

# Weidong Zhou

## List of Publications by Year in descending order

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126  
papers

3,399  
citations

186209

28  
h-index

143943

57  
g-index

133  
all docs

133  
docs citations

133  
times ranked

4794  
citing authors

#	ARTICLE	IF	CITATIONS
1	High-performance green flexible electronics based on biodegradable cellulose nanofibril paper. Nature Communications, 2015, 6, 7170.	5.8	707
2	Progress in 2D photonic crystal Fano resonance photonics. Progress in Quantum Electronics, 2014, 38, 1-74.	3.5	232
3	Transfer-printed stacked nanomembrane lasers on silicon. Nature Photonics, 2012, 6, 615-620.	15.6	195
4	Origami silicon optoelectronics for hemispherical electronic eye systems. Nature Communications, 2017, 8, 1782.	5.8	177
5	Bioresorbable optical sensor systems for monitoring of intracranial pressure and temperature. Science Advances, 2019, 5, eaaw1899.	4.7	146
6	Optical Refractive Index Sensing Based on High-Q Bound States in the Continuum in Free-Space Coupled Photonic Crystal Slabs. Sensors, 2017, 17, 1861.	2.1	105
7	Bioresorbable photonic devices for the spectroscopic characterization of physiological status and neural activity. Nature Biomedical Engineering, 2019, 3, 644-654.	11.6	98
8	Sharpened VO <sub>2</sub> Phase Transition via Controlled Release of Epitaxial Strain. Nano Letters, 2017, 17, 5614-5619.	4.5	93
9	Flexible high-frequency microwave inductors and capacitors integrated on a polyethylene terephthalate substrate. Applied Physics Letters, 2010, 96, .	1.5	77
10	Flexible Phototransistors Based on Single-Crystalline Silicon Nanomembranes. Advanced Optical Materials, 2016, 4, 120-125.	3.6	76
11	Double-layer Fano resonance photonic crystal filters. Optics Express, 2013, 21, 24582.	1.7	74
12	Large-area InP-based crystalline nanomembrane flexible photodetectors. Applied Physics Letters, 2010, 96, .	1.5	65
13	Flexible photonic-crystal Fano filters based on transferred semiconductor nanomembranes. Journal Physics D: Applied Physics, 2009, 42, 234007.	1.3	64
14	Fano filters based on transferred silicon nanomembranes on plastic substrates. Applied Physics Letters, 2008, 93, 061106.	1.5	62
15	226-nm AlGaIn/AlN UV LEDs using p-type Si for hole injection and UV reflection. Applied Physics Letters, 2018, 113, .	1.5	59
16	Coupled double-layer Fano resonance photonic crystal filters with lattice-displacement. Applied Physics Letters, 2013, 103, .	1.5	58
17	High quality factor photonic crystal filter at $k \approx 0$ and its application for refractive index sensing. Optics Express, 2017, 25, 10536.	1.7	55
18	Flexible Transient Optical Waveguides and Surface-Wave Biosensors Constructed from Monocrystalline Silicon. Advanced Materials, 2018, 30, e1801584.	11.1	55

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19	229-nm UV LEDs on aluminum nitride single crystal substrates using p-type silicon for increased hole injection. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	52
20	Enhanced Performance of Ge Photodiodes via Monolithic Antireflection Texturing and $\delta$ -Ge Self-Passivation by Inverse Metal-Assisted Chemical Etching. <i>ACS Nano</i> , 2018, 12, 6748-6755.	7.3	50
21	Microcavity-coupled emitters in hexagonal boron nitride. <i>Nanophotonics</i> , 2020, 9, 2937-2944.	2.9	37
22	RF Characterization of Gigahertz Flexible Silicon Thin-Film Transistor on Plastic Substrates Under Bending Conditions. <i>IEEE Electron Device Letters</i> , 2013, 34, 262-264.	2.2	36
23	High-performance flexible BiCMOS electronics based on single-crystal Si nanomembrane. <i>Npj Flexible Electronics</i> , 2017, 1, .	5.1	36
24	Nanoscale groove textured $\delta$ -Ga <sub>2</sub> O <sub>3</sub> by room temperature inverse metal-assisted chemical etching and photodiodes with enhanced responsivity. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	36
25	Photonic crystal membrane reflectors by magnetic field-guided metal-assisted chemical etching. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	35
26	Printed Large-Area Single-Mode Photonic Crystal Bandedge Surface-Emitting Lasers on Silicon. <i>Scientific Reports</i> , 2016, 6, 18860.	1.6	33
27	Fast Flexible Transistors with a Nanotrench Structure. <i>Scientific Reports</i> , 2016, 6, 24771.	1.6	33
28	Transferrable single crystalline 4H-SiC nanomembranes. <i>Journal of Materials Chemistry C</i> , 2017, 5, 264-268.	2.7	30
29	RIR-MAPLE deposition of conjugated polymers for application to optoelectronic devices. <i>Applied Physics A: Materials Science and Processing</i> , 2011, 105, 555-563.	1.1	28
30	Broadband Membrane Reflectors on Glass. <i>IEEE Photonics Technology Letters</i> , 2012, 24, 476-478.	1.3	28
31	Large-Area Printed Broadband Membrane Reflectors by Laser Interference Lithography. <i>IEEE Photonics Journal</i> , 2013, 5, 2200106-2200106.	1.0	28
32	Design of Fano Broadband Reflectors on SOI. <i>IEEE Photonics Technology Letters</i> , 2010, 22, 1108-1110.	1.3	26
33	Field penetrations in photonic crystal Fano reflectors. <i>Optics Express</i> , 2010, 18, 14152.	1.7	26
34	Resonance control of membrane reflectors with effective index engineering. <i>Applied Physics Letters</i> , 2009, 95, 023110.	1.5	25
35	Band-Bending of Ga-Polar GaN Interfaced with Al <sub>2</sub> O <sub>3</sub> through Ultraviolet/Ozone Treatment. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 17576-17585.	4.0	25
36	A Multifunction Heterojunction Formed Between Pentacene and a Single-Crystal Silicon Nanomembrane. <i>Advanced Functional Materials</i> , 2013, 23, 3398-3403.	7.8	23

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37	Solution-processed omnidirectional antireflection coatings on amorphous silicon solar cells. Journal of Applied Physics, 2009, 105, 103501.	1.1	22
38	First-principles simulation of photonic crystal surface-emitting lasers using rigorous coupled wave analysis. Applied Physics Letters, 2018, 113, .	1.5	22
39	Optofluidic vapor sensing with free-space coupled 2D photonic crystal slabs. Scientific Reports, 2019, 9, 4209.	1.6	22
40	Breakthroughs in Photonics 2012: Breakthroughs in Nanomembranes and Nanomembrane Lasers. IEEE Photonics Journal, 2013, 5, 0700707-0700707.	1.0	18
41	A Portable Micro-Gas Chromatography with Integrated Photonic Crystal Slab Sensors on Chip. Biosensors, 2021, 11, 326.	2.3	18
42	Transferred Flexible Three-Color Silicon Membrane Photodetector Arrays. IEEE Photonics Journal, 2015, 7, 1-6.	1.0	17
43	Tuning the Refractive Index of Homopolymer Blends by Controlling Nanoscale Domain Size via RIR- $\text{MAPLE}$ Deposition. Macromolecular Chemistry and Physics, 2013, 214, 2643-2650.	1.1	16
44	Polarization- and angle-dependent characteristics in two dimensional photonic crystal membrane reflectors. Applied Physics Letters, 2013, 103, 211107.	1.5	16
45	Colloidal quantum dot absorption enhancement in flexible Fano filters. Applied Physics Letters, 2010, 96, .	1.5	15
46	Fano-Resonance Photonic Crystal Membrane Reflectors at Mid- and Far-Infrared. IEEE Photonics Journal, 2013, 5, 4700206-4700206.	1.0	15
47	Transfer Printed Nanomembranes for Heterogeneously Integrated Membrane Photonics. Photonics, 2015, 2, 1081-1100.	0.9	14
48	Buried InP/Airhole Photonic Crystal Surface-Emitting Lasers. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000416.	0.8	14
49	Semiconductor nanomembranes for integrated silicon photonics and flexible Photonics. Optical and Quantum Electronics, 2012, 44, 605-611.	1.5	13
50	Low index contrast heterostructure photonic crystal cavities with high quality factors and vertical radiation coupling. Applied Physics Letters, 2018, 112, 141105.	1.5	13
51	Design of a portable imager for near-infrared visualization of cutaneous wounds. Journal of Biomedical Optics, 2017, 22, 016010.	1.4	12
52	AlGaAs/Si dual-junction tandem solar cells by epitaxial lift-off and print-transfer-assisted direct bonding. Energy Science and Engineering, 2018, 6, 47-55.	1.9	12
53	Coupled Bilayer Photonic Crystal Slab Electro-Optic Spatial Light Modulators. IEEE Photonics Journal, 2017, 9, 1-11.	1.0	11
54	Photonic crystal bandedge membrane lasers on silicon. Applied Optics, 2017, 56, H67.	0.9	11

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55	Influences of screw dislocations on electroluminescence of AlGaIn/AlN-based UVC LEDs. AIP Advances, 2019, 9, .	0.6	11
56	On-Chip Photonic Crystal Surface-Emitting Membrane Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-11.	1.9	11
57	Scaling Challenges in High Power Photonic Crystal Surface-Emitting Lasers. IEEE Journal of Quantum Electronics, 2022, 58, 1-9.	1.0	11
58	Semiconductor Nanomembrane-Based Light-Emitting and Photodetecting Devices. Photonics, 2016, 3, 40.	0.9	8
59	Bioresorbable Multilayer Photonic Cavities as Temporary Implants for Tether-Free Measurements of Regional Tissue Temperatures. BME Frontiers, 2021, 2021, .	2.2	7
60	Size Scaling of Photonic Crystal Surface Emitting Lasers on Silicon Substrates. IEEE Photonics Journal, 2018, 10, 1-6.	1.0	6
61	Controllable finite ultra-narrow quality-factor peak in a perturbed Dirac-cone band structure of a photonic-crystal slab. Applied Physics Letters, 2021, 119, .	1.5	6
62	Complete 2π phase control by photonic crystal slabs. Optics Express, 2021, 29, 40795.	1.7	6
63	Optical Add-Drop Filter Design Based on Photonic Crystal Ring Resonators. , 2007, , .		5
64	Structural Stability of Bilayer MoS <sub>2</sub> in Ambient Air. Advanced Materials Interfaces, 2021, 8, 2101188.	1.9	5
65	Transferrable single-crystal silicon nanomembranes and their application to flexible microwave systems. Journal of Information Display, 2011, 12, 109-113.	2.1	4
66	Design of an Angle Detector for Laser Beams Based on Grating Coupling. Micromachines, 2012, 3, 36-44.	1.4	4
67	Experimental and numerical study of highly sensitive displacement sensors based on photonic crystals at microwave band. Microwave and Optical Technology Letters, 2012, 54, 432-434.	0.9	4
68	Integrated Bioresorbable Optical Sensor Systems for Biomedical Pressure and Temperature Monitoring. , 2019, , .		3
69	Design of GaN-Based PCSEL With Temperature-Insensitive Lasing Wavelength. IEEE Photonics Journal, 2021, 13, 1-6.	1.0	3
70	Structural Impact and Optical Optimization in Stretchable Thin Film Flexible Solar Cells. , 2008, , .		2
71	Flexible crystalline InP nanomembrane LED arrays. , 2010, , .		2
72	Semiconductor nanomembranes for integrated and flexible photonics. , 2011, , .		2

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73	Flexible three-color silicon membrane photodetector arrays. , 2014, , .		2
74	Radio-frequency flexible electronics: Transistors and passives. , 2014, , .		2
75	Materials and design considerations for fast flexible and stretchable electronics. , 2015, , .		2
76	AlGaAs/Si dual-junction tandem solar cells fabricated by epitaxial lift-off and print transfer-assisted bonding. , 2015, , .		2
77	Optically Pumped $1\frac{1}{4}\mu\text{m}$ Low Threshold Photonic Crystal Surface Emitting Lasers Grown on GaAs Substrate. , 2019, , .		2
78	Buried Tunnel Junction Current Injection for InP-Based Nanomembrane Photonic Crystal Surface Emitting Lasers on Silicon. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900527.	0.8	2
79	Characteristics of Photonic Crystal Cavity Based Infrared Photodetectors. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
80	Spectral trimming of fano reflectors on silicon and glass substrates. , 2008, , .		1
81	Semiconductor Nanomembranes and Applications in Electronics and Photonics. , 2008, , .		1
82	Crystalline silicon nanomembrane stacking for large-area flexible photodetectors. , 2009, , .		1
83	Stacked fano resonance photonic crystal nanomembrane high-Q filters. , 2012, , .		1
84	Large area MoS <sub>2</sub> /van der Waals epitaxy on III-Ns and the epitaxial formation of a n-MoS <sub>2</sub> /p-InGaN diode. , 2016, , .		1
85	Free-space coupled silicon photonic crystal refractometric membrane sensors. , 2017, , .		1
86	Direct Measurement of Directional Emission from Monolayer WS <sub>2</sub> Laser with Heterostructure Photonic Crystal Cavities. , 2018, , .		1
87	Optical Waveguides: Flexible Transient Optical Waveguides and Surface-Wave Biosensors Constructed from Monocrystalline Silicon (Adv. Mater. 32/2018). Advanced Materials, 2018, 30, 1870239.	11.1	1
88	Hybrid Integrated Photonic Platforms: feature issue introduction. Optical Materials Express, 2021, 11, 4095.	1.6	1
89	Encapsulated photonic crystals and the role of surface state on high performance photonic crystal surface emitting lasers. , 2005, , .		0
90	Diffraction limited ultra-small photonic-crystal ring resonators with low loss. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0

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91	Solution Processed Large Area Surface Textures Based on Dip Coating. , 2008, , .		0
92	Crystalline silicon thin film photovoltaic solar cells based on energy efficient nanomembrane transfer process. , 2011, , .		0
93	Low temperature stacked electrodes for flexible crystalline semiconductor thin film solar cells. , 2011, , .		0
94	Design of a compact grating coupler with controllable linewidths via transverse resonance and evanescent field coupling. , 2011, , .		0
95	Frame-assisted membrane transfer for large area optoelectronic devices on flexible substrates. , 2011, , .		0
96	Fano resonance membrane reflectors from mid-infrared to far-infrared. , 2011, , .		0
97	Sub-wavelength diffraction losses in a silicon nano-patterned membrane reflector. , 2012, , .		0
98	Nanomembrane transfer printing for MR-VCSELs on silicon. , 2012, , .		0
99	Design criteria to optimize the near perfect anti-reflection coating. , 2012, , .		0
100	Transfer printed photonic crystal nanomembrane lasers on silicon with low optical pumping threshold. , 2012, , .		0
101	Cavity design of nanomembrane MR-VCSELs on silicon. , 2012, , .		0
102	Fabrication and Characterization of Si/GaN P Heterojunction Photodetectors. , 2012, , .		0
103	Large area imprinted surface textures for omnidirectional conformal AR coatings on flexible amorphous silicon solar cells. , 2012, , .		0
104	High-speed microwave thin-film transistors based on transferrable semiconductor nanomembranes. , 2012, , .		0
105	Electrically-pumped membrane-reflector surface-emitters on silicon. , 2013, , .		0
106	Toward microwave integrated circuits on flexible substrates (invited). , 2013, , .		0
107	Fabrication of electrically-pumped resonance-cavity membrane-reflector surface-emitters on silicon. , 2013, , .		0
108	Increasing the speed of flexible electronics. , 2013, , .		0

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109	Transfer printed nanomembrane high-Q filters based on displaced double-layer fano resonance photonic crystal slabs. , 2013, , .		0
110	15-GHz flexible microwave thin-film transistors on plastic. , 2013, , .		0
111	Surface-normal photonic crystal membrane reflectors with integrated inplane couplers for integrated silicon photonics. , 2014, , .		0
112	Thermally engineered photonic crystal membrane reflectors based on transferred nanomembranes on diamond. , 2014, , .		0
113	High-reflection Si/SiO <sub>2</sub> Bragg reflector via membrane transfer printing. , 2015, , .		0
114	Heterogeneously integrated InGaAs and Si membrane four color focal plane arrays. , 2015, , .		0
115	Membrane reflector VCSELs on-silicon. , 2015, , .		0
116	Radio-frequency flexible and stretchable electronics (Key note). , 2016, , .		0
117	Flexible Si BiCMOS on plastic substrates. , 2017, , .		0
118	Enhanced light emission from MoS <sub>2</sub> in heterostructure photonic crystal cavities. , 2017, , .		0
119	Design and fabrication of Si <sub>3</sub> N <sub>4</sub> surface normal photonic crystal filters and reflectors. , 2017, , .		0
120	Nano-indented Ge surfaces by metal-assisted chemical etching (MacEtch) and its application for optoelectronic devices. , 2017, , .		0
121	Photonic crystal surface-emitting lasers on silicon substrates. , 2017, , .		0
122	Scaling Towards Efficient Monolayer WS <sub>2</sub> Photonic Crystal Lasers. , 2018, , .		0
123	2D Material Printing for Cavity Integration. , 2018, , .		0
124	Flexible Hybrid Semiconductor Membrane Photonic Devices Based on Micro Transfer Printing Process. , 2021, , .		0
125	Heterogeneous material integration with photonic crystal platforms for nanophotonic devices on foreign substrates. , 2008, , .		0
126	Full $\pi$ phase shift from single and double layer photonic crystal slabs. , 2021, , .		0