

Alexander P Pyatakov

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96
papers

4,286
citations

28
h-index

65
g-index

105
ext. papers

4,650
ext. citations

2.2
avg, IF

5.42
L-index

#	Paper	IF	Citations
96	Dramatically enhanced polarization in (001), (101), and (111) BiFeO ₃ thin films due to epitaxial-induced transitions. <i>Applied Physics Letters</i> , 2004 , 84, 5261-5263	3.4	513
95	Magnetoelectric and multiferroic media. <i>Physics-Uspexhi</i> , 2012 , 55, 557-581	2.8	404
94	Magnetic-field-induced phase transition in BiFeO ₃ observed by high-field electron spin resonance: Cycloidal to homogeneous spin order. <i>Physical Review B</i> , 2004 , 69,	3.3	344
93	Destruction of spin cycloid in (111)c-oriented BiFeO ₃ thin films by epitaxial constraint: Enhanced polarization and release of latent magnetization. <i>Applied Physics Letters</i> , 2005 , 86, 032511	3.4	327
92	Crafting the magnonic and spintronic response of BiFeO ₃ films by epitaxial strain. <i>Nature Materials</i> , 2013 , 12, 641-6	27	256
91	Space-time parity violation and magnetoelectric interactions in antiferromagnets. <i>JETP Letters</i> , 2004 , 79, 571-581	1.2	218
90	Phase transitions in multiferroic BiFeO ₃ crystals, thin-layers, and ceramics: enduring potential for a single phase, room-temperature magnetoelectric BiFeO_3 . <i>Phase Transitions</i> , 2006 , 79, 1019-1042	1.3	163
89	Multiferroic properties of modified BiFeO ₃ /BaTiO ₃ -based ceramics: Random-field induced release of latent magnetization and polarization. <i>Physical Review B</i> , 2005 , 72,	3.3	153
88	Magnetoelectric effects in gadolinium iron borate GdFe ₃ (BO ₃) ₄ . <i>JETP Letters</i> , 2005 , 81, 272-276	1.2	141
87	Magnetoelectric and magnetoelastic properties of rare-earth ferrobates. <i>Low Temperature Physics</i> , 2010 , 36, 511-521	0.7	132
86	Magnetoelectric and magnetoelastic interactions in NdFe ₃ (BO ₃) ₄ multiferroics. <i>JETP Letters</i> , 2006 , 83, 509-514	1.2	124
85	Two-phonon coupling to the antiferromagnetic phase transition in multiferroic BiFeO ₃ . <i>Applied Physics Letters</i> , 2008 , 92, 022511	3.4	107
84	Straintronics: a new trend in micro- and nanoelectronics and materials science. <i>Physics-Uspexhi</i> , 2018 , 61, 1175-1212	2.8	104
83	Room temperature magnetoelectric control of micromagnetic structure in iron garnet films. <i>Applied Physics Letters</i> , 2008 , 93, 182510	3.4	82
82	Magnetoelectric control of domain walls in a ferrite garnet film. <i>JETP Letters</i> , 2007 , 86, 115-118	1.2	82
81	Phase transitions and the giant magnetoelectric effect in multiferroics. <i>Physics-Uspexhi</i> , 2004 , 47, 416-421	2.8	80
80	Flexomagnetoelectric interaction in multiferroics. <i>European Physical Journal B</i> , 2009 , 71, 419-427	1.2	65

79	Magnetoelectric interaction and magnetic field control of electric polarization in multiferroics. <i>Journal of Magnetism and Magnetic Materials</i> , 2006 , 300, 224-228	2.8	62
78	Inhomogeneous magnetoelectric interaction in multiferroics and related new physical effects. <i>Physics-Uspekhi</i> , 2009 , 52, 845-851	2.8	58
77	Magnetically switched electric polarity of domain walls in iron garnet films. <i>Europhysics Letters</i> , 2011 , 93, 17001	1.6	53
76	Magnetic and electronic properties of Cr ₂ Ge ₂ Te ₆ monolayer by strain and electric-field engineering. <i>Applied Physics Letters</i> , 2019 , 114, 092405	3.4	46
75	Multiferroics: Promising materials for microelectronics, spintronics, and sensor technique. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2007 , 71, 1561-1562	0.4	46
74	On the problem of coexistence of the weak ferromagnetism and the spin flexoelectricity in multiferroic bismuth ferrite. <i>Europhysics Letters</i> , 2012 , 99, 57003	1.6	39
73	Magnetoelectric Coupling in Multiferroic Bilayer VS ₂ . <i>Physical Review Letters</i> , 2020 , 125, 247601	7.4	37
72	Peculiarities in the magnetic, magnetoelectric, and magnetoelastic properties of SmFe ₃ (BO ₃) ₄ multiferroic. <i>Journal of Experimental and Theoretical Physics</i> , 2010 , 111, 199-203	1	34
71	Specificity of magnetoelectric effects in a new GdMnO ₃ magnetic ferroelectric. <i>JETP Letters</i> , 2005 , 81, 19-23	1.2	33
70	Magnetic anisotropy and magnetoelectric properties of Tb _{1-x} Er _x Fe ₃ (BO ₃) ₄ ferroborates. <i>Journal of Experimental and Theoretical Physics</i> , 2009 , 109, 68-73	1	32
69	Novel applications of magnetic materials and technologies for medicine. <i>Journal of Magnetism and Magnetic Materials</i> , 2018 , 459, 182-186	2.8	29
68	Micromagnetism and topological defects in magnetoelectric media. <i>Physics-Uspekhi</i> , 2015 , 58, 981-992	2.8	28
67	Electric field control of micromagnetic structure. <i>Journal of Magnetism and Magnetic Materials</i> , 2007 , 310, 2569-2571	2.8	26
66	Threshold heating temperature for magnetic hyperthermia: Controlling the heat exchange with the blocking temperature of magnetic nanoparticles. <i>Journal of Solid State Chemistry</i> , 2018 , 260, 34-38	3.3	25
65	Electric polarization of magnetic textures: New horizons of micromagnetism. <i>Journal of Magnetism and Magnetic Materials</i> , 2012 , 324, 3551-3554	2.8	24
64	Flexomagnetoelectric effect in bismuth ferrite. <i>Physica Status Solidi (B): Basic Research</i> , 2009 , 246, 1956-1960		24
63	High-temperature magnetoelectricity of terbium aluminum borate: The role of excited states of the rare-earth ion. <i>Physical Review B</i> , 2014 , 89,	3.3	19
62	Nanogrowth twins and abnormal magnetic behavior in CoFe ₂ O ₄ epitaxial thin films. <i>Journal of Applied Physics</i> , 2008 , 104, 123910	2.5	18

61	Probing the exchange coupling in the complex modified Ho-Fe-B compounds by high-field magnetization measurements. <i>AIP Advances</i> , 2018 , 8, 125223	1.5	18
60	Spin flexoelectricity and chiral spin structures in magnetic films. <i>Journal of Magnetism and Magnetic Materials</i> , 2015 , 383, 255-258	2.8	17
59	Magnetolectric interactions in rare-earth ferrobates. <i>Journal of Experimental and Theoretical Physics</i> , 2007 , 105, 116-119	1	17
58	Developing Antitumor Magnetic Hyperthermia: Principles, Materials and Devices. <i>Recent Patents on Anti-Cancer Drug Discovery</i> , 2016 , 11, 360-375	2.6	17
57	Effect of the electric field on incommensurate-commensurate magnetic phase transitions in BiFeO ₃ -type multiferroics. <i>Physics of the Solid State</i> , 2006 , 48, 88-95	0.8	16
56	Nucleation of magnetic bubble domains in iron garnet films by means of an electric probe. <i>JETP Letters</i> , 2016 , 104, 197-200	1.2	16
55	Magnetolectricity goes local: From bulk multiferroic crystals to ferroelectricity localized on magnetic topological textures. <i>Physica B: Condensed Matter</i> , 2018 , 542, 59-62	2.8	14
54	Magnetolectric and magnetoelastic properties of easy-plane ferrobates with a small ionic radius. <i>Journal of Experimental and Theoretical Physics</i> , 2012 , 114, 810-817	1	14
53	Writing Vortex Memory Bits Using Electric Field. <i>Journal of the Magnetism Society of Japan</i> , 2012 , 36, 46-48	4.7	14
52	The Mechanisms of Electric Field-Induced Magnetic Bubble Domain Blowing. <i>Physica Status Solidi - Rapid Research Letters</i> , 2018 , 12, 1800066	2.5	12
51	Spin Structures and Domain Walls in Multiferroics Spin Structures and Magnetic Domain Walls in Multiferroics. <i>Ferroelectrics</i> , 2012 , 438, 79-88	0.6	12
50	Application of the exchange-striction model for the calculation of the FeRh alloys magnetic properties. <i>Intermetallics</i> , 2019 , 108, 81-86	3.5	11
49	Enhanced cytotoxicity caused by AC magnetic field for polymer microcapsules containing packed magnetic nanoparticles. <i>Colloids and Surfaces B: Biointerfaces</i> , 2021 , 199, 111548	6	11
48	Electric-field-driven magnetic domain wall as a microscale magneto-optical shutter. <i>Scientific Reports</i> , 2017 , 7, 264	4.9	10
47	Dzyaloshinskii-Moriya type interaction and Lifshitz invariant in Rashba 2D electron gas systems. <i>Europhysics Letters</i> , 2014 , 107, 67002	1.6	10
46	Symmetry and magnetolectric interactions in BaMnF ₄ . <i>Low Temperature Physics</i> , 2010 , 36, 532-537	0.7	10
45	Novel type of spin cycloid in epitaxial bismuth ferrite films. <i>Journal of Magnetism and Magnetic Materials</i> , 2019 , 469, 593-597	2.8	8
44	Quadratic magnetolectric effect and the role of the magnetocaloric effect in the magnetolectric properties of multiferroic BaMnF ₄ . <i>Journal of Experimental and Theoretical Physics</i> , 2009 , 109, 221-226	1	7

43	Magnetic domain wall motion triggered by electric field. <i>Journal of Physics: Conference Series</i> , 2010 , 200, 032059	0.3	7
42	On the possibility of the nucleation of magnetic vortices and antivortices in magnetic dielectrics using electric fields. <i>Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika)</i> , 2010 , 65, 329-331	0.7	7
41	Spin-Order-Induced Ferroelectricity and Magnetoelectric Effect in LiCuFe ₂ (VO ₄) ₃ . <i>Physical Review Applied</i> , 2018 , 10,	4.3	7
40	Analysis of the Magnetic Structure of the BiFeO ₃ Multiferroic by Mössbauer Spectroscopy. <i>Doklady Physics</i> , 2018 , 63, 223-226	0.8	6
39	The Experimental Setup for Measuring of Thermal Parameters of Magnetic Fluids in AC Magnetic Field. <i>Solid State Phenomena</i> , 2014 , 215, 454-458	0.4	6
38	Weak Ferromagnetism Discovery at Modulated Structure Destruction for BiFeO ₃ 2004 , 277-290		6
37	Magnetoelectricity in topological magnetic textures. <i>Journal of Magnetism and Magnetic Materials</i> , 2017 , 440, 60-62	2.8	5
36	Routes to Low-Energy Magnetic Electronics. <i>Spin</i> , 2019 , 09, 1940004	1.3	5
35	Electric Field Driven Magnetic Domain Wall Motion in Iron Garnet Films. <i>Solid State Phenomena</i> , 2009 , 152-153, 143-146	0.4	5
34	Nonlinear intensity-related magneto-optical Kerr effects in the planar geometry. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2001 , 91, 626-633	0.7	5
33	New nonlinear intensity Kerr effect in the polar geometry. <i>Physics of the Solid State</i> , 2000 , 42, 1873-1880.	0.8	5
32	Temperature Mössbauer study of the spatial spin-modulated structure in the multiferroic BiFeO ₃ . <i>EPJ Web of Conferences</i> , 2018 , 185, 07010	0.3	5
31	Origin of domain wall induced magnetoelectricity in rare-earth iron garnet single crystals and films. <i>Ferroelectrics</i> , 2017 , 509, 32-39	0.6	4
30	Nongyrotropic magneto-optical effects in metal-insulator magnetic multilayer thin films. <i>Physics of the Solid State</i> , 2003 , 45, 1957-1965	0.8	4
29	Drastic reduction of the R-Fe exchange in interstitially modified (Nd,Ho) ₂ Fe ₁₄ B compounds probed by megagauss magnetic fields. <i>Physical Review Materials</i> , 2021 , 5,	3.2	4
28	The frequency dependence of magnetic heating for La _{0.75} Sr _{0.25} MnO ₃ nanoparticles. <i>Journal of Magnetism and Magnetic Materials</i> , 2019 , 470, 38-40	2.8	4
27	Predicting the structural, electronic and magnetic properties of few atomic-layer polar perovskite. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 5578-5582	3.6	4
26	The Influence of the Magnetic Field on Electrically Induced Domain Wall Motion. <i>Solid State Phenomena</i> , 2015 , 233-234, 443-446	0.4	3

25	Magnetic and magnetoelectric properties of terbium aluminum borate. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2014 , 78, 97-99	0.4	3
24	Nature of unusual spontaneous and field-induced phase transitions in multiferroics RMn ₂ O ₅ . <i>Journal of Magnetism and Magnetic Materials</i> , 2009 , 321, 858-860	2.8	3
23	Peculiarities of incommensurate-commensurate phase transitions in multiferroics. <i>Journal of Magnetism and Magnetic Materials</i> , 2006 , 300, e437-e439	2.8	3
22	Numerical simulation of nanoparticle images in scanning near-field optical microscopy. <i>Technical Physics</i> , 2003 , 48, 1-6	0.5	3
21	Investigation of the Field-Induced Phase Transitions in the (R,R') ₂ Fe ₁₄ B Rare-Earth Intermetallics in Ultrahigh Magnetic Fields. <i>IEEE Transactions on Magnetics</i> , 2021 , 57, 1-5	2	3
20	Understanding the Dependence of Nanoparticles Magnetothermal Properties on Their Size for Hyperthermia Applications: A Case Study for La-Sr Manganites. <i>Nanomaterials</i> , 2021 , 11,	5.4	3
19	The ferroelectricity of Bi _{0.9} Pb _{0.1} FeO ₃ films grown on atomic flat SrRuO ₃ /SrTiO ₃ substrates. <i>Journal of Applied Physics</i> , 2013 , 113, 17D914	2.5	2
18	Heating of Zn-Substituted Manganese Ferrite Magnetic Nanoparticles in Alternating Magnetic Field. <i>Solid State Phenomena</i> , 2015 , 233-234, 761-765	0.4	1
17	The effect of temperature on parameters of hyperfine interactions and spatial spin-modulated structure in multiferroic BiFeO ₃ . <i>Ferroelectrics</i> , 2020 , 569, 286-294	0.6	1
16	The electric-field-induced zero-degree domain walls in ferromagnets. <i>Europhysics Letters</i> , 2020 , 129, 27004	1.6	1
15	Magneto-optical light modulator with local domain wall manipulation 2016 ,		1
14	Local ferroelectricity at the domain walls and stripe domain heads in iron garnet films. <i>Ferroelectrics</i> , 2016 , 503, 109-116	0.6	1
13	Spin Flexoelectricity and New Aspects of Micromagnetism. <i>Advances in Science and Technology</i> , 2010 , 67, 149-157	0.1	1
12	Induced Phase Transition in BiFeO ₃ by High-Field Electron Spin Resonance. <i>Ferroelectrics</i> , 2004 , 301, 229-234	0.6	1
11	Electric Field-Induced Nucleation of Magnetic Micro-Inhomogeneities and Bubble Domain Lattices. <i>Journal of Superconductivity and Novel Magnetism</i> , 2020 , 33, 2415-2417	1.5	1
10	The CdTiO/BaTiO superlattice interface from first principles. <i>Nanoscale</i> , 2021 , 13, 8506-8513	7.7	1
9	Optimization of ZnMn ferrite nanoparticles for low frequency hyperthermia: Exploiting the potential of superquadratic field dependence of magnetothermal response. <i>Applied Physics Letters</i> , 2022 , 120, 102403	3.4	1
8	Mechanisms of the Electric Field-Induced Displacement and Transformation of Magnetic Domain Boundaries. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2020 , 84, 536-538	0.4	0

7	Frequency dependence of magnetothermal properties for magnetic fluid and magnetically functionalized implants. <i>EPJ Web of Conferences</i> , 2018 , 185, 09003	0.3	o
6	Bipolar electric field-induced nucleation of magnetic domains with 90° domain walls. <i>Journal of Applied Physics</i> , 2021 , 129, 024103	2.5	o
5	Surface Properties of Nanoscale Iron Garnet Films. <i>Solid State Phenomena</i> , 2015 , 233-234, 678-681	0.4	
4	Surface nonlinear magneto-optical effects in rhombic antiferromagnetics. <i>Journal of Magnetism and Magnetic Materials</i> , 2003 , 258-259, 106-109	2.8	
3	Nucleation of Magnetic Micro-Inhomogeneities by an Electric Field. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2019 , 83, 1524-1525	0.4	
2	Magnetoelectricity of Chiral Micromagnetic Structures. <i>Topics in Applied Physics</i> , 2021 , 127-146	0.5	
1	Electroinduced magnetic bubble domain nucleation. <i>EPJ Web of Conferences</i> , 2018 , 185, 07001	0.3	