

# Mikhail A Kats

## 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.

93  
papers

14,285  
citations

37  
h-index

119  
g-index

132  
ext. papers

17,603  
ext. citations

9.5  
avg, IF

6.52  
L-index

#	Paper	IF	Citations
93	Light propagation with phase discontinuities: generalized laws of reflection and refraction. <i>Science</i> , <b>2011</b> , 334, 333-7	33.3	4912
92	Aberration-free ultrathin flat lenses and axicons at telecom wavelengths based on plasmonic metasurfaces. <i>Nano Letters</i> , <b>2012</b> , 12, 4932-6	11.5	1177
91	A broadband, background-free quarter-wave plate based on plasmonic metasurfaces. <i>Nano Letters</i> , <b>2012</b> , 12, 6328-33	11.5	839
90	Applied optics. Multiwavelength achromatic metasurfaces by dispersive phase compensation. <i>Science</i> , <b>2015</b> , 347, 1342-5	33.3	667
89	Nanometre optical coatings based on strong interference effects in highly absorbing media. <i>Nature Materials</i> , <b>2013</b> , 12, 20-4	27	638
88	Electrically tunable metasurface perfect absorbers for ultrathin mid-infrared optical modulators. <i>Nano Letters</i> , <b>2014</b> , 14, 6526-32	11.5	491
87	Broad electrical tuning of graphene-loaded plasmonic antennas. <i>Nano Letters</i> , <b>2013</b> , 13, 1257-64	11.5	458
86	Ultra-thin perfect absorber employing a tunable phase change material. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 221101	3.4	418
85	Out-of-plane reflection and refraction of light by anisotropic optical antenna metasurfaces with phase discontinuities. <i>Nano Letters</i> , <b>2012</b> , 12, 1702-6	11.5	388
84	Ultra-thin plasmonic optical vortex plate based on phase discontinuities. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 013101	3.4	384
83	Achromatic Metasurface Lens at Telecommunication Wavelengths. <i>Nano Letters</i> , <b>2015</b> , 15, 5358-62	11.5	290
82	Designer spoof surface plasmon structures collimate terahertz laser beams. <i>Nature Materials</i> , <b>2010</b> , 9, 730-5	27	212
81	. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2013</b> , 19, 4700423-4700423	3.8	201
80	Holographic detection of the orbital angular momentum of light with plasmonic photodiodes. <i>Nature Communications</i> , <b>2012</b> , 3, 1278	17.4	200
79	Nanostructured holograms for broadband manipulation of vector beams. <i>Nano Letters</i> , <b>2013</b> , 13, 4269-74	11.5	195
78	Large enhancement of nonlinear optical phenomena by plasmonic nanocavity gratings. <i>Nano Letters</i> , <b>2010</b> , 10, 4880-3	11.5	172
77	Thermal tuning of mid-infrared plasmonic antenna arrays using a phase change material. <i>Optics Letters</i> , <b>2013</b> , 38, 368-70	3	158

76	Giant optical anisotropy in a quasi-one-dimensional crystal. <i>Nature Photonics</i> , <b>2018</b> , 12, 392-396	33.9	148
75	Active Optical Metasurfaces Based on Defect-Engineered Phase-Transition Materials. <i>Nano Letters</i> , <b>2016</b> , 16, 1050-5	11.5	147
74	Giant birefringence in optical antenna arrays with widely tailorable optical anisotropy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 12364-12368	11.5	139
73	Optical absorbers based on strong interference in ultra-thin films. <i>Laser and Photonics Reviews</i> , <b>2016</b> , 10, 735-749	8.3	132
72	Wide wavelength tuning of optical antennas on graphene with nanosecond response time. <i>Nano Letters</i> , <b>2014</b> , 14, 214-9	11.5	129
71	Nanophotonic engineering of far-field thermal emitters. <i>Nature Materials</i> , <b>2019</b> , 18, 920-930	27	122
70	Vanadium Dioxide as a Natural Disordered Metamaterial: Perfect Thermal Emission and Large Broadband Negative Differential Thermal Emittance. <i>Physical Review X</i> , <b>2013</b> , 3,	9.1	103
69	Effect of radiation damping on the spectral response of plasmonic components. <i>Optics Express</i> , <b>2011</b> , 19, 21748-53	3.3	102
68	Patterning the tips of optical fibers with metallic nanostructures using nanoskiving. <i>Nano Letters</i> , <b>2011</b> , 11, 632-6	11.5	102
67	Aberrations of flat lenses and aplanatic metasurfaces. <i>Optics Express</i> , <b>2013</b> , 21, 31530-9	3.3	101
66	Spoof plasmon analogue of metal-insulator-metal waveguides. <i>Optics Express</i> , <b>2011</b> , 19, 14860-70	3.3	96
65	Single-shot on-chip spectral sensors based on photonic crystal slabs. <i>Nature Communications</i> , <b>2019</b> , 10, 1020	17.4	82
64	Modeling nanoscale V-shaped antennas for the design of optical phased arrays. <i>Physical Review B</i> , <b>2012</b> , 85,	3.3	81
63	Enhancement of absorption and color contrast in ultra-thin highly absorbing optical coatings. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 101104	3.4	69
62	Evolution of Metallicity in Vanadium Dioxide by Creation of Oxygen Vacancies. <i>Physical Review Applied</i> , <b>2017</b> , 7,	4.3	65
61	Epsilon-Near-Zero Substrate Engineering for Ultrathin-Film Perfect Absorbers. <i>Physical Review Applied</i> , <b>2017</b> , 8,	4.3	65
60	On the Optical Properties of Thin-Film Vanadium Dioxide from the Visible to the Far Infrared. <i>Annalen Der Physik</i> , <b>2019</b> , 531, 1900188	2.6	52
59	Near-Field Imaging of Phased Array Metasurfaces. <i>Nano Letters</i> , <b>2015</b> , 15, 3851-8	11.5	48

58	Fabrication and replication of arrays of single- or multicomponent nanostructures by replica molding and mechanical sectioning. <i>ACS Nano</i> , <b>2010</b> , 4, 4017-26	16.7	48
57	Thin-Film Interference in Lossy, Ultra-Thin Layers. <i>Optics and Photonics News</i> , <b>2014</b> , 25, 40	1.9	39
56	Current-modulated optical properties of vanadium dioxide thin films in the phase transition region. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 211104	3.4	33
55	Reflection and refraction of light from metasurfaces with phase discontinuities. <i>Journal of Nanophotonics</i> , <b>2012</b> , 6, 063532	1.1	33
54	Spoof surface plasmon waveguide forces. <i>Optics Letters</i> , <b>2014</b> , 39, 517-20	3	31
53	Ultra-thin optical interference coatings on rough and flexible substrates. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 131108	3.4	31
52	Limiting Optical Diodes Enabled by the Phase Transition of Vanadium Dioxide. <i>ACS Photonics</i> , <b>2018</b> , 5, 2688-2692	6.3	30
51	Generation of two-dimensional plasmonic bottle beams. <i>Optics Express</i> , <b>2013</b> , 21, 10295-300	3.3	28
50	Multi-wavelength mid-infrared plasmonic antennas with single nanoscale focal point. <i>Optics Express</i> , <b>2011</b> , 19, 22113-24	3.3	27
49	Temperature-independent thermal radiation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> ,	11.5	27
48	Dipolar modeling and experimental demonstration of multi-beam plasmonic collimators. <i>New Journal of Physics</i> , <b>2011</b> , 13, 053057	2.9	26
47	How to organize an online conference. <i>Nature Reviews Materials</i> , <b>2020</b> , 1-4	73.3	25
46	Optical absorbers based on strong interference in ultra-thin films (Laser Photonics Rev. 10(5)/2016). <i>Laser and Photonics Reviews</i> , <b>2016</b> , 10, 699-699	8.3	25
45	Terahertz plasmonics. <i>Electronics Letters</i> , <b>2010</b> , 46, S52	1.1	21
44	Multi-beam multi-wavelength semiconductor lasers. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 161108	3.4	19
43	Vapor condensation with daytime radiative cooling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	19
42	Measuring Thermal Emission Near Room Temperature Using Fourier-Transform Infrared Spectroscopy. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4.3	17
41	Radiative Thermal Runaway Due to Negative-Differential Thermal Emission Across a Solid-Solid Phase Transition. <i>Physical Review Applied</i> , <b>2018</b> , 10,	4.3	16

40	Accounting for inhomogeneous broadening in nano-optics by electromagnetic modeling based on Monte Carlo methods. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, E639-44	11.5	16
39	Nanosecond mid-infrared pulse generation via modulated thermal emissivity. <i>Light: Science and Applications</i> , <b>2019</b> , 8, 51	16.7	15
38	Self-Stabilizing Laser Sails Based on Optical Metasurfaces. <i>ACS Photonics</i> , <b>2019</b> , 6, 2032-2040	6.3	15
37	Precision Measurements of Temperature-Dependent and Nonequilibrium Thermal Emitters. <i>Laser and Photonics Reviews</i> , <b>2020</b> , 14, 1900443	8.3	13
36	High-power low-divergence tapered quantum cascade lasers with plasmonic collimators. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 191114	3.4	13
35	Energy limits imposed by two-photon absorption for pulse amplification in high-power semiconductor optical amplifiers. <i>Optics Letters</i> , <b>2008</b> , 33, 1041-3	3	12
34	Inverse Design of Metasurfaces Based on Coupled-Mode Theory and Adjoint Optimization. <i>ACS Photonics</i> , <b>2021</b> , 8, 2265-2273	6.3	12
33	Wide-Angle Spectrally Selective Absorbers and Thermal Emitters Based on Inverse Opals. <i>ACS Photonics</i> , <b>2019</b> , 6, 2607-2611	6.3	10
32	Mid-infrared Optics Using Dielectrics with Refractive Indices Below Unity. <i>Physical Review Applied</i> , <b>2018</b> , 10,	4.3	10
31	Enhancement of optical processes in coupled plasmonic nanocavities [Invited]. <i>Applied Optics</i> , <b>2011</b> , 50, G56-62	0.2	8
30	Accelerating vapor condensation with daytime radiative cooling <b>2019</b> ,		8
29	Giant Hall Photoconductivity in Narrow-Gapped Dirac Materials. <i>Nano Letters</i> , <b>2016</b> , 16, 7346-7351	11.5	7
28	Ultrathin Broadband Reflective Optical Limiter. <i>Laser and Photonics Reviews</i> , <b>2021</b> , 15, 2100001	8.3	7
27	Impact of corrosion on the emissivity of advanced reactor structural alloys. <i>Journal of Nuclear Materials</i> , <b>2018</b> , 508, 465-471	3.3	7
26	Optical Metasurface Based on the Resonant Scattering in Electronic Transitions. <i>ACS Photonics</i> , <b>2017</b> , 4, 1279-1285	6.3	6
25	Flat Optical and Plasmonic Devices Using Area-Selective Ion-Beam Doping of Silicon. <i>Advanced Optical Materials</i> , <b>2018</b> , 6, 1701027	8.1	6
24	Design considerations for the enhancement of human color vision by breaking binocular redundancy. <i>Scientific Reports</i> , <b>2018</b> , 8, 11971	4.9	6
23	Depth Thermography: Noninvasive 3D Temperature Profiling Using Infrared Thermal Emission. <i>ACS Photonics</i> , <b>2020</b> , 7, 853-860	6.3	4

22	Thermally tunable VO <sub>2</sub> -SiO <sub>2</sub> nanocomposite thin-film capacitors. <i>Journal of Applied Physics</i> , <b>2018</b> , 123, 114103	2.5	3
21	Adjoint-optimized nanoscale light extractor for nitrogen-vacancy centers in diamond. <i>Nanophotonics</i> , <b>2020</b> , 10, 393-401	6.3	3
20	Switchable Induced-Transmission Filters Enabled by Vanadium Dioxide.. <i>Nano Letters</i> , <b>2021</b> ,	11.5	3
19	Zero-Differential Thermal Emission Using Thermochromic Samarium Nickelate <b>2017</b> ,		2
18	Achromatic metasurfaces by dispersive phase compensation <b>2015</b> ,		2
17	Broad electrical tuning of graphene-loaded optical antennas <b>2013</b> ,		2
16	Hyperspectral interference tomography of nacre. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	2
15	High-Density Covalent Grafting of Spin-Active Molecular Moieties to Diamond Surfaces. <i>Langmuir</i> , <b>2021</b> , 37, 9222-9231	4	2
14	Adjoint-optimized nanoscale light extractor for enhanced luminescence from color centers in diamond <b>2020</b> ,		1
13	Peculiarities of near-room-temperature thermal-emission measurements using FTIR spectroscopy <b>2018</b> ,		1
12	Optical Paleothermometry Using Nacre <b>2018</b> ,		1
11	Infrared Polarizer Based on Direct Coupling to Surface Plasmon Polaritons. <i>Nano Letters</i> , <b>2020</b> , 20, 8483-8486	6.4	1
10	Using Bottom-Up Lithography and Optical Nonlocality to Create Short-Wave Infrared Plasmonic Resonances in Graphene. <i>ACS Photonics</i> , <b>2021</b> , 8, 1277-1285	6.3	1
9	Efficient generation of optical bottle beams. <i>Nanophotonics</i> , <b>2021</b> , 10, 2893-2901	6.3	1
8	Nanosecond Mid-Infrared Pulse Generation via Modulated Thermal Emission <b>2018</b> ,		1
7	Super-Planckian emission cannot really be thermal. <i>Nature Photonics</i> ,	33.9	1
6	Passive frequency conversion of ultraviolet images into the visible using perovskite nanocrystals. <i>Journal of Optics (United Kingdom)</i> , <b>2021</b> , 23, 054001	1.7	0
5	Embedded Optics: Flat Optical and Plasmonic Devices Using Area-Selective Ion-Beam Doping of Silicon (Advanced Optical Materials 5/2018). <i>Advanced Optical Materials</i> , <b>2018</b> , 6, 1870019	8.1	0

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- 3 Controlling Light Propagation with Interfacial Phase Discontinuities **2013**, 171-217
- 2 Optical components based on multi-refractive-index metamaterials. *Journal Physics D: Applied Physics*, **2020**, 53, 015108 3
- 1 Thinking Systematically About the Online Academic Experience [Highlights]. *IEEE Nanotechnology Magazine*, **2020**, 14, 3-5 1.7