Nikolay I Zheludev

List of Publications by Citations

423 papers	28,721 citations	85 h-index	160 g-index
611 ext. papers	33,407 ext. citations	7.2 avg, IF	7.55 L-index

#	Paper	IF	Citations
423	The Fano resonance in plasmonic nanostructures and metamaterials. *Nature Materials*, **2010**, 9, 707-15	27	2834
422	From metamaterials to metadevices. *Nature Materials*, **2012**, 11, 917-24	27	1289
421	Sharp trapped-mode resonances in planar metamaterials with a broken structural symmetry. *Physical Review Letters*, **2007**, 99, 147401	7.4	805
420	Metamaterial analog of electromagnetically induced transparency. *Physical Review Letters*, **2008**, 101, 253903	7.4	658
419	Optically reconfigurable metasurfaces and photonic devices based on phase change materials. *Nature Photonics*, **2016**, 10, 60-65	33.9	652
418	Ultrafast active plasmonics. *Nature Photonics*, **2009**, 3, 55-58	33.9	636
417	Metamaterial with negative index due to chirality. *Physical Review B*, **2009**, 79,	3.3	568
416	Lasing spaser. *Nature Photonics*, **2008**, 2, 351-354	33.9	561
415	Asymmetric propagation of electromagnetic waves through a planar chiral structure. *Physical Review Letters*, **2006**, 97, 167401	7.4	541
414	Applied physics. The road ahead for metamaterials. *Science*, **2010**, 328, 582-3	33.3	473
413	Toroidal dipolar response in a metamaterial. *Science*, **2010**, 330, 1510-2	33.3	469
412	Giant gyrotropy due to electromagnetic-field coupling in a bilayered chiral structure. *Physical Review Letters*, **2006**, 97, 177401	7.4	445
411	A super-oscillatory lens optical microscope for subwavelength imaging. *Nature Materials*, **2012**, 11, 432-5	27	425
410	Metamaterials: optical activity without chirality. *Physical Review Letters*, **2009**, 102, 113902	7.4	393
409	Optical manifestations of planar chirality. *Physical Review Letters*, **2003**, 90, 107404	7.4	365
408	An all-optical, non-volatile, bidirectional, phase-change meta-switch. *Advanced Materials*, **2013**, 25, 3050-4	24	306
407	Electromagnetic toroidal excitations in matter and free space. *Nature Materials*, **2016**, 15, 263-71	27	304

406	Reconfigurable photonic metamaterials. *Nano Letters*, **2011**, 11, 2142-4	11.5	280
405	Terahertz metamaterial with asymmetric transmission. *Physical Review B*, **2009**, 80,	3.3	265
404	An electromechanically reconfigurable plasmonic metamaterial operating in the near-infrared. *Nature Nanotechnology*, **2013**, 8, 252-5	28.7	264
403	Asymmetric Transmission of Light and Enantiomerically Sensitive Plasmon Resonance in Planar Chiral Nanostructures. *Nano Letters*, **2007**, 7, 1996-1999	11.5	242
402	Metamaterial electro-optic switch of nanoscale thickness. *Applied Physics Letters*, **2010**, 96, 143105	3.4	237
401	Giant optical gyrotropy due to electromagnetic coupling. *Applied Physics Letters*, **2007**, 90, 223113	3.4	237
400	Metamaterial with polarization and direction insensitive resonant transmission response mimicking electromagnetically induced transparency. *Applied Physics Letters*, **2009**, 94, 211902	3.4	229
399	Controlling light-with-light without nonlinearity. *Light: Science and Applications*, **2012**, 1, e18-e18	16.7	225
398	Reconfigurable nanomechanical photonic metamaterials. *Nature Nanotechnology*, **2016**, 11, 16-22	28.7	215
397	Super-resolution without evanescent waves. *Nano Letters*, **2009**, 9, 1249-54	11.5	208
396	Active plasmonics: Controlling signals in Au/Ga waveguide using nanoscale structural transformations. *Applied Physics Letters*, **2004**, 84, 1416-1418	3.4	197
395	Graphene in a photonic metamaterial. *Optics Express*, **2010**, 18, 8353-9	3.3	195
394	Optical activity in extrinsically chiral metamaterial. *Applied Physics Letters*, **2008**, 93, 191911	3.4	194
393	Resonant transparency and non-trivial non-radiating excitations in toroidal metamaterials. *Scientific Reports*, **2013**, 3, 2967	4.9	188
392	Multifold enhancement of quantum dot luminescence in plasmonic metamaterials. *Physical Review Letters*, **2010**, 105, 227403	7.4	188
391	Toroidal dipolar excitation and macroscopic electromagnetic properties of metamaterials. *Physical Review B*, **2014**, 89,	3.3	180
390	Nanostructured metal film with asymmetric optical transmission. *Nano Letters*, **2008**, 8, 2940-3	11.5	175
389	Roadmap on plasmonics. *Journal of Optics (United Kingdom)*, **2018**, 20, 043001	1.7	174

388	Towards the lasing spaser: controlling metamaterial optical response with semiconductor quantum dots. *Optics Express*, **2009**, 17, 8548-51	3.3	174
387	Microelectromechanical Maltese-cross metamaterial with tunable terahertz anisotropy. *Nature Communications*, **2012**, 3, 1274	17.4	167
386	All-dielectric phase-change reconfigurable metasurface. *Applied Physics Letters*, **2016**, 109, 051103	3.4	161
385	Giant nonlinear optical activity in a plasmonic metamaterial. *Nature Communications*, **2012**, 3, 833	17.4	157
384	Spectral collapse in ensembles of metamolecules. *Physical Review Letters*, **2010**, 104, 223901	7.4	148
383	Focusing of light by a nanohole array. *Applied Physics Letters*, **2007**, 90, 091119	3.4	144
382	Optical Anapole Metamaterial. *ACS Nano*, **2018**, 12, 1920-1927	16.7	142
381	Nanostructured plasmonic medium for terahertz bandwidth all-optical switching. *Advanced Materials*, **2011**, 23, 5540-4	24	142
380	Extrinsic electromagnetic chirality in metamaterials. *Journal of Optics*, **2009**, 11, 074009		137
379	Design of plasmonic toroidal metamaterials at optical frequencies. *Optics Express*, **2012**, 20, 1760-8	3.3	137
378	Active plasmonics: current status. *Laser and Photonics Reviews*, **2010**, 4, 562-567	8.3	137
377	A Micromachined Reconfigurable Metamaterial via Reconfiguration of Asymmetric Split-Ring Resonators. *Advanced Functional Materials*, **2011**, 21, 3589-3594	15.6	135
376	Highly tunable optical activity in planar achiral terahertz metamaterials. *Optics Express*, **2010**, 18, 13425-30	3.3	135
375	Nanohole array as a lens. *Nano Letters*, **2008**, 8, 2469-72	11.5	133
374	Planar metamaterial with transmission and reflection that depend on the direction of incidence. *Applied Physics Letters*, **2009**, 94, 131901	3.4	128
373	Toroidal metamaterial. *New Journal of Physics*, **2007**, 9, 324-324	2.9	128
372	Near-infrared trapped mode magnetic resonance in an all-dielectric metamaterial. *Optics Express*, **2013**, 21, 26721-8	3.3	127
371	Electrically Controlled Nanostructured Metasurface Loaded with Liquid Crystal: Toward Multifunctional Photonic Switch. *Advanced Optical Materials*, **2015**, 3, 674-679	8.1	126

370	Optical super-oscillations: sub-wavelength light focusing and super-resolution imaging. *Journal of Optics (United Kingdom)*, **2013**, 15, 094008	1.7	124
369	Reconfigurable MEMS Fano metasurfaces with multiple-input-output states for logic operations at terahertz frequencies. *Nature Communications*, **2018**, 9, 4056	17.4	124
368	Optofluidic waveguide as a transformation optics device for lightwave bending and manipulation. *Nature Communications*, **2012**, 3, 651	17.4	123
367	Plasmon spectroscopy and imaging of individual gold nanodecahedra: a combined optical microscopy, cathodoluminescence, and electron energy-loss spectroscopy study. *Nano Letters*, **2012**, 12, 4172-80	11.5	120
366	Layered chiral metallic microstructures with inductive coupling. *Applied Physics Letters*, **2001**, 78, 498-500	3.4	120
365	Metamaterial-Induced Transparency: Sharp Fano Resonances and Slow Light. *Optics and Photonics News*, **2009**, 20, 22	1.9	117
364	What diffraction limit?. *Nature Materials*, **2008**, 7, 420-2	27	116
363	Sharp Toroidal Resonances in Planar Terahertz Metasurfaces. *Advanced Materials*, **2016**, 28, 8206-8211	24	115
362	Chiral mirrors. *Applied Physics Letters*, **2015**, 106, 221901	3.4	115
361	Coherent perfect absorption in deeply subwavelength films in the single-photon regime. *Nature Communications*, **2015**, 6, 7031	17.4	114
360	Ultrafast all-optical switching via coherent modulation of metamaterial absorption. *Applied Physics Letters*, **2014**, 104, 141102	3.4	113
359	Ray-optics cloaking devices for large objects in incoherent natural light. *Nature Communications*, **2013**, 4, 2652	17.4	112
358	Temperature control of Fano resonances and transmission in superconducting metamaterials. *Optics Express*, **2010**, 18, 9015-9	3.3	109
357	Light well: a tunable free-electron light source on a chip. *Physical Review Letters*, **2009**, 103, 113901	7.4	109
356	The magnetic response of graphene split-ring metamaterials. *Light: Science and Applications*, **2013**, 2, e78-e78	16.7	107
355	Ultraviolet and visible range plasmonics in the topological insulator Bi1.5Sb0.5Te1.8Se1.2. *Nature Communications*, **2014**, 5, 5139	17.4	101
354	Carbon nanotubes in a photonic metamaterial. *Physical Review Letters*, **2010**, 104, 153902	7.4	101
353	Toroidal lasing spaser. *Scientific Reports*, **2013**, 3, 1237	4.9	99

352	Micromachined tunable metamaterials: a review. *Journal of Optics (United Kingdom)*, **2012**, 14, 114009	1.7	99
351	Super-oscillatory optical needle. *Applied Physics Letters*, **2013**, 102, 031108	3.4	98
350	The plasmon Talbot effect. *Optics Express*, **2007**, 15, 9692-700	3.3	97
349	Dielectric Metamaterials with Toroidal Dipolar Response. *Physical Review X*, **2015**, 5,	9.1	96
348	Controlling light with light using coherent metadevices: all-optical transistor, summator and invertor. *Light: Science and Applications*, **2015**, 4, e292-e292	16.7	94
347	A magneto-electro-optical effect in a plasmonic nanowire material. *Nature Communications*, **2015**, 6, 7021	17.4	94
346	Generation of traveling surface plasmon waves by free-electron impact. *Nano Letters*, **2006**, 6, 1113-5	11.5	94
345	Planar super-oscillatory lens for sub-diffraction optical needles at violet wavelengths. *Scientific Reports*, **2014**, 4, 6333	4.9	93
344	A flat lens with tunable phase gradient by using random access reconfigurable metamaterial. *Advanced Materials*, **2015**, 27, 4739-43	24	92
343	Broken time reversal of light interaction with planar chiral nanostructures. *Physical Review Letters*, **2003**, 91, 247404	7.4	92
342	Optical super-resolution through super-oscillations. *Journal of Optics*, **2007**, 9, S285-S288		91
341	Electromagnetic wave analogue of an electronic diode. *New Journal of Physics*, **2011**, 13, 033025	2.9	87
340	Organometallic Perovskite Metasurfaces. *Advanced Materials*, **2017**, 29, 1604268	24	85
339	Optical whirlpool on an absorbing metallic nanoparticle. *Optics Express*, **2005**, 13, 8372-9	3.3	85
338	Electro-optical control in a plasmonic metamaterial hybridised with a liquid-crystal cell. *Optics Express*, **2013**, 21, 1633-8	3.3	84
337	Coherent and incoherent metamaterials and order-disorder transitions. *Physical Review B*, **2009**, 80,	3.3	83
336	Nonlinear graphene metamaterial. *Applied Physics Letters*, **2012**, 100, 181109	3.4	82
335	Applied physics. Obtaining optical properties on demand. *Science*, **2015**, 348, 973-4	33.3	81

334	Two-dimensional control of light with light on metasurfaces. *Light: Science and Applications*, **2016**, 5, e16070	16.7	81
333	Achromatic super-oscillatory lenses with sub-wavelength focusing. *Light: Science and Applications*, **2017**, 6, e17036	16.7	79
332	A Roadmap for Metamaterials. *Optics and Photonics News*, **2011**, 22, 30	1.9	79
331	Gyrotropy of a metamolecule: wire on a torus. *Physical Review Letters*, **2009**, 103, 093901	7.4	79
330	Planar electromagnetic metamaterial with a fish scale structure. *Physical Review E*, **2005**, 72, 056613	2.4	79
329	Optical magnetic response in three-dimensional metamaterial of upright plasmonic meta-molecules. *Optics Express*, **2011**, 19, 12837-42	3.3	77
328	Phase-change-driven dielectric-plasmonic transitions in chalcogenide metasurfaces. *NPG Asia Materials*, **2018**, 10, 533-539	10.3	76
327	Polarization control of optical transmission of a periodic array of elliptical nanoholes in a metal film. *Optics Letters*, **2004**, 29, 1414-6	3	74
326	Asymmetric transmission: a generic property of two-dimensional periodic patterns. *Journal of Optics (United Kingdom)*, **2011**, 13, 024006	1.7	73
325	Giant Nonlinearity of an Optically Reconfigurable Plasmonic Metamaterial. *Advanced Materials*, **2016**, 28, 729-33	24	73
324	Coherent control of Snell's law at metasurfaces. *Optics Express*, **2014**, 22, 21051-60	3.3	70
323	Coherent control of nanoscale light localization in metamaterial: creating and positioning isolated subwavelength energy hot spots. *Physical Review Letters*, **2011**, 106, 085501	7.4	70
322	Optical magnetic mirrors. *Journal of Optics*, **2007**, 9, L1-L2		70
321	Roadmap on metasurfaces. *Journal of Optics (United Kingdom)*, **2019**, 21, 073002	1.7	69
320	All-optical phase-change memory in a single gallium nanoparticle. *Physical Review Letters*, **2007**, 98, 153905	7.4	69
319	High-contrast modulation of light with light by control of surface plasmon polariton wave coupling. *Applied Physics Letters*, **2004**, 85, 3369-3371	3.4	68
318	Mirror that does not change the phase of reflected waves. *Applied Physics Letters*, **2006**, 88, 091119	3.4	67
317	Optical control of gallium nanoparticle growth. *Applied Physics Letters*, **2002**, 80, 1643-1645	3.4	66

316	Modulating sub-THz radiation with current in superconducting metamaterial. *Physical Review Letters*, **2012**, 109, 243904	7.4	63
315	Polarization effects in the diffraction of light by a planar chiral structure. *Physical Review E*, **2005**, 71, 037603	2.4	63
314	Electron-beam-driven collective-mode metamaterial light source. *Physical Review Letters*, **2012**, 109, 217401	7.4	61
313	Roadmap on superoscillations. *Journal of Optics (United Kingdom)*, **2019**, 21, 053002	1.7	59
312	Detecting nanometric displacements with optical ruler metrology. *Science*, **2019**, 364, 771-775	33.3	58
311	Superconducting plasmonics and extraordinary transmission. *Applied Physics Letters*, **2010**, 97, 111106	3.4	58
310	Nonlinear dielectric optomechanical metamaterials. *Light: Science and Applications*, **2013**, 2, e96-e96	16.7	57
309	Magnetic plasmon induced transparency in three-dimensional metamolecules. *Nanophotonics*, **2012**, 1, 131-138	6.3	57
308	Metamaterial polarization spectral filter: Isolated transmission line at any prescribed wavelength. *Applied Physics Letters*, **2011**, 99, 171915	3.4	55
307	Many-Body Subradiant Excitations in Metamaterial Arrays: Experiment and Theory. *Physical Review Letters*, **2017**, 119, 053901	7.4	54
306	Phase matched second harmonic generation from nanostructured metallic surfaces. *Journal of Optics*, **2004**, 6, 26-28		54
305	Room temperature nanocavity laser with interlayer excitons in 2D heterostructures. *Science Advances*, **2019**, 5, eaav4506	14.3	53
304	Plasmon coupling in vertical split-ring resonator metamolecules. *Scientific Reports*, **2015**, 5, 9726	4.9	53
303	Far field subwavelength focusing using optical eigenmodes. *Applied Physics Letters*, **2011**, 98, 181109	3.4	52
302	Hyperspectral imaging of plasmonic nanostructures with nanoscale resolution. *Optics Express*, **2007**, 15, 11313-20	3.3	52
301	Holographic free-electron light source. *Nature Communications*, **2016**, 7, 13705	17.4	52
300	Continuous metal plasmonic frequency selective surfaces. *Optics Express*, **2011**, 19, 23279-85	3.3	51
299	Light-induced switching between structural forms with different optical properties in a single gallium nanoparticulate. *Nano Letters*, **2005**, 5, 2104-7	11.5	51

298	Active control of surface plasmon polariton waves. *Journal of Optics*, **2005**, 7, S85-S89		51
297	Nano-optomechanical nonlinear dielectric metamaterials. *Applied Physics Letters*, **2015**, 107, 191110	3.4	49
296	Sub-wavelength focusing meta-lens. *Optics Express*, **2013**, 21, 7577-82	3.3	49
295	Far-Field Superoscillatory Metamaterial Superlens. *Physical Review Applied*, **2019**, 11,	4.3	48
294	Fibre-optic metadevice for all-optical signal modulation based on coherent absorption. *Nature Communications*, **2018**, 9, 182	17.4	48
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291	Fabrication of three dimensional split ring resonators by stress-driven assembly method. *Optics Express*, **2012**, 20, 9415-20	3.3	45
290	Coherent control of optical polarization effects in metamaterials. *Scientific Reports*, **2015**, 5, 8977	4.9	44
289	Visible Range Plasmonic Modes on Topological Insulator Nanostructures. *Advanced Optical Materials*, **2017**, 5, 1600768	8.1	44
288	Chalcogenide glasses in active plasmonics. *Physica Status Solidi - Rapid Research Letters*, **2010**, 4, 274-276	2.5	44
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286	Plasmonics of topological insulators at optical frequencies. *NPG Asia Materials*, **2017**, 9, e425-e425	10.3	43
285	Optical properties of closely packed nanoparticle films: spheroids and nanoshells. *Journal of Optics*, **2004**, 6, 155-160		43
284	Passive Q-switching of fiber lasers using a broadband liquefying gallium mirror. *Applied Physics Letters*, **1999**, 74, 3619-3621	3.4	43
283	Toroidal circular dichroism. *Physical Review B*, **2016**, 94,	3.3	42
282	Ultra-confined surface phonon polaritons in molecular layers of van der Waals dielectrics. *Nature Communications*, **2018**, 9, 1762	17.4	41
281	Flat super-oscillatory lens for heat-assisted magnetic recording with sub-50 nm resolution. *Optics Express*, **2014**, 22, 6428-37	3.3	41

280	Point spread function of the optical needle super-oscillatory lens. *Applied Physics Letters*, **2014**, 104, 231109	3.4	41
279	THz bandwidth optical switching with carbon nanotube metamaterial. *Optics Express*, **2012**, 20, 6068-79	3.3	41
278	Optical gecko toe: Optically controlled attractive near-field forces between plasmonic metamaterials and dielectric or metal surfaces. *Physical Review B*, **2012**, 85,	3.3	40
277	Controlling intensity and phase of terahertz radiation with an optically thin liquid crystal-loaded metamaterial. *Applied Physics Letters*, **2013**, 103, 141904	3.4	40
276	A photonic switch based on a gigantic, reversible optical nonlinearity of liquefying gallium. *Applied Physics Letters*, **1998**, 73, 1787-1789	3.4	40
275	Coherent control of birefringence and optical activity. *Applied Physics Letters*, **2014**, 105, 011906	3.4	39
274	Magnetic control of a meta-molecule. *Optics Express*, **2013**, 21, 1456-64	3.3	39
273	Wavelength dependent birefringence of surface plasmon polaritonic crystals. *Physical Review B*, **2004**, 70,	3.3	39
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271	Coherent Excitation-Selective Spectroscopy of Multipole Resonances. *Physical Review Applied*, **2016**, 5,	4.3	37
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269	Optical nonlinearity resulting from a light-induced structural transition in gallium nanoparticles. *Applied Physics Letters*, **2003**, 82, 1087-1089	3.4	37
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267	Enhanced microwave transmission through quasicrystal hole arrays. *Applied Physics Letters*, **2007**, 91, 081503	3.4	36
266	Nonlinear optics on the nanoscale. *Contemporary Physics*, **2002**, 43, 365-377	3.3	36
265	Single nanoparticle as photonic switch and optical memory element. *Journal of Optics*, **2006**, 8, S1-S8		34
264	Polarization conversion and focusing of light propagating through a small chiral hole in a metallic screen. *Applied Physics Letters*, **2005**, 86, 201105	3.4	34
263	An optical fiber network oracle for NP-complete problems. *Light: Science and Applications*, **2014**, 3, e147-e147	16.7	33

262	A combinatorial approach to metamaterials discovery. *Journal of Optics (United Kingdom)*, **2011**, 13, 055102	1.7	33
261	All-optical multichannel logic based on coherent perfect absorption in a plasmonic metamaterial. *APL Photonics*, **2016**, 1, 090801	5.2	33
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259	Polarization instability and multistability in nonlinear optics. *Uspekhi Fizicheskikh Nauk*, **1989**, 32, 357-375		32
258	Atomic Response in the Near-Field of Nanostructured Plasmonic Metamaterial. *Nano Letters*, **2016**, 16, 3137-41	11.5	32
257	"Plasmonics" in free space: observation of giant wavevectors, vortices, and energy backflow in superoscillatory optical fields. *Light: Science and Applications*, **2019**, 8, 2	16.7	32
256	Diffractive micro bar codes for encoding of biomolecules in multiplexed assays. *Analytical Chemistry*, **2008**, 80, 1902-9	7.8	31
255	Dispersion properties of nonradiating configurations: finite-difference time-domain modeling. *Physical Review E*, **2005**, 72, 036603	2.4	31
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251	Giant optical forces in planar dielectric photonic metamaterials. *Optics Letters*, **2014**, 39, 4883-6	3	30
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243	All-Optical Pattern Recognition and Image Processing on a Metamaterial Beam Splitter. *ACS Photonics*, **2017**, 4, 217-222	6.3	27
242	All-optical dynamic focusing of light via coherent absorption in a plasmonic metasurface. *Light: Science and Applications*, **2018**, 7, 17157	16.7	27
241	"Digitally" addressable focusing of light into a subwavelength hot spot. *Nano Letters*, **2012**, 12, 2728-31	11.5	27
240	A new model of geometric chirality for two-dimensional continuous media and planar meta-materials. *Journal of Optics*, **2004**, 6, 193-203		27
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232	Coherent control of light-matter interactions in polarization standing waves. *Scientific Reports*, **2016**, 6, 31141	4.9	25
231	Optical response of plasmonic relief meta-surfaces. *Journal of Optics (United Kingdom)*, **2012**, 14, 114002	1.7	24
230	Cathodo- and photoluminescence in Yb(3+)-Er(3+) co-doped PbF(2) nanoparticles. *Optics Express*, **2010**, 18, 8836-46	3.3	24
229	Coherent and incoherent specular inverse Faraday effect: chi((3)) measurements in opaque materials. *Optics Letters*, **1994**, 19, 13-5	3	24
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227	Wavevector Selective Metasurfaces and Tunnel Vision Filters. *Light: Science and Applications*, **2015**, 4, e306-e306	16.7	23

226	Tuning the influence of metal nanoparticles on ZnO photoluminescence by atomic-layer-deposited dielectric spacer. *Nanophotonics*, **2013**, 2, 153-160	6.3	23
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224	Specular optical activity of achiral metasurfaces. *Applied Physics Letters*, **2016**, 108, 141905	3.4	23
223	Stoichiometric Engineering of Chalcogenide Semiconductor Alloys for Nanophotonic Applications. *Advanced Materials*, **2019**, 31, e1807083	24	22
222	Infrared dielectric metamaterials from high refractive index chalcogenides. *Nature Communications*, **2020**, 11, 1692	17.4	22
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