

Brian R Romanczyk

List of Publications by Citations

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41
papers

593
citations

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h-index

22
g-index

45
ext. papers

755
ext. citations

2.8
avg, IF

3.78
L-index

#	Paper	IF	Citations
41	Demonstration of Constant 8 W/mm Power Density at 10, 30, and 94 GHz in State-of-the-Art Millimeter-Wave N-Polar GaN MISHEMTs. <i>IEEE Transactions on Electron Devices</i> , 2018 , 65, 45-50	2.9	98
40	N-Polar GaN Cap MISHEMT With Record Power Density Exceeding 6.5 W/mm at 94 GHz. <i>IEEE Electron Device Letters</i> , 2017 , 38, 359-362	4.4	56
39	N-Polar GaN HEMTs Exhibiting Record Breakdown Voltage Over 2000 V and Low Dynamic On-Resistance. <i>IEEE Electron Device Letters</i> , 2018 , 39, 1014-1017	4.4	50
38	W-Band Power Performance of SiN-Passivated N-Polar GaN Deep Recess HEMTs. <i>IEEE Electron Device Letters</i> , 2020 , 41, 349-352	4.4	42
37	N-Polar GaN MIS-HEMTs on Sapphire With High Combination of Power Gain Cutoff Frequency and Three-Terminal Breakdown Voltage. <i>IEEE Electron Device Letters</i> , 2016 , 37, 77-80	4.4	27
36	Benchmarking current density in staggered gap In _{0.53} Ga _{0.47} As/GaAs _{0.5} Sb _{0.5} heterojunction Esaki tunnel diodes. <i>Applied Physics Letters</i> , 2013 , 102, 213504	3.4	18
35	N-Polar Deep Recess MISHEMTs With Record 2.9 W/mm at 94 GHz. <i>IEEE Electron Device Letters</i> , 2016 , 1-1	4.4	18
34	High Linearity and High Gain Performance of N-Polar GaN MIS-HEMT at 30 GHz. <i>IEEE Electron Device Letters</i> , 2020 , 41, 681-684	4.4	17
33	Metal-organic chemical vapor deposition of high quality, high indium composition N-polar InGaN layers for tunnel devices. <i>Journal of Applied Physics</i> , 2017 , 121, 185707	2.5	16
32	W-band N-polar GaN MISHEMTs with high power and record 27.8% efficiency at 94 GHz 2016 ,		16
31	Small-signal model extraction of mm-wave N-polar GaN MISHEMT exhibiting record performance: Analysis of gain and validation by 94 GHz loadpull 2016 ,		15
30	2012 ,		15
29	Analysis of MOCVD SiN _x Passivated N-Polar GaN MIS-HEMTs on Sapphire With High $f_{\max} \cdot V_{DS,Q}$. <i>IEEE Electron Device Letters</i> , 2018 , 39, 409-412	4.4	13
28	Mapping Defect Density in MBE Grown $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ Epitaxial Layers on Si Substrate Using Esaki Diode Valley Characteristics. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 2049-2055	2.9	13
27	6.2 W/Mm and Record 33.8% PAE at 94 GHz From N-Polar GaN Deep Recess MIS-HEMTs With ALD Ru Gates. <i>IEEE Microwave and Wireless Components Letters</i> , 2021 , 31, 748-751	2.6	13
26	Record 34.2% efficient mm-wave N-polar AlGaIn/GaN MISHEMT at 87 GHz. <i>Electronics Letters</i> , 2016 , 52, 1813-1814	1.1	13
25	First demonstration of improvement in hole conductivity inc-plane III-Nitrides through application of uniaxial strain. <i>Japanese Journal of Applied Physics</i> , 2019 , 58, 030908	1.4	12

24	N-Polar GaN-on-Sapphire Deep Recess HEMTs With High W-Band Power Density. <i>IEEE Electron Device Letters</i> , 2020 , 41, 1633-1636	4.4	12
23	First demonstration of RF N-polar GaN MIS-HEMTs grown on bulk GaN using PAMBE. <i>Semiconductor Science and Technology</i> , 2019 , 34, 045009	1.8	12
22	Performance Evaluation of In _{0.53} Ga _{0.47} As Esaki Tunnel Diodes on Silicon and InP Substrates. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 2450-2456	2.9	11
21	High frequency N-polar GaN planar MIS-HEMTs on sapphire with high breakdown and low dispersion 2016 ,		10
20	High electron mobility recovery in AlGa _N /Ga _N 2DEG channels regrown on etched surfaces. <i>Semiconductor Science and Technology</i> , 2016 , 31, 065008	1.8	10
19	Investigation of Mg Doping for low resistance N-polar p-GaN films grown at reduced temperatures by MOCVD. <i>Semiconductor Science and Technology</i> , 2018 , 33, 095014	1.8	9
18	First experimental demonstration and analysis of electrical transport characteristics of a GaN-based HEMT with a relaxed InGa _N channel. <i>Semiconductor Science and Technology</i> , 2020 , 35, 075007	1.8	8
17	mm-Wave N-polar GaN MISHEMT with a self-aligned recessed gate exhibiting record 4.2 W/mm at 94 GHz on Sapphire 2016 ,		8
16	W-band passive load pull system for on-wafer characterization of high power density N-polar GaN devices based on output match and drive power requirements vs. gate width 2016 ,		8
15	Ultra-high silicon doped N-polar GaN contact layers grown by metal-organic chemical vapor deposition. <i>Semiconductor Science and Technology</i> , 2020 , 35, 095002	1.8	7
14	Bias-Dependent Electron Velocity Extracted From N-Polar GaN Deep Recess HEMTs. <i>IEEE Transactions on Electron Devices</i> , 2020 , 67, 1542-1546	2.9	6
13	Improved operation stability of in situ AlSiO ₂ dielectric grown on (0001) N-polar GaN by MOCVD. <i>Applied Physics Express</i> , 2020 , 13, 061010	2.4	5
12	Observation of ID-VD Kink in N-Polar GaN MIS-HEMTs at Cryogenic Temperatures. <i>IEEE Electron Device Letters</i> , 2020 , 41, 345-348	4.4	5
11	Enhanced mobility in vertically scaled N-polar high-electron-mobility transistors using GaN/InGa _N composite channels. <i>Applied Physics Letters</i> , 2018 , 112, 073501	3.4	5
10	Demonstration of 30 GHz OIP ₃ /PDC > 10 dB by mm-wave N-polar Deep Recess MISHEMTs 2019 ,		5
9	N-polar GaN Cap MISHEMT with record 6.7 W/mm at 94 GHz 2016 ,		4
8	. <i>IEEE Electron Device Letters</i> , 2020 , 41, 1468-1471	4.4	3
7	Evaluation of linearity at 30 GHz for N-polar GaN deep recess transistors with 10.3 W/mm of output power and 47.4% PAE. <i>Applied Physics Letters</i> , 2021 , 119, 072105	3.4	3

6	High performance N-polar GaN HEMTs with OIP3/Pdc ~12dB at 10GHz 2017 ,		2
5	Sub-micron Esaki Tunnel Diode fabrication and characterization 2009 ,		2
4	High-electron-mobility transistors with metal-organic chemical vapor deposition-regrown contacts for high voltage applications. <i>Semiconductor Science and Technology</i> , 2020 , 35, 124004	1.8	2
3	A Novel Concept using Derivative Superposition at the Device-Level to Reduce Linearity Sensitivity to Bias in N-polar GaN MISHEMT 2020 ,		2
2	Role of the AlGaN Cap Layer on the Trapping Behaviour of N-Polar GaN MISHEMTs 2021 ,		1
1	Virtual-Source Modeling of N-polar GaN MISHEMTS 2019 ,		1