

Ekaterina Shamonina

List of Publications by Year in descending order

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130
papers

3,136
citations

186265

28
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168389

53
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133
all docs

133
docs citations

133
times ranked

1273
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnetoinductive waves in one, two, and three dimensions. Journal of Applied Physics, 2002, 92, 6252-6261.	2.5	366
2	Magneto-inductive waveguide. Electronics Letters, 2002, 38, 371.	1.0	219
3	Analytical formulation for the resonant frequency of split rings. Journal of Applied Physics, 2009, 105, .	2.5	140
4	Dispersion characteristics of magneto-inductive waves: comparison between theory and experiment. Electronics Letters, 2003, 39, 215.	1.0	126
5	Effective magnetic properties of a composite material with circular conductive elements. European Physical Journal B, 2002, 28, 263-269.	1.5	121
6	Metamaterials: How the subject started. Metamaterials, 2007, 1, 12-18.	2.2	100
7	Coupling mechanisms for split ring resonators: Theory and experiment. Physica Status Solidi (B): Basic Research, 2007, 244, 1170-1175.	1.5	97
8	Imaging, compression and Poynting vector streamlines for negative permittivity materials. Electronics Letters, 2001, 37, 1243.	1.0	95
9	A theory of metamaterials based on periodically loaded transmission lines: Interaction between magnetoinductive and electromagnetic waves. Journal of Applied Physics, 2005, 97, 064909.	2.5	93
10	Magneto-inductive waveguide devices. IET Microwaves Antennas and Propagation, 2006, 153, 111.	1.2	87
11	Properties of a metamaterial element: Analytical solutions and numerical simulations for a singly split double ring. Journal of Applied Physics, 2004, 95, 3778-3784.	2.5	85
12	Magneto-inductive waves supported by metamaterial elements: components for a one-dimensional waveguide. Journal Physics D: Applied Physics, 2004, 37, 362-367.	2.8	76
13	Theory of photorefractive vectorial wave coupling in cubic crystals. Physical Review E, 1999, 60, 3332-3352.	2.1	73
14	Resonant frequencies of a split-ring resonator: Analytical solutions and numerical simulations. Microwave and Optical Technology Letters, 2005, 44, 133-136.	1.4	67
15	Phonon-like dispersion curves of magnetoinductive waves. Applied Physics Letters, 2005, 87, 072501.	3.3	65
16	Tailoring the near-field guiding properties of magnetic metamaterials with two resonant elements per unit cell. Physical Review B, 2006, 73, .	3.2	58
17	Experimental and theoretical study of magneto-inductive waves supported by one-dimensional arrays of SiO_2 rings. Journal of Applied Physics, 2004, 95, 4488-4493.	2.5	56
18	Mapping inter-element coupling in metamaterials: Scaling down to infrared. Journal of Applied Physics, 2012, 111, 094904.	2.5	49

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19	Mechanism of subwavelength imaging with bilayered magnetic metamaterials: Theory and experiment. <i>Journal of Applied Physics</i> , 2007, 101, 073903.	2.5	47
20	Resonant frequencies of a combination of split rings: Experimental, analytical and numerical study. <i>Microwave and Optical Technology Letters</i> , 2005, 46, 473-476.	1.4	45
21	Properties of magnetically coupled metamaterial elements. <i>Journal of Magnetism and Magnetic Materials</i> , 2006, 300, 38-43.	2.3	39
22	2D metamaterials with hexagonal structure: spatial resonances and near field imaging. <i>Optics Express</i> , 2005, 13, 9299.	3.4	35
23	Space-charge waves in photorefractive ferroelectrics. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1995, 12, 1642.	2.1	31
24	Phase modulation in two-wave mixing for dynamically recorded gratings in photorefractive materials. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1997, 14, 1741.	2.1	31
25	Positive and negative refraction of magnetoinductive waves in two dimensions. <i>European Physical Journal B</i> , 2005, 46, 301-308.	1.5	31
26	Parametric amplification in coupled magnetoinductive waveguides. <i>Journal Physics D: Applied Physics</i> , 2007, 40, 6879-6887.	2.8	29
27	Exact solution of the Bragg-difEraction problem in sillenites. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1994, 11, 1813.	2.1	28
28	An experimental study of the properties of magnetoinductive waves in the presence of retardation. <i>Journal of Magnetism and Magnetic Materials</i> , 2006, 300, 29-32.	2.3	28
29	Rotational resonance of magnetoinductive waves: Basic concept and application to nuclear magnetic resonance. <i>Journal of Applied Physics</i> , 2006, 99, 123908.	2.5	28
30	Higher order interactions in magneto-inductive waveguides. <i>Metamaterials</i> , 2007, 1, 44-51.	2.2	28
31	Slow waves in magnetic metamaterials: history, fundamentals and applications. <i>Physica Status Solidi (B): Basic Research</i> , 2008, 245, 1471-1482.	1.5	24
32	Slow waves on magnetic metamaterials and on chains of plasmonic nanoparticles: Driven solutions in the presence of retardation. <i>Journal of Applied Physics</i> , 2009, 106, 104908.	2.5	24
33	Investigation of photorefractive subharmonics in the absence of wave mixing. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1995, 12, 1621.	2.1	22
34	Experimental study of a bi-periodic magnetoinductive waveguide: comparison with theory. <i>IET Microwaves, Antennas and Propagation</i> , 2007, 1, 80.	1.4	22
35	Analytical model of the fundamental mode of 3D square split ring resonators. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	22
36	3-D Printed Bandpass Filters With Coupled Vertically Extruded Split Ring Resonators. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2019, 67, 4341-4352.	4.6	21

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37	Wireless power transfer through asymmetric topological edge states in diatomic chains of coupled meta-atoms. Applied Physics Letters, 2020, 117, .	3.3	21
38	Optimum orientation of volume phase gratings in sillenite crystals: is it always [111]?. Journal of the Optical Society of America B: Optical Physics, 1998, 15, 2552.	2.1	20
39	Maximum directivity of arbitrary dipole arrays. IET Microwaves, Antennas and Propagation, 2015, 9, 101-107.	1.4	20
40	Verification of the standard model of the photorefractive nonlinearity in BSO crystals. Optics Communications, 1994, 108, 31-36.	2.1	19
41	Optical activity in photorefractive Bi ₁₂ TiO ₂₀ . Optics Communications, 1998, 146, 62-68.	2.1	19
42	Surface waves at an interface of two metamaterial structures with interelement coupling. Physical Review B, 2010, 82, .	3.2	19
43	Giant momentary readout produced by switching electric fields during two-wave mixing in sillenites. Optics Letters, 1998, 23, 1435.	3.3	18
44	Absorbing terminations for magneto-inductive waveguides. IET Microwaves Antennas and Propagation, 2005, 152, 77.	1.2	17
45	Plasmonic excitations in metallic nanoparticles: Resonances, dispersion characteristics and near-field patterns. Optics Express, 2009, 17, 8447.	3.4	17
46	Dimer and polymer metamaterials with alternating electric and magnetic coupling. Physical Review B, 2011, 84, .	3.2	17
47	Short dipole as a receiver: effective aperture shapes and streamlines of the Poynting vector. IET Microwaves Antennas and Propagation, 2002, 149, 153-159.	1.2	16
48	Shape-asymmetry of the diffraction efficiency in Bi ₁₂ TiO ₂₀ crystals: the simultaneous influence of absorption and higher harmonics. Optics Communications, 1997, 141, 132-136.	2.1	15
49	Feedback-controlled running holograms in strongly absorbing photorefractive materials. Journal of the Optical Society of America B: Optical Physics, 2000, 17, 1517.	2.1	15
50	Generalized Brillouin diagrams for evanescent waves in metamaterials with interelement coupling. Physical Review B, 2010, 81, .	3.2	14
51	Magnetoinductive polaritons: Hybrid modes of metamaterials with interelement coupling. Physical Review B, 2012, 85, .	3.2	14
52	Coupling between coils in the presence of conducting medium. IET Microwaves, Antennas and Propagation, 2019, 13, 55-62.	1.4	14
53	Investigation of two-wave mixing in arbitrary oriented sillenite crystals. Applied Physics B: Lasers and Optics, 1996, 64, 49-56.	2.2	13
54	Excitation of higher spatial harmonics by a moving light pattern in sillenites. Optics Communications, 1996, 131, 315-321.	2.1	13

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55	Transmission properties of two shifted magnetoinductive waveguides. Microwave and Optical Technology Letters, 2007, 49, 1054-1058.	1.4	13
56	Terahertz instability of surface optical-phonon polaritons that interact with surface plasmon polaritons in the presence of electron drift. Physics of Plasmas, 2010, 17, 102103.	1.9	13
57	Two-wave mixing in (111)-cut Bi ₁₂ SiO ₂₀ and Bi ₁₂ TiO ₂₀ crystals: Characterization and comparison with the general orientation. Physical Review E, 2000, 62, 2863-2870.	2.1	12
58	Diamagnetic properties of metamaterials: a magnetostatic analogy. European Physical Journal B, 2004, 41, 307-312.	1.5	12
59	Superdirectivity by virtue of coupling between meta-atoms. , 2013, , .		12
60	Superdirectivity from arrays of strongly coupled meta-atoms. Journal of Applied Physics, 2018, 124, .	2.5	12
61	Gain optimization with respect to the thickness of a sillenite crystal. Applied Physics B: Lasers and Optics, 1999, 68, 923-929.	2.2	11
62	Parametric amplification of magnetoinductive waves supported by metamaterial arrays. Physica Status Solidi (B): Basic Research, 2007, 244, 1176-1180.	1.5	11
63	Interacting waves on chains of split-ring resonators in the presence of retardation. Applied Physics Letters, 2010, 97, 011108.	3.3	11
64	A Metamaterial Position Sensor Based on Magnetoinductive Waves. IEEE Open Journal of Antennas and Propagation, 2021, 2, 259-268.	3.7	11
65	Stochastic photorefractive backscattering from LiNbO ₃ crystals. Optics Letters, 1996, 21, 854.	3.3	10
66	Optimization of Diffraction Efficiency and Gain for Two-Wave Mixing in Cubic (111)-Cut Photorefractive Piezocrystals. Ferroelectrics, 2002, 266, 305-333.	0.6	10
67	On wireless power transfer between coils in the presence of radiation. Journal Physics D: Applied Physics, 2021, 54, 405502.	2.8	9
68	Investigation of stochastic photorefractive backscattering. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 2242.	2.1	8
69	Dynamic holography with nonplane waves in sillenites. Optical and Quantum Electronics, 1996, 28, 25-42.	3.3	8
70	Resonant vectorial wave coupling in cubic photorefractive crystals. Journal of the Optical Society of America B: Optical Physics, 2000, 17, 985.	2.1	8
71	Tailoring of the subwavelength focus. Microwave and Optical Technology Letters, 2007, 49, 2228-2231.	1.4	8
72	Near-field image transfer by magneto-inductive arrays: A modal perspective. Metamaterials, 2011, 5, 8-25.	2.2	8

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73	Circuit model optimization of a nano split ring resonator dimer antenna operating in infrared spectral range. Journal of Applied Physics, 2014, 116, .	2.5	8
74	Dispersion effects in Fakir's bed of nails metamaterial waveguides. Journal of Applied Physics, 2014, 115, 054903.	2.5	8
75	Superdirective “meta-molecules”. , 2014, , .		8
76	Surface polaritons in magnetic metamaterials from perspective of effective-medium and circuit models. Journal of Applied Physics, 2015, 117, 163910.	2.5	8
77	Reflection holograms in sillenite crystals for double-exposure interferometry. Optical Materials, 2001, 18, 119-122.	3.6	7
78	Configurations Optimizing the Directivity of Planar Arrays. AEU - International Journal of Electronics and Communications, 2002, 56, 115-119.	2.9	7
79	Fields and coupling between coils embedded in conductive environments. EPJ Applied Metamaterials, 2018, 5, 2.	1.5	7
80	Experimental demonstration of superdirectivity for coupled dimers of meta-atoms. , 2016, , .		6
81	Superdirective dimers of coupled self-resonant split ring resonators: Analytical modelling and numerical and experimental validation. Scientific Reports, 2020, 10, 274.	3.3	6
82	Magnetoinductive waves in attenuating media. Scientific Reports, 2021, 11, 7679.	3.3	6
83	Rigorous three-dimensional theory of subharmonic instability in sillenites. Journal of the Optical Society of America B: Optical Physics, 1999, 16, 1099.	2.1	5
84	Diffusion recording in photorefractive sillenite crystals: an analytical approach for engineering purposes. Optics Communications, 2000, 180, 183-190.	2.1	5
85	Energy exchange optimization in (110)-cut BTO crystal by choice of interacting waves polarization. Optical Materials, 2001, 18, 131-133.	3.6	4
86	Wireless power transfer in the presence of a conducting interface: an analytical solution. , 2017, , .		4
87	Kramers-Kronig relations for magnetoinductive waves. Physical Review B, 2019, 100, .	3.2	4
88	Wireless power transfer in attenuating media. AIP Advances, 2021, 11, 115303.	1.3	4
89	Solid-state traveling-wave amplifiers and oscillators in theÂHzÂrange: effect of electron collisions. European Physical Journal D, 2010, 59, 233-240.	1.3	3
90	Impact of a conducting medium on the coupling of meta-atoms. , 2016, , .		3

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91	Programmable magnetoinductive devices. , 2016, , .		3
92	Modelling of two wave mixing experiments in sillenite crystals. Computer Physics Communications, 1996, 96, 61-86.	7.5	2
93	Measurement of the electric screening field in Bi12TiO20. Journal of Applied Physics, 1999, 85, 1317-1321.	2.5	2
94	Photorefractive light scattering families in (111)-cutBi12TiO20crystals with an external electric ac field. Physical Review E, 2000, 63, 016607.	2.1	2
95	Optimization of diffraction efficiency and gain for two-wave mixing in cubic (111)-cut photorefractive piezocrystals. Optical Materials, 2001, 18, 135-138.	3.6	2
96	A systematic approach to diffusion recording in photorefractive sillenite crystals. Optical Materials, 2001, 18, 139-142.	3.6	2
97	Optimization of Diffraction Efficiency and Gain for Two-Wave Mixing in Cubic (111)-Cut Photorefractive Piezocrystals. Ferroelectrics, 2002, 266, 641-669.	0.6	2
98	Polarization properties of light-induced scattering in Bi_12TiO_20 crystals: theory and experiment for diagonal geometry. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 677.	2.1	2
99	Effect of radiation on dispersion of magneto-inductive waves in a metamaterial. , 2005, , .		2
100	Retrieval of coupling coefficients for dense metamaterials. , 2016, , .		2
101	Superdirectivity for coupled dimers of meta-atoms at MHz. , 2017, , .		2
102	Wireless power transfer in the presence of a conducting interface: Analytical solution. IET Microwaves, Antennas and Propagation, 2019, 13, 725-731.	1.4	2
103	A Method for Optimising Superdirectivity of Coupled Meta-Atoms via Planar Directivity Evaluation. IEEE Open Journal of Antennas and Propagation, 2020, 1, 300-308.	3.7	2
104	Near Field Imaging with Magnetic Metamaterials: Theory and Experiment. , 2006, , .		1
105	Introduction to the Special Issue on Metamaterials. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 363-366.	2.9	1
106	Band structures of mono- and diatomic metamaterials with inter-element coupling. , 2013, , .		1
107	Near-field superdirectivity for coupled dimers of meta-atoms. , 2014, , .		1
108	Retrieval of electric and magnetic coupling coefficients. , 2015, , .		1

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109	Mapping directivity of coupled dimers of meta-atoms. , 2017, , .		1
110	Analytical solution for the magnetic coupling of two coils immersed in a conductive medium. , 2017, , .		1
111	Superdirective meta-arrays at telecommunication wavelengths. , 2017, , .		1
112	A Meta-Material Position Sensor Based on Magneto-Inductive Waves. , 2019, , .		1
113	Thickness Dependence of the Optimum Orientation of Volume Phase Gratings in Optically Active Piezoelectric Sillenite Crystals. , 0, , .		0
114	The effect of bulk light absorption on running photorefractive holograms. Journal of Optics, 2000, 2, 34-38.	1.5	0
115	Parallel subsystem: An almost precise solution for two-wave mixing in sillenites. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 1137.	2.1	0
116	Visualising subwavelength phenomena in metamaterials. , 2005, , .		0
117	Dispersion characteristics of magneto-inductive waves made up by doubly periodic elements. , 2005, 5955, 66.		0
118	Coupling mechanisms in nano-U dimers. , 2011, , .		0
119	Surface polaritons born by inter-element coupling in magnetic metamaterials. , 2014, , .		0
120	‘Poynting vector optics’ for superdirective dimers. , 2015, , .		0
121	Analytical formulation for the capacitance of 3D square split ring resonators. , 2017, , .		0
122	Meta-Molecular Devices. , 2018, , .		0
123	A Complete Circuit Model for Two Coils inside a Dissipative Medium. , 2018, , .		0
124	Planar Directivity of a Dipole Array. , 2018, , .		0
125	Optimization of Meta-atoms for 3D Printed Metamaterial Structures. , 2018, , .		0
126	Magnetoinductive Waves II. , 2009, , .		0

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127	Magnetoinductive Waves I. , 2009, , .		0
128	Replicating resonance behavior of plasmonic nanoparticles with simpler building blocks. , 2011, , .		0
129	Oscillatory regime of two-beam coupling in cubic $\lambda \approx 430$ nm crystals. , 1999, , .		0
130	Gain Optimization at Two-Wave Mixing in Cubic Photorefractive Piezocrystals of (111)-Cut. , 1999, , .		0