

Herbert Zirath

List of Publications by Year in descending order

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124
papers

5,163
citations

172207

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docs citations

124
times ranked

8149
citing authors

#	ARTICLE	IF	CITATIONS
1	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. <i>Nanoscale</i> , 2015, 7, 4598-4810.	2.8	2,452
2	Metallic 3-D Printed Antennas for Millimeter- and Submillimeter Wave Applications. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2016, 6, 592-600.	2.0	149
3	Design of Varactor-Based Tunable Matching Networks for Dynamic Load Modulation of High Power Amplifiers. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2009, 57, 1110-1118.	2.9	127
4	Design of a Highly Efficient 2 \times 4-GHz Octave Bandwidth GaN-HEMT Power Amplifier. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2010, 58, 1677-1685.	2.9	125
5	Metallic 3-D Printed Rectangular Waveguides for Millimeter-Wave Applications. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2016, 6, 796-804.	1.4	122
6	A-Band 48-Gbit/s 64-QAM/QPSK Direct-Conversion I/Q Transceiver Chipset. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2016, 64, 1285-1296.	2.9	104
7	Calculation of the Performance of Communication Systems From Measured Oscillator Phase Noise. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2014, 61, 1553-1565.	3.5	95
8	$\frac{1}{\sqrt{2}}$ -Band Low-Profile Monopulse Slot Array Antenna Based on Gap Waveguide Corporate-Feed Network. <i>IEEE Transactions on Antennas and Propagation</i> , 2018, 66, 6997-7009.	3.1	88
9	Implementation Challenges and Opportunities in Beyond-5G and 6G Communication. <i>IEEE Journal of Microwaves</i> , 2021, 1, 86-100.	4.9	85
10	I/Q Imbalance Compensation Using a Nonlinear Modeling Approach. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2009, 57, 513-518.	2.9	84
11	60 GHz Single-Chip Front-End MMICs and Systems for Multi-Gb/s Wireless Communication. <i>IEEE Journal of Solid-State Circuits</i> , 2007, 42, 1143-1157.	3.5	75
12	Operation of InGaAs/InP-Based Ballistic Rectifiers at Room Temperature and Frequencies up to 50 GHz. <i>Japanese Journal of Applied Physics</i> , 2001, 40, L909-L911.	0.8	60
13	A Metallic 3-D Printed E-Band Radio Front End. <i>IEEE Microwave and Wireless Components Letters</i> , 2016, 26, 331-333.	2.0	57
14	InP DHBT Distributed Amplifiers With Up to 235-GHz Bandwidth. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015, 63, 1334-1341.	2.9	54
15	Integration of a 140 GHz Packaged LTCC Grid Array Antenna With an InP Detector. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2015, 5, 1060-1068.	1.4	50
16	Single-Chip Frequency Multiplier Chains for Millimeter-Wave Signal Generation. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2009, 57, 3134-3142.	2.9	49
17	Compact Integrated Full-Duplex Gap Waveguide-Based Radio Front End For Multi-Gbit/s Point-to-Point Backhaul Links at E-Band. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2019, 67, 3783-3797.	2.9	46
18	Novel Air-Filled Waveguide Transmission Line Based on Multilayer Thin Metal Plates. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2019, 9, 282-290.	2.0	46

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19	A 220 GHz Single-Chip Receiver MMIC With Integrated Antenna. IEEE Microwave and Wireless Components Letters, 2008, 18, 284-286.	2.0	45
20	Oxygen Ion Implantation Isolation Planar Process for AlGaIn/GaN HEMTs. IEEE Electron Device Letters, 2007, 28, 476-478.	2.2	44
21	Experimental Investigation of the Accuracy of an Ultrawideband Time-Domain Microwave-Tomographic System. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 3939-3949.	2.4	38
22	Accuracy Evaluation of Ultrawideband Time Domain Systems for Microwave Imaging. IEEE Transactions on Antennas and Propagation, 2011, 59, 4279-4285.	3.1	36
23	High-Gain Graphene Transistors with a Thin AlO _x Top-Gate Oxide. Scientific Reports, 2017, 7, 2419.	1.6	36
24	High-Efficiency LDMOS Power-Amplifier Design at 1 GHz Using an Optimized Transistor Model. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 1647-1654.	2.9	35
25	Development of a Time Domain Microwave System for Medical Diagnostics. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 2931-2939.	2.4	35
26	An SiC MESFET-Based MMIC Process. IEEE Transactions on Microwave Theory and Techniques, 2006, 54, 4072-4078.	2.9	34
27	An Energy Efficient 56 Gbps PAM-4 VCSEL Transmitter Enabled by a 100 Gbps Driver in 0.25 μ m InP DHBT Technology. Journal of Lightwave Technology, 2016, 34, 4954-4964.	2.7	33
28	A W-band MMIC Resistive Mixer Based on Epitaxial Graphene FET. IEEE Microwave and Wireless Components Letters, 2017, 27, 168-170.	2.0	33
29	Impact of Channel Thickness on the Large-Signal Performance in InAlGaIn/AlIn/GaN HEMTs With an AlGaIn Back Barrier. IEEE Transactions on Electron Devices, 2019, 66, 364-371.	1.6	33
30	Toward Industrial Exploitation of THz Frequencies: Integration of SiGe MMICs in Silicon-Micromachined Waveguide Systems. IEEE Transactions on Terahertz Science and Technology, 2019, 9, 624-636.	2.0	31
31	Graphene FET Gigabit ON-OFF Keying Demodulator at 96 GHz. IEEE Electron Device Letters, 2016, 37, 333-336.	2.2	29
32	A General Statistical Equivalent-Circuit-Based De-Embedding Procedure for High-Frequency Measurements. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 2692-2700.	2.9	28
33	Millimeter Wave E-Plane Transition From Waveguide to Microstrip Line With Large Substrate Size Related to MMIC Integration. IEEE Microwave and Wireless Components Letters, 2016, 26, 481-483.	2.0	28
34	A -Band Packaged Antenna on Organic Substrate With High Fault Tolerance for Mass Production. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2016, 6, 359-365.	1.4	28
35	Influence of White LO Noise on Wideband Communication. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 3349-3359.	2.9	28
36	A SiC Varactor With Large Effective Tuning Range for Microwave Power Applications. IEEE Electron Device Letters, 2011, 32, 788-790.	2.2	26

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37	Does LO Noise Floor Limit Performance in Multi-Gigabit Millimeter-Wave Communication?. IEEE Microwave and Wireless Components Letters, 2017, 27, 769-771.	2.0	25
38	High Efficiency LDMOS Current Mode Class-D Power amplifier at 1 GHz. , 2006, , .		24
39	A 220 GHz (G-Band) Microstrip MMIC Single-Ended Resistive Mixer. IEEE Microwave and Wireless Components Letters, 2008, 18, 215-217.	2.0	23
40	Design of Low Phase-Noise Oscillators and Wideband VCOs in InGaP HBT Technology. IEEE Transactions on Microwave Theory and Techniques, 2012, 60, 3420-3430.	2.9	23
41	340 GHz Integrated Receiver in 250 nm InP DHBT Technology. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 306-314.	2.0	23
42	A broadband differential cascode power amplifier in 45 nm CMOS for high-speed 60 GHz system-on-chip. , 2010, , .		22
43	Accurate Modeling of GaN HEMT RF Behavior Using an Effective Trapping Potential. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 845-857.	2.9	22
44	High-frequency noise and current-voltage characteristics of millimeter-wave platinum/n-GaAs Schottky barrier diodes. Journal of Applied Physics, 1986, 60, 1399-1407.	1.1	21
45	140-220-GHz DHBT Detectors. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 2353-2360.	2.9	19
46	Accurate Phase-Noise Prediction for a Balanced Colpitts GaN HEMT MMIC Oscillator. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 3916-3926.	2.9	18
47	Spectrum Efficient D-band Communication Link for Real-time Multi-gigabit Wireless Transmission. , 2018, , .		18
48	An 1 GHz Class E LDMOS Power Amplifier. , 2003, , .		17
49	An Image Reject Mixer for High-Speed E-Band (71-76, 81-86 GHz) Wireless Communication. , 2009, , .		17
50	60 GHz Broadband MS-to-CPW Hot-Via Flip Chip Interconnects. IEEE Microwave and Wireless Components Letters, 2007, 17, 784-786.	2.0	16
51	Monolithically Integrated 200-GHz Double-Slot Antenna and Resistive Mixers in a GaAs-mHEMT MMIC Process. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 2494-2503.	2.9	16
52	Silicon Taper Based D-Band Chip to Waveguide Interconnect for Millimeter-Wave Systems. IEEE Microwave and Wireless Components Letters, 2017, 27, 1092-1094.	2.0	16
53	A linear 70-95 GHz differential IQ modulator for E-band wireless communication. , 2010, , .		15
54	InP DHBT Amplifier Modules Operating Between 150-300 GHz Using Membrane Technology. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 433-440.	2.9	15

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55	Experimental Demonstration of Spectrally Efficient Frequency Division Multiplexing Transmissions at E-Band. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 1911-1923.	2.9	15
56	W-Band Graphene-Based Six-Port Receiver. IEEE Microwave and Wireless Components Letters, 2018, 28, 347-349.	2.0	13
57	InP DHBT wideband amplifiers with up to 235 GHz bandwidth. , 2014, , .		12
58	Ultra-broadband common collector-cascode 4-cell distributed amplifier in 250nm InP HBT technology with over 200 GHz bandwidth. , 2017, , .		12
59	Nongalvanic Generic Packaging Solution Demonstrated in a Fully Integrated <i>D</i>-Band Receiver. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 321-330.	2.0	12
60	Q-, V-, and W-band power amplifiers utilizing coupled lines for impedance matching. , 2008, , .		11
61	Compact Low-Loss Chip-to-Waveguide and Chip-to-Chip Packaging Concept Using EBG Structures. IEEE Microwave and Wireless Components Letters, 2021, 31, 9-12.	2.0	11
62	4-8 GHz Low Noise Amplifiers using metamorphic HEMT Technology. , 2006, , .		10
63	A Load Modulated High Efficiency Power Amplifier. , 2006, , .		10
64	8-PSK Upconverting Transmitter Using $\Sigma\Sigma$ -Band Frequency Sextupler. IEEE Microwave and Wireless Components Letters, 2018, 28, 177-179.	2.0	10
65	Evaluation of a GaN HEMT transistor for load- and supply-modulation applications using intrinsic waveform measurements. , 2010, , .		9
66	A Synchronous Baseband Receiver for High-Data-Rate Millimeter-Wave Communication Systems. IEEE Microwave and Wireless Components Letters, 2019, 29, 412-414.	2.0	9
67	Demonstration of +100-GHz Interconnects in eWLB Packaging Technology. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 1406-1414.	1.4	9
68	Performance Evaluation of a Time-Domain Microwave System for Medical Diagnostics. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 2880-2889.	2.4	9
69	Micrometer Accuracy Phase Modulated Radar for Distance Measurement and Monitoring. IEEE Sensors Journal, 2020, 20, 2919-2927.	2.4	9
70	An E-Band(71–76, 81–86 GHz) balanced frequency tripler for high-speed communications. , 2009, , .		8
71	Design of Flip-Chip Interconnect Using Epoxy-Based Underfill Up to $\Sigma\Sigma$ -Band Frequencies With Excellent Reliability. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 2244-2250.	2.9	8
72	A Hardware Efficient Implementation of a Digital Baseband Receiver for High-Capacity Millimeter-Wave Radios. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 1683-1692.	2.9	8

#	ARTICLE	IF	CITATIONS
73	A non-galvanic D-band MMIC-to-waveguide transition using eWLB packaging technology. , 2017, , .		8
74	Design of highly efficient, high output power, L-band class D¹ RF power amplifiers using GaN MESFET devices. , 2007, , .		7
75	A 14 Gbps On-/Off- Keying Modulator in GaAs HBT Technology. IEEE Microwave and Wireless Components Letters, 2012, 22, 272-274.	2.0	7
76	H-band MMIC amplifiers in 250 nm InP DHBT. , 2012, , .		7
77	Suppression of Parasitic Substrate Modes in Multilayer Integrated Circuits. IEEE Transactions on Electromagnetic Compatibility, 2015, 57, 591-594.	1.4	7
78	RF-MEMS Tuned GaN HEMT based Cavity Oscillator for X-band. IEEE Microwave and Wireless Components Letters, 2017, 27, 46-48.	2.0	7
79	Low phase-noise balanced Colpitt InGaP-GaAs HBT VCOs with wide frequency tuning range and small VCO-gain variation. , 2007, , .		6
80	A direct conversion quadrature transmitter with digital interface in 45 nm CMOS for high-speed 60 GHz communications. , 2011, , .		6
81	Highly Integrated E-Band Direct Conversion Receiver. , 2012, , .		6
82	Enhanced Mobility in InAlN/AlN/GaN HEMTs Using a GaN Interlayer. IEEE Transactions on Electron Devices, 2019, 66, 2910-2915.	1.6	6
83	OFDM Radar Range Accuracy Enhancement Using Fractional Fourier Transformation and Phase Analysis Techniques. IEEE Sensors Journal, 2020, 20, 1011-1018.	2.4	6
84	Coded Pilot Assisted Baseband Receiver for High Data Rate Millimeter-Wave Communications. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 4719-4727.	2.9	6
85	Design of highly efficient, high output power, L-band class D.1 RF power amplifiers using GaN MESFET devices. , 2007, , .		5
86	A Compact Cascode Power Amplifier in 45-nm CMOS for 60-GHz Wireless Systems. , 2009, , .		5
87	Dual-input nonlinear modeling for I/Q modulator distortion compensation. , 2009, , .		5
88	A broadband 60-to-120 GHz single-chip MMIC multiplier chain. , 2009, , .		5
89	An X-Band Low Phase Noise AlGaIn-GaN-HEMT MMIC Push-Push Oscillator. , 2011, , .		5
90	Design and Performance Evaluation of a Time Domain Microwave Imaging System. International Journal of Microwave Science and Technology, 2013, 2013, 1-11.	0.6	5

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91	Low-cost D-band Waveguide Transition on LCP Substrate. , 2018, , .		5
92	Waveguide Bandpass Filters for Millimeter-Wave Radiometers. Journal of Infrared, Millimeter, and Terahertz Waves, 2013, 34, 824-836.	1.2	4
93	Multi-functional D-band I/Q modulator/demodulator MMICs in SiGe BiCMOS technology. International Journal of Microwave and Wireless Technologies, 2018, 10, 596-604.	1.5	4
94	D-band SiGe transceiver modules based on silicon-micromachined integration. , 2019, , .		4
95	A data-rate adaptable modem solution for millimeter-wave wireless fronthaul networks. , 2015, , .		3
96	Investigation of stimulus signals for a time domain microwave imaging system. IET Microwaves, Antennas and Propagation, 2017, 11, 1636-1643.	0.7	3
97	AMCW Radar of Micrometer Accuracy Distance Measurement and Monitoring. , 2019, , .		3
98	F-band Low-loss Tapered Slot Transition for Millimeter-wave System Packaging. , 2019, , .		3
99	Measurement of Reflection and Transmission Coefficients Using Finite Impulse Response Least-Squares Estimation. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 222-235.	2.9	3
100	Newly developed chip sets for 60 GHz radio communication systems. , 2007, , .		2
101	Multifunction low noise millimeterwave MMICs for remote sensing. , 2012, , .		2
102	Integrated wideband and low phase noise signal source using two voltage controlled oscillators and a mixer. IET Microwaves, Antennas and Propagation, 2013, 7, 123-130.	0.7	2
103	High linearity MMIC power amplifier design with controlled junction temperature. , 2014, , .		2
104	G-band Frequency Converters in 130-nm InP DHBT Technology. , 2021, , .		2
105	Design of highly efficient, high output power, L-band class D &sup>1</sup> RF power amplifiers using GaN MESFET devices.. , 2007, , .		1
106	Design and evaluation of 20-GHz power amplifiers in 130-nm CMOS. International Journal of Microwave and Wireless Technologies, 2009, 1, 301-307.	1.5	1
107	Design of high efficiency Ka-band harmonically tuned power amplifiers. , 2009, , .		1
108	A method to lower VCO phase noise by using HBT darlington pair. , 2012, , .		1

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109	Imaging front-end for thermal detection using an InP DHBT process. , 2014, , .		1
110	Octave Band Linear MMIC Amplifier With +40-dBm OIP3 for High-Reliability Space Applications. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 2059-2067.	2.9	1
111	Generic Graphene Based Components and Circuits for Millimeter Wave High Data-rate Communication Systems. MRS Advances, 2017, 2, 3559-3564.	0.5	1
112	InP DHBT Single-Stage and Multiplicative Distributed Amplifiers for Ultra- Wideband Amplification. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 3804-3814.	3.5	1
113	A Compact PCB Gasket for Waveguide Leakage Suppression at 110-170 GHz. , 2020, , .		1
114	Development of 60 GHz front End circuits for high data rate communication system at Chalmers University. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers, Series A/Chung-kuo Kung Ch'eng Hsueh K'an, 2006, 29, 1173-1183.	0.6	0
115	Residual and oscillator phase noise in GaAs metamorphic HEMTs. , 2006, , .		0
116	Integrated 60 GHz Circuits and Systems for High-Speed Communications. , 2008, , .		0
117	An ultrawideband microwave medical diagnostic system: Design considerations and system performance. , 2012, , .		0
118	A 20 GHz Low Phase Noise Signal Source Using VCO and Mixer in InGaP/GaAs HBT. , 2012, , .		0
119	A 80–95 GHz direct quadrature modulator in SiGe technology. , 2014, , .		0
120	Analysis of a MEMS Tuned Cavity Oscillator on X -Band. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 3257-3268.	2.9	0
121	Investigation of a Time Domain Microwave System for Biomedical Applications. , 2018, , .		0
122	A low-phase noise D -band signal source based on 130 nm SiGe BiCMOS and 0.15 μm AlGaIn/GaN HEMT technologies. International Journal of Microwave and Wireless Technologies, 2019, 11, 456-465.	1.5	0
123	Overview of High Frequency Electronics Integration Concepts for Gap waveguide based High Gain Slot Antenna Array. , 2019, , .		0
124	A D-Band Dual-Mode Dynamic Frequency Divider in 130-nm SiGe Technology. IEEE Microwave and Wireless Components Letters, 2020, 30, 1169-1172.	2.0	0