

# Maxim Gorkunov

## List of Publications by Citations

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118  
papers

2,010  
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23  
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41  
g-index

146  
ext. papers

2,342  
ext. citations

2.4  
avg, IF

5.07  
L-index

#	Paper	IF	Citations
118	Nonlinearity of a metamaterial arising from diode insertions into resonant conductive elements. <i>Physical Review E</i> , <b>2003</b> , 67, 065601	2.4	152
117	Structural tunability in metamaterials. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 084105	3.4	113
116	Mean-field theory of a nematic liquid crystal doped with anisotropic nanoparticles. <i>Soft Matter</i> , <b>2011</b> , 7, 4348	3.6	107
115	Metamaterial tuning by manipulation of near-field interaction. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	107
114	Effective magnetic properties of a composite material with circular conductive elements. <i>European Physical Journal B</i> , <b>2002</b> , 28, 263-269	1.2	107
113	Origin of stretched exponential relaxation for hopping-transport models. <i>Physical Review Letters</i> , <b>2003</b> , 91, 176602	7.4	97
112	Self-tuning mechanisms of nonlinear split-ring resonators. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 144107	3.4	80
111	Metasurfaces with Maximum Chirality Empowered by Bound States in the Continuum. <i>Physical Review Letters</i> , <b>2020</b> , 125, 093903	7.4	68
110	Order-disorder molecular model of the smectic-A-smectic-C phase transition in materials with conventional and anomalously weak layer contraction. <i>Physical Review E</i> , <b>2007</b> , 76, 051706	2.4	63
109	Effect of microscopic disorder on magnetic properties of metamaterials. <i>Physical Review E</i> , <b>2006</b> , 73, 056605	2.4	62
108	Theory of extraordinary light transmission through arrays of subwavelength slits. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	57
107	Tuning of a nonlinear metamaterial band gap by an external magnetic field. <i>Physical Review B</i> , <b>2004</b> , 70,	3.3	43
106	Molecular model for de Vries type smectic- A -smectic- C phase transition in liquid crystals. <i>Physical Review E</i> , <b>2007</b> , 75, 060701	2.4	42
105	Three-wave coupling of microwaves in metamaterial with nonlinear resonant conductive elements. <i>Physical Review E</i> , <b>2004</b> , 70, 066601	2.4	42
104	Eigenmodes for metal-dielectric light-transmitting nanostructures. <i>Physical Review B</i> , <b>2007</b> , 76,	3.3	40
103	Enhanced parametric processes in binary metamaterials. <i>Applied Physics Letters</i> , <b>2006</b> , 88, 071912	3.4	37
102	Phase separation effects and the nematic-isotropic transition in polymer and low molecular weight liquid crystals doped with nanoparticles. <i>Soft Matter</i> , <b>2013</b> , 9, 3578	3.6	36

101	Extreme optical activity and circular dichroism of chiral metal hole arrays. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 221102	3.4	35
100	Suppressed absolute negative conductance and generation of high-frequency radiation in semiconductor superlattices. <i>Europhysics Letters</i> , <b>2006</b> , 73, 934-940	1.6	33
99	Molecular model of biaxial ordering in nematic liquid crystals composed of flat molecules with four mesogenic groups. <i>Physical Review E</i> , <b>2010</b> , 81, 061702	2.4	28
98	Extreme optical chirality of plasmonic nanohole arrays due to chiral Fano resonance. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	26
97	Model-independent structure and resonant X-ray spectra of intermediate smectic phases. <i>Liquid Crystals</i> , <b>2006</b> , 33, 1133-1141	2.3	23
96	Implications of the causality principle for ultra chiral metamaterials. <i>Scientific Reports</i> , <b>2015</b> , 5, 9273	4.9	22
95	Molecular models for ferroelectric liquid crystals with conventional and anomalously weak layer contraction. <i>European Physical Journal E</i> , <b>2008</b> , 26, 395-404	1.5	21
94	Chiral visible light metasurface patterned in monocrystalline silicon by focused ion beam. <i>Scientific Reports</i> , <b>2018</b> , 8, 11623	4.9	20
93	Transmission and diffraction properties of a narrow slit in a perfect metal. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	20
92	The semi-phenomenological model of antiferroelectricity in chiral smectic liquid crystals I. The structure of short pitch modes and a thermodynamical approach. <i>Liquid Crystals</i> , <b>1999</b> , 26, 1107-1114	2.3	20
91	Fast Surface-Plasmon-Mediated Electro-Optics of a Liquid Crystal on a Metal Grating. <i>Physical Review Applied</i> , <b>2017</b> , 8,	4.3	19
90	Molecular theory of smectic ordering in liquid crystals with nanoscale segregation of different molecular fragments. <i>Physical Review E</i> , <b>2011</b> , 84, 051704	2.4	19
89	Molecular models for the smectic A-smectic C phase transition in a system of biaxial molecules. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2008</b> , 41, 295001	2	19
88	Liquid crystal metasurfaces on micropatterned polymer substrates. <i>Optics Express</i> , <b>2018</b> , 26, 20258-20269	3.3	17
87	Ordering of anisotropic nanoparticles in diblock copolymer lamellae: Simulations with dissipative particle dynamics and a molecular theory. <i>Journal of Chemical Physics</i> , <b>2017</b> , 146, 144902	3.9	15
86	Effect of nanoparticle chain formation on dielectric anisotropy of nematic composites. <i>Physical Review E</i> , <b>2015</b> , 92, 032501	2.4	15
85	Ferroelectric ordering in chiral smectic-C* liquid crystals determined by nonchiral intermolecular interactions. <i>Physical Review E</i> , <b>2008</b> , 77, 031701	2.4	15
84	Molecular theory of phase separation in nematic liquid crystals doped with spherical nanoparticles. <i>ChemPhysChem</i> , <b>2014</b> , 15, 1496-501	3.2	14

83	Metal nanoparticles with sharp corners: Universal properties of plasmon resonances. <i>Europhysics Letters</i> , <b>2013</b> , 101, 57009	1.6	13
82	Transmission and scattering properties of subwavelength slits in metals. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	12
81	Short-pitch and long-pitch modes as a key for the understanding of phase sequences and types of ordering in antiferroelectric smectic liquid crystals. <i>JETP Letters</i> , <b>2000</b> , 72, 57-61	1.2	11
80	Superperiodic Liquid-Crystal Metasurfaces for Electrically Controlled Anomalous Refraction. <i>ACS Photonics</i> , <b>2020</b> , 7, 3096-3105	6.3	11
79	Liquid-Crystal Metasurfaces Self-Assembled on Focused Ion Beam Patterned Polymer Layers: Electro-Optical Control of Light Diffraction and Transmission. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 30815-30823	9.5	10
78	Plasmon electro-optic effect in a subwavelength metallic nanograting with a nematic liquid crystal. <i>JETP Letters</i> , <b>2016</b> , 103, 25-29	1.2	10
77	FIB-fabricated complex-shaped 3D chiral photonic silicon nanostructures. <i>Journal of Microscopy</i> , <b>2017</b> , 268, 254-258	1.9	9
76	Universal plasmonic properties of two-dimensional nanoparticles possessing sharp corners. <i>Physical Review B</i> , <b>2013</b> , 87,	3.3	9
75	Microscopic origin of ferroelectricity in chiral smectic C* liquid crystals and ordering of ferroelectric fishes proposed by de Gennes. <i>Liquid Crystals</i> , <b>2009</b> , 36, 1281-1288	2.3	9
74	Feedback-controlled two-wave coupling in reflection geometry: application to lithium niobate crystals subjected to extremely high external electric fields. <i>Applied Physics B: Lasers and Optics</i> , <b>2003</b> , 77, 43-48	1.9	9
73	Bound States in the Continuum Underpin Near-Lossless Maximum Chirality in Dielectric Metasurfaces. <i>Advanced Optical Materials</i> , <b>2021</b> , 9, 2100797	8.1	9
72	Spatial distribution and nematic ordering of anisotropic nanoparticles in lamellae and hexagonal phases of block copolymers. <i>European Physical Journal E</i> , <b>2016</b> , 39, 126	1.5	9
71	Precise local control of liquid crystal pretilt on polymer layers by focused ion beam nanopatterning. <i>Beilstein Journal of Nanotechnology</i> , <b>2019</b> , 10, 1691-1697	3	9
70	Molecular theory of liquid-crystal ordering in rod-coil diblock copolymers. <i>Physical Review E</i> , <b>2019</b> , 100, 042701	2.4	8
69	Tarnishing of silver subwavelength slit gratings and its effect on extraordinary optical transmission. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , <b>2014</b> , 12, 122-129	2.6	8
68	Eigenmodes for the problem of extraordinary light transmission through subwavelength holes. <i>Europhysics Letters</i> , <b>2007</b> , 80, 24002	1.6	8
67	Short-pitch helicoidal modes in antiferroelectric liquid crystals and scattering of resonant X rays. <i>JETP Letters</i> , <b>1999</b> , 69, 243-249	1.2	8
66	Micro- and nanostructures for the spatially periodic orientation of liquid crystals obtained by focused ion beam milling. <i>JETP Letters</i> , <b>2017</b> , 105, 174-178	1.2	7

65	Liquid crystal on subwavelength metal gratings. <i>Journal of Applied Physics</i> , <b>2015</b> , 117, 223108	2.5	7
64	Optical properties of periodic arrays of subwavelength slits in a perfect metal. <i>Physical Review B</i> , <b>2011</b> , 84,	3.3	7
63	The effect of a local field on Raman scattering in a uniaxial crystal. <i>Journal of Experimental and Theoretical Physics</i> , <b>1997</b> , 85, 97-103	1	7
62	Photorefractive manipulation of light pulses. <i>Physical Review A</i> , <b>2008</b> , 77,	2.6	7
61	Deformed lying helix transition and lasing effect in cholesteric LC layers at spatially periodic boundary conditions. <i>Liquid Crystals</i> , <b>2020</b> , 47, 384-398	2.3	7
60	Optical control of plasmonic grating transmission by photoinduced anisotropy. <i>Journal of Optics (United Kingdom)</i> , <b>2017</b> , 19, 074001	1.7	6
59	Deceleration and shape-transformation of light pulses during phase conjugation in photorefractive media. <i>Applied Physics B: Lasers and Optics</i> , <b>2009</b> , 95, 545-549	1.9	6
58	Molecular theory of layer contraction in smectic liquid crystals. <i>Journal of Physics Condensed Matter</i> , <b>2008</b> , 20, 465101	1.8	6
57	Regimes of feedback-controlled beam coupling. <i>Physical Review E</i> , <b>2005</b> , 72, 016621	2.4	6
56	Enhanced sensing of molecular optical activity with plasmonic nanohole arrays. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2017</b> , 34, 315	1.7	6
55	Stable nonequilibrium composites based on liquid-crystalline polymers and cadmium selenide nanoparticles. <i>Polymer Science - Series A</i> , <b>2014</b> , 56, 488-497	1.2	5
54	Ferroelectricity in low-symmetry biaxial nematic liquid crystals. <i>Journal of Physics Condensed Matter</i> , <b>2010</b> , 22, 362101	1.8	5
53	The semi-phenomenological model of antiferroelectricity in chiral smectic liquid crystals II. The phase transitions and phase diagrams. <i>Liquid Crystals</i> , <b>1999</b> , 26, 1115-1122	2.3	5
52	Molecular theory of the tilting transition and computer simulations of the tilted lamellar phase of rod-coil diblock copolymers. <i>Journal of Chemical Physics</i> , <b>2020</b> , 152, 184906	3.9	4
51	Phase behavior and orientational ordering in block copolymers doped with anisotropic nanoparticles. <i>Physical Review E</i> , <b>2018</b> , 97, 042706	2.4	4
50	Critical behavior of optical singularities near sharp metal corners and tips. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	4
49	On the measurement of the orientational order parameters in biaxial liquid crystals using the polarised infrared technique. <i>Liquid Crystals</i> , <b>2010</b> , 37, 1569-1576	2.3	4
48	Plasmonic resonances of nanowires with periodically corrugated cross sections. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2012</b> , 29, 3248	1.7	4

47	Methods of crystal optics for studying electromagnetic phenomena in metamaterials: Review. <i>Crystallography Reports</i> , <b>2006</b> , 51, 1048-1062	0.6	4
46	Induced orientational order of anisotropic nanoparticles in the lamellae phase of diblock copolymers. <i>Molecular Crystals and Liquid Crystals</i> , <b>2017</b> , 647, 405-414	0.5	3
45	Selective excitation of plasmons superlocalized at sharp perturbations of metal nanoparticles. <i>Europhysics Letters</i> , <b>2015</b> , 110, 57004	1.6	3
44	Plasmonic Enhancement of Photocurrent in a Hybrid Structure with a Subwavelength Aluminum Grating. <i>JETP Letters</i> , <b>2018</b> , 107, 464-469	1.2	3
43	Orientalional ordering of nanorods in diblock copolymers. <i>Liquid Crystals</i> , <b>2017</b> , 1-9	2.3	3
42	Fabrication of complex shape 3D photonic nanostructures by FIB lithography <b>2015</b> ,		3
41	Theory of critical enhancement of photorefractive beam coupling. <i>Physical Review E</i> , <b>2002</b> , 65, 046623	2.4	3
40	Theoretical analysis of the resonant X-ray and optical scattering in the ferrielectric phases of chiral smectic liquid crystals. <i>Ferroelectrics</i> , <b>2000</b> , 244, 19-29	0.6	3
39	The semi-phenomenological model of antiferroelectricity in chiral smectic liquid crystals III. Dielectric spectroscopy. <i>Liquid Crystals</i> , <b>1999</b> , 26, 1123-1128	2.3	3
38	Lasing in liquid crystal systems with a deformed lying helix. <i>Optics Letters</i> , <b>2020</b> , 45, 4328-4331	3	3
37	Metamaterials Tunable with Liquid Crystals. <i>Springer Series in Materials Science</i> , <b>2015</b> , 237-253	0.9	3
36	Light transmission coefficients by subwavelength aluminum gratings with dielectric layers. <i>Journal of Experimental and Theoretical Physics</i> , <b>2016</b> , 123, 778-783	1	3
35	Nematic liquid crystal alignment on subwavelength metal gratings. <i>Beilstein Journal of Nanotechnology</i> , <b>2018</b> , 9, 42-47	3	2
34	Plasmons localized at nanoscale perturbations of flat metal surface. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2014</b> , 31, 1607	1.7	2
33	Macroscopic view of light pressure on a continuous medium. <i>Physical Review A</i> , <b>2013</b> , 88,	2.6	2
32	Elementary processes of light transformation for slit structures in real and perfect metals. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , <b>2012</b> , 10, 409-415	2.6	2
31	On the role of fluctuations at the boundary of Earth's solid core. <i>Crystallography Reports</i> , <b>2010</b> , 55, 638-645		2
30	Suppressed absolute negative conductance and generation of high-frequency radiation in semiconductor superlattices. <i>Europhysics Letters</i> , <b>2006</b> , 74, 567-567	1.6	2

29	Theory of periodic states for feedback-controlled photorefractive nonlinear systems. <i>Journal of Experimental and Theoretical Physics</i> , <b>2004</b> , 98, 896-907	1	2
28	Critical enhancement of nonlinear response in fast photorefractive crystals. <i>Journal of Experimental and Theoretical Physics</i> , <b>2002</b> , 94, 470-481	1	2
27	Surface effects in thin films of antiferroelectric smectic liquid crystals in terms of the short-pitch long-pitch competition model. <i>European Physical Journal E</i> , <b>2002</b> , 9, 27-34	1.5	2
26	Formation of moving light domains during photorefractive feedback-controlled beam coupling. <i>Optics Communications</i> , <b>2003</b> , 216, 225-231	2	2
25	Switchable optical metasurfaces based on nematic liquid crystal <b>2019</b> ,		2
24	Density Functional Approach to the Molecular Theory of Rod-Coil Diblock Copolymers. <i>Polymer Science - Series A</i> , <b>2020</b> , 62, 562-577	1.2	2
23	Liquid crystal microlenses based on binary surface alignment controlled by focused ion beam treatment. <i>Optics Letters</i> , <b>2021</b> , 46, 3376-3379	3	2
22	Nematic liquid crystals doped with nanoparticles: Phase behavior and dielectric properties. <i>Series in Soft Condensed Matter</i> , <b>2016</b> , 135-175		2
21	Liquid Crystal Ordering in the Hexagonal Phase of Rod-Coil Diblock Copolymers. <i>Polymers</i> , <b>2020</b> , 12,	4.5	1
20	Nonlinear repolarization processes in ferroelectric liquid-crystal thin films. <i>Journal of Experimental and Theoretical Physics</i> , <b>1997</b> , 84, 506-515	1	1
19	Photorefractive deceleration of light pulses. <i>Journal of Experimental and Theoretical Physics</i> , <b>2008</b> , 106, 668-677	1	1
18	Corrugated silicon metasurface optimized within the Rayleigh hypothesis for anomalous refraction at large angles. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2019</b> , 36, 2118	1.7	1
17	Microscopic Studies of Alignment Layers Processed by a Focused Ion Beam for the Creation of Liquid Crystal Metasurfaces. <i>Crystallography Reports</i> , <b>2021</b> , 66, 673-681	0.6	1
16	Electrooptical effect in the plasmon structure glass $\text{In}_2\text{O}_3$ : Sn ferroelectric Al with a subwavelength grating. <i>Journal of Experimental and Theoretical Physics</i> , <b>2017</b> , 125, 469-475	1	0
15	Liquid-crystal metasurfaces: Self-assembly for versatile optical functionality. <i>Europhysics Letters</i> , <b>2021</b> , 136, 24001	1.6	0
14	Controlling liquid crystal alignment by micro-patterned substrates. <i>Journal of Physics: Conference Series</i> , <b>2020</b> , 1461, 012089	0.3	
13	Electro-Optic Effect in Thin Films of a Dielectric and a Ferroelectric with Subwavelength Aluminum Grating. <i>Crystallography Reports</i> , <b>2018</b> , 63, 117-120	0.6	
12	Modeling of optical properties of nanosize metal-dielectric gratings within the eigenmode approach. <i>Nanotechnologies in Russia</i> , <b>2010</b> , 5, 259-265	0.6	

- 11 Fluctuational spatial dispersion in achiral liquid crystals. *Journal of Experimental and Theoretical Physics*, **1998**, 87, 101-105 1
- 10 General Equation of Director Alternating Azimuth Motion in a FLC Cell and Electrooptical Applications. *Molecular Crystals and Liquid Crystals*, **1998**, 321, 189-196
- 9 Feedback-Controlled Photorefractive Beam Coupling **2006**, 163-201
- 8 Specific selective reflections in the ferroelectric phases of chiral smectic liquid crystals. *Ferroelectrics*, **2000**, 247, 307-320 0.6
- 7 Second Harmonic Generation in Arrays of Nanoholes in a Silver Film. *Journal of Experimental and Theoretical Physics*, **2020**, 131, 558-565 1
- 6 Functional Photonic Elements Based on Liquid Crystal Metasurfaces. *Journal of Physics: Conference Series*, **2021**, 2015, 012050 0.3
- 5 Wide-angle Reconfigurable Refraction by Silicon Fourier Metasurfaces. *Journal of Physics: Conference Series*, **2021**, 2015, 012005 0.3
- 4 Different Mechanisms of Translational Symmetry Breaking in Liquid-Crystal Coil-Rod-Coil Triblock Copolymers. *Symmetry*, **2021**, 13, 1834 2.7
- 3 Directing light with liquid crystal metasurfaces. *Journal of Physics: Conference Series*, **2020**, 1461, 012052 0.3
- 2 Molecular-statistical theory of elasticity in nematic liquid crystals composed of polar and nonpolar molecules. *Physical Review E*, **2021**, 103, 052701 2.4
- 1 Features of Light Transmission and Stark Effect in a Plasmonic Nanostructure Comprising Organic Semiconductor and Subwavelength Aluminum Grating. *Crystallography Reports*, **2018**, 63, 977-982 0.6