Alexander P Pyatakov

List of Publications by Year
in descending order

104	5,057	159358 30	88477 70
papers	citations	h-index	g-index

105	105	105	4121
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dramatically enhanced polarization in (001), (101), and (111) BiFeO3 thin films due to epitiaxial-induced transitions. Applied Physics Letters, 2004, 84, 5261-5263.	1.5	558
2	Magnetoelectric and multiferroic media. Physics-Uspekhi, 2012, 55, 557-581.	0.8	462
3	Magnetic-field-induced phase transition inBiFeO3observed by high-field electron spin resonance:â€ƒCycloidal to homogeneous spin order. Physical Review B, 2004, 69, .	1.1	378
4	Destruction of spin cycloid in (111)c-oriented BiFeO3 thin films by epitiaxial constraint: Enhanced polarization and release of latent magnetization. Applied Physics Letters, 2005, 86, 032511.	1.5	358
5	Crafting the magnonic and spintronic response of BiFeO3 films by epitaxial strain. Nature Materials, 2013, 12, 641-646.	13.3	311
6	Space-time parity violation and magnetoelectric interactions in antiferromagnets. JETP Letters, 2004, 79, 571-581.	0.4	236
7	Phase transitions in multiferroic BiFeO₃crystals, thin-layers, and ceramics: enduring potential for a single phase, room-temperature magnetoelectric â€˜holy grailâ€™. Phase Transitions, 2006, 79, 1019-1042.	0.6	194
8	Straintronics: a new trend in micro- and nanoelectronics and materials science. Physics-Uspekhi, 2018, 61, 1175-1212.	0.8	165
9	Multiferroic properties of modifiedBiFeO3â^'PbTiO3-based ceramics: Random-field induced release of latent magnetization and polarization. Physical Review B, 2005, 72, .	1.1	164
10	Magnetoelectric effects in gadolinium iron borate GdFe3(BO3)4. JETP Letters, 2005, 81, 272-276.	0.4	149
11	Magnetoelectric and magnetoelastic properties of rare-earth ferroborates. Low Temperature Physics, 2010, 36, 511-521.	0.2	144
12	Magnetoelectric and magnetoelastic interactions in NdFe3(BO3)4 multiferroics. JETP Letters, 2006, 83, 509-514.	0.4	131
13	Two-phonon coupling to the antiferromagnetic phase transition in multiferroic BiFeO3. Applied Physics Letters, 2008, 92, .	1.5	116
14	Magnetoelectric Coupling in Multiferroic Bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>VS</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub></mr Physical Review Letters, 2020, 125, 247601.	2.9	110
15	Magnetoelectric control of domain walls in a ferrite garnet film. JETP Letters, 2007, 86, 115-118.	0.4	96
16	Room temperature magnetoelectric control of micromagnetic structure in iron garnet films. Applied Physics Letters, 2008, 93, .	1.5	92
17	Phase transitions and the giant magnetoelectric effect in multiferroics. Physics-Uspekhi, 2004, 47, 416-421.	0.8	90
18	Flexomagnetoelectric interaction in multiferroics. European Physical Journal B, 2009, 71, 419-427.	0.6	73

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19	Magnetoelectric interaction and magnetic field control of electric polarization in multiferroics. Journal of Magnetism and Magnetic Materials, 2006, 300, 224-228.	1.0	69
20	Magnetic and electronic properties of Cr2Ge2Te6 monolayer by strain and electric-field engineering. Applied Physics Letters, 2019, 114, .	1.5	69
21	Inhomogeneous magnetoelectric interaction in multiferroics and related new physical effects. Physics-Uspekhi, 2009, 52, 845-851.	0.8	67
22	Multiferroics: Promising materials for microelectronics, spintronics, and sensor technique. Bulletin of the Russian Academy of Sciences: Physics, 2007, 71, 1561-1562.	0.1	60
23	Magnetically switched electric polarity of domain walls in iron garnet films. Europhysics Letters, 2011, 93, 17001.	0.7	57
24	On the problem of coexistence of the weak ferromagnetism and the spin flexoelectricity in multiferroic bismuth ferrite. Europhysics Letters, 2012, 99, 57003.	0.7	54
25	Novel applications of magnetic materials and technologies for medicine. Journal of Magnetism and Magnetic Materials, 2018, 459, 182-186.	1.0	48
26	Specificity of magnetoelectric effects in a new GdMnO3 magnetic ferroelectric. JETP Letters, 2005, 81, 19-23.	0.4	44
27	Micromagnetism and topological defects in magnetoelectric media. Physics-Uspekhi, 2015, 58, 981-992.	0.8	42
28	Peculiarities in the magnetic, magnetoelectric, and magnetoelastic properties of SmFe3(BO3)4 multiferroic. Journal of Experimental and Theoretical Physics, 2010, 111, 199-203.	0.2	38
29	Magnetic anisotropy and magnetoelectric properties of Tb1 â^' x Er x Fe3(BO3)4 ferroborates. Journal of Experimental and Theoretical Physics, 2009, 109, 68-73.	0.2	34
30	Threshold heating temperature for magnetic hyperthermia: Controlling the heat exchange with the blocking temperature of magnetic nanoparticles. Journal of Solid State Chemistry, 2018, 260, 34-38.	1.4	33
31	Electric field control of micromagnetic structure. Journal of Magnetism and Magnetic Materials, 2007, 310, 2569-2571.	1.0	28
32	Flexomagnetoelectric effect in bismuth ferrite. Physica Status Solidi (B): Basic Research, 2009, 246, 1956-1960.	0.7	27
33	Nucleation of magnetic bubble domains in iron garnet films by means of an electric probe. JETP Letters, 2016, 104, 197-200.	0.4	27
34	Developing Antitumor Magnetic Hyperthermia: Principles, Materials and Devices. Recent Patents on Anti-Cancer Drug Discovery, 2016, 11, 360-375.	0.8	26
35	Electric polarization of magnetic textures: New horizons of micromagnetism. Journal of Magnetism and Magnetic Materials, 2012, 324, 3551-3554.	1.0	25
36	High-temperature magnetoelectricity of terbium aluminum borate: The role of excited states of the rare-earth ion. Physical Review B, 2014, 89, .	1.1	24

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37	Probing the exchange coupling in the complex modified Ho-Fe-B compounds by high-field magnetization measurements. AIP Advances, 2018, 8, .	0.6	21
38	Understanding the Dependence of Nanoparticles Magnetothermal Properties on Their Size for Hyperthermia Applications: A Case Study for La-Sr Manganites. Nanomaterials, 2021, 11, 1826.	1.9	21
39	Spin flexoelectricity and chiral spin structures in magnetic films. Journal of Magnetism and Magnetic Materials, 2015, 383, 255-258.	1.0	20
40	Nanogrowth twins and abnormal magnetic behavior in CoFe2O4 epitaxial thin films. Journal of Applied Physics, 2008, 104, 123910.	1.1	19
41	Writing Vortex Memory Bits Using Electric Field. Journal of the Magnetics Society of Japan, 2012, 36, 46-48.	0.5	19
42	The Mechanisms of Electric Fieldâ€Induced Magnetic Bubble Domain Blowing. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800066.	1.2	19
43	Magnetoelectric interactions in rare-earth ferroborates. Journal of Experimental and Theoretical Physics, 2007, 105, 116-119.	0.2	18
44	Magnetoelectric and magnetoelastic properties of easy-plane ferroborates with a small ionic radius. Journal of Experimental and Theoretical Physics, 2012, 114, 810-817.	0.2	18
45	Enhanced cytotoxicity caused by AC magnetic field for polymer microcapsules containing packed magnetic nanoparticles. Colloids and Surfaces B: Biointerfaces, 2021, 199, 111548.	2.5	18
46	Effect of the electric field on â€œincommensurate-commensurateâ€•magnetic phase transitions in BiFeO3-type multiferroics. Physics of the Solid State, 2006, 48, 88-95.	0.2	17
47	Application of the exchange-striction model for the calculation of the FeRh alloys magnetic properties. Intermetallics, 2019, 108, 81-86.	1.8	17
48	Magnetoelectricity goes local: From bulk multiferroic crystals to ferroelectricity localized on magnetic topological textures. Physica B: Condensed Matter, 2018, 542, 59-62.	1.3	15
49	Dzyaloshinskii-Moriyaâ€“type interaction and Lifshitz invariant in Rashba 2D electron gas systems. Europhysics Letters, 2014, 107, 67002.	0.7	13
50	Spin Structures and Domain Walls in Multiferroics Spin Structures and Magnetic Domain Walls in Multiferroics. Ferroelectrics, 2012, 438, 79-88.	0.3	12
51	Electric-field-driven magnetic domain wall as a microscale magneto-optical shutter. Scientific Reports, 2017, 7, 264.	1.6	12
52	Symmetry and magnetoelectric interactions in BaMnF4. Low Temperature Physics, 2010, 36, 532-537.	0.2	10
53	Quadratic magnetoelectric effect and the role of the magnetocaloric effect in the magnetoelectric properties of multiferroic BaMnF4. Journal of Experimental and Theoretical Physics, 2009, 109, 221-226.	0.2	8
54	Spin-Order-Induced Ferroelectricity and Magnetoelectric Effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Li</mml:mi><mml:mi>Cu</mml:mi><mml:msub><mml:mi>Fe</mml:mi><mml:mn>2</mml:mn></mml:msub stretchy="false">(</mml:mo><mml:msub><mml:mi>VO</mml:mi><mml:mn>4</mml:mn></mml:msub><mml:msub><mml:mo) Tj ETQq 2018, 10, .	1.5	8

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55	Analysis of the Magnetic Structure of the BiFeO3 Multiferroic by MÃ¶ssbauer Spectroscopy. Doklady Physics, 2018, 63, 223-226.	0.2	8
56	Novel type of spin cycloid in epitaxial bismuth ferrite films. Journal of Magnetism and Magnetic Materials, 2019, 469, 593-597.	1.0	8
57	Bipolar electric field-induced nucleation of magnetic domains with 90Â° domain walls. Journal of Applied Physics, 2021, 129, 024103.	1.1	8
58	Predicting the structural, electronic and magnetic properties of few atomic-layer polar perovskite. Physical Chemistry Chemical Physics, 2021, 23, 5578-5582.	1.3	8
59	Optimization of Znâ€“Mn ferrite nanoparticles for low frequency hyperthermia: Exploiting the potential of superquadratic field dependence of magnetothermal response. Applied Physics Letters, 2022, 120, 102403.	1.5	8
60	Magnetic domain wall motion triggered by electric field. Journal of Physics: Conference Series, 2010, 200, 032059.	0.3	7
61	On the possibility of the nucleation of magnetic vortices and antivortices in magnetic dielectrics using electric fields. Moscow University Physics Bulletin (English Translation of Vestnik) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50		
62	The Expeimental Setup for Measuring of Thermal Parameters of Magnetic Fluids in AC Magnetic Field. Solid State Phenomena, 2014, 215, 454-458.	0.3	7
63	Temperature MÃ¶ssbauer study of the spatial spin-modulated structure in the multiferroic BiFeO₃. EPJ Web of Conferences, 2018, 185, 07010.	0.1	7
64	Magnetoelectricity in topological magnetic textures. Journal of Magnetism and Magnetic Materials, 2017, 440, 60-62.	1.0	6
65	Routes to Low-Energy Magnetic Electronics. Spin, 2019, 09, .	0.6	6
66	Weak Ferromagnetism Discovery at Modulated Structure Destruction for BiFeO3. , 2004, , 277-290.		6
67	New nonlinear intensity Kerr effect in the polar geometry. Physics of the Solid State, 2000, 42, 1873-1880.	0.2	5
68	Nonlinear intensity-related magneto-optical Kerr effects in the planar geometry. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2001, 91, 626-633.	0.2	5
69	Electric Field Driven Magnetic Domain Wall Motion in Iron Garnet Films. Solid State Phenomena, 0, 152-153, 143-146.	0.3	5
70	The Influence of the Magnetic Field on Electrically Induced Domain Wall Motion. Solid State Phenomena, 0, 233-234, 443-446.	0.3	5
71	The frequency dependence of magnetic heating for La0.75Sr0.25MnO3 nanoparticles. Journal of Magnetism and Magnetic Materials, 2019, 470, 38-40.	1.0	5
72	The electric-fieldâ€“induced â€œzero-degree domain wallsâ€•in ferromagnets. Europhysics Letters, 2020, 129, 27004.	0.7	5

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73	Nongyrotropic magneto-optical effects in metal-insulator magnetic multilayer thin films. Physics of the Solid State, 2003, 45, 1957-1965.	0.2	4
74	Nature of unusual spontaneous and field-induced phase transitions in multiferroics RMn2O5. Journal of Magnetism and Magnetic Materials, 2009, 321, 858-860.	1.0	4
75	Origin of domain wall induced magnetoelectricity in rare-earth iron garnet single crystals and films. Ferroelectrics, 2017, 509, 32-39.	0.3	4
76	Investigation of the Field-Induced Phase Transitions in the (R,Râ€²)₂Fe₁₄B Rare-Earth Intermetallics in Ultrahigh Magnetic Fields. IEEE Transactions on Magnetics, 2021, 57, 1-5.	1.2	4
77	Drastic reduction of the R -Fe exchange in interstitially modified (Nd,Ho)2Fe14B compounds probed by megagauss magnetic fields. Physical Review Materials, 2021, 5, .	0.9	4
78	Numerical simulation of nanoparticle images in scanning near-field optical microscopy. Technical Physics, 2003, 48, 1-6.	0.2	3
79	Peculiarities of incommensurateâ€“commensurate phase transitions in multiferroics. Journal of Magnetism and Magnetic Materials, 2006, 300, e437-e439.	1.0	3
80	Magnetic and magnetoelectric properties of terbium aluminum borate. Bulletin of the Russian Academy of Sciences: Physics, 2014, 78, 97-99.	0.1	3
81	Heating of Zn-Substituted Manganese Ferrite Magnetic Nanoparticles in Alternating Magnetic Field. Solid State Phenomena, 0, 233-234, 761-765.	0.3	3
82	The CdTiO₃/BaTiO₃ superlattice interface from first principles. Nanoscale, 2021, 13, 8506-8513.	2.8	3
83	Magnetic-field tuning of domain-wall multiferroicity. Physical Review B, 2021, 104, .	1.1	3
84	Induced Phase Transition in BiFeO3by High-Field Electron Spin Resonance. Ferroelectrics, 2004, 301, 229-234.	0.3	2
85	Magnetoelectrics: new type of tunable materials for microwave technique and spintronics. , 2005, 5955, 56.		2
86	The ferroelectricity of Bi0.9Pb0.1FeO3 films grown on atomic flat SrRuO3/SrTiO3 substrates. Journal of Applied Physics, 2013, 113, 17D914.	1.1	2
87	The effect of temperature on parameters of hyperfine interactions and spatial spin-modulated structure in multiferroic BiFeO₃. Ferroelectrics, 2020, 569, 286-294.	0.3	2
88	Magnetoelectricity of Chiral Micromagnetic Structures. Topics in Applied Physics, 2021, , 127-146.	0.4	2
89	Second optical harmonic generation as a probe for magnetoelectric properties of multiferroic BiFeO 3. Proceedings of SPIE, 2007, , .	0.8	1
90	Spin Flexoelectricity and New Aspects of Micromagnetism. Advances in Science and Technology, 0, , .	0.2	1

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91	Magneto-optical light modulator with local domain wall manipulation. , 2016, , .		1
92	Local ferroelectricity at the domain walls and stripe domain heads in iron garnet films. Ferroelectrics, 2016, 503, 109-116.	0.3	1
93	Frequency dependence of magnetothermal properties for magnetic fluid and magnetically functionalized implants. EPJ Web of Conferences, 2018, 185, 09003.	0.1	1
94	Mechanisms of the Electric Field-Induced Displacement and Transformation of Magnetic Domain Boundaries. Bulletin of the Russian Academy of Sciences: Physics, 2020, 84, 536-538.	0.1	1
95	Electric Fieldâ€"Induced Nucleation of Magnetic Micro-Inhomogeneities and Bubble Domain Lattices. Journal of Superconductivity and Novel Magnetism, 2020, 33, 2415-2417.	0.8	1
96	The Influence of Electric Field on Magnetic Vortices in Confined Magnetic Structures. Progress in Electromagnetics Research Symposium: [proceedings] Progress in Electromagnetics Research Symposium, 2010, 6, 582-584.	0.4	1
97	Surface nonlinear magneto-optical effects in rhombic antiferromagnetics. Journal of Magnetism and Magnetic Materials, 2003, 258-259, 106-109.	1.0	0
98	<title>Nonlinear magneto-optical effect in multiferroic material bismuth ferrite</title>. , 2006, , .		0
99	<title>Optimization of 2-D photonic crystal parameters for the second harmonic enhancement</title>. , 2006, , .		0
100	Surface Properties of Nanoscale Iron Garnet Films. Solid State Phenomena, 0, 233-234, 678-681.	0.3	0
101	Electroinduced magnetic bubble domain nucleation. EPJ Web of Conferences, 2018, 185, 07001.	0.1	0
102	Nucleation of Magnetic Micro-Inhomogeneities by an Electric Field. Bulletin of the Russian Academy of Sciences: Physics, 2019, 83, 1524-1525.	0.1	0
103	SURFACE NONLINEAR MAGNETO-OPTICAL EFFECT IN ANTIFERROMAGNETICS. , 2004, , .		0
104	Nanopowders of R2Fe14B-type compounds in high magnetic fields: The effects of substitutional and interstitial atoms on inter-sublattice exchange interaction. , 2020, , .		0