2.5	41

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19	Magnetodynamics of vortex in thin cylindrical platelet. Journal of Magnetism and Magnetic Materials, 2002, 242-245, 1005-1008.	2.3	41
20	Equilibrium magnetization states in magnetic nanotubes and their evolution in external magnetic field. Journal of Magnetism and Magnetic Materials, 2007, 316, e317-e319.	2.3	38
21	Magnetic nanoparticles with combined anisotropy. Journal of Applied Physics, 2012, 112, .	2.5	37
22	High-frequency giant magneto-impedance in multilayered magnetic films. Physica A: Statistical Mechanics and Its Applications, 1997, 241, 414-419.	2.6	36
23	Hysteresis losses in a dense superparamagnetic nanoparticle assembly. AIP Advances, 2012, 2, .	1.3	34
24	Giant magneto-impedance effect in amorphous ferromagnetic wire with a weak helical anisotropy: Theory and experiment. Journal of Applied Physics, 2013, 113, .	2.5	29
25	Numerical simulation of field-cooled and zero field-cooled processes for assembly of superparamagnetic nanoparticles with uniaxial anisotropy. Journal of Applied Physics, 2011, 109, .	2.5	28
26	Magnetic properties of polycrystalline cobalt nanoparticles. AIP Advances, 2017, 7, .	1.3	28
27	Heating ability of magnetic nanoparticles with cubic and combined anisotropy. Beilstein Journal of Nanotechnology, 2019, 10, 305-314.	2.8	28
28	Residual quenching stresses in amorphous ferromagnetic wires produced by an in-rotating-water spinning process. Journal Physics D: Applied Physics, 1999, 32, 1788-1794.	2.8	26
29	Magnetic structure of a nanoparticle in mean-field approximation. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 727-730.	2.3	26
30	Application of Magnetosomes in Magnetic Hyperthermia. Nanomaterials, 2020, 10, 1320.	4.1	25
31	Modeling of equilibrium magnetization structures in fine ferromagnetic particles with uniaxial anisotropy. Journal of Magnetism and Magnetic Materials, 1992, 110, L1-L5.	2.3	23
32	The features of GMI effect in amorphous wires at microwaves. Physica A: Statistical Mechanics and Its Applications, 1997, 241, 420-424.	2.6	23
33	Buckling instability in thin soft elliptical particles. Physical Review B, 2002, 66, .	3.2	23
34	Stress dependence of the hysteresis loops of Co-rich amorphous wire. Journal of Physics Condensed Matter, 1998, 10, 2453-2463.	1.8	22
35	Stress distribution and domain structure in amorphous ferromagnetic wires. Journal of Magnetism and Magnetic Materials, 2002, 249, 3-8.	2.3	22
36	Superparamagnetic relaxation time of a single-domain particle with a nonaxially symmetric double-well potential. Journal of Applied Physics, 2009, 105, .	2.5	22

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37	Magnetic nanoparticle motion in external magnetic field. Journal of Magnetism and Magnetic Materials, 2015, 385, 339-346.	2.3	21
38	Evolution of vortex states under external magnetic field. Journal of Magnetism and Magnetic Materials, 2002, 239, 1-4.	2.3	20
39	Magnetic properties of short amorphous microwires. Journal of Magnetism and Magnetic Materials, 1999, 196-197, 385-387.	2.3	18
40	GMI spectra of amorphous wires with different types of magnetic anisotropy in the core and the shell regions. Journal of Magnetism and Magnetic Materials, 1999, 203, 108-110.	2.3	18
41	The influence of a demagnetizing field on hysteresis losses in a dense assembly of superparamagnetic nanoparticles. Journal of Magnetism and Magnetic Materials, 2012, 324, 3690-3694.	2.3	18
42	Flower state micromagnetic structures in a fine parallelepiped and a flat cylinder. Journal of Magnetism and Magnetic Materials, 1994, 135, 111-128.	2.3	17
43	Magnetic properties and magneto-impedance of cold-drawn permalloy-copper composite wires. IEEE Transactions on Magnetics, 1999, 35, 3640-3642.	2.1	17
44	Magnetization curling in soft type ferromagnetic particles with large aspect ratios. Journal of Magnetism and Magnetic Materials, 1999, 203, 277-279.	2.3	17
45	Domain-wall dynamics in glass-coated magnetic microwires. Journal of Magnetism and Magnetic Materials, 2007, 316, 337-339.	2.3	17
46	Magnetostatic interactions in various magnetosome clusters. Journal of Applied Physics, 2013, 113, 023907.	2.5	17
47	Properties of assembly of superparamagnetic nanoparticles in viscous liquid. Scientific Reports, 2021, 11, 6999.	3.3	17
48	Structure of 90Â° domain wall in Co-based amorphous wire. Physica A: Statistical Mechanics and Its Applications, 1997, 241, 425-428.	2.6	16
49	Internal stress influence on FMR in amorphous glass-coated microwires. Journal of Magnetism and Magnetic Materials, 2007, 316, e890-e892.	2.3	16
50	Multi-domain structures in spheroidal Co nanoparticles. Scientific Reports, 2020, 10, 10173.	3.3	16
51	Towards optimal thermal distribution in magnetic hyperthermia. Scientific Reports, 2022, 12, 3023.	3.3	15
52	Measurements of stray magnetic fields of amorphous microwires using scanning microscope based on superconducting quantum interference device. Journal of Magnetism and Magnetic Materials, 2007, 316, 188-191.	2.3	14
53	AC Magnetic Technique to Measure Specific Absorption Rate of Magnetic Nanoparticles. Journal of Superconductivity and Novel Magnetism, 2013, 26, 857-860.	1.8	14
54	Mechanical properties and internal quenching stresses in Co-rich amorphous ferromagnetic microwires. Journal of Alloys and Compounds, 2017, 707, 199-204.	5.5	14

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55	Properties of Dense Assemblies of Magnetic Nanoparticles Promising for Application in Biomedicine. Journal of Superconductivity and Novel Magnetism, 2013, 26, 1079-1083.	1.8	13
56	Universal behavior of dense clusters of magnetic nanoparticles. AIP Advances, 2016, 6, .	1.3	13
57	Equilibrium properties of assembly of interacting superparamagnetic nanoparticles. Scientific Reports, 2020, 10, 13677.	3.3	13
58	Magnetostatic properties of Coâ€rich amorphous microwires: theory and experiment. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 1800-1804.	1.8	12
59	Nucleation field of a soft magnetic nanotube with uniaxial anisotropy. Journal of Applied Physics, 2008, 104, .	2.5	12
60	Measurement of weak magnetic field of corrosion current of isolated corrosion center. AIP Advances, 2015, 5, .	1.3	12
61	Investigation of the properties of Co-rich amorphous ferromagnetic microwires by means of small angle magnetization rotation method. Journal of Magnetism and Magnetic Materials, 2015, 387, 53-57.	2.3	12
62	Effect of Interaction on Giant Magnetoimpedance Effect in a System of Few Thin Wires. Sensor Letters, 2007, 5, 10-12.	0.4	12
63	Numerical simulation of magnetization process in antiferromagneticâ€“ferromagnetic bilayer with compensated interface. Journal of Magnetism and Magnetic Materials, 2006, 300, 164-169.	2.3	11
64	Influence of surface anisotropy on magnetization distribution in a single-domain particle. Journal of Applied Physics, 2008, 104, 043903.	2.5	11
65	Evaluation of use of magnetically bistable microwires for magnetic labels. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 526-529.	1.8	11
66	Magnetic properties of Fe-based nanoparticle assembly. Journal of Magnetism and Magnetic Materials, 2003, 258-259, 54-56.	2.3	10
67	Effect of applied stress on remagnetization and magnetization profile of Coâ€“Siâ€“B amorphous wire. Journal of Magnetism and Magnetic Materials, 2003, 258-259, 189-191.	2.3	10
68	Iron Oxide Nanoparticles for Magnetic Hyperthermia. Spin, 2019, 09, .	1.3	10
69	Magnetization patterns of permalloy square frames. Journal of Applied Physics, 2003, 93, 7426-7428.	2.5	9
70	Remanent Magnetization States in Soft Magnetic Nanowires. IEEE Transactions on Magnetics, 2006, 42, 3063-3065.	2.1	9
71	SQUID-measurements of relaxation time of Fe3O4 superparamagnetic nanoparticle ensembles. Journal of Magnetism and Magnetic Materials, 2006, 300, e294-e297.	2.3	9
72	Criterion for stability of a nonuniform micromagnetic state. European Physical Journal B, 1992, 87, 183-189.	1.5	8

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73	Micromagnetics of nanostructures. Journal of Magnetism and Magnetic Materials, 2003, 258-259, 6-10.	2.3	8
74	Effective magnetic anisotropy of annealed FePt nanoparticles. Applied Physics Letters, 2012, 101, 172402.	3.3	8
75	Influence of surface anisotropy on magnetization distribution in thin magnetic films. Journal of Applied Physics, 2017, 121, 133905.	2.5	8
76	Specific absorption rate of assembly of magnetic nanoparticles with uniaxial anisotropy. Journal of Physics: Conference Series, 2020, 1439, 012044.	0.4	8
77	On the radiation from inhomogeneous Josephson junction. Solid State Communications, 1979, 30, 783-784.	1.9	7
78	On the concept of a single-domain nonellipsoidal particle. Journal of Magnetism and Magnetic Materials, 1993, 125, L7-L13.	2.3	7
79	Effective single-domain diameter of a fine non-ellipsoidal particle. Journal Physics D: Applied Physics, 2002, 35, 2081-2085.	2.8	7
80	Magnetoelastic properties of Coâ€based amorphous ferromagnetic microwires. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 368-371.	1.8	7
81	Investigation of quasi-stationary magnetic fields of corrosion currents of zinc-copper cells using giant magneto-impedance magnetometer. Corrosion Science, 2016, 109, 257-262.	6.6	7
82	Glass shell etching to control residual quenching stress in Co-rich amorphous ferromagnetic microwires. Journal of Alloys and Compounds, 2018, 731, 18-23.	5.5	7
83	Co-rich Amorphous Microwires with Improved Giant Magnetoimpedance Characteristics Due to Glass Coating Etching. Jom, 2019, 71, 3113-3118.	1.9	7
84	Dynamics of superparamagnetic nanoparticles in viscous liquids in rotating magnetic fields. Beilstein Journal of Nanotechnology, 2019, 10, 2294-2303.	2.8	7
85	Recording potential of a single-domain particle. Applied Physics Letters, 2003, 83, 3749-3751.	3.3	6
86	Magnetization reversal process at low applied magnetic field in a Co-rich amorphous wire. Physica B: Condensed Matter, 2004, 343, 369-373.	2.7	6
87	Magnetization patterns of permalloy networks. IEEE Transactions on Magnetics, 2005, 41, 953-955.	2.1	6
88	Single-domain particle with random anisotropy. Journal of Non-Crystalline Solids, 2007, 353, 796-798.	3.1	6
89	Differentiation of magnetic composites in terms of their nanostructural organization. Doklady Chemistry, 2009, 426, 96-100.	0.9	6
90	Non-uniform micromagnetic structures in asymmetrical ellipsoidal particles. Journal of Magnetism and Magnetic Materials, 2002, 242-245, 1009-1011.	2.3	5

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91	Nonuniform micromagnetic states in thin permalloy disk. IEEE Transactions on Magnetics, 2003, 39, 2675-2677.	2.1	5
92	Magnetization processes in single domain elliptical permalloy thin films. Journal of Magnetism and Magnetic Materials, 2004, 272-276, E563-E564.	2.3	5
93	Circular magnetization process in amorphous microwire with negative magnetostriction. Journal Physics D: Applied Physics, 2016, 49, 165001.	2.8	5
94	Properties of polycrystalline nanoparticles with uniaxial and cubic types of magnetic anisotropy of individual grains. Journal of Magnetism and Magnetic Materials, 2018, 460, 278-284.	2.3	5
95	Equilibrium magnetization patterns in network nanostructures. IEEE Transactions on Magnetics, 2001, 37, 2132-2134.	2.1	4
96	Hysteretic properties of array of soft cylindrical particles. Journal of Applied Physics, 2003, 93, 4810-4819.	2.5	4
97	Thickness dependence of magnetization reversal in a soft cylindrical particle. Journal of Applied Physics, 2003, 94, 6649-6654.	2.5	4
98	The metastable states in submicron elliptical thin films. Journal of Magnetism and Magnetic Materials, 2004, 272-276, E1331-E1332.	2.3	4
99	Nonuniform micromagnetic states in thin circular dots. Journal of Magnetism and Magnetic Materials, 2004, 282, 11-14.	2.3	4
100	Nonuniform magnetization reversals in elliptical permalloy dots. Journal of Magnetism and Magnetic Materials, 2004, 282, 135-138.	2.3	4
101	Influence of applied tensile stress on the magnetic behaviour of Coâ€rich amorphous microwires. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 625-629.	1.8	4
102	The peculiarities of magnetization reversal process in magnetic nanotube with helical anisotropy. Journal of Applied Physics, 2014, 116, 133902.	2.5	4
103	Magnetization reversal process and peculiarities of giant magnetoâ€impedance effect in amorphous ferromagnetic microwire with helical anisotropy. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 1055-1061.	1.8	4
104	A high-sensitivity scanning magnetometer based on the giant magneto-impedance effect for measuring local magnetic fields of corrosion currents. Technical Physics Letters, 2016, 42, 520-523.	0.7	4
105	The heating of magnetic nanoparticles in a rotating magnetic field. Nanoscale and Microscale Thermophysical Engineering, 2020, 24, 20-28.	2.6	4
106	Deconvolution of ferromagnetic resonance spectrum of magnetic nanoparticle assembly using genetic algorithm. Scientific Reports, 2022, 12, 3126.	3.3	4
107	Theory of hopping conduction in two-dimensional impurity band under strong magnetic field. Solid State Communications, 1982, 43, 475-477.	1.9	3
108	Study of amorphous ferromagnetic microwires using a scanning SQUID microscope. Physica C: Superconductivity and Its Applications, 2002, 372-376, 271-273.	1.2	3

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109	Magnetization Reversals in Elliptical Permalloy Particles. IEEE Transactions on Magnetics, 2004, 40, 2107-2109.	2.1	3
110	Domain structure of magnetic nanotube with transverse anisotropy. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 535-539.	1.8	3
111	Magnetic porous composite material: Synthesis and properties. Technical Physics Letters, 2015, 41, 974-976.	0.7	3
112	Chemically Synthesized FeCo Powder for Advanced Applications. Journal of Superconductivity and Novel Magnetism, 2018, 31, 3371-3378.	1.8	3
113	New topological invariant for the problem of quantum hall effect in a two-dimensional periodic potential. Solid State Communications, 1988, 68, 943-946.	1.9	2
114	Remagnetization process in magnetically soft amorphous wire under the influence of magnetic field of alternating current. Journal of Magnetism and Magnetic Materials, 2000, 215-216, 545-547.	2.3	2
115	Surface magnetic structures in amorphous ferromagnetic microwires. Journal of Magnetism and Magnetic Materials, 2017, 429, 334-338.	2.3	2
116	Microstructure and Magnetic Properties of Bulk FeCo Alloys Fabricated from Mechanically Alloying and Chemically Synthesized Powders. Journal of Superconductivity and Novel Magnetism, 2017, 30, 1281-1286.	1.8	2
117	Magnetization reversal of thin ferromagnetic elements with surface anisotropy. Journal of Magnetism and Magnetic Materials, 2018, 453, 142-148.	2.3	2
118	Ferromagnetic resonance in thin ferromagnetic film with surface anisotropy. Journal of Magnetism and Magnetic Materials, 2019, 474, 118-121.	2.3	2
119	Magnetostatic properties of assembly of magnetic vortices. Physica B: Condensed Matter, 2020, 582, 411964.	2.7	2
120	Quasistatic hysteresis loops of magnetic nanoparticles in a rotating magnetic field. Journal of Magnetism and Magnetic Materials, 2020, 499, 166260.	2.3	2
121	Influence of the residual quenching stresses on the magnetization distribution in amorphous ferromagnetic wires. European Physical Journal Special Topics, 1998, 08, Pr2-207-Pr2-210.	0.2	2
122	Heating ability of elongated magnetic nanoparticles. Beilstein Journal of Nanotechnology, 2021, 12, 1404-1412.	2.8	2
123	Microdispersive superconductors in ceramic and polymeric matrix. Bulletin of Materials Science, 1991, 14, 257-261.	1.7	1
124	Angular dependence of nucleation field of a prolate spheroid. Journal of Magnetism and Magnetic Materials, 1995, 147, L235-L239.	2.3	1
125	Soliton collisions in soft magnetic nanotube with uniaxial anisotropy. AIP Advances, 2016, 6, 055009.	1.3	1
126	Influence of surface anisotropy on domain wall dynamics in magnetic nanotube. Applied Surface Science, 2017, 421, 155-158.	6.1	1

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127	In situ giant- magnetoimpedance magnetometer measurement of weak magnetic fields produced by pitting corrosion on AISI 304 stainless steel surface. Surfaces and Interfaces, 2021, 23, 100993.	3.0	1
128	Effect of long-wavelength phonon-photon coupling on the stability of the Wigner lattice. Physics Letters, Section A: General, Atomic and Solid State Physics, 1981, 86, 309-310.	2.1	0
129	Remanent magnetization states of soft magnetic nanowires. , 2006, , .		0
130	Modeling of magnetization processes in exchange coupled fluoride bilayers. Journal of Magnetism and Magnetic Materials, 2007, 316, 143-146.	2.3	0
131	Giant Magneto-Impedance Effect in Amorphous Ferromagnetic Microwire with a Weak Helical Anisotropy. Springer Series in Materials Science, 2017, , 91-109.	0.6	0
132	Cavitation Assisted Production of Assemblies of Magnetic Nanoparticles of High Chemical Purity. Jom, 2020, 72, 509-516.	1.9	0