Parallel convolutional processing using an integrated pl

Nature

589, 52-58

DOI: 10.1038/s41586-020-03070-1

Citation Report

#	Article	IF	CITATIONS
1	Opto-electronic memristors: Prospects and challenges in neuromorphic computing. Applied Physics Letters, 2020, $117$ , .	1.5	39
2	Artificial intelligence accelerated by light. Nature, 2021, 589, 25-26.	13.7	25
3	Photonic Perceptron at Gigabit/s Speeds with Kerr Microcombs. SSRN Electronic Journal, 0, , .	0.4	0
4	Antimony thin films demonstrate programmable optical nonlinearity. Science Advances, 2021, 7, .	4.7	42
5	Scalable nanomanufacturing of chalcogenide inks: a case study on thermoelectric V–VI nanoplates. Journal of Materials Chemistry A, 2021, 9, 22555-22562.	5.2	10
6	Frequency comb distillation for optical superchannel transmission. Journal of Lightwave Technology, 2021, , 1-1.	2.7	13
7	Highly Versatile Broadband RF Photonic Fractional Hilbert Transformer Based on a Kerr Soliton Crystal Microcomb. Journal of Lightwave Technology, 2021, 39, 7581-7587.	2.7	21
8	System-Level Simulation for Integrated Phase-Change Photonics. Journal of Lightwave Technology, 2021, 39, 6392-6402.	2.7	6
9	Scalable reservoir computing on coherent linear photonic processor. Communications Physics, 2021, 4, .	2.0	68
12	Photonic convolutional accelerator and neural network in the Tera-OPs regime based on Kerr microcombs. , 2021, , .		1
13	Change in Structure of Amorphous Sb–Te Phaseâ€Change Materials as a Function of Stoichiometry. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100064.	1.2	10
16	Radio-Frequency Multiply-and-Accumulate Operations with Spintronic Synapses. Physical Review Applied, 2021, 15, .	1.5	21
17	Robust and efficient single-pixel image classification with nonlinear optics. Optics Letters, 2021, 46, 1848.	1.7	11
18	High-yield, wafer-scale fabrication of ultralow-loss, dispersion-engineered silicon nitride photonic circuits. Nature Communications, 2021, 12, 2236.	5.8	157
20	Competitive photonic neural networks. Nature Photonics, 2021, 15, 323-324.	15.6	10
21	Arbitrary linear transformations for photons in the frequency synthetic dimension. Nature Communications, 2021, 12, 2401.	5.8	32
22	Chalcogenide phase-change devices for neuromorphic photonic computing. Journal of Applied Physics, 2021, 129, .	1.1	35
25	Microcombs for ultrahigh bandwidth optical data transmission and neural networks. , 2021, , .		1

#	Article	IF	Citations
27	Scalable Singleâ€Crystalline Organic 1D Arrays for Image Sensor. Small, 2021, 17, e2100332.	5.2	16
28	All-Optical Hybrid VO\$_{2}\$/Si Waveguide Absorption Switch at Telecommunication Wavelengths. Journal of Lightwave Technology, 2021, 39, 2888-2894.	2.7	8
29	Recent progress of integrated circuits and optoelectronic chips. Science China Information Sciences, 2021, 64, 1.	2.7	56
30	Neuromorphic photonics: 2D or not 2D?. Journal of Applied Physics, 2021, 129, .	1.1	22
31	Myths and truths about optical phase change materials: A perspective. Applied Physics Letters, 2021, 118,	1.5	76
32	Integrated Neuromorphic Photonics: Synapses, Neurons, and Neural Networks. Advanced Photonics Research, 2021, 2, 2000212.	1.7	32
33	Advances in Photonic Devices Based on Optical Phase-Change Materials. Molecules, 2021, 26, 2813.	1.7	13
34	Real-time multi-task diffractive deep neural networks via hardware-software co-design. Scientific Reports, 2021, 11, 11013.	1.6	24
35	Scalability of All-Optical Neural Networks Based on Spatial Light Modulators. Physical Review Applied, 2021, 15, .	1.5	14
36	On-Chip Integrated Photonic Devices Based on Phase Change Materials. Photonics, 2021, 8, 205.	0.9	21
37	Nonvolatile programmable silicon photonics using an ultralow-loss Sb <sub>2</sub> Se <sub>3</sub> phase change material. Science Advances, 2021, 7, .	4.7	127
38	Numerical study of dissipative Kerr soliton generation in a microcavity processed by sol-gel method. , 2021, , .		0
39	Seamless multi-reticle photonics. Optics Letters, 2021, 46, 2984.	1.7	5
40	Lowâ€Voltage Electrochemical Li <sub><i>x</i></sub> WO <sub>3</sub> Synapses with Temporal Dynamics for Spiking Neural Networks. Advanced Intelligent Systems, 2021, 3, 2100021.	3.3	9
41	Photonic Matrix Computing: From Fundamentals to Applications. Nanomaterials, 2021, 11, 1683.	1.9	28
42	Mid-Infrared Waveguide-Integrated Dielectric Metalens by Bigradient Slots on Silicon. , 2021, , .		1
43	Operando monitoring transition dynamics of responsive polymer using optofluidic microcavities. Light: Science and Applications, 2021, 10, 128.	7.7	40
44	Photonic extreme learning machine by free-space optical propagation. Photonics Research, 2021, 9, 1446.	3.4	43

#	Article	IF	CITATIONS
45	Co-Design of Free-Space Metasurface Optical Neuromorphic Classifiers for High Performance. ACS Photonics, 2021, 8, 2103-2111.	3.2	7
46	Silicon photonics phase and intensity modulators for flat frequency comb generation. Photonics Research, 2021, 9, 2068.	3.4	2
47	Neuromorphic processing at 11 Tera-OPs with soliton crystal Kerr microcombs. , 2021, , .		1
48	Scalable massively parallel computing using continuous-time data representation in nanoscale crossbar array. Nature Nanotechnology, 2021, 16, 1079-1085.	15.6	53
49	Low-noise Kerr frequency comb generation with low temperature deuterated silicon nitride waveguides. Optics Express, 2021, 29, 29557.	1.7	12
50	A universal fully reconfigurable 12-mode quantum photonic processor. Materials for Quantum Technology, 2021, 1, 035002.	1.2	59
51	Analog Optical Computing for Artificial Intelligence. Engineering, 2022, 10, 133-145.	3.2	32
52	Highly Crystallized Tin Dioxide Microwires toward Ultraviolet Photodetector and Humidity Sensor with High Performances. Advanced Electronic Materials, 2021, 7, 2100706.	2.6	16
53	Electrically-switchable foundry-processed phase change photonic devices. , 2021, , .		5
54	Materials for emergent silicon-integrated optical computing. Journal of Applied Physics, 2021, 130, 070907.	1.1	27
55	Energy-Efficient Neural Network Inference with Microcavity Exciton Polaritons. Physical Review Applied, 2021, 16, .	1.5	10
56	Exploring the path of the variable resistance. Science, 2021, 373, 854-855.	6.0	1
57	Photonic extreme learning machine based on frequency multiplexing. Optics Express, 2021, 29, 28257.	1.7	15
58	Scalable optical learning operator. Nature Computational Science, 2021, 1, 542-549.	3.8	67
60	Analog Nanoscale Electro-Optical Synapses for Neuromorphic Computing Applications. ACS Nano, 2021, 15, 14776-14785.	7.3	35
61	The challenges of modern computing and new opportunities for optics. PhotoniX, 2021, 2, .	5.5	37
62	Direct (3+1)D laser writing of graded-index optical elements. Optica, 2021, 8, 1281.	4.8	31
63	High-Throughput Calculations on the Decomposition Reactions of Off-Stoichiometry GeSbTe Alloys for Embedded Memories. Nanomaterials, 2021, 11, 2382.	1.9	12

#	ARTICLE	IF	Citations
64	Orbital-selective electronic excitation in phase-change memory materials: a brief review. Zeitschrift Fur Naturforschung - Section B Journal of Chemical Sciences, 2021, .	0.3	O
65	A free-running dual-comb spectrometer with intelligent temporal alignment algorithm. Optics and Laser Technology, 2021, 141, 107175.	2.2	6
66	Dispersion engineering and measurement in crystalline microresonators using a fiber ring etalon. Photonics Research, 2021, 9, 2222.	3.4	7
67	Photonic processors light the way. Communications of the ACM, 2021, 64, 16-18.	3.3	1
68	Multilevel Switching in Phaseâ€Change Photonic Memory Devices. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100291.	1.2	6
69	Bonding nature and optical contrast of TiTe2/Sb2Te3 phase-change heterostructure. Materials Science in Semiconductor Processing, 2021, 135, 106080.	1.9	13
70	Simplified Coherent Synaptic Receptor for Filterless Optical Neural Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-7.	1.9	0
71	High-Performance Neuromorphic Computing Based on Photonic Technologies. , 2021, , .		0
72	A Silicon Photonic Coherent Neuron with 10GMAC/sec processing line-rate., 2021,,.		14
73	Integral order photonic RF signal processors based on a soliton crystal micro-comb source. Journal of Optics (United Kingdom), 2021, 23, 125701.	1.0	14
74	Temporal dissipative structures in optical Kerr resonators with transient loss fluctuation. Optics Express, 2021, 29, 35776.	1.7	4
75	Reversible training of waveguide-based AND/OR gates for optically driven artificial neural networks using photochromic molecules. Journal Physics D: Applied Physics, 2022, 55, 044002.	1.3	4
76	Reconfigurable and dual-polarization Bragg grating filter with phase change materials. Applied Optics, 2021, 60, 9989.	0.9	7
77	Photonic neural field on a silicon chip: large-scale, high-speed neuro-inspired computing and sensing. Optica, 2021, 8, 1388.	4.8	28
78	Prospects and applications of photonic neural networks. Advances in Physics: X, 2022, 7, .	1.5	54
79	Optical coherent dot-product chip for sophisticated deep learning regression. Light: Science and Applications, 2021, 10, 221.	7.7	56
80	Neuromorphic computing: Devices, hardware, and system application facilitated by two-dimensional materials. Applied Physics Reviews, 2021, 8, .	5.5	39
81	Neural SchrĶdinger Equation: Physical Law as Deep Neural Network. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 2686-2700.	7.2	13

#	Article	IF	Citations
82	Atypical phase-change alloy Ga <sub>2</sub> Te <sub>3</sub> : atomic structure, incipient nanotectonic nuclei, and multilevel writing. Journal of Materials Chemistry C, 2021, 9, 17019-17032.	2.7	12
83	Neuromorphic Photonic Networks. , 2021, , .		0
84	Guided mode meta-optics: metasurface-dressed waveguides for arbitrary mode couplers and on-chip OAM emitters with a configurable topological charge. Optics Express, 2021, 29, 39406.	1.7	13
85	Understanding and mitigating noise in trained deep neural networks. Neural Networks, 2022, 146, 151-160.	3.3	17
86	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
87	25GMAC/sec/axon photonic neural networks with 7GHz bandwidth optics through channel response-aware training. , 2021, , .		5
88	Compute with Light: Architectures, Technologies and Training Models for Neuromorphic Photonic Circuits. , 2021, , .		7
89	Silicon-integrated coherent neurons with 32GMAC/sec/axon compute line-rates using EAM-based input and weighting cells., 2021,,.		20
90	Neuromorphic Photonics for Intelligent Signal Processing. , 2021, , .		1
91	Neuromorphic Image Processing with a VCSEL Neuron. , 2021, , .		0
92	Tailoring the Structural and Optical Properties of Germanium Telluride Phase-Change Materials by Indium Incorporation. Nanomaterials, 2021, 11, 3029.	1.9	9
93	Optical meta-waveguides for integrated photonics and beyond. Light: Science and Applications, 2021, 10, 235.	7.7	196
94	Kerr Frequency Comb Interaction with Raman, Brillouin, and Second Order Nonlinear Effects. Laser and Photonics Reviews, 2022, 16, 2100184.	4.4	19
95	Subwavelength onâ€chip light focusing with bigradient allâ€dielectric metamaterials for dense photonic integration. InformaÄnÃ-Materiály, 2022, 4, .	8.5	19
96	An optical processor for matrix-by-vector multiplication: an application to the distance geometry problem in 1D. Journal of Optics (United Kingdom), 0, , .	1.0	0
97	Large-scale and energy-efficient tensorized optical neural networks on Ill–V-on-silicon MOSCAP platform. APL Photonics, 2021, 6, .	3.0	28
98	Photonic convolutional accelerator and neural network in the Tera-OPs regime based on soliton crystal Kerr microcombs. , 2021, , .		1
99	Integrated Hybrid VO <sub>2</sub> –Silicon Optical Memory. ACS Photonics, 2022, 9, 217-223.	3.2	36

#	Article	IF	CITATIONS
100	Thermal control of a Kerr microresonator soliton comb via an optical sideband. Optics Letters, 2022, 47, 281.	1.7	25
101	An optical neural network using less than 1 photon per multiplication. Nature Communications, 2022, 13, 123.	5.8	77
102	An optical neural network operating with less than 1 photon per multiplication. , 2021, , .		2
103	An Energy-efficient Non-volatile Silicon Photonic Accelerator for Convolutional Neural Networks (NVSP-CNNs)., 2021,,.		1
105	A Wavelength Tunable Optical Neuron Based on a Fiber Laser. , 2021, , .		2
106	On-demand harnessing of photonic soliton molecules. Optica, 2022, 9, 240.	4.8	38
107	Photonic reservoir computer based on frequency multiplexing. Optics Letters, 2022, 47, 782.	1.7	11
108	Nonlinear photonic dynamical systems for unconventional computing. Nonlinear Theory and Its Applications IEICE, 2022, 13, 26-35.	0.4	4
109	2022 roadmap on neuromorphic computing and engineering. Neuromorphic Computing and Engineering, 2022, 2, 022501.	2.8	217
110	InP photonic integrated multi-layer neural networks: Architecture and performance analysis. APL Photonics, 2022, 7, .	3.0	25
111	Harnessing optoelectronic noises in a photonic generative network. Science Advances, 2022, 8, eabm2956.	4.7	24
112	Computing with Injection-Locked Spintronic Diodes. Physical Review Applied, 2022, 17, .	1.5	9
113	A Highâ€Performance Inâ€Memory Photodetector Realized by Charge Storage in a van der Waals MISFET. Advanced Materials, 2022, 34, e2107734.	11.1	15
114	Biometrics-protected optical communication enabled by deep learning–enhanced triboelectric/photonic synergistic interface. Science Advances, 2022, 8, eabl9874.	4.7	42
115	Photoelectric Logic and $\langle i \rangle$ In Situ $\langle j \rangle$ Memory Transistors with Stepped Floating Gates of Perovskite Quantum Dots. ACS Nano, 2022, 16, 2442-2451.	7.3	15
116	Modulation instability of Kerr optical frequency combs in dual-coupled optical cavities. Physical Review A, 2022, 105, .	1.0	2
117	Designing Conductiveâ€Bridge Phaseâ€Change Memory to Enable Ultralow Programming Power. Advanced Science, 2022, 9, e2103478.	5.6	26
118	Two-photon polymerization simulation and fabrication of 3D microprinted suspended waveguides for on-chip optical interconnects. Optics Express, 2022, 30, 9623.	1.7	10

#	Article	IF	Citations
119	Bonding Nature and Optical Properties of As <sub>2</sub> Te <sub>3</sub> Phase hange Material. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	5
120	Amorphous InGaZnO (a-IGZO) Synaptic Transistor for Neuromorphic Computing. ACS Applied Electronic Materials, 2022, 4, 1427-1448.	2.0	39
121	Octave-spanning microcomb generation in 4H-silicon-carbide-on-insulator photonics platform. Photonics Research, 2022, 10, 870.	3.4	20
122	Low-threshold all-optical nonlinear activation function based on a Ge/Si hybrid structure in a microring resonator. Optical Materials Express, 2022, 12, 970.	1.6	30
123	Knowledge distillation circumvents nonlinearity for optical convolutional neural networks. Applied Optics, 2022, 61, 2173.	0.9	8
124	Optical Neural Network Based on Synthetic Nonlinear Photonic Lattices. Physical Review Applied, 2022, 17, .	1.5	6
125	Integrated optical frequency comb technologies. Nature Photonics, 2022, 16, 95-108.	15.6	215
126	Channel response-aware photonic neural network accelerators for high-speed inference through bandwidth-limited optics. Optics Express, 2022, 30, 10664.	1.7	14
127	Broadband photonic tensor core with integrated ultra-low crosstalk wavelength multiplexers. Nanophotonics, 2022, 11, 4063-4072.	2.9	28
128	Photonic and optoelectronic neuromorphic computing. APL Photonics, 2022, 7, .	3.0	22
129	Microresonator Dissipative Kerr Solitons Synchronized to an Optoelectronic Oscillator. Physical Review Applied, 2022, 17, .	1.5	7
130	Photonic matrix multiplication lights up photonic accelerator and beyond. Light: Science and Applications, 2022, 11, 30.	7.7	167
131	Nanostructured Materials and Architectures for Advanced Optoelectronic Synaptic Devices. Advanced Functional Materials, 2022, 32, .	7.8	45
132	Suppressed electronic contribution in thermal conductivity of Ge2Sb2Se4Te. Nature Communications, 2021, 12, 7187.	5.8	23
133	Quantum optics of soliton microcombs. Nature Photonics, 2022, 16, 52-58.	15.6	73
134	ELight: Enabling Efficient Photonic In-Memory Neurocomputing with Life Enhancement. , 2022, , .		3
135	Interconnects for DNA, Quantum, In-Memory, and Optical Computing: Insights From a Panel Discussion. IEEE Micro, 2022, 42, 40-49.	1.8	11
136	Feature Extraction From Images Using Integrated Photonic Convolutional Kernel. IEEE Photonics Journal, 2022, 14, 1-7.	1.0	1

#	ARTICLE	IF	Citations
137	An All-MRR-Based Photonic Spiking Neural Network for Spike Sequence Learning. Photonics, 2022, 9, 120.	0.9	5
138	Space-efficient optical computing with an integrated chip diffractive neural network. Nature Communications, 2022, 13, 1044.	5.8	90
139	Resonant Tunneling Diode Nano-Optoelectronic Excitable Nodes for Neuromorphic Spike-Based Information Processing. Physical Review Applied, 2022, 17, .	1.5	15
140	Ultracompact photonic integrated content addressable memory using phase change materials. Optical and Quantum Electronics, 2022, 54, 1.	1.5	2
141	A Non-volatile Quasi-Continuous All-Optical Fiber Programmable Platform Based on GST-Coated Microspheres. ACS Photonics, 2022, 9, 1180-1187.	3.2	7
142	Vibrational Kerr Solitons in an Optomechanical Microresonator. Physical Review Letters, 2022, 128, 073901.	2.9	8
143	$11\ \text{Tera-OPs/s}$ photonic convolutional accelerator and deep optical neural network based on an integrated Kerr soliton crystal microcomb. , 2022, , .		1
144	Photonic Kernel Machine Learning for Ultrafast Spectral Analysis. Physical Review Applied, 2022, 17, .	1.5	9
145	A photonic complex perceptron for ultrafast data processing. Scientific Reports, 2022, 12, 4216.	1.6	7
146	Generalized robust training scheme using genetic algorithm for optical neural networks with imprecise components. Photonics Research, 2022, 10, 1868.	3.4	14
147	Hidden phases with neuromorphic responses and highly enhanced piezoelectricity in an antiferroelectric prototype. Physical Review B, 2022, 105, .	1,1	8
148	Programmable low-threshold optical nonlinear activation functions for photonic neural networks. Optics Letters, 2022, 47, 1810.	1.7	14
149	Artificial Intelligence in Classical and Quantum Photonics. Laser and Photonics Reviews, 2022, 16, .	4.4	11
150	Photonic synaptic system for MAC operations by interconnected vertical cavity surface emitting lasers. Optical Materials Express, 2022, 12, 1417.	1.6	4
151	Versatile, high bandwidth, RF and microwave photonic Hilbert transformers based on Kerr micro-combs. , 2022, , .		1
152	Ultrafast neuromorphic photonic image processing with a VCSEL neuron. Scientific Reports, 2022, 12, 4874.	1.6	37
153	Efficient training for the hybrid optical diffractive deep neural network., 2022,,.		0
154	Ultracompact Highâ€Extinctionâ€Ratio Nonvolatile Onâ€Chip Switches Based on Structured Phase Change Materials. Laser and Photonics Reviews, 2022, 16, .	4.4	13

#	ARTICLE	IF	Citations
155	Design of Compact Meta-Crystal Slab for General Optical Convolution. ACS Photonics, 2022, 9, 1358-1365.	3.2	12
156	Optimization of optical convolution kernel of optoelectronic hybrid convolution neural network. Optoelectronics Letters, 2022, 18, 181-186.	0.4	1
157	Phase change materials: the 'silicon' for analog photonic computing?., 2022,,.		0
158	All-type optical logic gates using plasmonic coding metamaterials and multi-objective optimization. Optics Express, 2022, 30, 11633.	1.7	9
159	Combining one and two photon polymerization for accelerated high performance $(3 + 1)D$ photonic integration. Nanophotonics, 2022, $11$ , $1591-1601$ .	2.9	16
160	Dsa-PAML: a parallel automated machine learning system via dual-stacked autoencoder. Neural Computing and Applications, 2022, 34, 12985-13006.	3.2	1
161	Ultracompact meta-imagers for arbitrary all-optical convolution. Light: Science and Applications, 2022, 11, 62.	7.7	50
162	Endurance of chalcogenide optical phase change materials: a review. Optical Materials Express, 2022, 12, 2145.	1.6	29
163	Soliton frequency comb generation in CMOS-compatible silicon nitride microresonators. Photonics Research, 2022, 10, 1290.	3.4	17
164	Artificial Biphasic Synapses Based on Nonvolatile Phaseâ€Change Photonic Memory Cells. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	11
165	Platicon microcomb generation using laser self-injection locking. Nature Communications, 2022, 13, 1771.	5.8	39
166	Programmable photonic neural networks combining WDM with coherent linear optics. Scientific Reports, 2022, 12, 5605.	1.6	24
167	Ultrafast parallel single-pixel LiDAR with all-optical spectro-temporal encoding. APL Photonics, 2022, 7, .	3.0	6
168	Resistance Drift-Reduced Multilevel Storage and Neural Network Computing in Chalcogenide Phase Change Memories by Bipolar Operation. IEEE Electron Device Letters, 2022, 43, 565-568.	2.2	8
169	Dynamic resistive switching devices for neuromorphic computing. Semiconductor Science and Technology, 2022, 37, 024003.	1.0	12
170	Parallel Extreme Learning Machines Based on Frequency Multiplexing. Applied Sciences (Switzerland), 2022, 12, 214.	1.3	1
171	Thirty Years in Silicon Photonics: A Personal View. Frontiers in Physics, 2021, 9, .	1.0	11
172	Scalable and compact photonic neural chip with low learning-capability-loss. Nanophotonics, 2022, $11$ , $329-344$ .	2.9	26

#	Article	IF	CITATIONS
173	Fast volatile response in GST/Si waveguides for all-optical modulation. , 2021, , .		1
174	Multi-level Encoding and Decoding in a Wavelength-Multiplexed Photonic Tensor Processor. , 2021, , .		1
175	All-Optical Nonlinear Activation Function Based on Germanium Silicon Hybrid Asymmetric Coupler. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-6.	1.9	8
177	Electronically Reconfigurable Photonic Switches Incorporating Plasmonic Structures and Phase Change Materials. Advanced Science, 2022, 9, e2200383.	5.6	29
178	Multiâ€Mode and Dynamic Persistent Luminescence from Metal Cytosine Halides through Balancing Excitedâ€State Proton Transfer. Advanced Science, 2022, 9, e2200992.	5.6	55
179	Structural Phase Transitions between Layered Indium Selenide for Integrated Photonic Memory. Advanced Materials, 2022, 34, e2108261.	11.1	16
180	Antimony as a Programmable Element in Integrated Nanophotonics. Nano Letters, 2022, 22, 3532-3538.	4.5	19
181	CMOS-compatible compute-in-memory accelerators based on integrated ferroelectric synaptic arrays for convolution neural networks. Science Advances, 2022, 8, eabm8537.	4.7	30
182	Optical Neuromorphic Processor at 11 TeraOPs/s based on Kerr Soliton Crystal Micro-combs., 2022,,.		1
183	Coherent Photonic Crossbar Arrays for Large-Scale Matrix-Matrix Multiplication. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-11.	1.9	11
184	Neuromorphic Silicon Photonics and Hardware-Aware Deep Learning for High-Speed Inference. Journal of Lightwave Technology, 2022, 40, 3243-3254.	2.7	32
185	Photonic Neuromorphic Computing: Architectures, Technologies, and Training Models., 2022,,.		5
186	Photonic Tensor Core with Photonic Compute-in-Memory. , 2022, , .		8
187	Matrix eigenvalue solver based on reconfigurable photonic neural network. Nanophotonics, 2022, 11, 4089-4099.	2.9	9
188	Photonics-enabled spiking timing-dependent convolutional neural network for real-time image classification. Optics Express, 2022, 30, 16217.	1.7	8
189	Photonic neuromorphic computing using vertical cavity semiconductor lasers. Optical Materials Express, 2022, 12, 2395.	1.6	25
190	A small microring array that performs large complex-valued matrix-vector multiplication. Frontiers of Optoelectronics, 2022, $15$ , .	1.9	25
191	Tunable narrow-band single-channel add-drop integrated optical filter with ultrawide FSR. PhotoniX, 2022, 3, .	5.5	14

#	Article	IF	CITATIONS
192	Interlaboratory study on Sb2S3 interplay between structure, dielectric function, and amorphous-to-crystalline phase change for photonics. IScience, 2022, 25, 104377.	1.9	29
193	First steps into coherent object classification using convolutional deep diffractive neural networks. TM Technisches Messen, 2022, 89, 421-429.	0.3	O
194	Broadband Nonvolatile Electrically Controlled Programmable Units in Silicon Photonics. ACS Photonics, 2022, 9, 2142-2150.	3.2	39
195	All-optical ultrafast ReLU function for energy-efficient nanophotonic deep learning. Nanophotonics, 2023, 12, 847-855.	2.9	21
196	Fragileâ€toâ€Strong Transition in Phaseâ€Change Material Ge <sub>3</sub> Sb <sub>6</sub> Te <sub>5</sub> . Advanced Functional Materials, 2022, 32, .	7.8	16
197	Training optronic convolutional neural networks on an optical system through backpropagation algorithms. Optics Express, 2022, 30, 19416.	1.7	11
198	Coherent optical frequency combs: From principles to applications. Journal of Electronic Science and Technology, 2022, 20, 100157.	2.0	11
199	Light in Al: Toward Efficient Neurocomputing With Optical Neural Networks—A Tutorial. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 2581-2585.	2.2	4
200	Reconfigurable analog computing architecture based on planar optical waveguides. , 2022, , .		0
201	Photonic (computational) memories: tunable nanophotonics for data storage and computing. Nanophotonics, 2022, 11, 3823-3854.	2.9	37
202	Microcomb-driven silicon photonic systems. Nature, 2022, 605, 457-463.	13.7	128
203	Color-tunable persistent luminescence in 1D zinc–organic halide microcrystals for single-component white light and temperature-gating optical waveguides. Chemical Science, 2022, 13, 7429-7436.	3.7	51
204	A Reliability Concern on Photonic Neural Networks. , 2022, , .		1
205	WDM equipped universal linear optics for programmable neuromorphic photonic processors. Neuromorphic Computing and Engineering, 2022, 2, 024010.	2.8	18
206	Polarization multiplexed diffractive computing: all-optical implementation of a group of linear transformations through a polarization-encoded diffractive network. Light: Science and Applications, 2022, 11, .	7.7	42
207	Monadic Pavlovian associative learning in a backpropagation-free photonic network. Optica, 2022, 9, 792.	4.8	13
208	Nanophotonic Cavity Based Synapse for Scalable Photonic Neural Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-8.	1.9	7
209	High Bandwidth and Highly Reconfigurable Rf Microwave Photonic Hilbert Transformers Using Kerr Micro-Combs. SSRN Electronic Journal, 0, , .	0.4	O

#	Article	IF	CITATIONS
210	Optical and optoelectronic neuromorphic devices based on emerging memory technologies. Nanotechnology, 2022, 33, 372001.	1.3	5
211	Ultrathin oxide controlled photocurrent generation through a metal-insulator-semiconductor heterojunction. Photonics Research, O, , .	3.4	0
212	Programmable chalcogenide-based all-optical deep neural networks. Nanophotonics, 2022, 11, 4073-4088.	2.9	29
213	A ferroelectric multilevel non-volatile photonic phase shifter. Nature Photonics, 2022, 16, 491-497.	15.6	39
214	A Review of Capabilities and Scope for Hybrid Integration Offered by Silicon-Nitride-Based Photonic Integrated Circuits. Sensors, 2022, 22, 4227.	2.1	15
215	An on-chip photonic deep neural network for image classification. Nature, 2022, 606, 501-506.	13.7	160
216	High energy and low noise soliton fiber laser comb based on nonlinear merging of Kelly sidebands. Optics Express, 2022, 30, 23556.	1.7	2
217	An integrated photonics engine for unsupervised correlation detection. Science Advances, 2022, 8, .	4.7	8
218	ELight: Toward Efficient and Aging-Resilient Photonic In-Memory Neurocomputing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2023, 42, 820-833.	1.9	1
219	A Robust, Quantization-Aware Training Method forÂPhotonic Neural Networks. Communications in Computer and Information Science, 2022, , 427-438.	0.4	8
220	Convolutional neural networks with radio-frequency spintronic nano-devices. Neuromorphic Computing and Engineering, 2022, 2, 034002.	2.8	9
221	Rigorous dynamic model of a silicon ring resonator with phase change material for a neuromorphic node. Optics Express, 2022, 30, 25177.	1.7	5
222	Deep learning in light–matter interactions. Nanophotonics, 2022, 11, 3189-3214.	2.9	10
223	Neuromorphic Photonic Memory Devices Using Ultrafast, Nonâ€Volatile Phaseâ€Change Materials. Advanced Materials, 2023, 35, .	11.1	33
224	Forecasting stock market with nanophotonic reservoir computing system based on silicon optomechanical oscillators. Optics Express, 2022, 30, 23359.	1.7	1
225	Experimental Demonstration of Self-Oscillation Microcomb in a Mode-Splitting Microresonator. Frontiers in Physics, 0, 10, .	1.0	1
226	Structural optimization of integrated non-volatile photonic memory towards high storage density and low energy consumption. Optical Materials Express, 2022, 12, 2668.	1.6	2
227	Nonlinear co-generation of graphene plasmons for optoelectronic logic operations. Nature Communications, 2022, 13, .	5.8	30

#	Article	IF	CITATIONS
228	Hybrid training of optical neural networks. Optica, 2022, 9, 803.	4.8	16
229	Impact of GST thickness on GST-loaded silicon waveguides for optimal optical switching. Scientific Reports, 2022, 12, .	1.6	7
230	Polarization-selective reconfigurability in hybridized-active-dielectric nanowires. Science Advances, 2022, 8, .	4.7	15
231	Optical Computing: Status and Perspectives. Nanomaterials, 2022, 12, 2171.	1.9	28
232	On-chip bacterial foraging training in silicon photonic circuits for projection-enabled nonlinear classification. Nature Communications, 2022, 13, .	5.8	15
233	Noise-mitigation strategies in physical feedforward neural networks. Chaos, 2022, 32, .	1.0	5
234	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
235	Molecular convolutional neural networks with DNA regulatory circuits. Nature Machine Intelligence, 2022, 4, 625-635.	8.3	48
236	Numerical modeling of an integrated non-volatile reflector switch and mode converter switch based on a low loss phase change material (Sb <sub>2</sub> Se <sub>3</sub> ) in SiN platforms. Optical Materials Express, 2022, 12, 4268.	1.6	6
237	Silicon-based optoelectronics for general-purpose matrix computation: a review. Advanced Photonics, 2022, 4, .	6.2	16
238	Photonic Emulator for Inverse Design. ACS Photonics, 2023, 10, 2173-2181.	3.2	9
239	High-fidelity and large-scale reconfigurable photonic processor for NISQ applications. Optics Express, 2022, 30, 30058.	1.7	5
240	Signal recovery in optical wireless communication using photonic convolutional processor. Optics Express, 2022, 30, 39466.	1.7	4
241	Allâ€Dielectric Metasurface Empowered Opticalâ€Electronic Hybrid Neural Networks. Laser and Photonics Reviews, 2022, 16, .	4.4	12
242	Si Microring Resonator Crossbar Array for On-Chip Inference and Training of the Optical Neural Network. ACS Photonics, 2022, 9, 2614-2622.	3.2	31
243	Enabling Active Nanotechnologies by Phase Transition: From Electronics, Photonics to Thermotics. Chemical Reviews, 2022, 122, 15450-15500.	23.0	14
244	Performing calculus with epsilon-near-zero metamaterials. Science Advances, 2022, 8, .	4.7	11
245	Computationally convolutional ghost imaging. Optics and Lasers in Engineering, 2022, 159, 107191.	2.0	5

#	Article	IF	Citations
246	Nano-Bridge Waveguide Assisted Silicon Polarizing Beam Splitter. SSRN Electronic Journal, 0, , .	0.4	O
247	Phase-change materials for energy-efficient photonic memory and computing. MRS Bulletin, 2022, 47, 502-510.	1.7	13
248	Research on Optoelectronic Accelerator based on Al Computing. , 2022, , .		1
249	Coherent VCSEL Network Computing. , 2022, , .		4
250	å‰å{ å¾®é"ä,çš,,逗散å∰ Chinese Science Bulletin, 2022, , .	0.4	1
251	A Deep Neural Network Accelerator using Residue Arithmetic in a Hybrid Optoelectronic System. ACM Journal on Emerging Technologies in Computing Systems, 2022, 18, 1-26.	1.8	2
252	Metasurface on integrated photonic platform: from mode converters to machine learning. Nanophotonics, 2022, 11, 3531-3546.	2.9	13
253	Power-aware pruning for ultrafast, energy-efficient, and accurate optical neural network design. , 2022, , .		0
254	Meta-optic accelerators for object classifiers. Science Advances, 2022, 8, .	4.7	17
255	Tyrosine-mediated analog resistive switching for artificial neural networks. Nano Research, 2023, 16, 858-864.	5.8	6
256	Self-emergence of robust solitons in a microcavity. Nature, 2022, 608, 303-309.	13.7	57
257	Two-layer integrated photonic architectures with multiport photodetectors for high-fidelity and energy-efficient matrix multiplications. Optics Express, 2022, 30, 33940.	1.7	7
258	Advances in Emerging Photonic Memristive and Memristiveâ€Like Devices. Advanced Science, 2022, 9, .	5.6	15
259	Artificial Tactile Sensing System with Photoelectric Output for High Accuracy Haptic Texture Recognition and Parallel Information Processing. Nano Letters, 2022, 22, 7275-7283.	4.5	20
260	Design of plasmonic enhanced all-optical phase-change memory for secondary storage applications. Nanotechnology, 0, , .	1.3	0
261	Dielectric Contrast Tailoring for Polarized Photosensitivity toward Multiplexing Optical Communications and Dynamic Encrypt Technology. ACS Nano, 2022, 16, 12852-12865.	7.3	22
262	Multi-Level Encoding and Decoding in a Scalable Photonic Tensor Processor With a Photonic General Matrix Multiply (GeMM) Compiler. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-14.	1.9	7
263	High performance integrated photonic circuit based on inverse design method. Opto-Electronic Advances, 2022, 5, 210061-210061.	6.4	16

#	Article	IF	CITATIONS
264	On-chip Training Silicon Photonic Circuits to Perform Digital and Analog Computing. , 2022, , .		0
265	Large-scale synthetic frequency dimension optical computing using integrated acousto-optic modulator., 2022,,.		0
266	Ultrafast Switching in Integrated Photonics using Antimony. , 2022, , .		0
267	All-optical logic gate computing for high-speed parallel information processing. , 2022, 1, 220010-220010.		21
268	Photonic Reconfigurable Accelerators for Efficient Inference of CNNs With Mixed-Sized Tensors. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 4337-4348.	1.9	2
269	Ultra-low Crosstalk Multiplexer for Neuromorphic Photonic Data Processing. , 2022, , .		0
270	Enhanced Spectral Broadening Through Self-phase Modulation of Femtosecond Optical Pulses in Silicon-on-Insulator Nanowires Integrated With Graphene Oxide Films. SSRN Electronic Journal, 0, , .	0.4	0
271	Optically generated graphene plasmons for optoelectronic logic operations. , 2022, , .		O
272	Ultra-Low-Power Unitary Matrix Multiplier Based on Silicon Photonic MEMS., 2022,,.		1
273	Plasmonically Enhanced Electronically Addressable Photonic Switches Incorporating Phase-Change Materials. , 2022, , .		0
274	Fiber Based Generic Photonic Computing Unit. , 2022, , .		1
275	Neuromorphic Computing Based on Wavelength-Division Multiplexing. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-12.	1.9	17
276	GHz Rate Neuromorphic Photonic Spiking Neural Network With a Single Vertical-Cavity Surface-Emitting Laser (VCSEL). IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-10.	1.9	13
277	All-optical nonlinear activation function based on Germanium Silicon composite waveguide., 2022,,.		0
278	Coherent terahertz radiation with 2.8-octave tunability through chip-scale photomixed microresonator optical parametric oscillation. Nature Communications, 2022, 13, .	5.8	4
279	High-efficiency and broadband on-chip electro-optic frequency comb generators. Nature Photonics, 2022, 16, 679-685.	15.6	55
280	StarLight: a photonic neural network accelerator featuring a hybrid mode-wavelength division multiplexing and photonic nonvolatile memory. Optics Express, 2022, 30, 37051.	1.7	9
281	Noise-resilient and high-speed deep learning with coherent silicon photonics. Nature Communications, 2022, $13$ , .	5.8	29

#	Article	IF	Citations
282	Artificial Intelligence for Metaverse: A Framework. , 2022, 1, 54-67.		10
283	Optimize performance of a diffractive neural network by controlling the Fresnel number. Photonics Research, 2022, 10, 2667.	3.4	10
284	Emulation and modelling of semiconductor optical amplifier-based all-optical photonic integrated deep neural network with arbitrary depth. Neuromorphic Computing and Engineering, 2022, 2, 034010.	2.8	0
285	Enabling scalable optical computing in synthetic frequency dimension using integrated cavity acousto-optics. Nature Communications, 2022, 13, .	5.8	9
286	Phase Transformation and Switching Behavior of Magnetron Plasma Sputtered Ge <sub>2</sub> Sb <sub>2</sub> Se <sub>4</sub> Te. Advanced Photonics Research, 2022, 3, .	1.7	10
287	Mathematical operations and equation solving with reconfigurable metadevices. Light: Science and Applications, 2022, $11$ , .	7.7	17
289	Silicon Photonic Phase Shifters and Their Applications: A Review. Micromachines, 2022, 13, 1509.	1.4	9
290	Multidimensional Convolution Operation with Synthetic Frequency Dimensions in Photonics. Physical Review Applied, 2022, 18, .	1.5	8
291	Opportunities and Challenges for Large-Scale Phase-Change Material Integrated Electro-Photonics. ACS Photonics, 2022, 9, 3181-3195.	3.2	23
292	Optical Memory, Switching, and Neuromorphic Functionality in Metal Halide Perovskite Materials and Devices. Advanced Materials, 2023, 35, .	11.1	12
293	Efficient and compact sol-gel TiO <sub>2</sub> thermo-optic microring resonator modulator. Optical Materials Express, 2022, 12, 4061.	1.6	4
294	Massively scalable wavelength diverse integrated photonic linear neuron. Neuromorphic Computing and Engineering, 2022, 2, 034012.	2.8	3
295	Superheterodyne-inspired waveguide-integrated metasurfaces for flexible free-space light manipulation. Nanophotonics, 2022, 11, 4499-4514.	2.9	7
296	Recent Progress of Neuromorphic Computing Based on Silicon Photonics: Electronic–Photonic Co-Design, Device, and Architecture. Photonics, 2022, 9, 698.	0.9	8
297	Wavelength tunable resonant phase-change synaptic weights for photonic neuromorphic computing., 2022,,.		0
298	Parallel optical coherent dot-product architecture for large-scale matrix multiplication with compatibility for diverse phase shifters. Optics Express, 2022, 30, 42057.	1.7	5
299	Quantization-aware training for low precision photonic neural networks. Neural Networks, 2022, 155, 561-573.	3.3	8
300	Multi-Wavelength Photonic Neuromorphic Computing for Intra and Inter-Channel Distortion Compensations in WDM Optical Communication Systems. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-12.	1.9	1

#	Article	IF	Citations
301	In situ training with silicon photonics neural networks. , 2022, , .		0
302	High density Photonic Tensor Core for Matrix-Vector Multiplication. , 2022, , .		0
303	A large scale photonic matrix processor enabled by charge accumulation. Nanophotonics, 2023, 12, 819-825.	2.9	7
304	Ultra-compact nonvolatile phase shifter based on electrically reprogrammable transparent phase change materials. PhotoniX, 2022, 3, .	5 <b>.</b> 5	73
305	Integrated Photonics Packaging: Challenges and Opportunities. ACS Photonics, 2022, 9, 3467-3485.	3.2	17
306	Ultracompact Polarization Splitter–Rotator Based on Shallowly Etched Subwavelength Gratings and Anisotropic Metasurfaces. Nanomaterials, 2022, 12, 3506.	1.9	1
307	On-chip optical comb sources. APL Photonics, 2022, 7, .	3.0	12
308	Spray-coated perovskite hemispherical photodetector featuring narrow-band and wide-angle imaging. Nature Communications, 2022, 13, .	5.8	31
309	Optical microcombs in whispering gallery mode crystalline resonators with dispersive intermode interactions. Photonics Research, 2022, 10, 2866.	3.4	3
310	Non-volatile compact optical phase shifter based on Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> operating at 2.3 ŵm. Optical Materials Express, 2022, 12, 4582.	1.6	4
311	Large-scale photonic natural language processing. Photonics Research, 2022, 10, 2846.	3.4	9
312	Silicon Photonics Neural Networks for Training and Inference. , 2022, , .		0
313	Highly Integrated Photonic Tensor Core for imagining processing. , 2022, , .		0
314	Photonic Bayesian Neural Network Using Programmed Optical Noises. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-6.	1.9	2
315	Reconfigurable Low-Threshold All-Optical Nonlinear Activation Functions Based on an Add-Drop Silicon Microring Resonator. IEEE Photonics Journal, 2022, 14, 1-7.	1.0	3
316	Universal Linear Optics for Ultra-Fast Neuromorphic Silicon Photonics Towards fJ/MAC and TMAC/sec/mm <sup>2</sup> Engines. IEEE Journal of Selected Topics in Quantum Electronics, 2022, , 1-15.	1.9	9
317	Phase-Change Nanophotonic Circuits With Crossbar Electrodes and Integrated Microheaters. IEEE Electron Device Letters, 2022, 43, 2192-2195.	2.2	2
318	Scalable Nanophotonic-Electronic Spiking Neural Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-13.	1.9	2

#	Article	IF	CITATIONS
319	Transient Mesoscopic Immiscibility, Viscosity Anomaly, and High Internal Pressure at the Semiconductor–Metal Transition in Liquid Ga <sub>2</sub> Te <sub>3</sub> . Journal of Physical Chemistry Letters, 2022, 13, 10843-10850.	2.1	4
320	Experimental demonstration of coherent photonic neural computing based on a Fabry–Perot laser with a saturable absorber. Photonics Research, 2023, 11, 65.	3.4	6
321	Tailoring the oxygen concentration in Ge-Sb-O alloys to enable femtojoule-level phase-change memory operations. Materials Futures, 2022, 1, 045302.	3.1	9
322	Chip-Based High-Dimensional Optical Neural Network. Nano-Micro Letters, 2022, 14, .	14.4	21
323	Programmable low-power consumption all-optical nonlinear activation functions using a micro-ring resonator with phase-change materials. Optics Express, 2022, 30, 44943.	1.7	8
324	Thermo-Optic Phase Shifter with Interleaved Suspended Design for Power Efficiency and Speed Adjustment. Micromachines, 2022, 13, 1925.	1.4	1
325	Applications of optical microcombs. Advances in Optics and Photonics, 2023, 15, 86.	12.1	37
326	Silicon photonic architecture for training deep neural networks with direct feedback alignment. Optica, 2022, 9, 1323.	4.8	18
327	Optoelectronic integrated circuits for analog optical computing: Development and challenge. Frontiers in Physics, 0, $10$ , .	1.0	3
328	Optical Neural Networks for Holographic Image Recognition (Invited Paper). Progress in Electromagnetics Research, 2023, 176, 25-33.	1.6	0
329	Ultra-Compact and Efficient Microheaters on a Submicron-Thick InP Membrane. Journal of Lightwave Technology, 2023, 41, 1790-1800.	2.7	1
330	Ultrahigh overall-performance phase-change memory by yttrium dragging. Journal of Materials Chemistry C, 2023, 11, 1360-1368.	2.7	6
331	Zero-power optical convolutional neural network using incoherent light. Optics and Lasers in Engineering, 2023, 162, 107410.	2.0	1
332	Universal Linear Optics Revisited: New Perspectives for Neuromorphic Computing With Silicon Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-16.	1.9	5
333	Parallel Photonic Convolutional Processing on-Chip With Cross-Connect Architecture and Cyclic AWGs. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-10.	1.9	2
334	Hybrid Quantum Nanophotonicsâ€"Interfacing Color Center in Nanodiamonds with \$\$extrm{Si}_3extrm{N}_4\$\$-Photonics. Topics in Applied Physics, 2022, , 123-174.	0.4	4
335	On-Demand Reconfigurable Incoherent Optical Matrix Operator for Real-Time Video Image Display. Journal of Lightwave Technology, 2023, 41, 1637-1648.	2.7	6
336	Toward a Behavioral-Level End-to-End Framework for Silicon Photonics Accelerators. , 2022, , .		0

#	ARTICLE	IF	CITATIONS
337	Dielectric functions evolution and electronic bandgap manipulation by silicon doping for Sb <sub>2</sub> Te <sub>3</sub> phase change films: Temperature dependent spectroscopic ellipsometry study. Journal of Applied Physics, 2022, 132, 205109.	1.1	0
338	Soliton Microcomb on Chip Integrated Si3N4 Microresonators with Power Amplification in Erbium-Doped Optical Mono-Core Fiber. Micromachines, 2022, 13, 2125.	1.4	O
339	High-density Integrated Photonic Tensor Processing Unit with a Matrix Multiply Compile. , 2022, , .		1
340	AnalogVNN: A Fully Modular Framework for Photonic Analog Neural Networks. , 2022, , .		O
341	A Compact Butterfly-Style Silicon Photonic–Electronic Neural Chip for Hardware-Efficient Deep Learning. ACS Photonics, 2022, 9, 3906-3916.	3.2	15
342	Asymptotically fault-tolerant programmable photonics. Nature Communications, 2022, 13, .	5 <b>.</b> 8	14
343	Band-Structure-Engineered Electronic-Photonic Nonlinear Activation Functions. Physical Review Applied, 2022, 18, .	1.5	0
344	Hardware-algorithm collaborative computing with photonic spiking neuron chip based on an integrated Fabry–Perot laser with a saturable absorber. Optica, 2023, 10, 162.	4.8	27
345	Deviceâ€System Endâ€toâ€End Design of Photonic Neuromorphic Processor Using Reinforcement Learning. Laser and Photonics Reviews, 2023, 17, .	4.4	3
346	Determination of the nonlinear thermo-optic coefficient of silicon nitride and oxide using an effective index method. Optics Express, 2022, 30, 46134.	1.7	4
347	Molecular Property Prediction with Photonic Chipâ€Based Machine Learning. Laser and Photonics Reviews, 2023, 17, .	4.4	5
348	Conflict-Free Joint Sampling for Preference Satisfaction through Quantum Interference. Physical Review Applied, 2022, 18, .	1.5	2
349	Ultrafast silicon threshold circuitry for chaotic laser time series. AIP Advances, 2022, 12, 125225.	0.6	0
350	Ferroelectric Transistors for Memory and Neuromorphic Device Applications. Advanced Materials, 2023, 35, .	11.1	27
351	Optical multi-imaging–casting accelerator for fully parallel universal convolution computing. Photonics Research, 2023, 11, 299.	3 <b>.</b> 4	4
352	Physical deep learning with biologically inspired training method: $\hat{A}$ gradient-free approach for physical hardware. Nature Communications, 2022, 13, .	5.8	23
353	Impact of common fabrication errors on the performance of diffractive neural networks., 2022,,.		1
354	Data-driven fiber model based on the deep neural network with multi-head attention mechanism. Optics Express, 2022, 30, 46626.	1.7	3

#	ARTICLE	IF	CITATIONS
355	Photonic parallel channel estimation of MIMO-OFDM wireless communication systems. Optics Express, 2023, 31, 1394.	1.7	2
356	Self-calibrating microring synapse with dual-wavelength synchronization. Photonics Research, 2023, 11, 347.	3.4	8
357	Ultra-wideband integrated photonic devices on silicon platform: from visible to mid-IR. Nanophotonics, 2023, 12, 167-196.	2.9	5
359	Analog nanophotonic computing going practical: silicon photonic deep learning engines for tiled optical matrix multiplication with dynamic precision. Nanophotonics, 2023, 12, 963-973.	2.9	13
360	Intelligent Computing: The Latest Advances, Challenges, and Future., 2023, 2,.		26
361	Dispersion-less Kerr solitons in spectrally confined optical cavities. Light: Science and Applications, 2023, 12, .	7.7	15
362	Photonic online learning: a perspective. Nanophotonics, 2023, 12, 833-845.	2.9	6
363	Massively parallel universal linear transformations using a wavelength-multiplexed diffractive optical network. Advanced Photonics, 2023, 5, .	6.2	17
364	Photonic multiplexing techniques for neuromorphic computing. Nanophotonics, 2023, 12, 795-817.	2.9	27
365	Prospects and applications of on-chip lasers. ELight, 2023, 3, .	11.9	56
366	Perspective on 3D vertically-integrated photonic neural networks based on VCSEL arrays. Nanophotonics, 2023, 12, 827-832.	2.9	4
367	Enhanced surface effects and optical property modulation of Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> by pulsed laser irradiation. Optical Materials Express, 2023, 13, 566.	1.6	2
368	Microcomb-based integrated photonic processing unit. Nature Communications, 2023, 14, .	5.8	49
369	From 3D to 2D and back again. Nanophotonics, 2023, 12, 777-793.	2.9	5
370	A Coherent Photonic Crossbar for Scalable Universal Linear Optics. Journal of Lightwave Technology, 2023, 41, 2425-2442.	2.7	6
371	Tunable electrical field-induced metal-insulator phase separation in LiCoO2 synaptic transistor operating in post-percolation region. Nano Energy, 2023, 108, 108199.	8.2	2
372	Avoided mode-crossing assisted single soliton formation. Optics and Laser Technology, 2023, 161, 109118.	2.2	0
373	High-order tensor flow processing using integrated photonic circuits. Nature Communications, 2022, 13, .	5.8	33

#	Article	IF	CITATIONS
374	Midinfrared Spectroscopic Analysis of Aqueous Mixtures Using Artificial-Intelligence-Enhanced Metamaterial Waveguide Sensing Platform. ACS Nano, 2023, 17, 711-724.	7.3	18
375	Normalized Post-training Quantization for Photonic Neural Networks. , 2022, , .		1
377	A power-efficient integrated lithium niobate electro-optic comb generator. Communications Physics, 2023, 6, .	2.0	17
378	Proposal of Low-Loss Non-Volatile Mid-Infrared Optical Phase Shifter Based on Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>3</sub> S <sub>2</sub> . IEEE Transactions on Electron Devices, 2023, 70, 2106-2112.	1.6	5
379	Multi-Wavelength Parallel Training and Quantization-Aware Tuning for WDM-Based Optical Convolutional Neural Networks Considering Wavelength-Relative Deviations., 2023,,.		0
380	Structural plasticityâ€based hydrogel optical Willshaw model for oneâ€shot onâ€theâ€fly edge learning. InformaÄnÄ-Materiály, 2023, 5, .	8.5	1
381	Towards a high-density photonic tensor core enabled by intensity-modulated microrings and photonic wire bonding. Scientific Reports, 2023, $13$ , .	1.6	7
382	Artificial intelligence accelerator using photonic computing. , 2023, , 247-275.		0
383	A Survey on Optical Phase-Change Memory: The Promise and Challenges. IEEE Access, 2023, 11, 11781-11803.	2.6	10
384	A Photonic in-Memory Analog Matrix-Vector-Multiplier Based on Passive Microring Resonator and Photonic Nonvolatile Memory. , 2022, , .		0
385	Aluminum Nitride Thin Film Based Reconfigurable Integrated Photonic Devices. IEEE Journal of Selected Topics in Quantum Electronics, 2023, , 1-18.	1.9	3
386	The Internet of Sounds: Convergent Trends, Insights, and Future Directions. IEEE Internet of Things Journal, 2023, 10, 11264-11292.	5.5	26
387	å‰è®;ç®—çš"å•展趷åŠį:æ¨;拟æ^–æ•°å—?. Zhongguo Jiguang/Chinese Journal of Lasers, 2023, 50, 05	000021.	0
388	Coâ€Generation of Orthogonal Soliton Pair in a Monolithic Fiber Resonator with Mechanical Tunability. Laser and Photonics Reviews, 2023, 17, .	4.4	12
390	Sophisticated deep learning with on-chip optical diffractive tensor processing. Photonics Research, 2023, 11, 1125.	3.4	4
391	Engineered octave frequency comb in integrated chalcogenide dual-ring microresonators. Frontiers in Photonics, 0, 4, .	1.1	2
392	Optical Neural Network Architecture for Deep Learning with Temporal Synthetic Dimension. Chinese Physics Letters, 2023, 40, 034201.	1.3	1
393	Optical and Electrical Memories for Analog Optical Computing. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-12.	1.9	10

#	Article	IF	CITATIONS
394	Integrated Photonic Neural Networks: Opportunities and Challenges. ACS Photonics, 0, , .	3.2	5
395	Operating Principle and Device Configuration Driven Mechanisms in Lowâ€Dimensional Materials for Neuromorphics. Advanced Intelligent Systems, 2023, 5, .	3.3	0
396	Intelligent optoelectronic processor for orbital angular momentum spectrum measurement. PhotoniX, 2023, 4, .	5.5	26
397	Coherent dimension reduction with integrated photonic circuits exploiting tailored disorder. Journal of the Optical Society of America B: Optical Physics, 2023, 40, B35.	0.9	1
398	Nonvolatile Multilevel Switching of Silicon Photonic Devices with In <sub>2</sub> O <sub>3</sub> /GST Segmented Structures. Advanced Optical Materials, 2023, 11, .	3.6	11
399	Sagnac interference in integrated photonics. Applied Physics Reviews, 2023, 10, .	5.5	14
400	Photonic unsupervised learning variational autoencoder for high-throughput and low-latency image transmission. Science Advances, 2023, 9, .	4.7	11
401	Scalability of Large-Scale Photonic Integrated Circuits. ACS Photonics, 2023, 10, 2020-2030.	3.2	6
402	Reconfigurable multichannel amplitude equalizer based on cascaded silicon photonic microrings. Photonics Research, 2023, 11, 742.	3.4	1
403	Compact nonvolatile polarization switch using an asymmetric Sb <sub>2</sub> Se <sub>3</sub> -loaded silicon waveguide. Optics Express, 2023, 31, 10684.	1.7	1
404	High-Performance On-Chip Racetrack Resonator Based on GSST-Slot for In-Memory Computing. Nanomaterials, 2023, 13, 837.	1.9	5
405	Freeâ€Form Microâ€Optics Enabling Ultraâ€Broadband Lowâ€Loss Offâ€Chip Coupling. Laser and Photonics Reviews, 2023, 17, .	4.4	2
406	Observation of deterministic double dissipative-Kerr-soliton generation with avoided mode crossing. Physical Review Research, 2023, 5, .	1.3	0
407	Photonic tensor core machine learning accelerator. , 2023, , .		0
408	Coherent VCSEL homodyne neural networks. , 2023, , .		1
409	Deep optics: learning cameras and optical computing systems. , 2023, , .		0
410	Dissipative Solitons and Switching Waves in Dispersion-Modulated Kerr Cavities. Physical Review X, 2023, 13, .	2.8	4
411	Design and testing of silicon photonic 4F system for convolutional neural networks. , 2023, , .		0

#	ARTICLE	IF	CITATIONS
412	Experimental evaluation of digitally verifiable photonic computing for blockchain and cryptocurrency. Optica, 2023, 10, 552.	4.8	7
413	An ultrafast bipolar flash memory for self-activated in-memory computing. Nature Nanotechnology, 2023, 18, 486-492.	15.6	21
414	Twoâ€Photon Polymerization Lithography for Optics and Photonics: Fundamentals, Materials, Technologies, and Applications. Advanced Functional Materials, 2023, 33, .	7.8	39
415	Colloidal Ternary Telluride Quantum Dots for Tunable Phase Change Optics in the Visible and Near-Infrared. ACS Nano, 2023, 17, 6985-6997.	7.3	7
416	Metavalent Bonding in Layered Phaseâ€Change Memory Materials. Advanced Science, 2023, 10, .	5.6	9
417	Dopant network processing units as tuneable extreme learning machines. Frontiers in Nanotechnology, 0, 5, .	2.4	0
418	å‰å{神ç»ç½'络åŠå¶åº"ç"∵. Laser and Optoelectronics Progress, 2023, 60, 0600001.	0.2	3
419	相å•̃ææ—™è¾…助的光åå•ç§⁻神ç»ç½ʻ络åŠé€Ÿå™". Guangxue Xuebao/Acta Optica Sinica, 2023, 43, 04.	150021.	O
420	Software-defined nanophotonic devices and systems empowered by machine learning. Progress in Quantum Electronics, 2023, 89, 100469.	3.5	10
422	All-Optical Nonlinear Activators Using Silicon-Based Waveguides and Microring Resonators for Photonic Neural Networks. , 2022, , .		0
423	Physical Aware Clustering Training Method for Integrated Photonic Convolution Neural Network with Nonlinear Distributed Weights. , 2022, , .		0
424	A Highly Adaptive Compilation Method to Break the Limitation of SNR on Calculation Precision in Photonic Neuromorphic System., 2022,,.		0
425	An Efficient Optical Sparse Matrix Multiplication Accelerator for Graph Neural Networks., 2022,,.		0
426	Quantifying the Accuracy of Microcomb-Based Photonic RF Transversal Signal Processors. IEEE Journal of Selected Topics in Quantum Electronics, 2023, 29, 1-17.	1.9	6
427	Simulation of Gap Structure Optical Waveguide with Phase Change Materials., 2022,,.		0
428	Programmable surface plasmonic neural networks for microwave detection and processing. Nature Electronics, 2023, 6, 319-328.	13.1	16
432	Photonic Max-Pooling for Deep Neural Networks Using a Programmable Photonic Platform., 2023,,.		0
433	Wavelength-Parallel Photonic Tensor Core Based on Multi-FSR Microring Resonator Crossbar Array. , 2023, , .		O

#	Article	IF	CITATIONS
441	Photonic Max-Pooling for Deep Neural Networks Using a Programmable Photonic Platform., 2023, , .		0
442	Optoelectronic Neuromorphic Accelerator at 523.27 GOPS Based on Coherent Optical Devices., 2023,,.		0
443	Optoelectronic Neuromorphic Accelerator at 523.27 GOPS Based on Coherent Optical Devices. , 2023, , .		0
447	Design Space Exploration for PCM-based Photonic Memory. , 2023, , .		1
448	Special Session: Neuromorphic hardware design and reliability from traditional CMOS to emerging technologies., 2023,,.		0
449	Towards a Robust Multiply-Accumulate Cell in Photonics using Phase-Change Materials. , 2023, , .		1
450	Lightspeed Binary Neural Networks using Optical Phase-Change Materials. , 2023, , .		1
452	Scalable Coherent Optical Crossbar Architecture using PCM for Al Acceleration., 2023,,.		1
453	Unconventional Integrated Photonic Accelerators for High-Throughput Convolutional Neural Networks. , 2023, 2, .		1
455	Design and testing of a Silicon Photonic Tensor Core with integrated lasers. , 2023, , .		0
456	Non-volatile Optical Memory and Switch with Magnetic Material Integration. , 2023, , .		0
475	Design for Robust and Efficient Neuromorphic Photonic Accelerator. , 2022, , .		O
476	Wavelength-Parallel Photonic Tensor Core Based on Multi-FSR Microring Resonator Crossbar Array., 2023,,.		2
486	Proposal of ReLU activation function using III-V semiconductor membrane laser for optical neural network. , 2022, , .		0
487	Silicon Photonics for Training Deep Neural Networks. , 2022, , .		0
491	SCONNA: A Stochastic Computing Based Optical Accelerator for Ultra-Fast, Energy-Efficient Inference of Integer-Quantized CNNs. , 2023, , .		2
500	In situ Training of Silicon Photonic Neural Networks: from Classical to Quantum. , 2023, , .		0
501	Integrated Reconfigurable Photonic Matrix Processor from Lithium-Niobate-on-Insulator., 2023,,.		0

#	Article	IF	CITATIONS
502	Hybrid Electro-Optic Crossbar Array for Matrix-Vector Multiplications. , 2023, , .		0
503	Permanent Trimming of Large-Scale Photonic Circuits with a Focused Silicon Ion Beam. , 2023, , .		0
504	Photonic Neural Cellular Automata for Self-Organized Image Classification., 2023,,.		0
505	Integrated photonic-electronic in-memory computing platforms. , 2023, , .		O
506	Monolithic Integration of Lithium Niobate and Chalcogenide Phase-Change Material for Neuromorphic Computing., 2023,,.		0
512	Energy-efficient nonvolatile switching of silicon microring resonator with suspended phase-change waveguide., 2023,,.		0
536	The physics of optical computing. Nature Reviews Physics, 2023, 5, 717-734.	11.9	5
543	Lithography-free reconfigurable photonic processor. Nature Photonics, 2023, 17, 644-645.	15.6	0
546	Demo: First Demonstration of Real-Time Photonic-Electronic DNN Acceleration on SmartNICs., 2023,,.		0
547	Lightning: A Reconfigurable Photonic-Electronic SmartNIC for Fast and Energy-Efficient Inference., 2023, , .		1
548	Broadband Integrated Magneto-Optical Isolators on Silicon Nitride Platforms. , 2023, , .		0
550	Matrix-Vector Multiplication using Mixed Space-Frequency Multiplexing of Optical Frequency Combs. , 2023, , .		1
551	Photonic Convolution Engine Based on Phase-Change Materials and Stochastic Computing., 2023,,.		0
552	Microring Modulators Based Optical Matrix-matrix Multiplication Accelerators. , 2023, , .		0
558	Research on Dolomite Mineral Facies Segmentation Algorithm Based on Improved UNet Network Structure., 2023,,.		0
560	Processing-in-Memory Using Optically-Addressed Phase Change Memory. , 2023, , .		0
567	Reconfigurable ferroelectric hafnium oxide FeFET fabricated in 28 nm CMOS technology for mmWave applications., 2023,,.		0
571	Working Dynamics in Low-dimensional Material-based Neuromorphic Devices., 2023,, 458-497.		0

#	Article	IF	Citations
579	A Reconfigurable Photonic Computing Chip with Easily Scalable Topology. , 2023, , .		0
590	A novel reconfigurable RF switch based on ferroelectric hafnium oxide FeFET fabricated in 22 nm FDSOI technology. , 2023, , .		O
603	Densely Parallelized Photonic Tensor Processor on Hybrid Waveguide/Free-Space-Optics., 2023,,.		0
605	Heterogeneous III-V-on-Silicon photonic Non-Linear Activation Function for Scalable Photonic Neural Networks. , 2023, , .		1
611	On-Fiber Photonic Computing., 2023, , .		0
618	Nonvolatile electrically reconfigurable silicon photonics enabled by back-end-of-line integration of phase change materials. , 2023, , .		1
619	Nano-wire bridge waveguide-assisted silicon polarizing beam splitter. , 2023, , .		0
620	Optics-informed deep learning over silicon photonic hardware. , 2023, , .		0
632	Analysis and Compensation of Nonlinear Dynamics in Optical Fiber Transmission with the Optoelectronic Reservoir Computing. , $2023$ , , .		0
636	Non-volatile and ultra-fast photonic vector accelerator with optical phase change materials and integrated microcomb. , 2023, , .		0
639	Sparse coherent photonic processor for solving eigenmode problems. , 2023, , .		0
641	High-net-gain erbium-doped hybrid waveguide amplifiers on chalcogenide photonic platform. , 2023, , .		0
649	FIONA: Photonic-Electronic CoSimulation Framework and Transferable Prototyping for Photonic Accelerator., 2023,,.		0
650	Silicon Nitride High Confinement Thermally- and E/O Tuned Photonic Integrated Platfrom. , 2023, , .		0
651	Programmable High-Precision Weight Bank Based on Integrated Semiconductor Optical Amplifier Array. , 2023, , .		0
652	Complete photonic tensor convolution driven by single dataflow., 2023,,.		0
653	Non-Volatile Photonic Synapse with Ultra-Low Insertion Loss for Deep Neural Network., 2023,,.		0
654	All-Optical Complex-Valued Convolution Based on Time-Delay Interference Structure. , 2023, , .		0

#	Article	IF	CITATIONS
659	Economical optical matrix to vector multiplier., 2024,,.		0
668	Neuromorphic photonics: development of the field. , 2024, , 69-110.		O
669	Large-scale neuromorphic systems enabled by integrated photonics. , 2024, , 191-220.		0
670	2D neuromorphic photonics. , 2024, , 141-165.		O
674	Perspective on photonic neuromorphic computing. , 2024, , 353-375.		0
675	Photonic matrix computing accelerators. , 2024, , 257-293.		O
677	Configuring phase-change materials for photonics. , 2024, , 67-117.		0
678	New phase-change materials for photonic computing and beyond. , 2024, , 145-192.		O
679	Challenges associated with phase-change material selection. , 2024, , 233-250.		0
688	An Integrated All-Optical Multimodal Learning Engine Built by Reconfigurable Phase-Change Meta-Atoms. Lecture Notes in Computer Science, 2024, , 442-451.	1.0	O
691	LightRidge: An End-to-end Agile Design Framework for Diffractive Optical Neural Networks., 2023,,.		0
700	Silicon Photonics for Training Deep Neural Networks. , 2022, , .		O
701	Proposal of ReLU Activation Function Using III-V Semiconductor Membrane Laser for Optical Neural Network. , 2022, , .		0
717	Optics-informed neural networks towards accelerating linear operations. , 2024, , .		0
720	Diffractive Optical Neural Networks. , 2024, , 73-94.		0