

# Gennady Shvets

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

113 papers	6,269 citations	31 h-index	78 g-index
140 ext. papers	7,622 ext. citations	6.9 avg, IF	6.22 L-index

#	Paper	IF	Citations
113	Photonic topological insulators. <i>Nature Materials</i> , <b>2013</b> , 12, 233-9	27	1045
112	Fano-resonant asymmetric metamaterials for ultrasensitive spectroscopy and identification of molecular monolayers. <i>Nature Materials</i> , <b>2011</b> , 11, 69-75	27	771
111	Quasi-monoenergetic laser-plasma acceleration of electrons to 2 GeV. <i>Nature Communications</i> , <b>2013</b> , 4, 1988	17.4	419
110	Two-dimensional topological photonics. <i>Nature Photonics</i> , <b>2017</b> , 11, 763-773	33.9	405
109	Wide-angle infrared absorber based on a negative-index plasmonic metamaterial. <i>Physical Review B</i> , <b>2009</b> , 79,	3.3	325
108	Spectrally selective chiral silicon metasurfaces based on infrared Fano resonances. <i>Nature Communications</i> , <b>2014</b> , 5, 3892	17.4	313
107	All-Si valley-Hall photonic topological insulator. <i>New Journal of Physics</i> , <b>2016</b> , 18, 025012	2.9	283
106	Guiding electromagnetic waves around sharp corners: topologically protected photonic transport in metawaveguides. <i>Physical Review Letters</i> , <b>2015</b> , 114, 127401	7.4	225
105	Topologically protected refraction of robust kink states in valley photonic crystals. <i>Nature Physics</i> , <b>2018</b> , 14, 140-144	16.2	213
104	Electron self-injection and trapping into an evolving plasma bubble. <i>Physical Review Letters</i> , <b>2009</b> , 103, 135004	7.4	154
103	Snapshots of laser wakefields. <i>Nature Physics</i> , <b>2006</b> , 2, 749-753	16.2	147
102	Guiding, focusing, and sensing on the subwavelength scale using metallic wire arrays. <i>Physical Review Letters</i> , <b>2007</b> , 99, 053903	7.4	143
101	Experimental demonstration of the microscopic origin of circular dichroism in two-dimensional metamaterials. <i>Nature Communications</i> , <b>2016</b> , 7, 12045	17.4	123
100	Fano-resonant metamaterials and their applications. <i>Nanophotonics</i> , <b>2013</b> , 2, 247-264	6.3	107
99	Engineering the electromagnetic properties of periodic nanostructures using electrostatic resonances. <i>Physical Review Letters</i> , <b>2004</b> , 93, 243902	7.4	96
98	Beyond the ponderomotive limit: Direct laser acceleration of relativistic electrons in sub-critical plasmas. <i>Physics of Plasmas</i> , <b>2016</b> , 23, 056704	2.1	70
97	Bright betatronlike x rays from radiation pressure acceleration of a mass-limited foil target. <i>Physical Review Letters</i> , <b>2013</b> , 110, 045001	7.4	60

96	Active negative-index metamaterial powered by an electron beam. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	58
95	Gyromagnetically induced transparency of metasurfaces. <i>Physical Review Letters</i> , <b>2014</b> , 112, 117402	7.4	57
94	Scattering-free edge states between heterogeneous photonic topological insulators. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	56
93	Synergistic laser-wakefield and direct-laser acceleration in the plasma-bubble regime. <i>Physical Review Letters</i> , <b>2015</b> , 114, 184801	7.4	55
92	Experimental Realization of a Reflections-Free Compact Delay Line Based on a Photonic Topological Insulator. <i>Scientific Reports</i> , <b>2016</b> , 6, 28453	4.9	47
91	Perfect Diffraction with Multiresonant Bianisotropic Metagratings. <i>ACS Photonics</i> , <b>2018</b> , 5, 4303-4311	6.3	46
90	Real-Space Mapping of the Chiral Near-Field Distributions in Spiral Antennas and Planar Metasurfaces. <i>Nano Letters</i> , <b>2016</b> , 16, 663-70	11.5	43
89	Photon acceleration and tunable broadband harmonics generation in nonlinear time-dependent metasurfaces. <i>Nature Communications</i> , <b>2019</b> , 10, 1345	17.4	41
88	Single quantum dot controls a plasmonic cavity's scattering and anisotropy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 12288-92	11.5	40
87	Injection, trapping, and acceleration of electrons in a three-dimensional nonlinear laser wakefield. <i>Physics of Plasmas</i> , <b>2006</b> , 13, 113102	2.1	40
86	Midinfrared Index Sensing of pL-Scale Analytes Based on Surface Phonon Polaritons in Silicon Carbide. <i>Journal of Physical Chemistry C</i> , <b>2010</b> , 114, 7489-7491	3.8	39
85	Optical Realization of Double-Continuum Fano Interference and Coherent Control in Plasmonic Metasurfaces. <i>Physical Review Letters</i> , <b>2015</b> , 114, 237403	7.4	36
84	Studies of laser wakefield structures and electron acceleration in underdense plasma). <i>Physics of Plasmas</i> , <b>2008</b> , 15, 056703	2.1	33
83	Universal scalings for laser acceleration of electrons in ion channels. <i>Physics of Plasmas</i> , <b>2016</b> , 23, 103108	2.1	32
82	Midinfrared Plasmonic Valleytronics in Metagate-Tuned Graphene. <i>Physical Review Letters</i> , <b>2018</b> , 121, 086807	7.4	30
81	Photonic crystal for graphene plasmons. <i>Nature Communications</i> , <b>2019</b> , 10, 4780	17.4	30
80	Plasmonic nano-protractor based on polarization spectro-tomography. <i>Nature Photonics</i> , <b>2013</b> , 7, 367-372	3.9	30
79	Simulations of stable compact proton beam acceleration from a two-ion-species ultrathin foil. <i>Physics of Plasmas</i> , <b>2011</b> , 18, 043110	2.1	30

78	Efficient infrared thermal emitters based on low-albedo polaritonic meta-surfaces. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 211111	3.4	28
77	Interplay Between Optical Bianisotropy and Magnetism in Plasmonic Metamolecules. <i>Nano Letters</i> , <b>2016</b> , 16, 4322-8	11.5	27
76	Mid-infrared metamaterial based on perforated SiC membrane: engineering optical response using surface phonon polaritons. <i>Applied Physics A: Materials Science and Processing</i> , <b>2007</b> , 88, 605-609	2.6	27
75	Nonlinear evolution of the Weibel instability of relativistic electron beams). <i>Physics of Plasmas</i> , <b>2009</b> , 16, 056303	2.1	24
74	Dual-band moiré metasurface patches for multifunctional biomedical applications. <i>Nanoscale</i> , <b>2016</b> , 8, 18461-18468	7.7	24
73	Enhanced Nonlinear Light Generation in Oligomers of Silicon Nanoparticles under Vector Beam Illumination. <i>Nano Letters</i> , <b>2020</b> , 20, 3471-3477	11.5	21
72	The analytic model of a laser-accelerated plasma target and its stability. <i>Physics of Plasmas</i> , <b>2014</b> , 21, 013110	2.1	20
71	Polarimetry Using Graphene-Integrated Anisotropic Metasurfaces. <i>ACS Photonics</i> , <b>2018</b> , 5, 4283-4288	6.3	18
70	Exciting reflectionless unidirectional edge modes in a reciprocal photonic topological insulator medium. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	17
69	Electrically Actuated Varifocal Lens Based on Liquid-Crystal-Embedded Dielectric Metasurfaces. <i>Nano Letters</i> , <b>2021</b> , 21, 3849-3856	11.5	17
68	Computationally efficient description of relativistic electron beam transport in collisionless plasma. <i>Physics of Plasmas</i> , <b>2007</b> , 14, 043103	2.1	16
67	Spontaneous emergence of non-planar electron orbits during direct laser acceleration by a linearly polarized laser pulse. <i>Physics of Plasmas</i> , <b>2016</b> , 23, 023111	2.1	16
66	Laser wakefield and direct acceleration with ionization injection. <i>Plasma Physics and Controlled Fusion</i> , <b>2016</b> , 58, 034011	2	15
65	Electrical tuning of the polarization state of light using graphene-integrated anisotropic metasurfaces. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2017</b> , 375,	3	14
64	Tailored Nonlinear Anisotropy in Mie-Resonant Dielectric Oligomers. <i>Advanced Optical Materials</i> , <b>2019</b> , 7, 1900447	8.1	14
63	Single-shot visualization of evolving laser wakefields using an all-optical streak camera. <i>Physical Review Letters</i> , <b>2014</b> , 113, 085001	7.4	14
62	Plasmonic scaling of superconducting metamaterials. <i>Physical Review B</i> , <b>2013</b> , 88,	3.3	14
61	Frequency Conversion in a Time-Variant Dielectric Metasurface. <i>Nano Letters</i> , <b>2020</b> , 20, 7052-7058	11.5	14

60	Beat-wave excitation of plasma waves based on relativistic bistability. <i>Physical Review Letters</i> , <b>2004</b> , 93, 195004	7.4	13
59	Stimulated Raman backscattering of laser radiation in deep plasma channels. <i>Physics of Plasmas</i> , <b>2004</b> , 11, 4686-4694	2.1	13
58	Application of metasurface-enhanced infra-red spectroscopy to distinguish between normal and cancerous cell types. <i>Analyst, The</i> , <b>2019</b> , 144, 1115-1127	5	12
57	Time-variant metasurfaces enable tunable spectral bands of negative extinction. <i>Optica</i> , <b>2019</b> , 6, 1441	8.6	12
56	Growth and propagation of self-generated magnetic dipole vortices in collisionless shocks produced by interpenetrating plasmas. <i>Physics of Plasmas</i> , <b>2018</b> , 25, 012118	2.1	11
55	Infrared spectroscopy of live cells from a flowing solution using electrically-biased plasmonic metasurfaces. <i>Lab on A Chip</i> , <b>2020</b> , 20, 2136-2153	7.2	10
54	The influence of impurities and planar defects on the infrared properties of silicon carbide films. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 191904	3.4	10
53	Growth and characterization of single crystal rocksalt LaAs using LuAs barrier layers. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 221908	3.4	10
52	Direct laser acceleration of electrons in the plasma bubble by tightly focused laser pulses. <i>Physics of Plasmas</i> , <b>2019</b> , 26, 083101	2.1	9
51	Laser-seeded modulation instability in a proton driver plasma wakefield accelerator. <i>Physics of Plasmas</i> , <b>2013</b> , 20, 103111	2.1	8
50	Topology-Controlled Photonic Cavity Based on the Near-Conservation of the Valley Degree of Freedom. <i>Physical Review Letters</i> , <b>2020</b> , 125, 213902	7.4	8
49	Generation of even and odd high harmonics in resonant metasurfaces using single and multiple ultra-intense laser pulses. <i>Nature Communications</i> , <b>2021</b> , 12, 4185	17.4	8
48	Three-dimensional filamentary structures of a relativistic electron beam in fast ignition plasmas. <i>Physics of Plasmas</i> , <b>2008</b> , 15, 120702	2.1	7
47	Polariton-enhanced near field lithography and imaging with infrared light. <i>Materials Research Society Symposia Proceedings</i> , <b>2004</b> , 820, 243		7
46	Far-field constant-gradient laser accelerator of electrons in an ion channel. <i>Physics of Plasmas</i> , <b>2018</b> , 25, 083101	2.1	7
45	Transmission-Line Model and Propagation in a Negative-Index, Parallel-Plate Metamaterial to Boost Electron-Beam Interaction. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2014</b> , 62, 3212-3221	4.9	6
44	Prism-coupled surface wave accelerator based on silicon carbide. <i>Physical Review Special Topics: Accelerators and Beams</i> , <b>2012</b> , 15,		6
43	Compression of laser radiation in plasmas via electromagnetic cascadinga). <i>Physics of Plasmas</i> , <b>2006</b> , 13, 056707	2.1	6

42	Overcoming the efficiency-bandwidth tradeoff for optical harmonics generation using nonlinear time-variant resonators. <i>Physical Review A</i> , <b>2019</b> , 100,	2.6	6
41	Light, the universe and everything ¶ 2 Herculean tasks for quantum cowboys and black diamond skiers. <i>Journal of Modern Optics</i> , <b>2018</b> , 65, 1261-1308	1.1	5
40	Single-shot visualization of evolving plasma wakefields <b>2016</b> ,		5
39	Topologically protected photonic modes in composite quantum Hall/quantum spin Hall waveguides. <i>Physical Review B</i> , <b>2019</b> , 100,	3.3	5
38	Electrically defined topological interface states of graphene surface plasmons based on a gate-tunable quantum Bragg grating. <i>Nanophotonics</i> , <b>2019</b> , 8, 1417-1431	6.3	5
37	Polarization states synthesizer based on a thermo-optic dielectric metasurface. <i>Journal of Applied Physics</i> , <b>2019</b> , 126, 073102	2.5	5
36	Adiabatic bistable evolution of dynamical systems governed by a Hamiltonian with separatrix crossing. <i>Physics of Plasmas</i> , <b>2006</b> , 13, 054502	2.1	5
35	Relativistic dynamical bistability and adiabatic excitation of strong plasma waves). <i>Physics of Plasmas</i> , <b>2007</b> , 14, 055908	2.1	5
34	Many-body theory of radiative lifetimes of exciton-trion superposition states in doped two-dimensional materials. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	5
33	Rare-Earth Monopnictide Alloys for Tunable, Epitaxial, Designer Plasmonics. <i>ACS Photonics</i> , <b>2018</b> , 5, 3056-30564	6.3	4
32	A subwavelength near-infrared negative index material. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 131107	3.4	4
31	Nonlinear control of fast light by slow light. <i>Journal of Modern Optics</i> , <b>2006</b> , 53, 2507-2518	1.1	4
30	Zero-energy corner states in a non-Hermitian quadrupole insulator. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	4
29	Effects of laser polarization and wavelength on hybrid laser wakefield and direct acceleration. <i>Plasma Physics and Controlled Fusion</i> , <b>2018</b> , 60, 105002	2	4
28	Monitoring the effects of chemical stimuli on live cells with metasurface-enhanced infrared reflection spectroscopy. <i>Lab on A Chip</i> , <b>2021</b> , 21, 3991-4004	7.2	4
27	Nonlinear plasma waves driven by short ultrarelativistic electron bunches. <i>Physics of Plasmas</i> , <b>2017</b> , 24, 103117	2.1	3
26	Analytic model of electron beam thermalization during the resistive Weibel instability. <i>Physics of Plasmas</i> , <b>2011</b> , 18, 103109	2.1	3
25	Laser-pulse and electron-bunch plasma wakefield accelerator. <i>Physical Review Accelerators and Beams</i> , <b>2020</b> , 23,	1.8	3

24	Transition Radiation in Photonic Topological Crystals: Quasiresonant Excitation of Robust Edge States by a Moving Charge. <i>Physical Review Letters</i> , <b>2019</b> , 123, 057402	7.4	2
23	Preparation For Laser Wakefield Experiments Driven by the Texas Petawatt Laser System <b>2009</b> ,		2
22	Interplay of collisions and temperature on the filamentary structures of a relativistic electron beam in plasmas. <i>European Physical Journal D</i> , <b>2009</b> , 55, 415-420	1.3	2
21	Halo formation and self-pinching of an electron beam undergoing the Weibel instability. <i>Physics of Plasmas</i> , <b>2012</b> , 19, 103106	2.1	2
20	Simulation of the bulk and surface modes supported by a diamond lattice of metal wires. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 103107	2.5	2
19	Spin-Polarized Fractional Corner Charges and Their Photonic Realization.. <i>Physical Review Letters</i> , <b>2022</b> , 128, 026801	7.4	2
18	Deep Optical Switching on Subpicosecond Timescales in an Amorphous Ge Metamaterial. <i>Advanced Optical Materials</i> , <b>2021</b> , 9, 2100240	8.1	2
17	Photonic emulation of two-dimensional materials with antiferromagnetic order. <i>Physical Review B</i> , <b>2019</b> , 100,	3.3	2
16	Laser-Ion Lens and Accelerator. <i>Physical Review Letters</i> , <b>2021</b> , 126, 024801	7.4	2
15	Dynamic inductive tuning of Fano-resonant meta-surfaces using plasmonic response of graphene in mid-infrared <b>2013</b> ,		1
14	Ultrasensitive plasmonic fano sensor enables seeing protein monolayers with naked eye <b>2011</b> ,		1
13	Snapshots of Laser-Generated Wakefields. <i>AIP Conference Proceedings</i> , <b>2006</b> ,	0	1
12	Exciton-Trion Polaritons in Doped Two-Dimensional Semiconductors. <i>Physical Review Letters</i> , <b>2021</b> , 126, 127402	7.4	1
11	Programmable Bloch polaritons in graphene. <i>Science Advances</i> , <b>2021</b> , 7,	14.3	1
10	Structure and dispersion of exciton-trion-polaritons in two-dimensional materials: Experiments and theory. <i>Physical Review Research</i> , <b>2021</b> , 3,	3.9	1
9	Betatron x-rays from GeV laser-plasma-accelerated electrons <b>2016</b> ,		1
8	Monitoring the effects of chemical stimuli on live cells with metasurface-enhanced infrared reflection spectroscopy		1
7	Subfemtosecond Wakefield Injector and Accelerator Based on an Undulating Plasma Bubble Controlled by a Laser Phase. <i>Physical Review Letters</i> , <b>2021</b> , 127, 164801	7.4	0

6	Imaging the local biochemical content of native and injured intervertebral disc using Fourier transform infrared microscopy. <i>JOR Spine</i> , <b>2020</b> , 3, e1121	3.7	o
5	Electron energization dynamics in interaction of self-generated magnetic vortices in upstream of collisionless electron/ion shocks.. <i>Scientific Reports</i> , <b>2022</b> , 12, 7327	4.9	o
4	Probing the Drug Dynamics of Chemotherapeutics Using Metasurface-Enhanced Infrared Reflection Spectroscopy of Live Cells. <i>Cells</i> , <b>2022</b> , 11, 1600	7.9	o
3	Metasurface-Enhanced Infrared Spectroscopy: An Abundance of Materials and Functionalities. <i>Advanced Materials</i> , 2110163	24	o
2	Mode-selective single-dipole excitation and controlled routing of guided waves in a multi-mode topological waveguide. <i>Applied Physics Letters</i> , <b>2022</b> , 120, 221702	3.4	o
1	One-Way Leaky-Cladding Meta-Waveguides Based on Accidental Dirac Cones. <i>IEEE Transactions on Antennas and Propagation</i> , <b>2020</b> , 68, 1733-1738	4.9	