Arka Majumdar

List of Publications by Year
in descending order

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147 papers	6,228 citations	66315 42 h-index	74108 75 g-index
149 all docs	149 docs citations	149 times ranked	5766 citing authors

#	Article	IF	Citations
1	Inverse designed extended depth of focus meta-optics for broadband imaging in the visible. Nanophotonics, 2022, 11, 2531-2540.	2.9	27
2	Non-Volatile Reconfigurable Silicon Photonics Based on Phase-Change Materials. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-17.	1.9	36
3	Integrated Quantum Nanophotonics with Solutionâ€Processed Materials. Advanced Quantum Technologies, 2022, 5, 2100078.	1.8	7
4	Dispersive coupling between MoSe₂ and an integrated zero-dimensional nanocavity. Optical Materials Express, 2022, 12, 59.	1.6	5
5	Photonic Topological Baths for Quantum Simulation. ACS Photonics, 2022, 9, 682-687.	3.2	9
6	Fast extended depth of focus meta-optics for varifocal functionality. Photonics Research, 2022, 10, 828.	3.4	9
7	Knowledge distillation circumvents nonlinearity for optical convolutional neural networks. Applied Optics, 2022, 61, 2173.	0.9	8
8	Fullâ€Color Metaoptical Imaging in Visible Light. Advanced Photonics Research, 2022, 3, .	1.7	14
9	Millimeter-scale focal length tuning with MEMS-integrated meta-optics employing high-throughput fabrication. Scientific Reports, 2022, 12, 5385.	1.6	7
10	Waveguide-Integrated van der Waals Heterostructure Mid-Infrared Photodetector with High Performance. ACS Applied Materials & Interfaces, 2022, 14, 24856-24863.	4.0	16
11	Broadband Nonvolatile Electrically Controlled Programmable Units in Silicon Photonics. ACS Photonics, 2022, 9, 2142-2150.	3.2	39
12	Fully Additive Electrohydrodynamic Inkjetâ€Printed TiO₂ Midâ€Infrared Metaâ€Optics. Advanced Materials Interfaces, 2022, 9, .	1.9	2
13	Ultra-low-energy programmable non-volatile silicon photonics based on phase-change materials with graphene heaters. Nature Nanotechnology, 2022, 17, 842-848.	15.6	94
14	Direct Patterning of Perovskite Nanocrystals on Nanophotonic Cavities with Electrohydrodynamic Inkjet Printing. Nano Letters, 2022, 22, 5681-5688.	4.5	15
15	Low-loss Non-volatile Phase-change Integrated Photonics at 1550nm and 750nm. , 2021, , .		0
16	Electrical Switching of Nonvolatile Phase-Change Materials for Integrated Photonics: a Comparison. , 2021, , .		0
17	Deep Learning to Accelerate Scatterer-to-Field Mapping for Inverse Design of Dielectric Metasurfaces. ACS Photonics, 2021, 8, 481-488.	3.2	48
18	Inverse design and flexible parameterization of meta-optics using algorithmic differentiation. Communications Physics, 2021, 4, .	2.0	28

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19	Free-space optical neural network based on thermal atomic nonlinearity. Photonics Research, 2021, 9, B128.	3.4	41
20	Nonâ€Volatile Reconfigurable Integrated Photonics Enabled by Broadband Lowâ€Loss Phase Change Material. Advanced Optical Materials, 2021, 9, 2002049.	3.6	102
21	2D beam shaping via 1D spatial light modulator using static phase masks. Optics Letters, 2021, 46, 2280.	1.7	0
22	Myths and truths about optical phase change materials: A perspective. Applied Physics Letters, 2021, 118, .	1.5	76
23	High quality, high index-contrast chalcogenide microdisk resonators. Optics Express, 2021, 29, 17775.	1.7	11
24	Solid-phase excitation-emission matrix spectroscopy for chemical analysis of combustion aerosols. PLoS ONE, 2021, 16, e0251664.	1.1	1
25	High Q Chalcogenide Photonic Crystal Nanobeam Cavities. IEEE Photonics Technology Letters, 2021, 33, 525-528.	1.3	3
26	1D Self-Healing Beams in Integrated Silicon Photonics. ACS Photonics, 2021, 8, 2139-2147.	3.2	8
27	Hydrothermal Synthesis of Yb³⁺: LuLiF₄ Microcrystals and Laser Refrigeration of Yb³⁺: LuLiF₄/Siliconâ€Nitride Composite Nanostructures. Laser and Photonics Reviews, 2021, 15, 2100019.	4.4	12
28	Long wavelength infrared imaging under ambient thermal radiation via an all-silicon metalens. Optical Materials Express, 2021, 11, 2907.	1.6	16
29	High-Q, submicron-confined chalcogenide microring resonators. Optics Express, 2021, 29, 33225.	1.7	12
30	Design of achromatic augmented reality visors based on composite metasurfaces. Applied Optics, 2021, 60, 844.	0.9	19
31	Dispersive coupling between MoSe2 and a zero-dimensional integrated nanocavity. , 2021, , .		0
32	Non-volatile silicon photonic switches based on phase change materials. , 2021, , .		0
33	Extended Depth of Focus Metalenses for Achromatic Computational Imaging. , 2021, , .		0
34	End-to-end nanophotonic inverse design for imaging and polarimetry. Nanophotonics, 2021, 10, 1177-1187.	2.9	48
35	Helicity-dependent continuous varifocal metalens based on bilayer dielectric metasurfaces. Optics Express, 2021, 29, 39461.	1.7	11
36	Neural nano-optics for high-quality thin lens imaging. Nature Communications, 2021, 12, 6493.	5.8	116

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37	Meta-optical computational imaging systems for large aperture, aberration-free imaging. , 2021, , .		0
38	Optimal condition to probe strong coupling of two-dimensional excitons and zero-dimensional cavity modes. Physical Review B, 2021, 104, .	1.1	1
39	Applications of wavefront control using nano-post based dielectric metasurfaces. , 2020, , 175-194.		1
40	Simultaneous Achromatic and Varifocal Imaging with Quartic Metasurfaces in the Visible. ACS Photonics, 2020, 7, 120-127.	3.2	32
41	Coupling of photonic crystal cavity and interlayer exciton in heterobilayer of transition metal dichalcogenides. 2D Materials, 2020, 7, 015027.	2.0	17
42	Polarization-controlled optical holography using flat optics. Light: Science and Applications, 2020, 9, 134.	7.7	3
43	Excitonâ€“phonon interactions in nanocavity-integrated monolayer transition metal dichalcogenides. Npj 2D Materials and Applications, 2020, 4, .	3.9	9
44	MEMS-actuated metasurface Alvarez lens. Microsystems and Nanoengineering, 2020, 6, 79.	3.4	51
45	Black Phosphorus Mid-Infrared Light-Emitting Diodes Integrated with Silicon Photonic Waveguides. Nano Letters, 2020, 20, 6824-6830.	4.5	40
46	Metasurface Integrated Monolayer Exciton Polariton. Nano Letters, 2020, 20, 5292-5300.	4.5	44
47	Inverse Designed Metalenses with Extended Depth of Focus. ACS Photonics, 2020, 7, 873-878.	3.2	69
48	Nonvolatile Electrically Reconfigurable Integrated Photonic Switch Enabled by a Silicon PIN Diode Heater. Advanced Materials, 2020, 32, e2001218.	11.1	152
49	Image enhancement in a miniature self-imaging degenerate optical cavity. Physical Review A, 2020, 101, .	1.0	2
50	Modeling Electrical Switching of Nonvolatile Phase-Change Integrated Nanophotonic Structures with Graphene Heaters. ACS Applied Materials & Interfaces, 2020, 12, 21827-21836.	4.0	78
51	Active Tuning of Hybridized Modes in a Heterogeneous Photonic Molecule. Physical Review Applied, 2020, 13, .	1.5	9
52	Metasurface Generation of Paired Accelerating and Rotating Optical Beams for Passive Ranging and Scene Reconstruction. ACS Photonics, 2020, 7, 1529-1536.	3.2	32
53	Non-volatile Integrated Photonics enabled by Broadband Transparent Phase Change Material. , 2020, , .		4
54	Ultra-low-power nonvolatile integrated photonic switches and modulators based on nanogap-enhanced phase-change waveguides. Optics Express, 2020, 28, 37265.	1.7	21

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55	High-precision local transfer of van der Waals materials on nanophotonic structures. Optical Materials Express, 2020, 10, 645.	1.6	7
56	Design and optimization of ellipsoid scatterer-based metasurfaces via the inverse T-matrix method. OSA Continuum, 2020, 3, 89.	1.8	6
57	Ultra-broadband and compact polarizing beam splitter in silicon photonics. OSA Continuum, 2020, 3, 560.	1.8	11
58	Design and analysis of extended depth of focus metalenses for achromatic computational imaging. Photonics Research, 2020, 8, 1613.	3.4	35
59	Materials and Devices for Quantum Photonics: introduction to special issue. Optical Materials Express, 2020, 10, 715.	1.6	0
60	Phase change material integrated silicon photonics: GST and beyond. , 2020, , .		4
61	Metaphotonic Computational Image Sensors. , 2020, , .		1
62	Inverse designed metalenses with extended depth of focus. , 2020, , .		3
63	Nonvolatile Electrically Reconfigurable Integrated Photonic Switches Using Phase-Change Materials. , 2020, , .		1
64	Metasurfaces for generating complementary wavefront- coded beams for three-dimensional scene reconstruction. , 2020, , .		1
65	Large thermal tuning of polymer-embedded silicon nitride nanobeam cavity. , 2020, , .		0
66	Improving Indistinguishability of Single Photons from Colloidal Quantum Dots Using Nanocavities. ACS Photonics, 2019, 6, 3166-3173.	3.2	21
67	Ultra-Compact Subwavelength-Grating-Assisted Polarization-Independent Directional Coupler. IEEE Photonics Technology Letters, 2019, 31, 1538-1541.	1.3	16
68	Multi-slot photonic crystal cavities for high-sensitivity refractive index sensing. Optics Express, 2019, 27, 3609.	1.7	50
69	Controlling three-dimensional optical fields via inverse Mie scattering. Science Advances, 2019, 5, eaax4769.	4.7	44
70	Van der Waals materials integrated nanophotonic devices [Invited]. Optical Materials Express, 2019, 9, 384.	1.6	58
71	Nonvolatile Rewritable Photomemory Arrays Based on Reversible Phaseâ€Change Perovskite for Optical Information Storage. Advanced Optical Materials, 2019, 7, 1900558.	3.6	51
72	Low-Loss and Broadband Nonvolatile Phase-Change Directional Coupler Switches. ACS Photonics, 2019, 6, 553-557.	3.2	184

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73	Role of refractive index in metalens performance. Applied Optics, 2019, 58, 1460.	0.9	28
74	Optical frontend for a convolutional neural network. Applied Optics, 2019, 58, 3179.	0.9	75
75	Silicon nitride nanobeam enhanced emission from all-inorganic perovskite nanocrystals. Optics Express, 2019, 27, 18673.	1.7	11
76	Ultra-low mode volume on-substrate silicon nanobeam cavity. Optics Express, 2019, 27, 30692.	1.7	18
77	Large thermal tuning of a polymer-embedded silicon nitride nanobeam cavity. Optics Letters, 2019, 44, 3058.	1.7	13
78	Scaling of Mode Degeneracy and Image Fidelity in a Self-Imaging Optical Resonator. , 2019, , .		0
79	Broadband Low-loss Non-volatile Photonic Switches Using Phase-Change Materials. , 2019, , .		0
80	Deterministic positioning of colloidal quantum dots on silicon nitride nanobeam cavities. , 2019, , .		0
81	Metasurface Optics for Ultra-Compact Augmented Reality (AR) Visors. , 2019, , .		0
82	Nonvolatile Electrically Reconfigurable Silicon Photonic Switches Using Phase-Change Materials. , 2019, , .		2
83	Ge2Sb2Te5 integrated silicon photonics. , 2019, , .		0
84	Developing ultrathin light emitters and metalenses based on Van der Waals materials. , 2019, , .		0
85	Focal length adjustable metalenses for zoom imaging. , 2019, , .		0
86	Metasurface computational imaging. , 2019, , .		0
87	Large scale three-dimensional inverse design of discrete scatterer optics. , 2019, , .		0
88	GST integrated silicon photonics. , 2019, , .		2
89	Encapsulated Silicon Nitride Nanobeam Cavity for Hybrid Nanophotonics. ACS Photonics, 2018, 5, 2176-2181.	3.2	43
90	Metasurface optics for full-color computational imaging. Science Advances, 2018, 4, eaar2114.	4.7	220

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91	Characterizing Meta-Lens Performance as a Function of Refractive Index. , 2018, , .		0
92	Strong Photon Antibunching in Weakly Nonlinear Two-Dimensional Exciton-Polaritons. , 2018, , .		0
93	Deterministic Positioning of Colloidal Quantum Dots on Silicon Nitride Nanobeam Cavities. Nano Letters, 2018, 18, 6404-6410.	4.5	51
94	Ultrathin van der Waals Metalenses. Nano Letters, 2018, 18, 6961-6966.	4.5	55
95	GST-on-silicon hybrid nanophotonic integrated circuits: a non-volatile quasi-continuously reprogrammable platform. Optical Materials Express, 2018, 8, 1551.	1.6	166
96	Broadband transparent and CMOS-compatible flat optics with silicon nitride metasurfaces [Invited]. Optical Materials Express, 2018, 8, 2330.	1.6	58
97	Varifocal zoom imaging with large area focal length adjustable metalenses. Optica, 2018, 5, 825.	4.8	139
98	Inverse design of optical elements based on arrays of dielectric spheres. Applied Optics, 2018, 57, 1437.	0.9	35
99	Strong photon antibunching in weakly nonlinear two-dimensional exciton-polaritons. Physical Review B, 2018, 97, .	1.1	19
100	400%/W second harmonic conversion efficiency in 14 Î¼m-diameter gallium phosphide-on-oxide resonators. Optics Express, 2018, 26, 33687.	1.7	47
101	Cavity integrated layered material devices. , 2018, , .		0
102	Tunable metasurfaces via subwavelength phase shifters with uniform amplitude. Scientific Reports, 2017, 7, 40174.	1.6	41
103	Metasurface Freeform Nanophotonics. Scientific Reports, 2017, 7, 1673.	1.6	88
104	Nanocavity Integrated van der Waals Heterostructure Light-Emitting Tunneling Diode. Nano Letters, 2017, 17, 200-205.	4.5	129
105	Silicon photonic crystal cavity enhanced second-harmonic generation from monolayer WSe ₂. 2D Materials, 2017, 4, 015031.	2.0	77
106	Quantum many-body simulation using monolayer exciton-polaritons in coupled-cavities. Journal of Physics Condensed Matter, 2017, 29, 445703.	0.7	5
107	A forming-free bipolar resistive switching behavior based on ITO/V2O5/ITO structure. Applied Physics Letters, 2017, 111, .	1.5	26
108	Cavity nonlinear optics with layered materials. Nanophotonics, 2017, 7, 355-370.	2.9	43

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109	Hybrid metal-dielectric nanocavity for enhanced light-matter interactions. Optical Materials Express, 2017, 7, 231.	1.6	13
110	Flat metaform near-eye visor. Applied Optics, 2017, 56, 8822.	0.9	30
111	Phase-matched nonlinear optics via patterning layered materials. Optics Letters, 2017, 42, 3586.	1.7	15
112	Full-color imaging with PSF-engineered metasurfaces and computational reconstruction. , 2017, , .		1
113	Fundamental Scaling Laws in Nanophotonics. Scientific Reports, 2016, 6, 37419.	1.6	56
114	Two-dimensional materials for integrated optoelectronic information technology. , 2016, , .		0
115	Cavity-Enhanced Second-Order Nonlinear Photonic Logic Circuits. Physical Review Applied, 2016, 5, .	1.5	13
116	Low-Contrast Dielectric Metasurface Optics. ACS Photonics, 2016, 3, 209-214.	3.2	243
117	Arithmetic with photons. Nature Photonics, 2016, 10, 4-6.	15.6	5
118	Simulations of Silicon-on-Insulator Channel-Waveguide Electrooptical 2 Ã— 2 Switches and 1 Ã— 1 Modulators Using a ${f Ge_2}{f Sb_2}{f Te_5}$ Self-Holding Layer. Journal of Lightwave Technology, 2015, 33, 1805-1813.	2.7	79
119	Hybrid 2D Material Nanophotonics: A Scalable Platform for Low-Power Nonlinear and Quantum Optics. ACS Photonics, 2015, 2, 1160-1166.	3.2	52
120	Monolayer semiconductor nanocavity lasers with ultralow thresholds. Nature, 2015, 520, 69-72.	13.7	713
121	Electro-optical switching at 1550 nm using a two-state GeSe phase-change layer. Optics Express, 2015, 23, 1536.	1.7	28
122	Tunable dark modes in one-dimensional â€œdiatomicâ€•dielectric gratings. Optics Express, 2015, 23, 12478.	1.7	16
123	Electro-optical 1 x 2, 1 x N and N x N fiber-optic and free-space switching over 155 to 30 Î¼m using a Ge-Ge_2Sb_2Te_5-Ge prism structure. Optics Express, 2015, 23, 72.	1.7	4
124	Cavity enhanced nonlinear optics for few photon optical bistability. Optics Express, 2015, 23, 16246.	1.7	31
125	Control of two-dimensional excitonic light emission via photonic crystal. 2D Materials, 2014, 1, 011001.	2.0	144
126	A direct measurement of the electronic structure of Si nanocrystals and its effect on optoelectronic properties. Journal of Applied Physics, 2014, 115, 103515.	1.1	9

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127	Cavity-enabled self-electro-optic bistability in silicon photonics. Optics Letters, 2014, 39, 3864.	1.7	13
128	Proposed Coupling of an Electron Spin in a Semiconductor Quantum Dot to a Nanosize Optical Cavity. Physical Review Letters, 2013, 111, 027402.	2.9	28
129	Electrical Control of Silicon Photonic Crystal Cavity by Graphene. Nano Letters, 2013, 13, 515-518.	4.5	193
130	Deterministically charged quantum dots in photonic crystal nanoresonators for efficient spinâ€“photon interfaces. New Journal of Physics, 2013, 15, 113056.	1.2	24
131	Single-photon blockade in doubly resonant nanocavities with second-order nonlinearity. Physical Review B, 2013, 87, .	1.1	124
132	Design and analysis of photonic crystal coupled cavity arrays for quantum simulation. Physical Review B, 2012, 86, .	1.1	70
133	Cavity quantum electrodynamics with a single quantum dot coupled to a photonic molecule. Physical Review B, 2012, 86, .	1.1	80
134	Probing the ladder of dressed states and nonclassical light generation in quantum-dotâ€“cavity QED. Physical Review A, 2012, 85, .	1.0	85
135	Loss-Enabled Sub-Poissonian Light Generation in a Bimodal Nanocavity. Physical Review Letters, 2012, 108, 183601.	2.9	158
136	Ultrafast Photon-Photon Interaction in a Strongly Coupled Quantum Dot-Cavity System. Physical Review Letters, 2012, 108, 093604.	2.9	155
137	Electrically Driven Photonic Crystal Nanocavity Devices. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1700-1710.	1.9	23
138	All Optical Switching With a Single Quantum Dot Strongly Coupled to a Photonic Crystal Cavity. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1812-1817.	1.9	33
139	Off-resonant coupling between a single quantum dot and a nanobeam photonic crystal cavity. Applied Physics Letters, 2011, 99, 251907.	1.5	17
140	Integrated quantum optical networks based on quantum dots and photonic crystals. New Journal of Physics, 2011, 13, 055025.	1.2	92
141	Low power resonant optical excitation of an optomechanical cavity. Optics Express, 2011, 19, 1429.	1.7	12
142	Ultra-low power fiber-coupled gallium arsenide photonic crystal cavity electro-optic modulator. Optics Express, 2011, 19, 7530.	1.7	30
143	Fast quantum dot single photon source triggered at telecommunications wavelength. Applied Physics Letters, 2011, 98, .	1.5	35
144	Generation of nonclassical states of light via photon blockade in optical nanocavities. Physical Review A, 2010, 81, .	1.0	64

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145	Resonant Excitation of a Quantum Dot Strongly Coupled to a Photonic Crystal Nanocavity. Physical Review Letters, 2010, 104, 073904.	2.9	192
146	Theory of electro-optic modulation via a quantum dot coupled to a nano-resonator. Optics Express, 2010, 18, 3974.	1.7	37
147	An optical modulator based on a single strongly coupled quantum dot - cavity system in a p-i-n junction. Optics Express, 2009, 17, 18651.	1.7	21