Xiuling Li

List of Publications by Year in descending order

128 papers	6,277 citations	76196 40 h-index	69108 77 g-index
130 all docs	130 docs citations	130 times ranked	7476 citing authors

#	Article	IF	Citations
1	Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. Science, 2015, 347, 154-159.	6.0	745
2	Printing, folding and assembly methods for forming 3D mesostructures in advanced materials. Nature Reviews Materials, 2017, 2, .	23.3	463
3	Metal assisted chemical etching for high aspect ratio nanostructures: A review of characteristics and applications in photovoltaics. Current Opinion in Solid State and Materials Science, 2012, 16, 71-81.	5.6	362
4	Enhancement-mode Ga2O3 wrap-gate fin field-effect transistors on native (100) Î²-Ga2O3 substrate with high breakdown voltage. Applied Physics Letters, 2016, 109, .	1.5	298
5	Morphable 3D mesostructures and microelectronic devices by multistable buckling mechanics. Nature Materials, 2018, 17, 268-276.	13.3	297
6	Metal-catalyzed semiconductor nanowires: a review on the control of growth directions. Semiconductor Science and Technology, 2010, 25, 024005.	1.0	219
7	Nonlithographic Patterning and Metal-Assisted Chemical Etching for Manufacturing of Tunable Light-Emitting Silicon Nanowire Arrays. Nano Letters, 2010, 10, 1582-1588.	4.5	201
8	Planar GaAs Nanowires on GaAs (100) Substrates: Self-Aligned, Nearly Twin-Defect Free, and Transfer-Printable. Nano Letters, 2008, 8, 4421-4427.	4.5	176
9	In_xGa_{1-x}As Nanowires on Silicon: One-Dimensional Heterogeneous Epitaxy, Bandgap Engineering, and Photovoltaics. Nano Letters, 2011, 11, 4831-4838.	4.5	133
10	Strain induced semiconductor nanotubes: from formation process to device applications. Journal Physics D: Applied Physics, 2008, 41, 193001.	1.3	124
11	Thermal conductivity of silicon nanowire arrays with controlled roughness. Journal of Applied Physics, 2012, 112, .	1.1	120
12	Geometry Effect on the Strain-Induced Self-Rolling of Semiconductor Membranes. Nano Letters, 2010, 10, 3927-3932.	4.5	119
13	Formation of High Aspect Ratio GaAs Nanostructures with Metal-Assisted Chemical Etching. Nano Letters, 2011, 11, 5259-5263.	4.5	119
14	Porosity control in metal-assisted chemical etching of degenerately doped silicon nanowires. Nanotechnology, 2012, 23, 305304.	1.3	118
15	In-plane bandgap control in porous GaN through electroless wet chemical etching. Applied Physics Letters, 2002, 80, 980-982.	1.5	102
16	In_xGa_{1â€“x}As Nanowire Growth on Graphene: van der Waals Epitaxy Induced Phase Segregation. Nano Letters, 2013, 13, 1153-1161.	4.5	101
17	On-Chip Inductors with Self-Rolled-Up SiN_x Nanomembrane Tubes: A Novel Design Platform for Extreme Miniaturization. Nano Letters, 2012, 12, 6283-6288.	4.5	91
18	Toward Intelligent Synthetic Neural Circuits: Directing and Accelerating Neuron Cell Growth by Self-Rolled-Up Silicon Nitride Microtube Array. ACS Nano, 2014, 8, 11108-11117.	7.3	87

#	Article	IF	Citations
19	Monolithic IIIâ€V Nanowire Solar Cells on Graphene via Direct van der Waals Epitaxy. Advanced Materials, 2014, 26, 3755-3760.	11.1	86
20	Inverse Metal-Assisted Chemical Etching Produces Smooth High Aspect Ratio InP Nanostructures. Nano Letters, 2015, 15, 641-648.	4.5	71
21	Three-dimensional radio-frequency transformers based on a self-rolled-up membrane platform. Nature Electronics, 2018, 1, 305-313.	13.1	71
22	Self-rolled-up microtube ring resonators: a review of geometrical and resonant properties. Advances in Optics and Photonics, 2011, 3, 366.	12.1	66
23	III-V Junctionless Gate-All-Around Nanowire MOSFETs for High Linearity Low Power Applications. IEEE Electron Device Letters, 2014, 35, 324-326.	2.2	66
24	High Aspect Ratio Î²-Ga₂O₃ Fin Arrays with Low-Interface Charge Density by Inverse Metal-Assisted Chemical Etching. ACS Nano, 2019, 13, 8784-8792.	7.3	57
25	3D hierarchical architectures based on self-rolled-up silicon nitride membranes. Nanotechnology, 2013, 24, 475301.	1.3	56
26	Ultra-Small, High-Frequency and Substrate-Immune Microtube Inductors Transformed from 2D to 3D. Scientific Reports, 2015, 5, 9661.	1.6	56
27	High-Speed Planar GaAs Nanowire Arrays with f_{max} > 75 GHz by Wafer-Scale Bottom-up Growth. Nano Letters, 2015, 15, 2780-2786.	4.5	56
28	Precision Structural Engineering of Self-Rolled-up 3D Nanomembranes Guided by Transient Quasi-Static FEM Modeling. Nano Letters, 2014, 14, 6293-6297.	4.5	55
29	GaAs MESFET With a High-Mobility Self-Assembled Planar Nanowire Channel. IEEE Electron Device Letters, 2009, 30, 593-595.	2.2	54
30	Selfâ€Folded Gripperâ€Like Architectures from Stimuliâ€Responsive Bilayers. Advanced Materials, 2018, 30, e1801669.	11.1	53
31	GaAs pillar array-based light emitting diodes fabricated by metal-assisted chemical etching. Journal of Applied Physics, 2013, 114, .	1.1	51
32	IIIâ€“V Nanowire Transistors for Low-Power Logic Applications: A Review and Outlook. IEEE Transactions on Electron Devices, 2016, 63, 223-234.	1.6	51
33	Enhanced Performance of Ge Photodiodes via Monolithic Antireflection Texturing and Î±-Ge Self-Passivation by Inverse Metal-Assisted Chemical Etching. ACS Nano, 2018, 12, 6748-6755.	7.3	50
34	Wafer-Scale Production of Uniform InAs_yP_{1â€“y} Nanowire Array on Silicon for Heterogeneous Integration. ACS Nano, 2013, 7, 5463-5471.	7.3	49
35	Site-Controlled VLS Growth of Planar Nanowires: Yield and Mechanism. Nano Letters, 2014, 14, 6836-6841.	4.5	49
36	Doubling the Power Output of Bifacial Thinâ€Film GaAs Solar Cells by Embedding Them in Luminescent Waveguides. Advanced Energy Materials, 2013, 3, 991-996.	10.2	47

#	Article	IF	Citations
37	Experimental Study of Design Parameters in Silicon Micropillar Array Solar Cells Produced by Soft Lithography and Metal-Assisted Chemical Etching. IEEE Journal of Photovoltaics, 2012, 2, 129-133.	1.5	46
38	Tuning the photoluminescence characteristics with curvature for rolled-up GaAs quantum well microtubes. Applied Physics Letters, 2010, 96, .	1.5	42
39	Controlled Assembly and Dispersion of Strain-Induced InGaAs/GaAs Nanotubes. IEEE Nanotechnology Magazine, 2008, 7, 493-495.	1.1	41
40	Device Architectures for Enhanced Photon Recycling in Thinâ€Film Multijunction Solar Cells. Advanced Energy Materials, 2015, 5, 1400919.	10.2	41
41	Transfer-Printing of Tunable Porous Silicon Microcavities with Embedded Emitters. ACS Photonics, 2014, 1, 1144-1150.	3.2	39
42	Damage-Free Smooth-Sidewall InGaAs Nanopillar Array by Metal-Assisted Chemical Etching. ACS Nano, 2017, 11, 10193-10205.	7.3	36
43	Nanoscale groove textured Î²-Ga2O3 by room temperature inverse metal-assisted chemical etching and photodiodes with enhanced responsivity. Applied Physics Letters, 2018, 113, .	1.5	36
44	Photonic crystal membrane reflectors by magnetic field-guided metal-assisted chemical etching. Applied Physics Letters, 2013, 103, .	1.5	35
45	Monolithic mtesla-level magnetic induction by self-rolled-up membrane technology. Science Advances, 2020, 6, eaay4508.	4.7	35
46	Relationship between planar GaAs nanowire growth direction and substrate orientation. Nanotechnology, 2013, 24, 035304.	1.3	34
47	Evidences for redox reaction driven charge transfer and mass transport in metal-assisted chemical etching of silicon. Scientific Reports, 2016, 6, 36582.	1.6	34
48	Monolithic Barrier-All-Around High Electron Mobility Transistor with Planar GaAs Nanowire Channel. Nano Letters, 2013, 13, 2548-2552.	4.5	33
49	Monolithically integrated self-rolled-up microtube-based vertical coupler for three-dimensional photonic integration. Applied Physics Letters, 2015, 107, .	1.5	33
50	Minimizing Isolate Catalyst Motion in Metal-Assisted Chemical Etching for Deep Trenching of Silicon Nanohole Array. ACS Applied Materials & Interfaces, 2017, 9, 20981-20990.	4.0	33
51	Mechanicallyâ€Guided Deterministic Assembly of 3D Mesostructures Assisted by Residual Stresses. Small, 2017, 13, 1700151.	5.2	32
52	Realization of Unidirectional Planar GaAs Nanowires on GaAs (110) Substrates. IEEE Electron Device Letters, 2012, 33, 522-524.	2.2	31
53	Ultra-High Aspect Ratio InP Junctionless FinFETs by a Novel Wet Etching Method. IEEE Electron Device Letters, 2016, 37, 970-973.	2.2	31
54	Laterally confined photonic crystal surface emitting laser incorporating monolayer tungsten disulfide. Npj 2D Materials and Applications, 2019, 3, .	3.9	31

#	Article	IF	Citations
55	Nanoscale three dimensional pattern formation in light emitting porous silicon. Applied Physics Letters, 2008, 92, .	1.5	30
56	Scalable Monolithically Grown AlGaAsâ€“GaAs Planar Nanowire High-Electron-Mobility Transistor. IEEE Electron Device Letters, 2011, 32, 1227-1229.	2.2	30
57	Anisotropic Rolling and Controlled Chirality of Nanocrystalline Diamond Nanomembranes toward Biomimetic Helical Frameworks. Nano Letters, 2018, 18, 3688-3694.	4.5	30
58	Evolution of GaAs nanowire geometry in selective area epitaxy. Applied Physics Letters, 2015, 106, .	1.5	28
59	CMOS-Compatible Catalyst for MacEtch: Titanium Nitride-Assisted Chemical Etching in Vapor phase for High Aspect Ratio Silicon Nanostructures. ACS Applied Materials & Interfaces, 2019, 11, 27371-27377.	4.0	28
60	Kirigamiâ€Inspired Selfâ€Assembly of 3D Structures. Advanced Functional Materials, 2020, 30, 1909888.	7.8	28
61	Self-Anchored Catalyst Interface Enables Ordered Via Array Formation from Submicrometer to Millimeter Scale for Polycrystalline and Single-Crystalline Silicon. ACS Applied Materials & Interfaces, 2018, 10, 9116-9122.	4.0	26
62	Direct Electrical Probing of Periodic Modulation of Zinc-Dopant Distributions in Planar Gallium Arsenide Nanowires. ACS Nano, 2017, 11, 1530-1539.	7.3	25
63	Scaling the Aspect Ratio of Nanoscale Closely Packed Silicon Vias by MacEtch: Kinetics of Carrier Generation and Mass Transport. Advanced Functional Materials, 2017, 27, 1605614.	7.8	23
64	A review of IIIâ€“V planar nanowire arrays: selective lateral VLS epitaxy and 3D transistors. Journal Physics D: Applied Physics, 2017, 50, 393001.	1.3	22
65	Producing Silicon Carbide Micro and Nanostructures by Plasmaâ€Free Metalâ€Assisted Chemical Etching. Advanced Functional Materials, 2021, 31, 2103298.	7.8	22
66	Wet etch, dry etch, and MacEtch of Î²-Ga2O3: A review of characteristics and mechanism. Journal of Materials Research, 2021, 36, 4756-4770.	1.2	22
67	Enhanced Optical Transmission through MacEtchâ€Fabricated Buried Metal Gratings. Advanced Materials, 2016, 28, 1441-1448.	11.1	21
68	A Distributive-Transconductance Model for Border Traps in IIIâ€“V/High-k MOS Capacitors. IEEE Electron Device Letters, 2013, 34, 735-737.	2.2	20
69	Colloidal Metalâ€“Organic Framework Hexapods Prepared from Postsynthesis Etching with Enhanced Catalytic Activity and Rollable Packing. ACS Applied Materials & Interfaces, 2018, 10, 40990-40995.	4.0	20
70	Fabrication of arbitrarily shaped silicon and silicon oxide nanostructures using tip-based nanofabrication. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, 06FJ01.	0.6	19
71	Monolithic Heterogeneous Integration of 3D Radio Frequency Lâ^'C Elements by Selfâ€Rolledâ€Up Membrane Nanotechnology. Advanced Functional Materials, 2020, 30, 2004034.	7.8	19
72	Carbon-doped GaAs single junction solar microcells grown in multilayer epitaxial assemblies. Applied Physics Letters, 2013, 102, 253902.	1.5	17

#	Article	IF	Citations
73	InAs Planar Nanowire Gate-All-Around MOSFETs on GaAs Substrates by Selective Lateral Epitaxy. IEEE Electron Device Letters, 2015, 36, 663-665.	2.2	17
74	Hybrid Integration of n-MoS₂/p-GaN Diodes by Quasi-van der Waals Epitaxy. ACS Applied Electronic Materials, 2020, 2, 419-425.	2.0	16
75	Monolithic radio frequency SiN _x self-rolled-up nanomembrane interdigital capacitor modeling and fabrication. Nanotechnology, 2019, 30, 364001.	1.3	15
76	Nonlocal Time-Resolved Terahertz Spectroscopy in the Near Field. ACS Photonics, 2021, 8, 2904-2911.	3.2	15
77	Perturbation of Au-assisted planar GaAs nanowire growth by p-type dopant impurities. Optical Materials Express, 2013, 3, 1687.	1.6	14
78	Low index contrast heterostructure photonic crystal cavities with high quality factors and vertical radiation coupling. Applied Physics Letters, 2018, 112, 141105.	1.5	13
79	AlGaAs/Si dualâ€junction tandem solar cells by epitaxial liftâ€off and printâ€transferâ€assisted direct bonding. Energy Science and Engineering, 2018, 6, 47-55.	1.9	12
80	Ultrathin InAs nanowire growth by spontaneous Au nanoparticle spreading on indium-rich surfaces. Nanoscale, 2014, 6, 15293-15300.	2.8	11
81	Direct Observation of Dopants Distribution and Diffusion in GaAs Planar Nanowires with Atom Probe Tomography. ACS Applied Materials & Interfaces, 2016, 8, 26244-26250.	4.0	11
82	Ultrathin Silicon Nanomembrane in a Tubular Geometry for Enhanced Photodetection. Advanced Optical Materials, 2019, 7, 1900823.	3.6	11
83	Homoepitaxial GaN micropillar array by plasma-free photo-enhanced metal-assisted chemical etching. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	0.9	11
84	Sub-100 nm Si nanowire and nano-sheet array formation by MacEtch using a non-lithographic InAs nanowire mask. Nanotechnology, 2012, 23, 305305.	1.3	10
85	Enhanced axial confinement in a monolithically integrated self-rolled-up SiNx vertical microring photonic coupler. Applied Physics Letters, 2016, 109, .	1.5	10
86	An Analytical Metal Resistance Model and Its Application for Sub-22-nm Metal-Gate CMOS. IEEE Electron Device Letters, 2015, 36, 384-386.	2.2	9
87	CMOS-compatible on-chip self-rolled-up inductors for RF/mm-wave applications. , 2017, , .		9
88	Passive wavelength tuning and multichannel photonic coupling using monolithically integrated vertical microresonators on ridge waveguides. Applied Physics Letters, 2018, 112, .	1.5	9
89	Anti-reflective porous Ge by open-circuit and lithography-free metal-assisted chemical etching. Applied Surface Science, 2021, 546, 149083.	3.1	9
90	Self-assembled microtubular electrodes for on-chip low-voltage electrophoretic manipulation of charged particles and macromolecules. Microsystems and Nanoengineering, 2022, 8, 27.	3.4	9

#	Article	IF	Citations
91	Self-Rolled-Up Aluminum Nitride-Based 3D Architectures Enabled by Record-High Differential Stress. ACS Applied Materials & Interfaces, 2022, 14, 29014-29024.	4.0	9
92	RF Performance of Planar IIIâ€“V Nanowire-Array Transistors Grown by Vaporâ€“Liquidâ€“Solid Epitaxy. IEEE Electron Device Letters, 2015, 36, 445-447.	2.2	7
93	Downscaling inductors with graphene. Nature Electronics, 2018, 1, 6-7.	13.1	6
94	Effect of Perforation on the Thermal and Electrical Breakdown of Selfâ€Rolledâ€Up Nanomembrane Structures. Advanced Materials Interfaces, 2019, 6, 1901022.	1.9	6
95	High voltage gain MESFET amplifier using self-aligned MOCVD grown planar GaAs nanowires. , 2013, , .		5
96	Au-free low-temperature ohmic contacts for AlGaN/AlN/GaN heterostructures. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	0.6	5
97	Electrically Controlled Nanofluidic DNA Sluice for Data Storage Applications. ACS Applied Nano Materials, 2021, 4, 11063-11069.	2.4	5
98	Physical Modeling of Monolithic Self-Rolled-Up Microtube Interdigital Capacitors. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2022, 12, 359-367.	1.4	5
99	Bandstructure Engineering With a 2-D Patterned Quantum Well Superlattice. IEEE Journal of Quantum Electronics, 2011, 47, 417-423.	1.0	4
100	Vertically stacked individually tunable nanowire field effect transistors for low power operation with ultrahigh radio frequency linearity. Applied Physics Letters, 2012, 101, 093509.	1.5	4
101	InAs nanowire gate-all-around MOSFETs by heterogeneous planar VLS growth. , 2015, , .		3
102	Selective Area Heteroepitaxy of p-i-n Junction GaP Nanopillar Arrays on Si (111) by MOCVD. IEEE Journal of Quantum Electronics, 2022, 58, 1-6.	1.0	3
103	Miniaturized on-chip passive devices based on self-rolled-up SiN<inf>x</inf> nanomembrane inductive tube. , 2013, , .		2
104	Enhancing Performance of GaAs Photodiodes via Monolithic Integration of Selfâ€Formed Graphene Quantum Dots and Antireflection Surface Texturing. Advanced Photonics Research, 2021, 2, 2000134.	1.7	2
105	Monolithic lateral pâ€“n junction GaAs nanowire diodes via selective lateral epitaxy. Nanotechnology, 2021, 32, 505203.	1.3	2
106	GaAs FET with a high mobility self-assembled planar nanowire channel on a (100) substrate. , 2009, , .		1
107	Nano-electro-mechanical systems fabricated using tip-based nanofabrication. Proceedings of SPIE, 2013, , .	0.8	1
108	Superior neuronal outgrowth guidance and rate enhancement using silicon nitride self-rolled-up membranes. , 2015, , .		1

#	Article	IF	Citations
109	Large area MoS<inf>2</inf> van der Waals epitaxy on III-Ns and the epitaxial formation of a n-MoS<inf>2</inf>/p-InGaN diode. , 2016, , .		1
110	Direct Measurement of Directional Emission from Monolayer WS<inf>2</inf> Laser with Heterostructure Photonic Crystal Cavities. , 2018, , .		1
111	Elastocapillary Force Induced Alignment of Large Area Planar Nanowires. ACS Applied Materials & Interfaces, 2021, 13, 11177-11184.	4.0	1
112	MOCVD Grown III–V Nanowires: In-Plane, self-aligned and transfer-printable. , 2008, , .		0
113	3D nanoscale pattern formation in porous silicon. , 2008, , .		0
114	Self-aligned planar GaAs nanowires grown by MOCVD on GaAs (100) substrates. , 2008, , .		0
115	GaAs ≪110≫ nanowires: Planar, self-aligned, twin-free, high-mobility and transfer-printable. , 2009, , .		0
116	Response to comments to "A distributive-transconductance model for border traps in III-V/High-k MOS capacitors". IEEE Electron Device Letters, 2013, 34, 1441-1441.	2.2	0
117	III-As Pillar Arrays by Metal-Assisted Chemical Etching for Photonic Applications. , 2013, , .		0
118	RF performance of 3D III-V nanowire T-Gate HEMTs grown by VLS method. , 2014, , .		0
119	Monolithic integration of the self-rolled-up vertical SiNx ring resonator and the ridge waveguide. , 2015, , .		0
120	Solar Cells: Device Architectures for Enhanced Photon Recycling in Thin-Film Multijunction Solar Cells (Adv. Energy Mater. 1/2015). Advanced Energy Materials, 2015, 5, n/a-n/a.	10.2	0
121	InP FinFETs with damage-free and record high-aspect-ratio (45∶1) fins fabricated by metal-assisted chemical etching. , 2015, , .		0
122	Optical Transmission: Enhanced Optical Transmission through MacEtchâ€Fabricated Buried Metal Gratings (Adv. Mater. 7/2016). Advanced Materials, 2016, 28, 1440-1440.	11.1	0
123	Enhanced light emission from MoS<inf>2</inf> in heterostructure photonic crystal cavities. , 2017, , .		0
124	Nano-indented Ge surfaces by metal-assisted chemical etching (MacEtch) and its application for optoelectronic devices. , 2017, , .		0
125	Nanodevices and Applications: My Nonlinear Career Trajectory. Women in Engineering and Science, 2020, , 79-88.	0.2	0
126	Buried Extraordinary Optical Transmission. , 2016, , .		0

#	Article	IF	Citations
127	Germanium photodiodes on pyramidal textured surface by Metal-Assisted Chemical Etching. , 2019, , .		0
128	Position Control of Self-Grown IIIâ€“V Nanowire Arrays on Si Substrates via Micrometer-Size Patterns by Photolithography. Crystal Growth and Design, 2022, 22, 2266-2271.	1.4	0