Wu Lu

List of Publications by Year
in descending order

74 papers	1,969 citations	361296 20 h-index	254106 43 g-index
76 all docs	76 docs citations	76 times ranked	3067 citing authors

#	Article	IF	Citations
1	Large-scale generation of functional mRNA-encapsulating exosomes via cellular nanoporation. Nature Biomedical Engineering, 2020, 4, 69-83.	11.6	415
2	Large area single crystal (0001) oriented MoS2. Applied Physics Letters, 2013, 102, .	1.5	200
3	Graphene supercapacitor with both high power and energy density. Nanotechnology, 2017, 28, 445401.	1.3	137
4	Topical tissue nano-transfection mediates non-viral stroma reprogramming and rescue. Nature Nanotechnology, 2017, 12, 974-979.	15.6	122
5	eta -Ga₂O₃ Delta-Doped Field-Effect Transistors With Current Gain Cutoff Frequency of 27 GHz. IEEE Electron Device Letters, 2019, 40, 1052-1055.	2.2	119
6	Micro-/nanoscale electroporation. Lab on A Chip, 2016, 16, 4047-4062.	3.1	90
7	3D nanochannel electroporation for high-throughput cell transfection with high uniformity and dosage control. Nanoscale, 2016, 8, 243-252.	2.8	88
8	Hydrogenated IGZO Thin-Film Transistors Using High-Pressure Hydrogen Annealing. IEEE Transactions on Electron Devices, 2013, 60, 2537-2541.	1.6	60
9	High Al-Content AlGaN Transistor With 0.5 A/mm Current Density and Lateral Breakdown Field Exceeding 3.6 MV/cm. IEEE Electron Device Letters, 2018, 39, 256-259.	2.2	46
10	On-Chip Clonal Analysis of Glioma-Stem-Cell Motility and Therapy Resistance. Nano Letters, 2016, 16, 5326-5332.	4.5	44
11	Nanoporous graphene materials by low-temperature vacuum-assisted thermal process for electrochemical energy storage. Journal of Power Sources, 2015, 284, 146-153.	4.0	42
12	Thiolated-graphene-based supercapacitors with high energy density and stable cycling performance. Carbon, 2018, 134, 326-333.	5.4	38
13	Linearity Improvement With AlGaN Polarization- Graded Field Effect Transistors With Low Pressure Chemical Vapor Deposition Grown SiN_x Passivation. IEEE Electron Device Letters, 2020, 41, 19-22.	2.2	36
14	Operation of Pt/AlGaN/GaN-Heterojunction Field-Effect-Transistor Hydrogen Sensors With Low Detection Limit and High Sensitivity. IEEE Electron Device Letters, 2008, 29, 1193-1195.	2.2	30
15	Polarization Engineering of AlGaN/GaN HEMT With Graded InGaN Sub-Channel for High-Linearity X-Band Applications. IEEE Electron Device Letters, 2019, 40, 522-525.	2.2	29
16	Thermodynamic and Kinetic Analysis of Hydrogen Sensing in Pt/AlGaN/GaN Schottky Diodes at High Temperatures. IEEE Sensors Journal, 2008, 8, 903-909.	2.4	27
17	Atomic Carbide Bonding Leading to Superior Graphene Networks. Advanced Materials, 2013, 25, 4668-4672.	11.1	27
18	X-Band Power and Linearity Performance of Compositionally Graded AlGaN Channel Transistors. IEEE Electron Device Letters, 2018, 39, 1884-1887.	2.2	26

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19	Al_{0.75}Ga_{0.25}N/Al_{0.6}Ga_{0.4}N heterojunction field effect transistor with f_T of 40 GHz. Applied Physics Express, 2019, 12, 066502.	1.1	24
20	Improved Sensitivity of AlGaN/GaN Field Effect Transistor Biosensors by Optimized Surface Functionalization. IEEE Sensors Journal, 2011, 11, 1726-1735.	2.4	23
21	High sensitivity AlGaN/GaN field effect transistor protein sensors operated in the subthreshold regime by a control gate electrode. Applied Physics Letters, 2011, 99, .	1.5	19
22	Al_{0.65}Ga_{0.35}N/Al_{0.4}Ga_{0.6}N Micro-Channel Heterojunction Field Effect Transistors With Current Density Over 900 mA/mm. IEEE Electron Device Letters, 2020, 41, 677-680.	2.2	19
23	Dynamic Switching of SiC Power MOSFETs Based on Analytical Subcircuit Model. IEEE Transactions on Power Electronics, 2020, 35, 9680-9689.	5.4	18
24	ImmunoFET feasibility in physiological salt environments. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 2474-2488.	1.6	17
25	Design of compositionally graded contact layers for MOCVD grown high Al-content AlGaN transistors. Applied Physics Letters, 2019, 115, .	1.5	17
26	Plasmonic Metasurfaces with High UVâ€“Vis Transmittance for Photopatterning of Designer Molecular Orientations. Advanced Optical Materials, 2019, 7, 1900117.	3.6	17
27	All MOCVD grown Al0.7Ga0.3N/Al0.5Ga0.5N HFET: An approach to make ohmic contacts to Al-rich AlGaN channel transistors. Solid-State Electronics, 2020, 164, 107696.	0.8	17
28	BaTiO3/Al0.58Ga0.42N lateral heterojunction diodes with breakdown field exceeding 8 MV/cm. Applied Physics Letters, 2020, 116, .	1.5	17
29	Breakdown Voltage Enhancement in ScAlN/GaN High-Electron-Mobility Transistors by High-k Bismuth Zinc Niobate Oxide. IEEE Transactions on Electron Devices, 2021, 68, 3333-3338.	1.6	14
30	Rapidly annealed nanoporous graphene materials for electrochemical energy storage. Journal of Materials Chemistry A, 2017, 5, 23720-23726.	5.2	13
31	Passivation of Surface and Interface States in AlGaN/GaN HEMT Structures by Annealing. Journal of Electronic Materials, 2007, 36, 1149-1155.	1.0	12
32	AlGaN/GaN FET for DNA hybridization detection. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1623-1625.	0.8	12
33	Silicon Oxycarbide Accelerated Chemical Vapor Deposition of Graphitic Networks on Ceramic Substrates for Thermal Management Enhancement. ACS Applied Nano Materials, 2019, 2, 452-458.	2.4	12
34	Improved DC-RF dispersion with epitaxial passivation for high linearity graded AlGaN channel field effect transistors. Applied Physics Express, 2020, 13, 036502.	1.1	10
35	Velocity saturation in La-doped BaSnO3 thin films. Applied Physics Letters, 2019, 115, .	1.5	9
36	Thermal Management of High-Power Switching Transistors Using Thick CVD-Grown Graphene Nanomaterial. IEEE Transactions on Power Electronics, 2020, 35, 578-590.	5.4	9

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37	Nanoscale etching of perovskite oxides for field effect transistor applications. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	0.6	8
38	High-Current Perovskite Oxide BaTiO₃/BaSnO₃ Heterostructure Field Effect Transistors. IEEE Electron Device Letters, 2020, 41, 621-624.	2.2	8
39	AlGaN/GaN HFET biosensors working at subthreshold regime for sensitivity enhancement. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2489-2491.	0.8	7
40	Electron transport of perovskite oxide BaSnO3 on (110) DyScO3 substrate with channel-recess for ferroelectric field effect transistors. Applied Physics Letters, 2021, 118, .	1.5	7
41	Design and development of 1.5ÂkV vertical GaN pn diodes on HVPE substrate. Journal of Materials Research, 2021, 36, 4919-4926.	1.2	7
42	AlGaN/GaN heterostructure field transistor for label-free detection of DNA hybridization. Science Bulletin, 2013, 58, 2601-2605.	1.7	6
43	Dual Silicon Oxycarbide Accelerated Growth of Wellâ€Ordered Graphitic Networks for Electronic and Thermal Applications. Advanced Materials Technologies, 2019, 4, 1800324.	3.0	6
44	Quasi-enhancement mode AlGaN/GaN HEMTs on sapphire substrate. Solid-State Electronics, 2003, 47, 2081-2084.	0.8	5
45	Analysis of surface states in ZnO nanowire field effect transistors. Applied Surface Science, 2014, 301, 2-8.	3.1	5
46	Highâ€Currentâ€Density Enhancementâ€Mode Ultrawideâ€Bandgap AlGaN Channel Metalâ€“Insulatorâ€“Semiconductor Heterojunction Fieldâ€Effect Transistors with a Threshold Voltage of 5â€‰V. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000576.	1.2	5
47	Temperature-Dependent Low-Frequency Noise Analysis of ZnO Nanowire Field-Effect Transistors. IEEE Transactions on Electron Devices, 2021, 68, 3532-3536.	1.6	5
48	Compositional Study of Copper-Germanium Ohmic Contact to n-GaN. Journal of Electronic Materials, 2007, 36, 420-425.	1.0	4
49	Polarization-Engineered Ga-Face GaN-Based Heterostructures for Normally-Off Heterostructure Field-Effect Transistors. Journal of Electronic Materials, 2013, 42, 10-14.	1.0	4
50	Temperature-dependent microwave noise performances of AlGaN/GaN HEMTs with post-gate annealing. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2659-2662.	0.8	3
51	Surface Functionalization of Hydrogen-Terminated Si for Biosensing Applications. Journal of Electronic Materials, 2012, 41, 830-836.	1.0	3
52	Temperature Dependence of Electron Transport in ZnO Nanowire Field Effect Transistors. IEEE Transactions on Electron Devices, 2014, 61, 625-630.	1.6	3
53	Grapheneâ€Based Electrochemical Microsupercapacitors for Miniaturized Energy Storage Applications. Nanoscience and Technology, 2016, , 271-291.	1.5	3
54	Ultra-wide band gap materials for high frequency applications. , 2018, , .		3

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55	Low frequency electrochemical noise in AlGaN/GaN field effect transistor biosensors. Applied Physics Letters, 2020, 117, .	1.5	3
56	Temperature dependent carrier transport in few-layered MoS₂: from hopping to band transport. Journal Physics D: Applied Physics, 2022, 55, 195109.	1.3	3
57	SiOCâ€Accelerated Graphene Grown on SiO₂/Si with Tunable Electronic Properties. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900017.	1.2	2
58	Small signal analysis of ultra-wide bandgap Al0.7Ga0.3N channel MESFETs. Microelectronic Engineering, 2021, 237, 111495.	1.1	2
59	GaN Power pâ€“n Diodes on Hydride Vapor Epitaxy GaN Substrates with Nearâ€Unity Ideality Factor and <0.5â€‰mÎ©â€‰cm 2 Specific Onâ€Resistance. Physica Status Solidi - Rapid Research Letters, 0, , 2100599.	1.2	2
60	Analysis of trapping effects in AlGaN/GaN HEMTs based on near zero bias output conductance. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2004-2006.	0.8	1
61	Hydrogen sensing performance dependence on catalytic metal thickness of Pt/AlGaN/GaN Schottky diodes. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 1838-1840.	0.8	1
62	Nanofabrication: Controllable Large-Scale Transfection of Primary Mammalian Cardiomyocytes on a Nanochannel Array Platform (Small 43/2016). Small, 2016, 12, 5914-5914.	5.2	1
63	All MOCVD grown 250 nm gate length Al_{0.70}Ga_{0.30}N MESFETs. , 2018, , .		1
64	FABRICATION OF SELF-ALIGNED T-GATE AlGaN/GaN HIGH ELECTRON MOBILITY TRANSISTORS. International Journal of High Speed Electronics and Systems, 2004, 14, 805-809.	0.3	0
65	A combined model for Si-based resonant interband tunneling diodes grown on SOI. , 0, , .		0
66	Trap behavior in AlGaN/GaN HEMTs by post-gateannealing. , 0, , .		0
67	Fabrication of self-aligned T-gate AlGaN/GaN high electron mobility transistors. , 0, , .		0
68	Growth, fabrication and characterization of In/sub 0.52/Al/sub 0.48/As/In/sub 0.53/Ga/sub 0.47/As/InAs/sub 0.3/P/sub 0.7/ composite channel HEMTs. , 0, , .		0
69	Characterization of Post-Gate Annealing Impact on Traps in AlGaN/GaN Schottky Diodes by Capacitance and Conductance Dispersion. , 0, , .		0
70	Extraction of effective trap density and gate length in AlGaN/GaN HEMTs based on pulsed I-V characteristics. , 2007, , .		0
71	AlGaN/GaN Heterostructure Field Effect Transistors for High Temperature Hydrogen Sensing with Enhanced Sensitivity. , 2007, , .		0
72	Electrical Detection of Biological Conjugation by AlGaN/GaN Heterostructure Field Effect Transistors. , 2008, , .		0

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73	Edge-field effects on gate capacitance, threshold voltage and low-field mobility in AlGaN/GaN HEMTs. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2448-2450.	0.8	0
74	Toward single molecule detection in physiological buffer using planar FET biosensors. , 2013, , .		0