Xiaomin Ren

List of Publications by Year
in descending order

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137	923	516561 16	580701 25
papers	citations	h-index	g-index

137	137	137	1072
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A monolayer graphene/GaAs nanowire array Schottky junction self-powered photodetector. Applied Physics Letters, 2016, 109, .	1.5	57
2	Inclined Ultrathin Bi₂O₂Se Films: A Building Block for Functional van der Waals Heterostructures. ACS Nano, 2020, 14, 16803-16812.	7.3	45
3	Tracing the Motion of Finger Joints for Gesture Recognition via Sewing RGO-Coated Fibers Onto a Textile Glove. IEEE Sensors Journal, 2019, 19, 9504-9511.	2.4	44
4	Plasmon-Enhanced Light Absorption in GaAs Nanowire Array Solar Cells. Nanoscale Research Letters, 2015, 10, 436.	3.1	43
5	A single crystalline InP nanowire photodetector. Applied Physics Letters, 2016, 109, .	1.5	38
6	Plasmonic circular resonators for refractive index sensors and filters. Nanoscale Research Letters, 2015, 10, 211.	3.1	37
7	Highly efficient broadband photodetectors based on lithography-free Au/Bi₂O₂Se/Au heterostructures. Nanoscale, 2019, 11, 20707-20714.	2.8	32
8	High-Efficiency InGaAs/InP Photodetector Incorporating SOI-Based Concentric Circular Subwavelength Gratings. IEEE Photonics Technology Letters, 2012, 24, 863-865.	1.3	27
9	Evanescent-wave pumped room-temperature single-mode GaAs/AlGaAs core-shell nanowire lasers. Applied Physics Letters, 2014, 104, .	1.5	25
10	Extremely Low-Threshold Current Density InGaAs/AlGaAs Quantum-Well Lasers on Silicon. Journal of Lightwave Technology, 2015, 33, 3163-3169.	2.7	25
11	Anomalous photoconductive behavior of a single InAs nanowire photodetector. Applied Physics Letters, 2015, 107, .	1.5	22
12	Coalescence of GaAs on (001) Si nano-trenches based on three-stage epitaxial lateral overgrowth. Applied Physics Letters, 2015, 106, .	1.5	21
13	Design and Implementation of More Than 50m Real-Time Underwater Wireless Optical Communication System. Journal of Lightwave Technology, 2022, 40, 3654-3668.	2.7	20
14	Mushroom-Mesa Photodetectors Using Subwavelength Gratings as Focusing Reflectors. IEEE Photonics Technology Letters, 2016, 28, 2273-2276.	1.3	18
15	Broadband and High Extinction Ratio Mode Converter Using the Tapered Hybrid Plasmonic Waveguide. IEEE Photonics Journal, 2019, 11, 1-8.	1.0	18
16	Asymmetric hybrid plasmonic waveguides with centimeter-scale propagation length under subwavelength confinement for photonic components. Nanoscale Research Letters, 2014, 9, 599.	3.1	16
17	Self-catalyzed growth of pure zinc blende âŸ¨110âŸ© InP nanowires. Applied Physics Letters, 2015, 107, .	1.5	16
18	Ultra-narrow spectral linewidth photodetector based on taper cavity. Electronics Letters, 2003, 39, 113.	0.5	15

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19	Axially connected nanowire core-shell p-n junctions: a composite structure for high-efficiency solar cells. Nanoscale Research Letters, 2015, 10, 22.	3.1	15
20	Analysis of Critical Dimensions for Nanowire Core-Multishell Heterostructures. Nanoscale Research Letters, 2015, 10, 389.	3.1	15
21	Controllable photoresponse behavior in a single InAs nanowire phototransistor. Applied Physics Letters, 2017, 111, .	1.5	15
22	Low-threshold room-temperature AlGaAs/GaAs nanowire/single-quantum-well heterostructure laser. Applied Physics Letters, 2017, 110, .	1.5	13
23	Optimization of GaAs Nanowire Pin Junction Array Solar Cells by Using AlGaAs/GaAs Heterojunctions. Nanoscale Research Letters, 2018, 13, 126.	3.1	13
24	A High-Efficiency Si Nanowire Array/Perovskite Hybrid Solar Cell. Nanoscale Research Letters, 2017, 12, 14.	3.1	12
25	Self-catalyzed Growth of InAs Nanowires on InP Substrate. Nanoscale Research Letters, 2017, 12, 34.	3.1	12
26	Performance Analysis and Design Considerations of the Shallow Underwater Optical Wireless Communication System with Solar Noises Utilizing a Photon Tracing-Based Simulation Platform. Electronics (Switzerland), 2021, 10, 632.	1.8	12
27	Polarization-Independent Focusing Reflectors Using Two-Dimensional SWG. IEEE Photonics Technology Letters, 2017, 29, 209-212.	1.3	11
28	Morphological control of GaAs/InAs radial heterostructure nanowires: From cylindrical to coherent quantum dot structure. Journal of Applied Physics, 2013, 113, 114301.	1.1	10
29	Polarization-Insensitive Focusing Lens Using 2D Blocky High-Contrast Gratings. IEEE Photonics Technology Letters, 2015, 27, 697-700.	1.3	10
30	Realization of uniaxially strained, rolled-up monolayer CVD graphene on a Si platform via heteroepitaxial InGaAs/GaAs bilayers. RSC Advances, 2017, 7, 14481-14486.	1.7	10
31	Grapheneâ€based dualâ€band antenna in the millimeterâ€wave band. Microwave and Optical Technology Letters, 2018, 60, 3014-3019.	0.9	10
32	Realization of a Compact Broadband Polarization Beam Splitter Using the Three-Waveguide Coupler. IEEE Photonics Technology Letters, 2019, 31, 1807-1810.	1.3	10
33	Realization of Stranskiâ€“Krastanow InAs quantum dots on nanowire-based InGaAs nanoshells. Journal of Materials Chemistry C, 2013, 1, 7914.	2.7	9
34	Photovoltaic Performance of a Nanowire/Quantum Dot Hybrid Nanostructure Array Solar Cell. Nanoscale Research Letters, 2018, 13, 62.	3.1	9
35	Performance Enhancement of Ultra-Thin Nanowire Array Solar Cells by Bottom Reflectivity Engineering. Nanomaterials, 2020, 10, 184.	1.9	9
36	A novel resonant cavity enhanced photodetector with flat-top and steep-edge response. Optoelectronics Letters, 2010, 6, 265-268.	0.4	8

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37	Dependence of doubly curved regions on drying method in the fabrication of long-side rolled-up III-V microtubes. Applied Physics Letters, 2013, 103, 051909.	1.5	8
38	Design of bias-free operational uni-traveling carrier photodiodes for terahertz wave generation. Optical and Quantum Electronics, 2018, 50, 1.	1.5	8
39	High performance transistors and photodetectors based on self-catalyzed zinc-blende InP nanowires. Applied Physics Letters, 2019, 114, .	1.5	8
40	Optical absorption in InP/InGaAs/InP double-heterostructure nanopillar arrays for solar cells. Applied Physics Letters, 2014, 104, .	1.5	7
41	Micro-photoluminescence and micro-Raman investigations of rolled-up InGaAs/GaAs microtubes monolithically integrated on silicon. Applied Physics Letters, 2015, 107, 082108.	1.5	7
42	Observation of enhanced spontaneous and stimulated emission of GaAs/AlGaAs nanowire via the Purcell effect. AIP Advances, 2015, 5, 087148.	0.6	7
43	Modified dislocation filter method: toward growth of GaAs on Si by metal organic chemical vapor deposition. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	7
44	High Bandwidth-Efficiency Product MPIN Photodiode With Parallel-Connected Microstructure. IEEE Journal of Quantum Electronics, 2020, 56, 1-5.	1.0	7
45	Enhanced performance of graphene/GaAs nanowire photoelectric conversion devices by improving the Schottky barrier height. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 051202.	0.6	6
46	Design of Bias-Free Operational Uni-traveling-Carrier Photodiodes by Transient Simulation for High-power Pulsed Millimeter-Wave Signal Generation in the Sub-THz Regime. Journal of Infrared, Millimeter, and Terahertz Waves, 2019, 40, 17-30.	1.2	6
47	The Tunable Phase Shift of High-Speed PIN Photodetector and Modified Uni-Traveling Carrier Photodetector. Journal of Lightwave Technology, 2021, 39, 1873-1879.	2.7	6
48	Influences of contact electrode shape and incidence direction on pâ€iâ€n photodiodes. IET Optoelectronics, 2019, 13, 151-154.	1.8	6
49	Design of Silicon Nitride Edge Coupler for Monolithically Integrated Laser on Silicon Photonic Circuits With Relaxed Alignment Tolerance and High Efficiency. IEEE Photonics Journal, 2022, 14, 1-6.	1.0	6
50	Analysis of critical dimensions for axial double heterostructure nanowires. Journal of Applied Physics, 2012, 112, .	1.1	5
51	A Novel Hybrid Integrated Photodetector Based on a Cone Absorption Cavity. Journal of Lightwave Technology, 2013, 31, 1234-1239.	2.7	5
52	Analysis of dark current considering trap-assisted tunneling mechanism for InGaAs PIN photodetectors. Optical and Quantum Electronics, 2017, 49, 1.	1.5	5
53	Uni-Traveling-Carrier Photodetector With High-Reflectivity DBR Mirrors. IEEE Photonics Technology Letters, 2017, 29, 1203-1206.	1.3	5
54	Optically pumped lasing in a rolled-up dot-in-a-well (DWELL) microtube via the support of Au pad. Applied Physics B: Lasers and Optics, 2018, 124, 1.	1.1	5

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55	Modulating photoelectric performance of graphene/gallium arsenide nanowire photodetectors by applying gate voltage. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	0.6	5
56	High-Speed Characteristics of Uni-Traveling-Carrier Photodiode Under Bias-Free Operation. IEEE Photonics Technology Letters, 2019, 31, 1553-1556.	1.3	5
57	A Low-Threshold Miniaturized Plasmonic Nanowire Laser with High-Reflectivity Metal Mirrors. Nanomaterials, 2020, 10, 1928.	1.9	5
58	Morphological and temperature-dependent optical properties of InAs quantum dots on GaAs nanowires with different InAs coverage. Applied Physics Letters, 2013, 103, .	1.5	4
59	Subwavelength Energy Transport Along a Dielectric Nanoparticle Chain in a Metal Slot. IEEE Photonics Journal, 2013, 5, 4500309-4500309.	1.0	3
60	Controllable growth and optical properties of InP and InP/InAs nanostructures on the sidewalls of GaAs nanowires. Journal of Applied Physics, 2014, 116, 214304.	1.1	3
61	Thermodynamic model of coherent island formation on vicinal substrate. Journal of Applied Physics, 2014, 115, 163508.	1.1	3
62	Analysis of dispersions of coupled asymmetric subwavelength-diameter wires. Optik, 2014, 125, 2749-2751.	1.4	3
63	Self-rolled-up InGaAs/GaAs microtubes fabricated directly on Si (100) substrates. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, 030603.	0.6	3
64	Fabrication and optical properties of multishell InAs quantum dots on GaAs nanowires. Journal of Applied Physics, 2015, 117, 054301.	1.1	3
65	Transient simulation of UTC-PD using drift-diffusion model. , 2017, , .		3
66	Ultra-high quantum efficiency mushroom-type RCE photodetector. , 2018, , .		3
67	Design and Implementation of Adaptive Filtering Algorithm for VLC Based on Convolutional Neural Network. , 2019, , .		3
68	120m 10Mbps Ethernet Transmission Based on Visible Light Communication using a Single Commercially Available LED. , 2019, , .		3
69	Growth and characterization of InAs quantum dots on InP nanowires with zinc blende structure. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, .	0.6	2
70	Fabrication and optical properties of typeâ€II InP/InAs nanowire/quantumâ€dot heterostructures. Physica Status Solidi - Rapid Research Letters, 2016, 10, 168-171.	1.2	2
71	A high-responsivity subwavelength GaAs nanowire photodetector with a dipole antenna. , 2018, , .		2
72	High-reflectivity non-periodic sub-wavelength gratings with small-angle beam-steering ability and its application in Fabryâ€“Perot cavity. Optical and Quantum Electronics, 2018, 50, 1.	1.5	2

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73	Monolithic vertical integration of VCSEL and RCEPD for bidirectional optical interconnects. Optik, 2018, 174, 296-306.	1.4	2
74	Optimization design for high-quality factor 1.3ÂÎ¼m InAs/InGaAs quantum dot square microcavity lasers on silicon with output waveguide structures. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	1.1	2
75	Study of the operation optical power in modified uni-traveling carrier photodetector for low amplitude to phase conversion. Optical and Quantum Electronics, 2019, 51, 1.	1.5	2
76	The Optoelectronic Mixing Characterization of Uni-Traveling Carrier Photodetector. IEEE Transactions on Electron Devices, 2022, 69, 3742-3747.	1.6	2
77	Extinction ratio enhancement of selfâ€phase modulation based allâ€optical regenerated signals in microstructured fibers. Microwave and Optical Technology Letters, 2010, 52, 347-351.	0.9	1
78	First-principles investigations of GaAs (112)-(2×2) surface reconstruction. , 2010, , .		1
79	High-speed uni-traveling-carrier photodetector with the new design of absorber and collector. , 2015, , .		1
80	High speed and high responsivity dual-absorption InGaAs/InP UTC-PDs. , 2015, , .		1
81	Low-bias high-speed modified uni-traveling-carrier photodiode. , 2017, , .		1
82	Design and optimization of photodiode array electrodes. , 2017, , .		1
83	Symiton: Indispensable participator in electron-photon interactions and probably a kind of dark matter. , 2017, , .		1
84	A thickness-varying sub-wavelength grating focusing lens for TE polarization light. , 2017, , .		1
85	Design and optimization of photodetector array electrodes. , 2017, , .		1
86	Influences of ultrathin amorphous buffer layers on GaAs/Si grown by metalâ€“organic chemical vapor deposition. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	1.1	1
87	Contrallable Synaptic Behavior in Photonic Neuromorphic Transistor. , 2018, , .		1
88	Design Monolithic High-Contrast Grating Resonant-Cavity-Enhanced Photodetector In 1550nm. , 2018, , .		1
89	Sensitive Liquid Sensing Using Rolled-Up InAs/GaAs Quantum Dot Microtube Ring Resonator. , 2018, , .		1
90	Optical Power Dependence of Capacitance in Uni- Traveling-Carrier Photodetectors. , 2018, , .		1

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91	Symmetrical Back-to-Back Zero-Bias Operational Uni-Traveling Carrier Photodiode. , 2018, , .		1
92	Experiment on VCSEL Composed of Special Structure DBRs in Integrated Optoelectronic Chip. IEEE Access, 2019, 7, 175622-175627.	2.6	1
93	Analysis of optical resonant cavity composed of nonparallel reflectors. Optical and Quantum Electronics, 2020, 52, 1.	1.5	1
94	Experimental Demonstration of OFDM-VLC System Employing Clustering Algorithm. , 2021, , .		1
95	Design and optimization of unidirectional emitting multi-wavelength InAs/GaAs quantum dot microring lasers on silicon. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	1.1	1
96	Design of Novel InP/InGaAs Photodetectors With NiO Transparent p-Region and Electrode. IEEE Transactions on Electron Devices, 2021, 68, 3876-3880.	1.6	1
97	Carrier transport effect on the high speed modulation performance of integrated optoelectronic transceiving chip. Optical and Quantum Electronics, 2022, 54, 1.	1.5	1
98	The Second Order Harmonic Optoelectronic Mixing in Modified Uni-traveling Carrier Photodetector. , 2021, , .		1
99	Size-Independent Growth of GaAs Nanowires. , 2010, , .		0
100	First-Principles Study of Structural and Electronic Properties of GaNxAs1-X Alloys. , 2010, , .		0
101	Realization of vertical GaAs/InAs nanowire heterostructures on Si substrate. , 2011, , .		0
102	Micro-Raman investigations of free-standing GaAs/AlGaAs single quantum well (SQW) microtubes. , 2015, , .		0
103	Design of mixed HCG/DBR multilayer reflectors. , 2016, , .		0
104	Effect of grating mirrors size on focusing reflectors based on two-dimensional high-contrast sub-wavelength gratings. , 2017, , .		0
105	Mushroom-mesa vertical incidence photodiodes. , 2017, , .		0
106	A new type vertically integrated device for optical interconnects. , 2017, , .		0
107	Wearable photosensor devices based on rGO-coated fabrics. , 2017, , .		0
108	Optical resonances from InAs quantum dots embedded in rolled-up tubular microcavity. , 2017, , .		0

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109	Silver film deposited over large-area self-assembled array of silica nanospheres as ultrasensitive SERS substrate. , 2017, , .		0
110	Mode characteristics for 1.55 Î¼m square microcavity laser monolithically integrated on GaAs substrates. , 2017, , .		0
111	Design and optimization of GaAsP/Si dual-junction solar cells. , 2017, , .		0
112	SOI-based subwavelength grating polarization beam splitter with focusing ability. , 2017, , .		0
113	Monolithic Symmetric-Connected Photodiode Array. IEEE Photonics Technology Letters, 2017, 29, 1627-1630.	1.3	0
114	The simulation of monolithic vertical integration of VCSEL and RCE photodiode. , 2017, , .		0
115	A vertical integrated optoelectronic chip for optical interconnect. , 2017, , .		0
116	Using time-domain transient simulation to characterize nonlinear intermodulation distortions in photodetectors. , 2017, , .		0
117	Association analysis of nonlinear saturation characteristics based on high-speed and high-output photodetectors. , 2017, , .		0
118	A Multi-Diameter GaAs Nano wire Array Solar Cell with Axial p-i-n Junctions. , 2018, , .		0
119	Enhanced efficiency of graphene/GaAs nanowire solar cell by chemical doping. , 2018, , .		0
120	1.3 Âµm whispering gallery modes observed in a Si-based rolled-up InAs/GaAs bilayer quantum dot (BQD) microtube at room-temperature. , 2018, , .		0
121	Measurement and analysis for capacitance of PIN photodetector. , 2018, , .		0
122	1.34 Î¼m InGaAsP/InP MQW Superluminescent Diodes with J-shaped Ridge Waveguide. , 2018, , .		0
123	Experiment and Numerical Simulation of p-i-n Photodetectors Integrated with Different Reflectors. , 2018, , .		0
124	Bias Modulation Characteristic Analysis Using a Uni-Traveling-Carrier Photodiode. , 2018, , .		0
125	Frequency Dependence of Negative Differential Capacitance in InP-Based Photodetectors with Wide Spectral Range. , 2018, , .		0
126	A pair of integrated optoelectronic chips for optical interconnects. , 2018, , .		0

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127	Phase delay beam splitter based on silicon - sub-wavelength grating in optical communication. , 2018, , .		0
128	Broadband focusing reflectors based on subwavelength gratings. , 2018, , .		0
129	Thermal stress distribution in a laser array structure selectively grown on V-groove-patterned silicon. AIP Advances, 2018, 8, 085007.	0.6	0
130	A Pair of Integrated Optoelectronic Chips for Optical Interconnects. , 2018, , .		0
131	Liquid Crystal Tunable Narrow Linewidth Filter Based On Subwavelength Gratings Reflector. , 2019, , .		0
132	The Power-dependent Phase Change in a Low-bias High-speed Modified Uni-traveling Carrier Photodetector. , 2019, , .		0
133	Study on Frequency-dependent Saturation Characteristics of Modified Uni-traveling Carrier Photodetector. , 2021, , .		0
134	Impact of silver nanospheres array for enhanced optical absorption in plasmonic-based InGaAs photodetector. , 2021, , .		0
135	Novel Fundamental Concepts beneath Quantum Photonics. , 2021, , .		0
136	An InP-InGaAs-NiO p-i-n photodiode with partially depleted-absorber and depleted nonabsorbing region. , 2021, , .		0
137	Focusing reflectors based on two-dimensional subwavelength gratings. Optical Engineering, 2019, 58, 1.	0.5	0