List of Publications by Year in descending order

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		71102	32842
185	10,374	41	100
papers	citations	h-index	g-index
191 all docs	191 docs citations	191 times ranked	7580 citing authors

#	Article	IF	CITATIONS
1	Plasmon lasers at deep subwavelength scale. Nature, 2009, 461, 629-632.	27.8	2,277
2	A hybrid plasmonic waveguide for subwavelength confinement and long-range propagation. Nature Photonics, 2008, 2, 496-500.	31.4	1,819
3	Room-temperature sub-diffraction-limited plasmon laser by total internal reflection. Nature Materials, 2011, 10, 110-113.	27.5	546
4	High-Q surface-plasmon-polariton whispering-gallery microcavity. Nature, 2009, 457, 455-458.	27.8	422
5	Ultra-compact silicon nanophotonic modulator with broadband response. Nanophotonics, 2012, 1, 17-22.	6.0	372
6	Toward integrated plasmonic circuits. MRS Bulletin, 2012, 37, 728-738.	3.5	269
7	Plasmon lasers: coherent light source at molecular scales. Laser and Photonics Reviews, 2013, 7, 1-21.	8.7	248
8	Experimental demonstration of low-loss optical waveguiding at deep sub-wavelength scales. Nature Communications, 2011, 2, .	12.8	216
9	Indium-Tin-Oxide for High-performance Electro-optic Modulation. Nanophotonics, 2015, 4, 198-213.	6.0	180
10	Review and perspective on ultrafast wavelength-size electro-optic modulators. Laser and Photonics Reviews, 2015, 9, 172-194.	8.7	173
11	Strain-engineered high-responsivity MoTe2 photodetector for silicon photonic integrated circuits. Nature Photonics, 2020, 14, 578-584.	31.4	172
12	All-optical nonlinear activation function for photonic neural networks [Invited]. Optical Materials Express, 2018, 8, 3851.	3.0	162
13	Plasmonic Fabry-Pérot Nanocavity. Nano Letters, 2009, 9, 3489-3493.	9.1	148
14	Photonic tensor cores for machine learning. Applied Physics Reviews, 2020, 7, .	11.3	126
15	Massively parallel amplitude-only Fourier neural network. Optica, 2020, 7, 1812.	9.3	117
16	Multiplexed and Electrically Modulated Plasmon Laser Circuit. Nano Letters, 2012, 12, 5396-5402.	9.1	106
17	ITO-based electro-absorption modulator for photonic neural activation function. APL Materials, 2019, 7, .	5.1	105
18	Sub-wavelength GHz-fast broadband ITO Mach–Zehnder modulator on silicon photonics. Optica, 2020, 7, 333.	9.3	103

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19	Generation of helical topological exciton-polaritons. Science, 2020, 370, 600-604.	12.6	97
20	Spotlight on Plasmon Lasers. Science, 2011, 333, 709-710.	12.6	95
21	Strongly Enhanced Molecular Fluorescence inside a Nanoscale Waveguide Gap. Nano Letters, 2011, 11, 4907-4911.	9.1	94
22	0.52 V mm ITO-based Mach-Zehnder modulator in silicon photonics. APL Photonics, 2018, 3, 126104.	5.7	87
23	Neuromorphic photonics with electro-absorption modulators. Optics Express, 2019, 27, 5181.	3.4	86
24	A Chirality-Based Quantum Leap. ACS Nano, 2022, 16, 4989-5035.	14.6	74
25	λ-Size ITO and Graphene-Based Electro-Optic Modulators on SOI. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 40-49.	2.9	67
26	Integrated Nanocavity Plasmon Light Sources for On-Chip Optical Interconnects. ACS Photonics, 2016, 3, 233-242.	6.6	67
27	A compact plasmonic MOS-based 2×2 electro-optic switch. Nanophotonics, 2015, 4, 261-268.	6.0	66
28	Compact Graphene Plasmonic Slot Photodetector on Silicon-on-Insulator with High Responsivity. ACS Photonics, 2020, 7, 932-940.	6.6	63
29	Waveguide-based electro-absorption modulator performance: comparative analysis. Optics Express, 2018, 26, 15445.	3.4	60
30	Two-Dimensional Material-Based Mode Confinement Engineering in Electro-Optic Modulators. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 81-88.	2.9	59
31	Fundamental Scaling Laws in Nanophotonics. Scientific Reports, 2016, 6, 37419.	3.3	56
32	Active material, optical mode and cavity impact on nanoscale electro-optic modulation performance. Nanophotonics, 2017, 7, 455-472.	6.0	55
33	Prospects and applications of photonic neural networks. Advances in Physics: X, 2022, 7, .	4.1	54
34	Attojoule-efficient graphene optical modulators. Applied Optics, 2018, 57, D130.	1.8	53
35	Towards integrated metatronics: a holistic approach on precise optical and electrical properties of Indium Tin Oxide. Scientific Reports, 2019, 9, 11279.	3.3	53
36	Optimization of Data Center Battery Storage Investments for Microgrid Cost Savings, Emissions Reduction, and Reliability Enhancement. IEEE Transactions on Industry Applications, 2016, 52, 2053-2060.	4.9	45

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37	Scaling vectors of attoJoule per bit modulators. Journal of Optics (United Kingdom), 2018, 20, 014012.	2.2	44
38	Heterogeneously integrated ITO plasmonic Mach–Zehnder interferometric modulator on SOI. Scientific Reports, 2021, 11, 1287.	3.3	44
39	Coupling-enhanced dual ITO layer electro-absorption modulator in silicon photonics. Nanophotonics, 2019, 8, 1559-1566.	6.0	43
40	Optical computing. Nanophotonics, 2017, 6, 503-505.	6.0	42
41	Roadmap on material-function mapping for photonic-electronic hybrid neural networks. APL Materials, 2019, 7, .	5.1	42
42	A deterministic guide for material and mode dependence of on-chip electro-optic modulator performance. Solid-State Electronics, 2017, 136, 92-101.	1.4	41
43	Monolithic III–V on Silicon Plasmonic Nanolaser Structure for Optical Interconnects. Scientific Reports, 2015, 5, 14067.	3.3	40
44	Enhanced photon absorption in spiral nanostructured solar cells using layered 2D materials. Nanotechnology, 2015, 26, 344005.	2.6	40
45	A Sub-\$lambda\$-Size Modulator Beyond the Efficiency-Loss Limit. IEEE Photonics Journal, 2013, 5, 2202411-2202411.	2.0	39
46	PCNNA: A Photonic Convolutional Neural Network Accelerator. , 2018, , .		37
47	Two-dimensional design and analysis of trench-coupler based Silicon Mach-Zehnder thermo-optic switch. Optics Express, 2016, 24, 15845.	3.4	36
48	Biodegradable and Insoluble Cellulose Photonic Crystals and Metasurfaces. ACS Nano, 2020, 14, 9502-9511.	14.6	36
49	Hexagonal transverse-coupled-cavity VCSEL redefining the high-speed lasers. Nanophotonics, 2020, 9, 4743-4748.	6.0	34
50	Emerging devices and packaging strategies for electronic-photonic AI accelerators: opinion. Optical Materials Express, 2022, 12, 1347.	3.0	34
51	An ITO–graphene heterojunction integrated absorption modulator on Si-photonics for neuromorphic nonlinear activation. APL Photonics, 2021, 6, .	5.7	33
52	2D material printer: a deterministic cross contamination-free transfer method for atomically layered materials. 2D Materials, 2019, 6, 015006.	4.4	32
53	Loss and coupling tuning via heterogeneous integration of MoS2 layers in silicon photonics [Invited]. Optical Materials Express, 2019, 9, 751.	3.0	32
54	Testbeds for Transition Metal Dichalcogenide Photonics: Efficacy of Light Emission Enhancement in Monomer vs Dimer Nanoscale Antennae. ACS Photonics, 2017, 4, 1713-1721.	6.6	31

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55	Towards lab-on-chip ultrasensitive ethanol detection using photonic crystal waveguide operating in the mid-infrared. Nanophotonics, 2021, 10, 1675-1682.	6.0	29
56	Primer on silicon neuromorphic photonic processors: architecture and compiler. Nanophotonics, 2020, 9, 4055-4073.	6.0	29
57	Programmable chalcogenide-based all-optical deep neural networks. Nanophotonics, 2022, 11, 4073-4088.	6.0	29
58	Low-loss tunable 1D ITO-slot photonic crystal nanobeam cavity. Journal of Optics (United Kingdom), 2018, 20, 054003.	2.2	28
59	Electronic Bottleneck Suppression in Nextâ€Generation Networks with Integrated Photonic Digitalâ€ŧoâ€Analog Converters. Advanced Photonics Research, 2021, 2, 2000033.	3.6	28
60	MorphoNoC: Exploring the design space of a configurable hybrid NoC using nanophotonics. Microprocessors and Microsystems, 2017, 50, 113-126.	2.8	27
61	A semi-empirical integrated microring cavity approach for 2D material optical index identification at 1.55 μm. Nanophotonics, 2019, 8, 435-441.	6.0	27
62	Self-driven highly responsive p-n junction InSe heterostructure near-infrared light detector. Photonics Research, 2022, 10, A97.	7.0	27
63	Observation and Active Control of a Collective Polariton Mode and Polaritonic Band Gap in Few-Layer WS ₂ Strongly Coupled with Plasmonic Lattices. Nano Letters, 2020, 20, 790-798.	9.1	25
64	A Winograd-Based Integrated Photonics Accelerator for Convolutional Neural Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-12.	2.9	25
65	Electrically-driven carbon nanotube-based plasmonic laser on silicon. Optical Materials Express, 2015, 5, 1910.	3.0	24
66	Integrated ultra-high-performance graphene optical modulator. Nanophotonics, 2022, 11, 4011-4016.	6.0	24
67	100ÂGHz micrometer-compact broadband monolithic ITO Mach–Zehnder interferometer modulator enabling 3500 times higher packing density. Nanophotonics, 2022, 11, 4001-4009.	6.0	24
68	A Lateral MOS-Capacitor-Enabled ITO Mach–Zehnder Modulator for Beam Steering. Journal of Lightwave Technology, 2020, 38, 282-290.	4.6	22
69	The Case for Hybrid Photonic Plasmonic Interconnects (HyPPIs): Low-Latency Energy-and-Area-Efficient On-Chip Interconnects. IEEE Photonics Journal, 2015, 7, 1-14.	2.0	21
70	Artificial Synapse with Mnemonic Functionality using CSST-based Photonic Integrated Memory. , 2020, ,		21
71	Integrated photonic FFT for photonic tensor operations towards efficient and high-speed neural networks. Nanophotonics, 2020, 9, 4097-4108.	6.0	17
72	Electrical-Driven Plasmon Source of Silicon Based on Quantum Tunneling. ACS Photonics, 2018, 5, 4928-4936.	6.6	16

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73	Symmetry perception with spiking neural networks. Scientific Reports, 2021, 11, 5776.	3.3	16
74	Approximate analog computing with metatronic circuits. Communications Physics, 2021, 4, .	5.3	16
75	Hybrid Photonic-Plasmonic Nonblocking Broadband 5 × 5 Router for Optical Networks. IEEE Photonics Journal, 2018, 10, 1-12.	2.0	15
76	Enhanced interaction strength for a square plasmon resonator embedded in a photonic crystal nanobeam cavity. Journal of Nanophotonics, 2015, 9, 093790.	1.0	14
77	Atto-Joule, high-speed, low-loss plasmonic modulator based on adiabatic coupled waveguides. Nanophotonics, 2018, 7, 859-864.	6.0	13
78	On-chip nanophotonic broadband wavelength detector with 2D-Electron gas. Nanophotonics, 2022, 11, 289-296.	6.0	13
79	Highly accurate, reliable, and non-contaminating two-dimensional material transfer system. Applied Physics Reviews, 2022, 9, .	11.3	13
80	Fast and slow light generated by surface plasmon wave and gold grating coupling effects. Indian Journal of Physics, 2018, 92, 789-798.	1.8	11
81	Wideband Multi-Arm Bowtie Antenna for Millimeter Wave Electro-Optic Sensors and Receivers. Journal of Lightwave Technology, 2018, 36, 3418-3426.	4.6	11
82	OE-CAM: A Hybrid Opto-Electronic Content Addressable Memory. IEEE Photonics Journal, 2020, 12, 1-14.	2.0	11
83	Strain-Induced Spatially Resolved Charge Transport in 2H-MoTe2. ACS Applied Electronic Materials, 2021, 3, 3781-3788.	4.3	11
84	Integrated photonics for NASA applications. , 2019, , .		11
85	Roadmap for gain-bandwidth-product enhanced photodetectors: opinion. Optical Materials Express, 2020, 10, 2192.	3.0	11
86	Electrically tunable metasurface by using InAs in a metal–insulator–metal configuration. Nanophotonics, 2022, 11, 1117-1126.	6.0	11
87	MO detector (MOD): a dual-function optical modulator-detector for on-chip communication. Optics Express, 2018, 26, 8252.	3.4	10
88	Residue number system arithmetic based on integrated nanophotonics. Optics Letters, 2018, 43, 2026.	3.3	10
89	Induced homomorphism: Kirchhoff's law in photonics. Nanophotonics, 2021, 10, 1711-1721.	6.0	10
90	Quantifying Information via Shannon Entropy in Spatially Structured Optical Beams. Research, 2021, 2021, 9780760.	5.7	10

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91	2D materials in electro-optic modulation: energy efficiency, electrostatics, mode overlap, material transfer and integration. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	9
92	Silicon microring resonator waveguide-based graphene photodetector. Microsystem Technologies, 2019, 25, 319-328.	2.0	9
93	Performance Analysis of Integrated Electro-Optic Phase Modulators Based on Emerging Materials. IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27, 1-11.	2.9	9
94	Broadband Sub-λ GHz ITO Plasmonic Mach-Zehnder Modulator in Silicon Photonics. , 2020, , .		9
95	Complex Exponential Neural Network for Optical System. , 2021, , .		9
96	Two-beam coupling by a hot electron nonlinearity. Optics Letters, 2021, 46, 428.	3.3	8
97	ROC. ACM Transactions on Parallel Computing, 2020, 7, 1-29.	1.4	8
98	Photonic Tensor Core with Photonic Compute-in-Memory. , 2022, , .		8
99	VCSEL with multi-transverse cavities with bandwidth beyond 100ÂGHz. Nanophotonics, 2021, 10, 3779-3788.	6.0	7
100	A Spectrally Tunable Dielectric Subwavelength Grating based Broadband Planar Light Concentrator. Scientific Reports, 2019, 9, 11723.	3.3	6
101	Million-channel parallelism Fourier-optic convolutional filter and neural network processor. , 2020,		6
102	Charge and field driven integrated optical modulators: comparative analysis: opinion. Optical Materials Express, 2022, 12, 1784.	3.0	6
103	Virtualizing a Post-Moore's Law Analog Mesh Processor: The Case of a Photonic PDE Accelerator. Transactions on Embedded Computing Systems, 2023, 22, 1-26.	2.9	6
104	Towards On-Chip Optical FFTs for Convolutional Neural Networks. , 2017, , .		4
105	HyPPI NoC: Bringing Hybrid Plasmonics to an Opto-Electronic Network-on-Chip. , 2017, , .		4
106	Graphene-based solitons for spatial division multiplexed switching. Optics Letters, 2017, 42, 787.	3.3	4
107	Two-pump optical parametric amplification in the S-band using a tellurite microstructured optical fiber. Indian Journal of Physics, 2019, 93, 101-105.	1.8	4
108	Photonic-Plasmonic Hybrid Interconnects: a Low-latency Energy and Footprint Efficient Link. , 2015, , .		4

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109	Silicon nitride grating based planar spectral splitting concentrator for NIR light harvesting. Optics Express, 2020, 28, 21474.	3.4	4
110	Implications of Active Material and Optical Mode on Nanoscale Electro-Optic Modulation. , 2017, , .		4
111	2D Material based Electro-Absorption Modulator in Si Photonics. , 2020, , .		4
112	Optimization of data center battery storage investments for microgrid cost savings, emissions reduction, and reliability enhancement. , 2015, , .		3
113	Channel resolution enhancement through scalability of nano/micro-scale thickness and width of SU-8 polymer based optical channels using UV lithography. Microsystem Technologies, 2018, 24, 1673-1681.	2.0	3
114	Neural Network Activation Functions with Electro-Optic Absorption Modulators. , 2018, , .		3
115	Integrated Photonics Architectures for Residue Number System Computations. , 2019, , .		3
116	CLEAR: A Holistic Figure-of-Merit for Post- and Predicting Electronic and Photonic-based Compute-system Evolution. Scientific Reports, 2020, 10, 6482.	3.3	3
117	Effect of Strain in WS2 Monolayer Integrated Excitonic Photodetector. , 2021, , .		3
118	ITO Mach-Zehnder Modulator on Si. , 2019, , .		3
119	Sub-voltage Graphene-Plasmon Based Electro-absorption Modulator. , 2017, , .		3
120	Multi-level Nonvolatile Photonic Memories Using Broadband Transparent Phase change materials. , 2021, , .		3
121	Efficient MoTe2 Slot-enhanced Photodetector based on Engineering Gain-Bandwidth-Product Scaling Laws. , 2020, , .		3
122	Quantifying Information via Structural Complexity in Optical Beams Using Shannon Entropy. , 2021, , .		3
123	Strong Photon Absorption in 2-D Material-Based Spiral Photovoltaic Cells. MRS Advances, 2016, 1, 3915-3921.	0.9	2
124	Electroluminescence Enhancement via Grating on a Si-based Plasmonic Metal-Insulator-Semiconductor Tunnel Junction. MRS Advances, 2016, 1, 1709-1713.	0.9	2
125	A Design Methodology for Post-Moore's Law Accelerators: The Case of a Photonic Neuromorphic Processor. , 2020, , .		2
126	Identifying mirror symmetry density with delay in spiking neural networks (Conference Presentation). , 2018, , .		2

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127	Strong ITO index Modulation for Switching Devices. , 2014, , .		2
128	Application-Specific Photonic Integrated Circuit. , 2021, , .		2
129	Fundamental Physical Scaling Laws of Nanophotonics. , 2017, , .		1
130	Sub 1-Volt Graphene-based Plasmonic Electroabsorption Modulator on Silicon. , 2017, , .		1
131	2D TMDCs-Based NIR Photodetector on a Silicon Microring Cavity. , 2019, , .		1
132	Silicon Photonic Enabled Residue Number System Adder and Multiplier. , 2019, , .		1
133	Massively-parallel Amplitude-Only Fourier Optical Convolutional Neural Network. , 2021, , .		1
134	Sub-wavelength Plasmonic Graphene-based Slot Electro-optic Modulator. , 2017, , .		1
135	One-to-Three Silicon Photonic Grid Power Splitter for Optical Mesh Solver. , 2019, , .		1
136	CLEAR: A Holistic Figure-of-Merit for Electronic, Photonic, Plasmonic and Hybrid Photonic-Plasmonic Compute System Comparison. , 2017, , .		1
137	Photonic Neural Network Nonlinear Activation Functions by Electrooptic Absorption Modulators. , 2018, , .		1
138	ITO-based Mach Zehnder Modulator. , 2018, , .		1
139	An ITO-based Mach-Zehnder Modulator with Lateral MOS-Capacitor on SOI Platform. , 2019, , .		1
140	A Guide for Material and Design Choices for Electro-Optic Modulators. , 2019, , .		1
141	Optical Phased Arrays based on ITO Phase Shifter Modulator on Silicon Photonics. , 2019, , .		1
142	MoTe2 Based Electro-optic Modulator on Mach-Zehnder Interferometer. , 2019, , .		1
143	Ultrasensitive Phototransistor Based on Multi-layered MoTe2. , 2019, , .		1
144	Multi-level Nonvolatile Photonic Memories Using Broadband Transparent Phase change materials. , 2020, , .		1

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145	GHz Plasmonic Broadband ITO MZI Modulator in Si Photonics. , 2021, , .		1
146	1fJ/bit Coupling-based ITO Monolithic Modulator in Integrated Photonics. , 2021, , .		1
147	Integrated hybrid nanophotonics. , 2011, , .		0
148	A compact plasmonic MOS-based electro-optic switch. , 2013, , .		0
149	A performance comparison of ITO and graphene-based electro-optic modulators. , 2014, , .		0
150	Sub-wavelength Si-based plasmonic light emitting tunnel junction. Proceedings of SPIE, 2015, , .	0.8	0
151	High-performance sub-wavelength Si plasmonic modulators. , 2015, , .		0
152	Photonic Neuromporphic Computing with Electrooptic Nonlinear Activation. , 2018, , .		0
153	110 Attojoule-per-bit Graphene Plasmon Modulator on Silicon. , 2018, , .		0
154	Integrated Photonic Residue Number System Arithmetic. , 2018, , .		0
155	Integrated Nanophotonics Enabled Residue Number System (RNS) Arithmetic. , 2019, , .		0
156	Fourier Optics Coprocessor for Image Processing and Convolutional Neural Network. , 2019, , .		0
157	2D Material Printer: A Novel Deterministic Transfer Method for On-Chip Photonic Integration. , 2019, ,		0
158	Silicon-on-Insulator Integrated ITO-Based Mach-Zehnder Modulator. , 2019, , .		0
159	Photonic TPU & Memory for Machine Intelligence. , 2021, , .		0
160	Emerging Materials Based Electro-Optic Phase Modulators. , 2021, , .		0
161	Physical Scaling Laws of Nanophotonics: Case Photon Conversion. , 2016, , .		0

Bit Flow Density (BFD): An Effective Performance FOM for Optical On-chip Interconnects. , 2016, , .

#	Article	IF	CITATIONS
163	Purcell Enhancement in 1-D ITO-slot Photonic Crystal Nanobeam Cavity. , 2018, , .		Ο
164	Silicon Microring Resonator Integrated MoTe2 Photodetector. , 2019, , .		0
165	Nanophotonics Based Residue Number System. , 2019, , .		0
166	Silicon Resonant Cavity Enhanced MoTe2 Schottky Photodetector at 1.55 m. , 2019, , .		0
167	10^6 Channel parallelism Fourier-optic convolutional filter and neural network processor. , 2020, , .		0
168	Photonic Tensor Core and Nonvolatile Memory for Machine Intelligence. , 2021, , .		0
169	Photonic Tensor Core and Nonvolatile Memory for Machine Intelligence. , 2021, , .		0
170	Broadband GHz ITO-based Plasmon MZI Modulator on Silicon Photonics. , 2020, , .		0
171	Programmable Plasmonic Interferometer. , 2020, , .		0
172	Fourier Optic Convolutional Neural Network. , 2021, , .		0
173	Fourier Optical Convolutional Neural Network Accelerator. , 2021, , .		0
174	Massive parallelism Fourier-optic convolutional processor. , 2020, , .		0
175	Strain-Engineered MoTe2 Photodetector in Silicon Photonics at 1550 nm. , 2020, , .		0
176	Photonic Neural Activation Function Using An ITO Electro-Absorption Modulator. , 2020, , .		0
177	Intelligent Computing with Photonic Memories. , 2020, , .		0
178	Strain Induced Enhanced Photodetector based on Few-layered MoTe2. , 2020, , .		0
179	λ-compact ITO Plasmonic Mach-Zehnder Modulator on Si. , 2020, , .		0
180	Coherent parallel binary-weighted digital-to-analog converter in silicon photonics. , 2020, , .		0

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181	Highly Accurate, Reliable and Non-Contaminating Two-Dimensional Material Transfer System. , 2021, , .		0
182	Optimizing Optical Convolution with Nonlinear Absorption. , 2021, , .		0
183	PIC-based Binary-Weighting Parallel Digital-to-Analog Converter. , 2021, , .		0
184	High Throughput Multi-kernel Fourier Optic Classifier. , 2021, , .		0
185	Photonic Machine Intelligence Hardware: From Photonic Memory and Photonic TPU to Optical CNN. , 2021, , .		0