

Joel T Asubar

List of Publications by Year in descending order

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71
papers

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471371

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71
all docs

71
docs citations

71
times ranked

1058
citing authors

#	ARTICLE	IF	CITATIONS
1	Insulated gate and surface passivation structures for GaN-based power transistors. Journal Physics D: Applied Physics, 2016, 49, 393001.	1.3	172
2	AlGaIn/GaN high-electron-mobility transistor technology for high-voltage and low-on-resistance operation. Japanese Journal of Applied Physics, 2016, 55, 070101.	0.8	103
3	Highly-stable and low-state-density Al ₂ O ₃ /GaN interfaces using epitaxial n-GaN layers grown on free-standing GaN substrates. Applied Physics Letters, 2016, 109, 162104.	1.5	83
4	Current Stability in Multi-Mesa-Channel AlGaIn/GaN HEMTs. IEEE Transactions on Electron Devices, 2013, 60, 2997-3004.	1.6	79
5	Characterization of electronic states at insulator/(Al)GaN interfaces for improved insulated gate and surface passivation structures of GaN-based transistors. Japanese Journal of Applied Physics, 2014, 53, 100213.	0.8	76
6	Controlling surface/interface states in GaN-based transistors: Surface model, insulated gate, and surface passivation. Journal of Applied Physics, 2021, 129, .	1.1	58
7	MBE growth of Mn-doped ZnSnAs ₂ thin films. Journal of Crystal Growth, 2009, 311, 929-932.	0.7	42
8	Large As sublattice distortion in sphalerite ZnSnAs ₂ thin films revealed by x-ray fluorescence holography. Journal of Applied Physics, 2016, 119, .	1.1	40
9	Enhancement-Mode AlGaIn/GaN MIS-HEMTs With High V_{TH} and High I_{Dmax} Using Recessed-Structure With Regrown AlGaIn Barrier. IEEE Electron Device Letters, 2020, 41, 693-696.	2.2	39
10	Reduced thermal resistance in AlGaIn/GaN multi-mesa-channel high electron mobility transistors. Applied Physics Letters, 2014, 105, 053510.	1.5	33
11	Current Collapse Reduction in AlGaIn/GaN HEMTs by High-Pressure Water Vapor Annealing. IEEE Transactions on Electron Devices, 2015, 62, 2423-2428.	1.6	31
12	MBE growth of Mn-doped Zn _{1-x} Sn _x As compounds on (001) InP substrates. Journal of Crystal Growth, 2007, 301-302, 656-661.	0.7	24
13	Impact of oxygen plasma treatment on the dynamic on-resistance of AlGaIn/GaN high-electron-mobility transistors. Applied Physics Express, 2015, 8, 111001.	1.1	22
14	Zinc-blende MnAs thin films directly grown on InP (001) substrates as possible source of spin-polarized current. Journal of Crystal Growth, 2012, 338, 129-133.	0.7	21
15	AlGaIn/GaN metal-insulator-semiconductor high-electron mobility transistors with high on/off current ratio of over 5×10^3 achieved by ozone pretreatment and using ozone oxidant for Al ₂ O ₃ gate insulator. Japanese Journal of Applied Physics, 2016, 55, 120305.	0.8	21
16	Interface trap states in Al ₂ O ₃ /AlGaIn/GaN structure induced by inductively coupled plasma etching of AlGaIn surfaces. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1075-1080.	0.8	20
17	Electrotransport Properties of p-ZnSnAs ₂ Thin Films Grown by Molecular Beam Epitaxy on Semi-insulating (001) InP Substrates. Japanese Journal of Applied Physics, 2008, 47, 657.	0.8	18
18	Highly reduced current collapse in AlGaIn/GaN high-electron-mobility transistors by combined application of oxygen plasma treatment and field plate structures. Japanese Journal of Applied Physics, 2016, 55, 04EG07.	0.8	17

#	ARTICLE	IF	CITATIONS
19	Impurity band conduction and negative magnetoresistance in ZnSnAs_2 thin films. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 1158-1161.	0.8	15
20	MBE growth and properties of GaMnAs with high level of Zn acceptor incorporation. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2006, 203, 2778-2782.	0.8	13
21	High-Resolution X-ray Diffraction Studies of ZnSnAs_2 Epitaxial Films Nearly Lattice-matched to InP Substrates. <i>Physics Procedia</i> , 2010, 3, 1351-1356.	1.2	13
22	Effect of thermal annealing on the properties of narrow-bandgap ZnSnAs_2 epitaxial films on InP(001) substrates. <i>Physics Procedia</i> , 2010, 3, 1341-1344.	1.2	12
23	On the presence of Ga ₂ O sub-oxide in high-pressure water vapor annealed AlGa _N surface by combined XPS and first-principles methods. <i>Applied Surface Science</i> , 2019, 481, 1120-1126.	3.1	11
24	Design considerations for normally-off operation in Schottky gate p-GaN/AlGa _N /Ga _N HEMTs. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 084002.	0.8	11
25	Evaluation of off-bias-stress induced surface charging at AlGa _N /Ga _N surface using a dual-gate transistor structure. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 070301.	0.8	9
26	GaN-based MIS-HEMTs with Al ₂ O ₃ dielectric deposited by low-cost and environmental-friendly mist-CVD technique. <i>Applied Physics Express</i> , 2021, 14, 031004.	1.1	9
27	Anomalous Hall Effect and Magnetoresistance in Mn-Doped ZnSnAs_2 Epitaxial Film on InP Substrates. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 01BE12.	0.8	9
28	Electron concentration in highly resistive GaN substrates co-doped with Si, C, and Fe. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 071001.	0.8	8
29	Three Dimensional Local Structure Analysis of ZnSnAs_2 :Mn by X-ray Fluorescence Holography. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 01BF05.	0.8	8
30	Influence of reactive-ion-etching depth on interface properties in Al ₂ O ₃ /n-GaN MOS diodes. <i>Japanese Journal of Applied Physics</i> , 2019, 58, 106503.	0.8	7
31	MBE growth and properties of GeMn thin films on (001) GaAs. <i>Journal of Crystal Growth</i> , 2009, 311, 937-940.	0.7	6
32	Generalized Frequency Dependent Small Signal Model for High Frequency Analysis of AlGa _N /Ga _N MOS-HEMTs. <i>IEEE Journal of the Electron Devices Society</i> , 2021, 9, 570-581.	1.2	6
33	Room-Temperature Ferromagnetism in (Zn,Mn,Sn)As ₂ Thin Films Applicable to InP-Based Spintronic Devices. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 05FB02.	0.8	5
34	Improved current stability in multi-mesa-channel AlGa _N /Ga _N transistors. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2014, 11, 857-861.	0.8	5
35	Current collapse in AlGa _N /Ga _N HEMTs with a GaN cap layer. , 2015, , .		5
36	Improved current collapse in AlGa _N /Ga _N HEMTs with 3-dimensional field plate structure. , 2015, , .		5

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37	Magnetic phase change in Mn-doped ZnSnAs ₂ thin films depending on Mn concentration. Journal of Applied Physics, 2018, 123, .	1.1	5
38	Enhancement of Mode AlGaIn/GaN Vertical Trench Metal-Insulator-Semiconductor High-Electron-Mobility Transistors with a High Drain Current Fabricated Using the AlGaIn Regrowth Technique. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900622.	0.8	5
39	Annealing Effects on Impurity Band Conduction of ZnSnAs ₂ Epitaxial Films. IOP Conference Series: Materials Science and Engineering, 2011, 21, 012031.	0.3	4
40	Ferromagnetic ZnSnAs ₂ :Mn Chalcopyrite Semiconductors for InP-based Spintronics. E-Journal of Surface Science and Nanotechnology, 2011, 9, 95-102.	0.1	4
41	Correlation of AlGaIn/GaN high-electron-mobility transistors electroluminescence characteristics with current collapse. Applied Physics Express, 2018, 11, 024101.	1.1	4
42	Anomalous Hall Effect and Magnetoresistance in Mn-Doped ZnSnAs ₂ Epitaxial Film on InP Substrates. Japanese Journal of Applied Physics, 2011, 50, 01BE12.	0.8	3
43	High drain current and low on-resistance in AlGaIn/GaN HEMTs with Au-plated ohmic electrodes. , 2015, , .		3
44	Calculating relaxation time distribution function from power spectrum based on inverse integral transformation method. Physics Letters, Section A: General, Atomic and Solid State Physics, 2015, 379, 738-742.	0.9	3
45	Reduced current collapse in multi-fingered AlGaIn/GaN MOS-HEMTs with dual field plate. , 2017, , .		3
46	Analytical derivation of interface state density from sub-threshold swing in AlGaIn/GaN metal-insulator-semiconductor high-electron-mobility transistors. Japanese Journal of Applied Physics, 2017, 56, 104101.	0.8	3
47	Modified Small Signal Circuit of AlGaIn/GaN MOS-HEMTs Using Rational Functions. IEEE Transactions on Electron Devices, 2021, 68, 6059-6064.	1.6	3
48	Comparison of annealing effects on Zn-doped GaMnAs and undoped GaMnAs epilayers. Applied Surface Science, 2008, 254, 6648-6652.	3.1	2
49	Low-temperature annealing effects on (Ga,Mn)As/Zn-GaAs superlattice structures grown on GaAs(001) substrates. Journal of Crystal Growth, 2009, 311, 933-936.	0.7	2
50	Three Dimensional Local Structure Analysis of ZnSnAs ₂ :Mn by X-ray Fluorescence Holography. Japanese Journal of Applied Physics, 2011, 50, 01BF05.	0.8	2
51	High breakdown voltage AlGaIn/GaN HEMTs on free-standing GaN substrate. , 2015, , .		2
52	Study on Threshold Voltage Hysteresis in GaN-Based Vertical Trench MOSFETs. , 2018, , .		2
53	Improved Current Collapse in AlGaIn/GaN MOS-HEMTs with Dual Field-Plates. , 2018, , .		2
54	Spatial distribution of substitutional Mn-As clusters in ferromagnetic (Zn,Sn,Mn)As ₂ thin films revealed by image reconstruction of atom probe tomography data. Journal of Applied Physics, 2019, 125, 073902.	1.1	2

#	ARTICLE	IF	CITATIONS
55	Impact of SiN capping during Ohmic Annealing on Performance of GaN-based MISHEMTs. , 2019, , .		2
56	Epitaxial growth and characterization of Cr-doped ZnSnAs ₂ thin films on InP substrates. Japanese Journal of Applied Physics, 2020, 59, 030601.	0.8	2
57	Room-Temperature Ferromagnetism in (Zn,Mn,Sn)As ₂ Thin Films Applicable to InP-Based Spintronic Devices. Japanese Journal of Applied Physics, 2011, 50, 05FB02.	0.8	2
58	Effect of metal electrode edge irregularities on breakdown voltages of AlGaIn/GaN HEMTs. , 2016, , .		1
59	Breakdown degradation of AlGaIn/GaN HEMTs with multi-finger gate patterns. , 2016, , .		1
60	Analytical derivation of charge relaxation time distribution in transistor from current noise spectrum using inverse integral transformation method. Applied Physics Express, 2018, 11, 031201.	1.1	1
61	Impact of rounded electrode corners on breakdown characteristics of AlGaIn/GaN high-electron mobility transistors. Applied Physics Express, 2018, 11, 054102.	1.1	1
62	Stoichiometric imbalances in Mg-implanted GaN. Japanese Journal of Applied Physics, 2021, 60, 066504.	0.8	1
63	Ornstein-Uhlenbeck process in a human body weight fluctuation. Physica A: Statistical Mechanics and Its Applications, 2021, 582, 126286.	1.2	1
64	Fabrication and structural characterization of nearly lattice-matched p-ZnSnAs ₂ /n-InP heterojunctions. , 2009, , .		0
65	Cu/Al/Mo/Au and Ni/Al/Mo/Au ohmic contacts for AlGaIn/GaN heterostructures. , 2015, , .		0
66	Impact of drain electrode shape irregularities on breakdown voltage of AlGaIn/GaN HEMTs. , 2016, , .		0
67	Effect of reverse bias annealing on the properties of AlGaIn/GaN MIS-HEMTs with recessed-gate structure. , 2017, , .		0
68	Characterization of Resistivity and Breakdown Field in Fe-Doped Semi-Insulating GaN Substrates. , 2018, , .		0
69	Effect of Post-Gate Deposition Annealing on the Electrical Characteristics of AlGaIn/GaN HEMTs with p-GaN Gate. , 2018, , .		0
70	Improved linearity, stability, and thermal performance of multi-mesa-channel AlGaIn/GaN HEMTs. , 2018, 1, .		0
71	Mist chemical vapor deposited-Al ₂ O ₃ /AlGaIn interfacial characterization for GaN MIS-HEMTs. , 2021, , .		0