Mikhail A Kats

List of Publications by Year
in descending order

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127 papers	19,864 citations	66234 42 h-index	48187 88 g-index
132 all docs	132 docs citations	132 times ranked	12599 citing authors

#	Article	IF	Citations
1	Switchable Induced-Transmission Filters Enabled by Vanadium Dioxide. Nano Letters, 2022, 22, 6-13.	4.5	15
2	Comment on â€œElectromagnetic force on structured metallic surfacesâ€• Physical Review B, 2022, 105, .	1.1	1
3	Super-Planckian emission cannot really be â€˜thermalâ€™. Nature Photonics, 2022, 16, 397-401.	15.6	11
4	Orientation-Controlled Anisotropy in Single Crystals of Quasi-1D BaTiS₃. Chemistry of Materials, 2022, 34, 5680-5689.	3.2	6
5	Tuning carrier density and phase transitions in oxide semiconductors using focused ion beams. Nanophotonics, 2022, 11, 3923-3932.	2.9	10
6	Tunable Infrared Optics Enabled by Defect-Engineering of Vanadium Dioxide Using Focused Ion Beam. , 2021, , .		0
7	Planck Spectroscopy. , 2021, , .		0
8	Vapor condensation with daytime radiative cooling. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	86
9	Using Bottom-Up Lithography and Optical Nonlocality to Create Short-Wave Infrared Plasmonic Resonances in Graphene. ACS Photonics, 2021, 8, 1277-1285.	3.2	3
10	Passive frequency conversion of ultraviolet images into the visible using perovskite nanocrystals. Journal of Optics (United Kingdom), 2021, 23, 054001.	1.0	4
11	Hyperspectral interference tomography of nacre. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	5
12	Ultrathin Broadband Reflective Optical Limiter. Laser and Photonics Reviews, 2021, 15, 2100001.	4.4	20
13	Efficient generation of optical bottle beams. Nanophotonics, 2021, 10, 2893-2901.	2.9	7
14	High-Density Covalent Grafting of Spin-Active Molecular Moieties to Diamond Surfaces. Langmuir, 2021, 37, 9222-9231.	1.6	3
15	Inverse Design of Metasurfaces Based on Coupled-Mode Theory and Adjoint Optimization. ACS Photonics, 2021, 8, 2265-2273.	3.2	45
16	Planck Spectroscopy. Laser and Photonics Reviews, 2021, 15, 2100121.	4.4	2
17	Optical Characterization of A1+xBX3 Crystals. , 2021, , .		0
18	Engineering Optical Materials Using Focused Ion Beams. , 2021, , .		0

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19	Optical components based on multi-refractive-index metamaterials. Journal Physics D: Applied Physics, 2020, 53, 015108.	1.3	0
20	Infrared Polarizer Based on Direct Coupling to Surface Plasmon Polaritons. Nano Letters, 2020, 20, 8483-8486.	4.5	3
21	Thinking Systematically About the Online Academic Experience [Highlights]. IEEE Nanotechnology Magazine, 2020, 14, 3-5.	0.9	0
22	Adjoint-optimized nanoscale light extractor for enhanced luminescence from color centers in diamond. , 2020, , .		1
23	Precision Measurements of Temperatureâ€Dependent and Nonequilibrium Thermal Emitters. Laser and Photonics Reviews, 2020, 14, 1900443.	4.4	26
24	How to organize an online conference. Nature Reviews Materials, 2020, 5, 253-256.	23.3	62
25	Dark field on a chip. Nature Photonics, 2020, 14, 266-267.	15.6	5
26	Depth Thermography: Noninvasive 3D Temperature Profiling Using Infrared Thermal Emission. ACS Photonics, 2020, 7, 853-860.	3.2	8
27	Adjoint-optimized nanoscale light extractor for nitrogen-vacancy centers in diamond. Nanophotonics, 2020, 10, 393-401.	2.9	13
28	Nonlinear optical isolators based on thin-film vanadium dioxide and metallic frequency-selective surfaces. , 2020, , .		0
29	Measuring non-equilibrium and temperature-dependent thermal emitters. , 2020, , .		0
30	Optical power limiters based on frequency-selective surfaces and phase-transition materials. , 2020, , .		0
31	Toward Frequency-Selective Surfaces via Doping of Zinc Oxide with a Focused Ion Beam. , 2020, , .		0
32	Low-cost mid-infrared polarizer based on direct coupling to surface-plasmon polaritons. , 2020, , .		0
33	On the Optical Properties of Thinâ€Film Vanadium Dioxide from the Visible to the Far Infrared. Annalen Der Physik, 2019, 531, 1900188.	0.9	135
34	Self-Stabilizing Laser Sails Based on Optical Metasurfaces. ACS Photonics, 2019, 6, 2032-2040.	3.2	35
35	Wide-Angle Spectrally Selective Absorbers and Thermal Emitters Based on Inverse Opals. ACS Photonics, 2019, 6, 2607-2611.	3.2	20
36	Nanophotonic engineering of far-field thermal emitters. Nature Materials, 2019, 18, 920-930.	13.3	261

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37	Nanosecond mid-infrared pulse generation via modulated thermal emissivity. Light: Science and Applications, 2019, 8, 51.	7.7	28
38	Single-shot on-chip spectral sensors based on photonic crystal slabs. Nature Communications, 2019, 10, 1020.	5.8	190
39	Temperature-independent thermal radiation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26402-26406.	3.3	69
40	Measuring Thermal Emission Near Room Temperature Using Fourier-Transform Infrared Spectroscopy. Physical Review Applied, 2019, 11, .	1.5	29
41	Accelerating vapor condensation with daytime radiative cooling. , 2019, , .		9
42	Depth thermography enabled by precise thermal-emission measurements. , 2019, , .		0
43	Decoupling of temperature and thermal radiation. , 2019, , .		1
44	Flat Optical and Plasmonic Devices Using Areaâ€Selective Ionâ€Beam Doping of Silicon. Advanced Optical Materials, 2018, 6, 1701027.	3.6	12
45	Thermally tunable VO2-SiO2 nanocomposite thin-film capacitors. Journal of Applied Physics, 2018, 123, .	1.1	4
46	Embedded Optics: Flat Optical and Plasmonic Devices Using Areaâ€Selective Ionâ€Beam Doping of Silicon (Advanced Optical Materials 5/2018). Advanced Optical Materials, 2018, 6, 1870019.	3.6	1
47	Nanosecond Mid-Infrared Pulse Generation via Modulated Thermal Emission. , 2018, , .		1
48	Monolithic Doped-Semiconductor Platform for Optical Devices in the Infrared. , 2018, , .		0
49	Mid-infrared Optics Using Dielectrics with Refractive Indices Below Unity. Physical Review Applied, 2018, 10, .	1.5	15
50	Impact of corrosion on the emissivity of advanced reactor structural alloys. Journal of Nuclear Materials, 2018, 508, 465-471.	1.3	11
51	Radiative Thermal Runaway Due to Negative-Differential Thermal Emission Across a Solid-Solid Phase Transition. Physical Review Applied, 2018, 10, .	1.5	20
52	Design considerations for the enhancement of human color vision by breaking binocular redundancy. Scientific Reports, 2018, 8, 11971.	1.6	8
53	Peculiarities of near-room-temperature thermal-emission measurements using FTIR spectroscopy. , 2018, , .		1
54	Optical Paleothermometry Using Nacre. , 2018, , .		1

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55	Ultrafast pulse generation in the mid-infrared via modulated emissivity. , 2018, , .		0
56	Giant optical anisotropy in a quasi-one-dimensional crystal. Nature Photonics, 2018, 12, 392-396.	15.6	269
57	Limiting Optical Diodes Enabled by the Phase Transition of Vanadium Dioxide. ACS Photonics, 2018, 5, 2688-2692.	3.2	43
58	Optical Metasurface Based on the Resonant Scattering in Electronic Transitions. ACS Photonics, 2017, 4, 1279-1285.	3.2	10
59	Evolution of Metallicity in Vanadium Dioxide by Creation of Oxygen Vacancies. Physical Review Applied, 2017, 7, .	1.5	88
60	Epsilon-Near-Zero Substrate Engineering for Ultrathin-Film Perfect Absorbers. Physical Review Applied, 2017, 8, .	1.5	88
61	Zero-Differential Thermal Emission Using Thermochromic Samarium Nickelate. , 2017, , .		2
62	Characterization of near-room-temperature thermal emitters. , 2017, , .		0
63	Optical absorbers based on strong interference in ultraâ€thin films. Laser and Photonics Reviews, 2016, 10, 735-749.	4.4	194
64	Optical absorbers based on strong interference in ultraâ€thin films (Laser Photonics Rev. 10(5)/2016). Laser and Photonics Reviews, 2016, 10, 699-699.	4.4	25
65	Giant Hall Photoconductivity in Narrow-Gapped Dirac Materials. Nano Letters, 2016, 16, 7346-7351.	4.5	12
66	Active Optical Metasurfaces Based on Defect-Engineered Phase-Transition Materials. Nano Letters, 2016, 16, 1050-1055.	4.5	186
67	Near-Field Imaging of Phased Array Metasurfaces. Nano Letters, 2015, 15, 3851-3858.	4.5	55
68	Achromatic metasurfaces by dispersive phase compensation. , 2015, , .		5
69	Multiwavelength achromatic metasurfaces by dispersive phase compensation. Science, 2015, 347, 1342-1345.	6.0	868
70	Achromatic Metasurface Lens at Telecommunication Wavelengths. Nano Letters, 2015, 15, 5358-5362.	4.5	367
71	Achromatic metasurfaces enable multi-wavelength flat optical components: demonstration of a dispersion-less beam deflector. , 2015, , .		1
72	Accounting for inhomogeneous broadening in nano-optics by electromagnetic modeling based on Monte Carlo methods. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E639-E644.	3.3	17

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73	Spoof surface plasmon waveguide forces. Optics Letters, 2014, 39, 517.	1.7	38
74	Thin-Film Interference in Lossy, Ultra-Thin Layers. Optics and Photonics News, 2014, 25, 40.	0.4	44
75	Ultra-thin optical interference coatings on rough and flexible substrates. Applied Physics Letters, 2014, 105, .	1.5	39
76	Current-modulated optical properties of vanadium dioxide thin films in the phase transition region. Applied Physics Letters, 2014, 105, .	1.5	39
77	Wide Wavelength Tuning of Optical Antennas on Graphene with Nanosecond Response Time. Nano Letters, 2014, 14, 214-219.	4.5	151
78	Ultra-Compact Mid-IR Modulators Based on Electrically Tunable Optical Antennas. , 2014, , .		0
79	Electrically Tunable Metasurface Perfect Absorbers for Ultrathin Mid-Infrared Optical Modulators. Nano Letters, 2014, 14, 6526-6532.	4.5	657
80	Nanostructured Holograms for Broadband Manipulation of Vector Beams. Nano Letters, 2013, 13, 4269-4274.	4.5	246
81	Vanadium Dioxide as a Natural Disordered Metamaterial: Perfect Thermal Emission and Large Broadband Negative Differential Thermal Emittance. Physical Review X, 2013, 3, .	2.8	136
82	Nanometre optical coatings based on strong interference effects in highly absorbing media. Nature Materials, 2013, 12, 20-24.	13.3	841
83	Flat Optics: Controlling Wavefronts With Optical Antenna Metasurfaces. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 4700423-4700423.	1.9	258
84	Broad Electrical Tuning of Graphene-Loaded Plasmonic Antennas. Nano Letters, 2013, 13, 1257-1264.	4.5	558
85	High-power low-divergence tapered quantum cascade lasers with plasmonic collimators. Applied Physics Letters, 2013, 102, .	1.5	14
86	Thermal tuning of mid-infrared plasmonic antenna arrays using a phase change material. Optics Letters, 2013, 38, 368.	1.7	196
87	Aberrations of flat lenses and aplanatic metasurfaces. Optics Express, 2013, 21, 31530.	1.7	163
88	Generation of two-dimensional plasmonic bottle beams. Optics Express, 2013, 21, 10295.	1.7	37
89	Enhancement of absorption and color contrast in ultra-thin highly absorbing optical coatings. Applied Physics Letters, 2013, 103, .	1.5	81
90	Broad electrical tuning of graphene-loaded optical antennas. , 2013, , .		5

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91	Negative differential thermal emitter. , 2013, , .		0
92	Reflection and refraction of light from metasurfaces with phase discontinuities. Journal of Nanophotonics, 2012, 6, 063532.	0.4	50
93	Broadband Birefringent Metainterfaces. , 2012, , .		0
94	Giant birefringence in optical antenna arrays with widely tailorable optical anisotropy. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 12364-12368.	3.3	176
95	Broadband wavefront engineering with optical resonator arrays. , 2012, , .		0
96	Out of plane reflection and refraction of light by plasmonic interfaces with phase discontinuities. , 2012, , .		0
97	Phase elements for surface optics. , 2012, , .		0
98	Holographic detection of the orbital angular momentum of light with plasmonic photodiodes. Nature Communications, 2012, 3, 1278.	5.8	252
99	Modeling nanoscale V-shaped antennas for the design of optical phased arrays. Physical Review B, 2012, 85, .	1.1	96
100	Aberration-Free Ultrathin Flat Lenses and Axicons at Telecom Wavelengths Based on Plasmonic Metasurfaces. Nano Letters, 2012, 12, 4932-4936.	4.5	1,528
101	Ultra-thin plasmonic optical vortex plate based on phase discontinuities. Applied Physics Letters, 2012, 100, .	1.5	451
102	Ultra-thin perfect absorber employing a tunable phase change material. Applied Physics Letters, 2012, 101, .	1.5	519
103	Out-of-Plane Reflection and Refraction of Light by Anisotropic Optical Antenna Metasurfaces with Phase Discontinuities. Nano Letters, 2012, 12, 1702-1706.	4.5	506
104	A Broadband, Background-Free Quarter-Wave Plate Based on Plasmonic Metasurfaces. Nano Letters, 2012, 12, 6328-6333.	4.5	1,065
105	Doubly-corrugated spoof-insulator-spoof waveguides. , 2012, , .		0
106	Plasmonic-based techniques to generate and detect optical vortex beams. , 2012, , .		0
107	Patterning the Tips of Optical Fibers with Metallic Nanostructures Using Nanoskiving. Nano Letters, 2011, 11, 632-636.	4.5	121
108	Enhancement of optical processes in coupled plasmonic nanocavities [Invited]. Applied Optics, 2011, 50, G56.	2.1	9

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109	Spoof plasmon analogue of metal-insulator-metal waveguides. Optics Express, 2011, 19, 14860.	1.7	145
110	Effect of radiation damping on the spectral response of plasmonic components. Optics Express, 2011, 19, 21748.	1.7	129
111	Multi-wavelength mid-infrared plasmonic antennas with single nanoscale focal point. Optics Express, 2011, 19, 22113.	1.7	29
112	Coupled Nanocavity-Grating Resonances: Large Plasmonic Enhancement of Nonlinear Optical Phenomena. , 2011, , .		0
113	Off-axis and multi-directional plasmonic lenses. , 2011, , .		0
114	Light Propagation with Phase Discontinuities: Generalized Laws of Reflection and Refraction. Science, 2011, 334, 333-337.	6.0	7,240
115	Dipolar modeling and experimental demonstration of multi-beam plasmonic collimators. New Journal of Physics, 2011, 13, 053057.	1.2	29
116	Quantum Cascade Lasers with Integrated Multi-Beam Plasmonic Collimators. , 2011, , .		0
117	Large area multi-material plasmonic nanostructures fabricated by replica molding and mechanical sectioning. , 2010, , .		0
118	Designer spoof surface plasmon structures collimate terahertz laser beams. Nature Materials, 2010, 9, 730-735.	13.3	260
119	Terahertz plasmonics. Electronics Letters, 2010, 46, S52.	0.5	30
120	Large Enhancement of Nonlinear Optical Phenomena by Plasmonic Nanocavity Gratings. Nano Letters, 2010, 10, 4880-4883.	4.5	207
121	Fabrication and Replication of Arrays of Single- or Multicomponent Nanostructures by Replica Molding and Mechanical Sectioning. ACS Nano, 2010, 4, 4017-4026.	7.3	55
122	Wavefront engineering of semiconductor lasers using plasmonics. , 2010, , .		0
123	Multi-beam multi-wavelength semiconductor lasers. Applied Physics Letters, 2009, 95, .	1.5	21
124	Energy limits imposed by two-photon absorption for pulse amplification in high-power semiconductor optical amplifiers. Optics Letters, 2008, 33, 1041.	1.7	15
125	Amplification of high energy picosecond pulses using slab-coupled waveguide amplifiers at 1550 nm. , 2008, , .		0
126	Feature issue introduction: Materials and Devices for Engineering of Thermal Light. Optical Materials Express, 0, , .	1.6	0

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127	Thermal Runaway of Siliconâ€Based Laser Sails. Advanced Optical Materials, 0, , 2102835.	3.6	6