

# Maxim R Shcherbakov

## List of Publications by Year in descending order

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96  
papers

2,592  
citations

304368

22  
h-index

189595

50  
g-index

98  
all docs

98  
docs citations

98  
times ranked

2571  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Enhanced Third-Harmonic Generation in Silicon Nanoparticles Driven by Magnetic Response. Nano Letters, 2014, 14, 6488-6492.  | 4.5 | 522       |
| 2  | Ultrafast All-Optical Switching with Magnetic Resonances in Nonlinear Dielectric Nanostructures. Nano Letters, 2015, 15, 6985-6990.  | 4.5 | 362       |
| 3  | Ultrafast all-optical tuning of direct-gap semiconductor metasurfaces. Nature Communications, 2017, 8, 17.   | 5.8 | 300       |
| 4  | Multifold Enhancement of Third-Harmonic Generation in Dielectric Nanoparticles Driven by Magnetic Fano Resonances. Nano Letters, 2016, 16, 4857-4861.  | 4.5 | 176       |
| 5  | Nonlinear Interference and Tailorable Third-Harmonic Generation from Dielectric Oligomers. ACS Photonics, 2015, 2, 578-582.  | 3.2 | 124       |
| 6  | Photon acceleration and tunable broadband harmonics generation in nonlinear time-dependent metasurfaces. Nature Communications, 2019, 10, 1345.  | 5.8 | 82        |
| 7  | Electrically Actuated Varifocal Lens Based on Liquid-Crystal-Embedded Dielectric Metasurfaces. Nano Letters, 2021, 21, 3849-3856.  | 4.5 | 81        |
| 8  | Polarization-Dependent Second Harmonic Diffraction from Resonant GaAs Metasurfaces. ACS Photonics, 2018, 5, 1786-1793.   | 3.2 | 74        |
| 9  | Perfect Diffraction with Multiresonant Bianisotropic Metagratings. ACS Photonics, 2018, 5, 4303-4311.  | 3.2 | 52        |
| 10 | Frequency Conversion in a Time-Variant Dielectric Metasurface. Nano Letters, 2020, 20, 7052-7058.  | 4.5 | 45        |
| 11 | Generation of even and odd high harmonics in resonant metasurfaces using single and multiple ultra-intense laser pulses. Nature Communications, 2021, 12, 4185.  | 5.8 | 40        |
| 12 | Full Poincaré sphere coverage with plasmonic nanoslit metamaterials at Fano resonance. Physical Review B, 2010, 82, .  | 1.1 | 37        |
| 13 | Directional Optical Sorting of Silicon Nanoparticles. ACS Photonics, 2017, 4, 2312-2319.   | 3.2 | 35        |
| 14 | Polarimetry Using Graphene-Integrated Anisotropic Metasurfaces. ACS Photonics, 2018, 5, 4283-4288.   | 3.2 | 35        |
| 15 | Enhanced Nonlinear Light Generation in Oligomers of Silicon Nanoparticles under Vector Beam Illumination. Nano Letters, 2020, 20, 3471-3477.   | 4.5 | 35        |
| 16 | Third-harmonic generation from Mie-type resonances of isolated all-dielectric nanoparticles. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160281. | 1.6 | 34        |
| 17 | Nonlinear Symmetry Breaking in Symmetric Oligomers. ACS Photonics, 2017, 4, 454-461.   | 3.2 | 32        |
| 18 | Contribution of the magnetic resonance to the third harmonic generation from a fishnet metamaterial. Physical Review B, 2012, 86, .  | 1.1 | 31        |

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|----|--|-----|-----------|
| 19 | Under- and over-water halves of Gyrinidae beetle eyes harbor different corneal nanocoatings providing adaptation to the water and air environments. <i>Scientific Reports</i> , 2014, 4, 6004. | 1.6 | 28        |
| 20 | Optical Magnetism and Fundamental Modes of Nanodiamonds. <i>ACS Photonics</i> , 2017, 4, 1153-1158.  | 3.2 | 26        |
| 21 | Low-Power Absorption Saturation in Semiconductor Metasurfaces. <i>ACS Photonics</i> , 2019, 6, 2797-2806.  | 3.2 | 25        |
| 22 | Ultrafast Polarization Shaping with Fano Plasmonic Crystals. <i>Physical Review Letters</i> , 2012, 108, 253903.   | 2.9 | 23        |
| 23 | Resonant dielectric metasurfaces in strong optical fields. <i>APL Materials</i> , 2021, 9, 060701.   | 2.2 | 23        |
| 24 | Tailoring Third-Harmonic Diffraction Efficiency by Hybrid Modes in High-Q Metasurfaces. <i>Nano Letters</i> , 2021, 21, 10438-10445.   | 4.5 | 23        |
| 25 | Plasmon induced modification of silicon nanocrystals photoluminescence in presence of gold nanostripes. <i>Scientific Reports</i> , 2018, 8, 4911.   | 1.6 | 22        |
| 26 | Time-variant metasurfaces enable tunable spectral bands of negative extinction. <i>Optica</i> , 2019, 6, 1441.   | 4.8 | 22        |
| 27 | SERS-active dielectric metamaterials based on periodic nanostructures. <i>Optics Express</i> , 2016, 24, 7133.   | 1.7 | 21        |
| 28 | Tailored Nonlinear Anisotropy in Mie-Resonant Dielectric Oligomers. <i>Advanced Optical Materials</i> , 2019, 7, 1900447.  | 3.6 | 18        |
| 29 | Overcoming the efficiency-bandwidth tradeoff for optical harmonics generation using nonlinear time-variant resonators. <i>Physical Review A</i> , 2019, 100, .                                 | 1.0 | 18        |
| 30 | Near-Field Mapping of Optical Fabry-Perot Modes in All-Dielectric Nanoantennas. <i>Nano Letters</i> , 2017, 17, 7629-7637.   | 4.5 | 17        |
| 31 | Ultrafast control of third-order optical nonlinearities in fishnet metamaterials. <i>Scientific Reports</i> , 2016, 6, 28440.  | 1.6 | 16        |
| 32 | Dark mode enhancing magneto-optical Kerr effect in multilayer magnetoplasmonic crystals. <i>Physical Review B</i> , 2020, 101, .   | 1.1 | 16        |
| 33 | Third-harmonic light polarization control in magnetically resonant silicon metasurfaces. <i>Optics Express</i> , 2021, 29, 11605.  | 1.7 | 16        |
| 34 | Plasmonic enhancement of linear birefringence and linear dichroism in anisotropic optical metamaterials. <i>JETP Letters</i> , 2009, 90, 433-437.  | 0.4 | 15        |
| 35 | Polarization states synthesizer based on a thermo-optic dielectric metasurface. <i>Journal of Applied Physics</i> , 2019, 126, 073102.   | 1.1 | 15        |
| 36 | Femtosecond intrapulse evolution of the magneto-optic Kerr effect in magnetoplasmonic crystals. <i>Physical Review B</i> , 2014, 90, .   | 1.1 | 14        |

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|----|--|-----|-----------|
| 37 | Optical properties of silicon nanocrystals covered by periodic array of gold nanowires. Physical Review B, 2016, 93, .   | 1.1 | 14        |
| 38 | Interaction of semiconductor metasurfaces with short laser pulses: From nonlinear-optical response toward spatiotemporal shaping. Journal of Applied Physics, 2019, 126, . | 1.1 | 14        |
| 39 | Optical Coupling between Resonant Dielectric Nanoparticles and Dielectric Nanowires Probed by Third Harmonic Generation Microscopy. ACS Photonics, 2019, 6, 189-195.       | 3.2 | 11        |
| 40 | Externally Driven Nonlinear Time-Variant Metasurfaces. ACS Photonics, 2022, 9, 493-502.  | 3.2 | 11        |
| 41 | Femtosecond relaxation dynamics of surface plasmon-polaritons in the vicinity of fano-type resonance. JETP Letters, 2010, 92, 575-579.                                     | 0.4 | 10        |
| 42 | Nonlinear response of Q-boosting metasurfaces beyond the time-bandwidth limit. Nanophotonics, 2022, 11, 4053-4061.   | 2.9 | 10        |
| 43 | Handedness-sensitive emission of surface plasmon polaritons by elliptical nanohole ensembles. Optics Express, 2012, 20, 10538.   | 1.7 | 9         |
| 44 | Near-field optical polarimetry of plasmonic nanowires. JETP Letters, 2011, 93, 720-724.  | 0.4 | 8         |
| 45 | Magnetic field-controlled femtosecond pulse shaping by magnetoplasmonic crystals. Journal of Applied Physics, 2013, 113, 17A947.   | 1.1 | 8         |
| 46 | Electrically defined topological interface states of graphene surface plasmons based on a gate-tunable quantum Bragg grating. Nanophotonics, 2019, 8, 1417-1431.           | 2.9 | 8         |
| 47 | Femtosecond pulse shaping with plasmonic crystals. JETP Letters, 2015, 101, 787-792.   | 0.4 | 7         |
| 48 | Plasmon ruler with gold nanorod dimers: utilizing the second-order resonance. Optics Letters, 2015, 40, 1571.  | 1.7 | 6         |
| 49 | Deep Optical Switching on Subpicosecond Timescales in an Amorphous Ge Metamaterial. Advanced Optical Materials, 2021, 9, 2100240.  | 3.6 | 4         |
| 50 | Recent Advances in Nanoplasmonics and Magnetoplasmonics. Nanostructure Science and Technology, 2013, , 41-75.  | 0.1 | 2         |
| 51 | Localized-to-propagating surface plasmon transitions in gold nanoslit gratings. JETP Letters, 2016, 103, 46-50.  | 0.4 | 2         |
| 52 | Nonlinear and ultrafast effects. , 2020, , 223-248.  |     | 2         |
| 53 | Nonlinear Manifestations of Photon Acceleration in Rapidly Evolving Semiconductor Metasurfaces. , 2018, , .  |     | 2         |
| 54 | Ultrafast all-optical tuning of magnetic modes in GaAs metasurfaces. , 2017, , .   |     | 2         |

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|----|---|-----|-----------|
| 55 | Optical properties of one-dimensional subwave plasmonic nanostructures. JETP Letters, 2010, 92, 742-745.  | 0.4 | 1         |
| 56 | Near-field optical microscopy of plasmonic effects in anisotropic metamaterials. Physica C: Superconductivity and Its Applications, 2012, 479, 183-185.   | 0.6 | 1         |
| 57 | Nonlinear Properties of "Magnetic Light". Asia-Pacific Physics Newsletter, 2015, 04, 57-58.   | 0.0 | 1         |
| 58 | Optical coupling between resonant dielectric nanoparticles and dielectric waveguides probed by third harmonic generation microscopy. Journal of Physics: Conference Series, 2018, 1092, 012104. | 0.3 | 1         |
| 59 | Perfect Diffraction using All-Dielectric Bianisotropic Metagratings. , 2018, , .  |     | 1         |
| 60 | Intensity-dependent reflectance modulation of femtosecond laser pulses in GaAs nanocylinders with magnetic resonances. Journal of Physics: Conference Series, 2018, 1092, 012181.               | 0.3 | 1         |
| 61 | Saturation of fluorescence from NV centers in Mie-resonant diamond particles. Journal of Physics: Conference Series, 2018, 1092, 012102.  | 0.3 | 1         |
| 62 | Plasmon-induced wavelength-dependent polarization switching in optical metamaterials. Proceedings of SPIE, 2009, , .  | 0.8 | 0         |
| 63 | Surface-plasmon relaxation dynamics in planar plasmonic crystals. , 2010, , .   |     | 0         |
| 64 | Optical chirality in plasmonic arrays of subwavelength Z-shaped apertures. , 2010, , .  |     | 0         |
| 65 | Femtosecond dynamics of resonantly enhanced surface plasmons in planar plasmonic crystals. , 2010, , .  |     | 0         |
| 66 | Optical properties of 1D metal nanogratings. Journal of Surface Investigation, 2011, 5, 941-944.  | 0.1 | 0         |
| 67 | Third-harmonic spectroscopy of all-dielectric oligomers with both electric and magnetic resonances. , 2014, , .   |     | 0         |
| 68 | Third-Harmonic Generation from Silicon Oligomers and Metasurfaces. , 2015, , .  |     | 0         |
| 69 | Femtosecond control of magneto-optical effects in magnetoplasmonic crystals. , 2015, , .  |     | 0         |
| 70 | Observation of Spontaneous Symmetry Breaking in Nanostructures. , 2016, , .   |     | 0         |
| 71 | Free-carrier contribution to all-optical switching in Mie-resonant hydrogenated amorphous silicon nanodisks. Proceedings of SPIE, 2016, , .   | 0.8 | 0         |
| 72 | Third harmonic generation in isolated all dielectric meta-atoms (Conference Presentation). , 2016, , .  |     | 0         |

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|----|--|-----|-----------|
| 73 | Non-plasmonic nanostructures for subwavelength nonlinear optics (Conference Presentation). , 2016, , .   |     | 0         |
| 74 | Enhancement of nonlinear-optical effects in silicon nanodisks driven by magnetic Mie resonances (Conference Presentation). , 2017, , .                                 |     | 0         |
| 75 | Nonlinear anisotropy in silicon nanoparticle oligomers. AIP Conference Proceedings, 2017, , .  | 0.3 | 0         |
| 76 | Ultrafast modulation of femtosecond laser pulses in direct-gap semiconductor metasurfaces with magnetic resonances. AIP Conference Proceedings, 2017, , .              | 0.3 | 0         |
| 77 | Magneto-optical effects from nanoparticles enhanced by Mie resonances. , 2017, , .   |     | 0         |
| 78 | Bianisotropic All-dielectric Metasurfaces for Efficient Diffraction of Mid-infrared Electromagnetic Waves. , 2018, , .   |     | 0         |
| 79 | Shaping of Femtosecond Laser Pulses with Plasmonic Crystals. , 2013, , .   |     | 0         |
| 80 | Enhanced third-harmonic generation in silicon oligomers driven by magnetic Fano resonance. , 2016, , .   |     | 0         |
| 81 | Ultrafast Nonlinearities Driven by Magnetic Response in All-Dielectric Nanostructures. , 2016, , .   |     | 0         |
| 82 | Magneto-optics enhanced by Mie resonances. , 2017, , .   |     | 0         |
| 83 | All-optical control of resonant semiconductor metasurfaces for nonlinear mid-IR nanophotonics (Conference Presentation). , 2018, , .                                   |     | 0         |
| 84 | Multidirectional optical sorting of Mie resonant dielectric nanoparticles (Conference Presentation). , 2018, , .   |     | 0         |
| 85 | Manifestations of photon acceleration in semiconductor metasurfaces (Conference Presentation). , 2018, , .   |     | 0         |
| 86 | Mid-IR applications of resonant semiconductor metasurfaces: from "perfect" diffraction gratings to tunable harmonics generation (Conference Presentation). , 2019, , . |     | 0         |
| 87 | Enhancing harmonics generation by time-variant metasurfaces. , 2019, , .   |     | 0         |
| 88 | Observation and nonlinear optical probing of flat band states in high-Q dielectric metasurfaces. , 2020, , .   |     | 0         |
| 89 | Nonlinear Light Generation Driven by Collective Magnetic Modes in Oligomers of Silicon Nanoparticles Excited by Vector Beams. , 2020, , .                              |     | 0         |
| 90 | Frequency Conversion in a Dielectric Time-Variant Metasurface via Optical Pumping. , 2020, , .   |     | 0         |

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|----|--|-----|-----------|
| 91 | Numerical verification of nonlinear response beyond the efficiency-bandwidth limit in time-variant metasurfaces. AIP Conference Proceedings, 2020, , . | 0.3 | 0         |
| 92 | Tailoring Nonlinear Diffraction in Silicon Metasurfaces. , 2020, , .   |     | 0         |
| 93 | Time-dependent metasurfaces for efficient all-optical switching at different frequencies. AIP Conference Proceedings, 2020, , .                        | 0.3 | 0         |
| 94 | Thermo-optic Dielectric Metasurfaces for Polarization State Synthesizers and Active Lensing. , 2020, , .   |     | 0         |
| 95 | High Harmonic Generation from a Large-gap Semiconductor Metasurface. , 2020, , .   |     | 0         |
| 96 | Negative Extinction and Broadband Light-matter Interactions in High-Q Time-variant Metasurfaces. , 2020, , .   |     | 0         |