

# Tian-Li Wu

## List of Publications by Year in descending order

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58  
papers

1,241  
citations

471371

17  
h-index

377752

34  
g-index

58  
all docs

58  
docs citations

58  
times ranked

1034  
citing authors

#	ARTICLE	IF	CITATIONS
1	Impacts of Pulsing Schemes on the Endurance of Ferroelectric Metal-Insulator-Semiconductor Capacitors. IEEE Journal of the Electron Devices Society, 2022, 10, 109-114.	1.2	2
2	Enhancement of Ferroelectricity in 5 nm Metal-Ferroelectric-Insulator Technologies by Using a Strained TiN Electrode. Nanomaterials, 2022, 12, 468.	1.9	2
3	Demonstration of Schottky barrier diode integrated in 200V power p-GaN HEMTs technology with robust stability. Microelectronics Reliability, 2022, 134, 114568.	0.9	0
4	Demonstration of p-GaN/AlGaIn/GaN High Electron Mobility Transistors With an Indium-Tin-Oxide Gate Electrode. IEEE Journal of the Electron Devices Society, 2021, 9, 2-5.	1.2	4
5	Investigation on Stability of p-GaN HEMTs With an Indium-Tin-Oxide Gate Under Forward Gate Bias. IEEE Journal of the Electron Devices Society, 2021, 9, 687-690.	1.2	3
6	Fully Transparent AlGaIn/GaN High Electron Mobility Transistors Fabricated With Indium-Tin-Oxide Electrodes. IEEE Electron Device Letters, 2021, 42, 144-147.	2.2	3
7	Ferroelectric Characterization in Ultrathin Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> MFIS Capacitors by Piezoresponse Force Microscopy (PFM) in Vacuum. , 2021, , .		0
8	A Novel Physics-Based Approach to Analyze and Model E-Mode p-GaN Power HEMTs. IEEE Transactions on Electron Devices, 2021, 68, 1489-1494.	1.6	25
9	Investigation of the passivation-induced V <sub>TH</sub> shift in p-GaN HEMTs with Au-free gate-first process. Microelectronics Reliability, 2021, 122, 114150.	0.9	1
10	1100 V, 22.9 m <sup>2</sup> /cm <sup>2</sup> 4H-SiC RESURF Lateral Double-Implanted MOSFET With Trench Isolation. IEEE Transactions on Electron Devices, 2021, 68, 5009-5013.	1.6	8
11	Analysis of the subthreshold characteristics in AlGaIn/GaN HEMTs with a p-GaN gate. Microelectronics Reliability, 2021, 126, 114302.	0.9	4
12	Stability of Schottky Barrier Diode Integrated in p-GaN Enhancement-mode GaN Power Technology. , 2021, , .		0
13	Stability of wireless power transfer using gamma-ray irradiated GaN power HEMTs. Microelectronics Reliability, 2021, 126, 114425.	0.9	5
14	Artificial Neural Network-Based (ANN) Approach for Characteristics Modeling and Prediction in GaN-on-Si Power Devices. , 2020, , .		9
15	Effects of <sup>3</sup> Ray Irradiation on AlGaIn/GaN Heterostructures and High Electron Mobility Transistor Devices. Journal of Electronic Materials, 2020, 49, 6789-6797.	1.0	8
16	Robust Forward Gate Bias TDDDB Stability in Enhancement-mode Fully Recessed Gate GaN MIS-FETs with ALD Al <sub>2</sub> O <sub>3</sub> Gate Dielectric. , 2020, , .		1
17	Numerical Study of 4H-SiC UMOSFETs with Split-Gate and P+ Shielding. Energies, 2020, 13, 1122.	1.6	5
18	Improved TDDDB Reliability and Interface States in 5-nm Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> Ferroelectric Technologies Using NH <sub>3</sub> Plasma and Microwave Annealing. IEEE Transactions on Electron Devices, 2020, 67, 1581-1585.	1.6	32

#	ARTICLE	IF	CITATIONS
19	Design and analysis of high electron mobility transistor inspired: III-V electro-optic modulator topologies. Semiconductor Science and Technology, 2020, 35, 095028.	1.0	11
20	Investigation of Recessed Gate AlGaIn/GaN MIS-HEMTs with Double AlGaIn Barrier Designs toward an Enhancement-Mode Characteristic. Micromachines, 2020, 11, 163.	1.4	14
21	Study on the effects of Si implantation on the interface of 4H-SiC lateral MOSFETs. Japanese Journal of Applied Physics, 2020, 59, SGGD06.	0.8	1
22	Understanding $\gamma$ -Ray Induced Instability in AlGaIn/GaN HEMTs Using a Physics-Based Compact Model. IEEE Transactions on Electron Devices, 2020, 67, 1126-1131.	1.6	11
23	Impact of the polarization on time-dependent dielectric breakdown in ferroelectric $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ on Ge substrates. Japanese Journal of Applied Physics, 2020, 59, SGGB08.	0.8	3
24	Machine Learning-Based Statistical Approach to Analyze Process Dependencies on Threshold Voltage in Recessed Gate AlGaIn/GaN MIS-HEMTs. IEEE Transactions on Electron Devices, 2020, 67, 5448-5453.	1.6	21
25	Simulation Study of 4H-SiC Trench MOSFETs with Various Gate Structures. , 2019, , .		5
26	Gamma-Ray Irradiation Effect on Ferroelectric Devices with Hafnium Aluminum Oxides. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900414.	1.2	0
27	Investigation of the degradations in power GaN-on-Si MIS-HEMTs subjected to cumulative $\gamma$ -ray irradiation. Microelectronics Reliability, 2019, 100-101, 113349.	0.9	3
28	Demonstration of Annealing-free Metal-Insulator-Semiconductor (MIS) Ohmic Contacts on a GaN Substrate using Low Work-function Metal Ytterbium (Yb) and $\text{Al}_2\text{O}_3$ Interfacial Layer. , 2019, , .		1
29	Effects of Annealing on Ferroelectric Hafnium-Zirconium Oxide-Based Transistor Technology. IEEE Electron Device Letters, 2019, 40, 467-470.	2.2	25
30	Investigation of degradation phenomena in GaN-on-Si power MIS-HEMTs under source current and drain bias stresses. , 2018, , .		2
31	Analysis of the Gate Capacitance-Voltage Characteristics in p-GaN/AlGaIn/GaN Heterostructures. IEEE Electron Device Letters, 2017, 38, 1696-1699.	2.2	80
32	Bias- and temperature-assisted trapping/de-trapping of ron degradation in D-mode AlGaIn/GaN MIS-HEMTs on a Si substrate. , 2017, , .		1
33	Gate Stability of GaN-Based HEMTs with P-Type Gate. Electronics (Switzerland), 2016, 5, 14.	1.8	31
34	Toward Understanding Positive Bias Temperature Instability in Fully Recessed-Gate GaN MISFETs. IEEE Transactions on Electron Devices, 2016, 63, 1853-1860.	1.6	63
35	Study of the stability of e-mode GaN HEMTs with p-GaN gate based on combined DC and optical analysis. Microelectronics Reliability, 2016, 64, 547-551.	0.9	15
36	Positive bias temperature instability evaluation in fully recessed gate GaN MIS-FETs. , 2016, , .		6

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37	Evidence of Hot-Electron Degradation in GaN-Based MIS-HEMTs Submitted to High Temperature Constant Source Current Stress. IEEE Electron Device Letters, 2016, 37, 1415-1417.	2.2	32
38	Trapping and reliability issues in GaN-based MIS HEMTs with partially recessed gate. Microelectronics Reliability, 2016, 58, 151-157.	0.9	38
39	Negative Bias-Induced Threshold Voltage Instability in GaN-on-Si Power HEMTs. IEEE Electron Device Letters, 2016, 37, 474-477.	2.2	102
40	Correlation of interface states/border traps and threshold voltage shift on AlGaIn/GaN metal-insulator-semiconductor high-electron-mobility transistors. Applied Physics Letters, 2015, 107, .	1.5	56
41	Direct comparison of GaN-based e-mode architectures (recessed MISHEMT and p-GaN HEMTs) processed on 200mm GaN-on-Si with Au-free technology. Proceedings of SPIE, 2015, , .	0.8	16
42	Combined plasma-enhanced-atomic-layer-deposition gate dielectric and in situ SiN cap layer for reduced threshold voltage shift and dynamic ON-resistance dispersion of AlGaIn/GaN high electron mobility transistors on 200 mm Si substrates. Japanese Journal of Applied Physics, 2015, 54, 04DF02.	0.8	7
43	Investigation of constant voltage off-state stress on Au-free AlGaIn/GaN Schottky barrier diodes. Japanese Journal of Applied Physics, 2015, 54, 04DF07.	0.8	6
44	Trapping mechanisms in GaN-based MIS-HEMTs grown on silicon substrate. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1122-1129.	0.8	63
45	Forward Bias Gate Breakdown Mechanism in Enhancement-Mode p-GaN Gate AlGaIn/GaN High-Electron Mobility Transistors. IEEE Electron Device Letters, 2015, 36, 1001-1003.	2.2	158
46	Time dependent dielectric breakdown (TDDDB) evaluation of PE-ALD SiN gate dielectrics on AlGaIn/GaN recessed gate D-mode MIS-HEMTs and E-mode MIS-FETs. , 2015, , .		32
47	The impact of the gate dielectric quality in developing Au-free D-mode and E-mode recessed gate AlGaIn/GaN transistors on a 200mm Si substrate. , 2015, , .		25
48	Analysis of slow de-trapping phenomena after a positive gate bias on AlGaIn/GaN MIS-HEMTs with in-situ Si <sub>3</sub> N <sub>4</sub> /Al <sub>2</sub> O <sub>3</sub> bilayer gate dielectrics. Solid-State Electronics, 2015, 103, 127-130.	0.8	16
49	On the origin of the two-dimensional electron gas at AlGaIn/GaN heterojunctions and its influence on recessed-gate metal-insulator-semiconductor high electron mobility transistors. Journal of Applied Physics, 2014, 116, .	1.1	59
50	Trapping in GaN-based metal-insulator-semiconductor transistors: Role of high drain bias and hot electrons. Applied Physics Letters, 2014, 104, .	1.5	59
51	Stability evaluation of Au-free Ohmic contacts on AlGaIn/GaN HEMTs under a constant current stress. Microelectronics Reliability, 2014, 54, 2232-2236.	0.9	5
52	Trapping and Reliability Assessment in D-Mode GaN-Based MIS-HEMTs for Power Applications. IEEE Transactions on Power Electronics, 2014, 29, 2199-2207.	5.4	77
53	Reliability Analysis of Permanent Degradations on AlGaIn/GaN HEMTs. IEEE Transactions on Electron Devices, 2013, 60, 3132-3141.	1.6	58
54	Comprehensive investigation of on-state stress on D-mode AlGaIn/GaN MIS-HEMTs. , 2013, , .		15

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55	High temperature behaviour of GaN-on-Si high power MISHEMT devices. , 2012, , .		3
56	Characteristics of 4H-SiC RF MOSFETs on a Semi-Insulating Substrate. ECS Transactions, 2011, 35, 173-183.	0.3	2
57	High voltage lateral 4H-SiC JFETs on a semi-insulating substrate. , 2009, , .		0
58	3510-v 390-m <sup>2</sup> 4h-sic lateral jfet on a semi-insulating substrate. IEEE Electron Device Letters, 2009, 30, 957-959.	2.2	7