Nils G Weimann

List of Publications by Year
in descending order

126	6,943	279487	95083
papers	citations	23 h-index	68 g-index

127	127	127	4768
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Two-dimensional electron gases induced by spontaneous and piezoelectric polarization charges in N- and Ga-face AlGaN/GaN heterostructures. Journal of Applied Physics, 1999, 85, 3222-3233.	1.1	2,482
2	Two dimensional electron gases induced by spontaneous and piezoelectric polarization in undoped and doped AlGaN/GaN heterostructures. Journal of Applied Physics, 2000, 87, 334-344.	1.1	1,373
3	Scattering of electrons at threading dislocations in GaN. Journal of Applied Physics, 1998, 83, 3656-3659.	1.1	578
4	The role of dislocation scattering in n-type GaN films. Applied Physics Letters, 1998, 73, 821-823.	1.5	407
5	Undoped AlGaN/GaN HEMTs for microwave power amplification. IEEE Transactions on Electron Devices, 2001, 48, 479-485.	1.6	347
6	GaN nanotip pyramids formed by anisotropic etching. Journal of Applied Physics, 2003, 94, 650-653.	1.1	163
7	Second-harmonic generation in periodically poled GaN. Applied Physics Letters, 2003, 83, 1077-1079.	1.5	154
8	Role of Spontaneous and Piezoelectric Polarization Induced Effects in Group-III Nitride Based Heterostructures and Devices. Physica Status Solidi (B): Basic Research, 1999, 216, 381-389.	0.7	109
9	AlGaN/GaN heterostructures on insulating AlGaN nucleation layers. Applied Physics Letters, 1999, 75, 388-390.	1.5	78
10	High mobility AlGaN/GaN heterostructures grown by plasma-assisted molecular beam epitaxy on semi-insulating GaN templates prepared by hydride vapor phase epitaxy. Journal of Applied Physics, 2002, 92, 338-345.	1.1	73
11	SiGe differential transimpedance amplifier with 50-GHz bandwidth. IEEE Journal of Solid-State Circuits, 2003, 38, 1512-1517.	3.5	64
12	Impact of Si doping on radio frequency dispersion in unpassivated GaN/AlGaN/GaN high-electron-mobility transistors grown by plasma-assisted molecular-beam epitaxy. Applied Physics Letters, 2003, 82, 4361-4363.	1.5	57
13	Compact InP-based HBT VCOs with a wide tuning range at W- and D-band. IEEE Transactions on Microwave Theory and Techniques, 2000, 48, 2403-2408.	2.9	47
14	An InGaAs-InP HBT differential transimpedance amplifier with 47-GHz bandwidth. IEEE Journal of Solid-State Circuits, 2004, 39, 1720-1723.	3.5	47
15	Patterning GaN Microstructures by Polarity-Selective Chemical Etching. Japanese Journal of Applied Physics, 2003, 42, L1405-L1407.	0.8	46
16	Monolithic InP Dual-Polarization and Dual-Quadrature Coherent Receiver. IEEE Photonics Technology Letters, 2011, 23, 694-696.	1.3	38
17	Unpassivated AlGaN-GaN HEMTs with minimal RF dispersion grown by plasma-assisted MBE on semi-insulating 6H-SiC substrates. IEEE Electron Device Letters, 2003, 24, 57-59.	2.2	36
18	SciFab -a wafer-level heterointegrated InP DHBT/SiGe BiCMOS foundry process for mm-wave applications. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 909-916.	0.8	36

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19	Dislocation and morphology control during molecular-beam epitaxy of AlGaN/GaN heterostructures directly on sapphire substrates. Applied Physics Letters, 2002, 81, 1456-1458.	1.5	35
20	High-reflectivity ultraviolet AlGaNâˆ•AlGaN distributed Bragg reflectors. Applied Physics Letters, 2006, 88, 171101.	1.5	35
21	Toward Mobile Integrated Electronic Systems at THz Frequencies. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 846-869.	1.2	32
22	Smooth and vertical-sidewall InP etching using Cl[sub 2]/N[sub 2] inductively coupled plasma. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 510.	1.6	28
23	Unpassivated AlGaNâˆ•GaN HEMTs with CW power density of 3.2â€…Wâˆ•mm at 25â€…GHz grown by plasma-assisted MBE. Electronics Letters, 2003, 39, 694.	0.5	24
24	High gain-bandwidth differential distributed InP D-HBT driver amplifiers with large (11.3 V/sub pp/) output swing at 40 Gb/s. IEEE Journal of Solid-State Circuits, 2004, 39, 1697-1705.	3.5	24
25	Highly Efficient Harmonically Tuned InP D-HBT Push-Push Oscillators Operating up to 287 GHz. , 2007, , .		23
26	Improved thermal management of InP transistors in transferredâ€substrate technology with diamond heatâ€spreading layer. Electronics Letters, 2015, 51, 1010-1012.	0.5	23
27	Submicron InP D-HBT single-stage distributed amplifier with 17 dB gain and over 110 GHz bandwidth. , 2006, , .		20
28	Flip-Chip Interconnects for 250 GHz Modules. IEEE Microwave and Wireless Components Letters, 2015, 25, 358-360.	2.0	20
29	Connecting Chips With More Than 100 GHz Bandwidth. IEEE Journal of Microwaves, 2021, 1, 364-373.	4.9	20
30	Flip-Chip Approach for 500 GHz Broadband Interconnects. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 1215-1225.	2.9	18
31	Efficient Membrane Grating Couplers on InP. IEEE Photonics Technology Letters, 2010, 22, 890-892.	1.3	17
32	Tight Focus Toward the Future: Tight Material Combination for Millimeter-Wave RF Power Applications: InP HBT SiGe BiCMOS Heterogeneous Wafer-Level Integration. IEEE Microwave Magazine, 2017, 18, 74-82.	0.7	17
33	Transferred-Substrate InP/GaAsSb Heterojunction Bipolar Transistor Technology With <inline-formula> <tex-math notation="LaTeX">${f}_{ext{max}}$ </tex-math> </inline-formula> ~ 0.53 THz. IEEE Transactions on Electron Devices, 2018, 65, 3704-3710.	1.6	17
34	A Highly Efficient Ultrawideband Traveling-Wave Amplifier in InP DHBT Technology. IEEE Microwave and Wireless Components Letters, 2018, 28, 1029-1031.	2.0	16
35	Multifinger Indium Phosphide Double-Heterostructure Transistor Circuit Technology With Integrated Diamond Heat Sink Layer. IEEE Transactions on Electron Devices, 2016, 63, 1846-1852.	1.6	15
36	Subharmonic Injection Locking for Phase and Frequency Control of RTD-Based THz Oscillator. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 221-224.	2.0	14

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37	A G-Band High Power Frequency Doubler in Transferred-Substrate InP HBT Technology. IEEE Microwave and Wireless Components Letters, 2016, 26, 49-51.	2.0	13
38	High-power submicron InP D-HBT push-push oscillators operating up to 215 GHz. , 2005, , .		12
39	On-wafer small-signal and large-signal measurements up to sub-THz frequencies. , 2014, , .		12
40	Manufacturable Low-Cost Flip-Chip Mounting Technology for 300â€“500-GHz Assemblies. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2017, 7, 494-501.	1.4	12
41	EM simulation assisted parameter extraction for transferred-substrate InP HBT modeling. International Journal of Microwave and Wireless Technologies, 2018, 10, 700-708.	1.5	12
42	Manufacturable Monolithically Integrated InP Dual-Port Coherent Receiver for 100G PDM-QPSK Applications. , 2011, , .		12
43	Submicron AlGaN/GaN HEMTs with very high drain current density grown by plasma-assisted MBE on 6H-SiC. IEEE Electron Device Letters, 2002, 23, 691-693.	2.2	11
44	Self-Heating of Submicrometer InPâ€“InGaAs DHBTs. IEEE Electron Device Letters, 2004, 25, 357-359.	2.2	10
45	Small- and large-signal modeling of InP HBTs in transferred-substrate technology. International Journal of Microwave and Wireless Technologies, 2014, 6, 243-251.	1.5	10
46	220â€“325ÂGHz highâ€isolation SPDT switch in InP DHBT technology. Electronics Letters, 2018, 54, 1222-1224.	0.5	10
47	Large-Signal Modelling of sub-THz InP Triple-Barrier Resonant Tunneling Diodes. , 2020, , .		10
48	Thin-film resistor fabrication for InP technology applications. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 871.	1.6	9
49	A 330 GHz hetero-integrated source in InP-on-BiCMOS technology. , 2015, , .		9
50	An Ultra-Broadband Low-Noise Distributed Amplifier in InP DHBT Technology. , 2018, , .		9
51	Broadband Detection capability of a Triple Barrier Resonant Tunneling Diode. , 2019, , .		9
52	Effect of dislocations on local transconductance in AlGaN/GaN heterostructures as imaged by scanning gate microscopy. Applied Physics Letters, 2003, 83, 4559-4561.	1.5	8
53	High Speed Integrated InP Photonic Digital-to-Analog Converter. , 0, , .		8
54	InP double-hetero bipolar transistor technology for 130 GHz clock speed. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 452-455.	0.8	8

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55	(Invited) Combining SiGe BiCMOS and InP Processing in an on-top of Chip Integration Approach. ECS Transactions, 2014, 64, 177-194.	0.3	8
56	Three-dimensional InP-DHBT on SiGe-BiCMOS integration by means of Benzocyclobutene based wafer bonding for MM-wave circuits. Microelectronic Engineering, 2014, 125, 38-44.	1.1	8
57	A 330 GHz active frequency quadrupler in InP DHBT transferred-substrate technology. , 2016, , .		8
58	Polarityâ€•and Siteâ€Controlled Metal Organic Vapor Phase Epitaxy of 3Dâ€GaN on Si(111). Physica Status Solidi (B): Basic Research, 2018, 255, 1700485.	0.7	8
59	Mask-less MOVPE of arrayed n-GaN nanowires on site- and polarity-controlled AlN/Si templates. CrystEngComm, 2019, 21, 7476-7488.	1.3	8
60	AlGaN/GaN HEMTs grown by molecular beam epitaxy on sapphire, SiC, and HVPE GaN templates. , 0, , .		7
61	High-Speed Low-Loss Schottky-i-n InP-Based Optical Modulator for RF Photonics. IEEE Photonics Technology Letters, 2007, 19, 270-272.	1.3	7
62	InP DHBT circuits for 100 Gb/s Ethernet applications. , 2008, , .		7
63	Benzocyclobutene dry etch with minimized byproduct redeposition for application in an InP DHBT process. Microelectronic Engineering, 2016, 161, 63-68.	1.1	7
64	EM simulation assisted parameter extraction for the modeling of transferred-substrate InP HBTs. , 2017, , .		7
65	Millimeter-wave Signal Generation and Detection via the same Triple Barrier RTD and on-chip Antenna. , 2018, , .		7
66	Triple-Barrier Resonant-Tunnelling Diode THz Detectors with on-chip antenna. , 2019, , .		7
67	A systematic study of Ga- and N-polar GaN nanowireâ€“shell growth by metal organic vapor phase epitaxy. CrystEngComm, 2020, 22, 5522-5532.	1.3	7
68	High power GaN/AlGaN/GaN HEMTs operating at 2 to 25 GHz grown by plasma-assisted MBE. Physica Status Solidi A, 2003, 200, 175-178.	1.7	5
69	A 315 GHz reflection-type push-push oscillator in InP-DHBT technology. , 2016, , .		5
70	An active balanced up-converter module in InP-on-BiCMOS technology. , 2017, , .		5
71	Experimental evidence for the separation of thermally excited bipolar charge carries within a p-n junction: A new approach to thermoelectric materials and generators. Journal of Applied Physics, 2019, 125, .	1.1	5
72	A Modular MIMO Millimeter-Wave Imaging Radar System for Space Applications and Its Components. Journal of Infrared, Millimeter, and Terahertz Waves, 2021, 42, 275-324.	1.2	5

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73	Broadband THz Detection Using InP Triple-Barrier Resonant Tunneling Diode With Integrated Antenna. , 2021, , .		5
74	Spatially controlled VLS epitaxy of gallium arsenide nanowires on gallium nitride layers. CrystEngComm, 2020, 22, 1239-1250.	1.3	5
75	InP DHBT circuits: From device physics to 40Gb/s and 100Gb/s transmission system experiments. Bell Labs Technical Journal, 2009, 14, 43-62.	0.7	4
76	Silicon nitride stop layer in back-end-of-line planarization for wafer bonding application. , 2014, , .		4
77	A 270 GHz push-push oscillator in InP-DHBT-on-BiCMOS technology. , 2014, , .		4
78	NiCr resistors for terahertz applications in an InP DHBT process. Microelectronic Engineering, 2019, 208, 1-6.	1.1	4
79	A high-gain InP D-HBT driver amplifier with 50 GHz bandwidth and 10 Vpp differential output swing at 40 Gb/s. , 2003, , .		3
80	Towards planar processing for InP DHBTs. , 0, , .		3
81	InP on BiCMOS technology platform for millimeter-wave and THz MMIC. , 2013, , .		3
82	A 200 mW InP DHBT W-band power amplifier in transferred-substrate technology with integrated diamond heat spreader. , 2016, , .		3
83	Performance study of a 248 GHz voltage controlled hetero-integrated source in InP-on-BiCMOS technology. International Journal of Microwave and Wireless Technologies, 2017, 9, 259-268.	1.5	3
84	Highly Efficient D-Band Fundamental Frequency Source Based on InP-DHBT Technology. , 2018, , .		3
85	A Hetero-Integrated W-Band Transmitter Module in InP-on-BiCMOS Technology. , 2018, , .		3
86	Antenna design for subharmonic injection-locked triple barrier RTD oscillator in the 300 GHz band. , 2019, , .		3
87	Transmitarray Element Design for Subharmonic Injection-locked RTD Oscillators in THz Band. , 2019, , .		3
88	nâ€Doped InGaP Nanowire Shells in GaAs/InGaP Coreâ€“Shell pâ€“n Junctions. Physica Status Solidi (B): Basic Research, 2020, 257, 1900358.	0.7	3
89	Tunnelingâ€Related Leakage Currents in Coaxial GaAs/InGaP Nanowire Heterojunction Bipolar Transistors. Physica Status Solidi (B): Basic Research, 2021, 258, 2000395.	0.7	3
90	There is Plenty of Room for THz Tunneling Electron Devices Beyond the Transit Time Limit. IEEE Electron Device Letters, 2021, 42, 224-227.	2.2	3

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91	AlGaN/GaN HEMTs grown by MBE on semi-insulating HVPE GaN templates. , 0, , .		2
92	Surface roughness in sulfur ion-implanted InP with molecular beam epitaxy regrown double-heterojunction bipolar transistor layers. Applied Physics Letters, 2005, 86, 143508.	1.5	2
93	Fully dry-etched InP Double-Hetero Bipolar Transistors with ft > 400 GHz. , 2006, , .		2
94	Integrated photonic digital-to-analog converter for arbitrary waveform generation. , 2008, , .		2
95	An efficient W-band InP DHBT digital power amplifier. , 2016, , .		2
96	An efficient W-band InP DHBT digital power amplifier. International Journal of Microwave and Wireless Technologies, 2017, 9, 1241-1249.	1.5	2
97	Noise modeling of transferred-substrate InP-DHBTs. , 2017, , .		2
98	A 95 GHz bandwidth 12 dBm output power distributed amplifier in InP-DHBT technology for optoelectronic applications. , 2018, , .		2
99	A 0.5 THz Signal Source with -11 dBm Peak Output Power Based on InP DHBT. , 2019, , .		2
100	The accurate predictions of THz quantum currents requires a new displacement current coefficient instead of the traditional transmission one. , 2020, , .		2
101	InP HBT technology for THz applications. , 2020, , .		2
102	Design of a 1-to-4 Subarray Element for Wireless Subharmonic Injection in the THz Band. , 2021, , .		2
103	THz Detectors and Emitters with On-Chip Antenna aligned on Hyper-Hemispherical Silicon Lenses. , 2021, , .		2
104	Polarity-controlled AlN/Si templates by in situ oxide desorption for variably arrayed MOVPE-GaN nanowires. Journal of Crystal Growth, 2021, 566-567, 126162.	0.7	2
105	Design, fabrication and characterization of GaN-based HFET's. , 0, , .		1
106	Scattering of electrons at threading dislocations in GaN and consequences for current transport in vertical devices. , 1997, , .		1
107	Power limits of polarization-induced AlGaN/GaN HEMT's. , 0, , .		1
108	Prime Quasientropy and Quasichaos. International Journal of Theoretical Physics, 2002, 41, 1389-1395.	0.5	1

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109	High Gain-Bandwidth InP waveguide Phototransistor. , 0, , .		1
110	In[sub 0.68]Ga[sub 0.32]Asâˆ•Al[sub 0.64]In[sub 0.36]Asâˆ•InP 4.5â€‚Î¼m quantum cascade lasers grown by solid phosphorus molecular beam epitaxy. Journal of Vacuum Science & Technology B, 2007, 25, 913.	1.3	1
111	A 250 GHz hetero-integrated VCO with 0.7 mW output power in InP-on-BiCMOS technology. , 2015, , .		1
112	G-band frequency doubler based on InP transferred-substrate technology. , 2015, , .		1
113	An efficient 290 GHz harmonic oscillator in transferred-substrate InP-DHBT technology. , 2015, , .		1
114	Balanced G-band Gm-boosted frequency doublers in transferred substrate InP HBT technology. , 2016, , .		1
115	An Ultra-broadband Low-Noise Distributed Amplifier in InP DHBT Technology. , 2018, , .		1
116	Toward Nanowire HBT: Reverse Current Reduction in Coaxial GaAs/InGaP n(i)p and n(i)pn Core-Multishell Nanowires. Physica Status Solidi (A) Applications and Materials Science, 2018, 216, 1800562.	0.8	1
117	Characterization of the Effective Tunneling Time and Phase Relaxation Time in Triple-Barrier Resonant Tunneling Diodes. , 2019, , .		1
118	A 0.5 THz Signal Source with -11 dBm Peak Output Power Based on InP DHBT. , 2019, , .		1
119	Comparison of high mobility AlGaN/GaN heterostructures grown by MBE on HVPE GaN templates and directly nucleated on sapphire. , 0, , .		0
120	Electron Field Emission from GaN Nanotip Pyramids. Materials Research Society Symposia Proceedings, 2003, 798, 407.	0.1	0
121	High power AlGaN/GaN HEMTs grown by plasma-assisted MBE operating at 2 to 25 GHz. , 0, , .		0
122	Numerical investigation of the effect of doping profiles on the high frequency performance of InP/InGaAs super scaled HBTs. , 0, , .		0
123	Recent Advances in III-V Electronics. , 2006, , .		0
124	A 100 GHz fundamental oscillator with 25% efficiency based on transferred-substrate InP-DHBT technology. , 2016, , .		0
125	Thermally stable iridium contacts to highly doped p-In0:53Ga0:47As for indium phosphide double heterojunction bipolar transistors. Microelectronic Engineering, 2019, 215, 111017.	1.1	0
126	n-doped InGaP Nanowire Shells in Core-Shell pn-junctions. , 2019, , .		0