Giovanni Crupi

List of Publications by Year
in descending order

153	2,550	159585 30	254184 43
papers	citations	h-index	g-index

155	155	155	1161
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Simple, Fast, and Accurate Broadband Complex Permittivity Characterization Algorithm: Methodology and Experimental Validation from 140 GHz up to 220 GHz. Electronics (Switzerland), 2022, 11, 366.	3.1	6
2	Effects of Varying the Fin Width, Fin Height, Gate Dielectric Material, and Gate Length on the DC and RF Performance of a 14-nm SOI FinFET Structure. Electronics (Switzerland), 2022, 11, 91.	3.1	15
3	Design and Characterization of a Microwave Transducer for Gas Sensing Applications. Chemosensors, 2022, 10, 127.	3.6	5
4	Equivalent Circuit Model Extraction for a SAW Resonator: Below and above Room Temperature. Sensors, 2022, 22, 2546.	3.8	4
5	<scp>Equivalentâ€circuit</scp> extraction for gallium nitride electron devices: Direct versus <scp>optimizationâ€empowered</scp> approaches. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2022, 35, .	1.9	3
6	Analytical modeling of Iâ€“V characteristics using 2D Poisson equations in AlN/Î²-Ga2O3 HEMT. Materials Science in Semiconductor Processing, 2022, 145, 106627.	4.0	6
7	Microwave Transducers for Gas Sensing: A Challenging and Promising New Frontier. IEEE Instrumentation and Measurement Magazine, 2022, 25, 42-51.	1.6	7
8	A Broadband PA Design Based on Bayesian Optimization Augmented by Dynamic Feasible Region Shrinkage. IEEE Microwave and Wireless Components Letters, 2022, 32, 1139-1142.	3.2	15
9	A Novel Design Methodology for a Multioctave GaN-HEMT Power Amplifier Using Clustering Guided Bayesian Optimization. IEEE Access, 2022, 10, 52771-52781.	4.2	8
10	Cross-Laboratory Experimental Validation of a Tunerless Technique for the Microwave Noise Parameters Extraction. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 1733-1739.	4.6	3
11	Optical sensitivity of HEMT-based devices and low-noise amplifiers. International Journal of Electronics, 2021, 108, 361-377.	1.4	0
12	Numerical modeling of two microwave sensors for biomedical applications. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, .	1.9	15
13	An Improved Transistor Modeling Methodology Exploiting the Quasi-Static Approximation. IEEE Journal of the Electron Devices Society, 2021, 9, 378-386.	2.1	10
14	Measurement-Based Extraction and Analysis of a Temperature-Dependent Equivalent-Circuit Model for a SAW Resonator: From Room Down to Cryogenic Temperatures. IEEE Sensors Journal, 2021, 21, 12202-12211.	4.7	17
15	Measurementâ€based analysis of GaAs HEMT technologies: Multilayer Dâ€H pseudomorphic HEMT versus conventional Sâ€H HEMT. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, e2873.	1.9	5
16	<scp>2â€mmâ€gateâ€periphery GaN</scp> high electron mobility transistor <scp>s</scp> on <scp>SiC</scp> and Si substrates: A comparative analysis from a <scp>smallâ€signal</scp> standpoint. International Journal of RF and Microwave Computer-Aided Engineering, 2021, 31, e22642.	1.2	6
17	On the Performance Evaluation of Commercial SAW Resonators by Means of a Direct and Reliable Equivalent-Circuit Extraction. Micromachines, 2021, 12, 303.	2.9	12
18	Temperature-Sensitivity of Two Microwave HEMT Devices: AlGaAs/GaAs vs. AlGaN/GaN Heterostructures. Electronics (Switzerland), 2021, 10, 1115.	3.1	13

#	Article	IF	Citations
19	An Experimental and Systematic Insight into the Temperature Sensitivity for a 0.15-Âµm Gate-Length HEMT Based on the GaN Technology. Micromachines, 2021, 12, 549.	2.9	8
20	Development of a multi-transduction system for breath analysis in neurodegenerative diseases. , 2021, , .		4
21	On the design and characterisation of a microwave microstrip resonator for gas sensing applications. Acta IMEKO (2012), 2021, 10, 54.	0.7	9
22	Guest editorial for the special issue on modeling of <scp>Î¼mWave</scp> and <scp>mmWave</scp> electronic devices for wireless systems: Connecting technologies to applications. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, e2940.	1.9	0
23	Experimental Investigation on the Bias and Temperature Dependence of the Forward Transmission Coefficient for HEMT Technologies. , 2021, , .		0
24	Effects of the Gate Dielectric Material on the Performance of a 14-nm SOI FinFET. , 2021, , .		1
25	Development of an Inkjet-Printed Interdigitated Device: CAD, Fabrication, and Testing. , 2021, , .		3
26	Equivalentâ€circuitâ€“based modeling of the scattering and noise parameters for multiâ€finger GaAs pHEMTs. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2587.	1.9	7
27	Reliable noise modeling of GaN HEMTs for designing lowâ€noise amplifiers. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2585.	1.9	32
28	A review on the artificial neural network applications for smallâ€signal modeling of microwave FETs. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2668.	1.9	61
29	3D Investigation of 8-nm Tapered n-FinFET Model. Silicon, 2020, 12, 1585-1591.	3.3	9
30	Multibias and temperature dependence of the currentâ€gain peak in GaN HEMT. International Journal of RF and Microwave Computer-Aided Engineering, 2020, 30, e22129.	1.2	11
31	Scalability of Multifinger HEMT Performance. IEEE Microwave and Wireless Components Letters, 2020, 30, 869-872.	3.2	13
32	Experimental insight into the temperature effects on <scp>DC</scp> and microwave characteristics for a <scp>GaAs pHEMT</scp> in multilayer <scp>3â€D MMIC</scp> technology. International Journal of RF and Microwave Computer-Aided Engineering, 2020, 30, e22379.	1.2	7
33	Characterization and Neural Modeling of a Microwave Gas Sensor for Oxygen Detection Aimed at Healthcare Applications. Sensors, 2020, 20, 7150.	3.8	15
34	On the Gas Sensing Properties of Microwave Transducers. , 2020, , .		4
35	Artificial Neural Network Modeling of Interdigital Capacitor Sensor for Oxygen Detection. , 2020, , .		5
36	Device Noise Parameters Characterization: Towards Extraction Automation.. , 2020, , .		4

#	Article	IF	Citations
37	Cryogenic Electrical Characterization and Equivalent-Circuit Modeling of SAW Resonators. , 2020, , .		5
38	Biosensor Using a One-Port Interdigital Capacitor: A Resonance-Based Investigation of the Permittivity Sensitivity for Microfluidic Broadband Bioelectronics Applications. Electronics (Switzerland), 2020, 9, 340.	3.1	10
39	Microfluidic Biosensor for Bioengineering: High-frequency Equivalent-Circuit Modeling of Interdigital Capacitor. , 2019, , .		2
40	A Comprehensive and Critical Overview of the Kink Effect in S₂₂ for HEMT Technology. , 2019, , .		3
41	Temperature Dependent Small-Signal Neural Modeling of High-Periphery GaN HEMTs. , 2019, , .		4
42	Microwave Linear Characterization Procedures of On-Wafer Scaled GaAs pHEMTs for Low-Noise Applications. Electronics (Switzerland), 2019, 8, 1365.	3.1	4
43	High-periphery GaN HEMT modeling up to 65â€¯GHz and 200â€¯Â°C. Solid-State Electronics, 2019, 152, 11-16.	1.4	24
44	Thermal influence on S₂₂ kink behavior of a 0.15 Î¼m gate length AlGaN/GaN/SiC HEMT for microwave applications. Semiconductor Science and Technology, 2019, 34, 035002.	2.0	11
45	A Planar One-Port Microwave Microfluidic Sensor for Microliter Liquids Characterization. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2018, 2, 10-17.	3.4	46
46	Nonlinear-Embedding Design Methodology Oriented to LDMOS Power Amplifiers. IEEE Transactions on Power Electronics, 2018, 33, 8764-8774.	7.9	18
47	Technology-Independent Analysis of the Double Current-Gain Peak in Millimeter-Wave FETs. IEEE Microwave and Wireless Components Letters, 2018, 28, 326-328.	3.2	18
48	A New Study on the Temperature and Bias Dependence of the Kink Effects in S22 and h21 for the GaN HEMT Technology. Electronics (Switzerland), 2018, 7, 353.	3.1	16
49	Currentâ€gain in FETs beyond cutâ€off frequency. Microwave and Optical Technology Letters, 2018, 60, 3023-3026.	1.4	2
50	Reliable PSO Based Noise Modeling Approach Applied to GaN HEMTs. , 2018, , .		3
51	Light activation of noise at microwave frequencies: a study on scaled gallium arsenide HEMT's. IET Circuits, Devices and Systems, 2018, 12, 242-248.	1.4	12
52	Extrinsic capacitance extraction for GaAs and GaN FETs from low to high temperatures. Semiconductor Science and Technology, 2018, 33, 085007.	2.0	3
53	Empowering GaN HEMT models: The gateway for power amplifier design. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2017, 30, e2125.	1.9	40
54	Wave approach for noise modeling of gallium nitride high electronâ€mobility transistors. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2017, 30, e2138.	1.9	3

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55	Investigation on TG n-FinFET Parameters by Varying Channel Doping Concentration and Gate Length. Silicon, 2017, 9, 885-893.	3.3	24
56	Thermal characterization of high-power GaN HEMTs up to 65 GHz. , 2017, , .		3
57	Neural procedure for microwave MOSFET modelling versus bias and gate length. , 2017, , .		4
58	Multi-bias equivalent circuit for MOSFET modelling. , 2017, , .		1
59	Effects of Gate-Length Scaling on Microwave MOSFET Performance. Electronics (Switzerland), 2017, 6, 62.	3.1	13
60	Electrical Characteristics of 8-nm SOI n-FinFETs. Silicon, 2016, 8, 497-503.	3.3	20
61	Microwave noise parameter modeling of a GaAs HEMT under optical illumination. Microwave and Optical Technology Letters, 2016, 58, 151-154.	1.4	11
62	The large world of FET small-signal equivalent circuits (invited paper). International Journal of RF and Microwave Computer-Aided Engineering, 2016, 26, 749-762.	1.2	43
63	Temperature Influence on GaN HEMT Equivalent Circuit. IEEE Microwave and Wireless Components Letters, 2016, 26, 813-815.	3.2	61
64	Comparative analysis of microwave lowâ€noise amplifiers under laser illumination. Microwave and Optical Technology Letters, 2016, 58, 2437-2443.	1.4	12
65	Temperature Dependence of Electrical Parameters of Silicon-on-Insulator Triple Gate n-Channel Fin Field Effect Transistor. Transactions on Electrical and Electronic Materials, 2016, 17, 329-334.	1.9	5
66	GaN HEMT modelling through 50-Ω NF measurements. , 2015, , .		1
67	Neural network modelling of GaAs pHEMTs suitable for millimeter-wave mixer design. , 2015, , .		1
68	Blackâ€box noise modeling of GaAs HEMTs under illumination. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2015, 28, 698-706.	1.9	3
69	GaN HEMT noise modeling based on 50â€Î© noise factor. Microwave and Optical Technology Letters, 2015, 57, 937-942.	1.4	24
70	Kink Effect in <formula formulatype="inline"> <tex Notation="TeX">${m S}_{22}$</tex></formula> for GaN and GaAs HEMTs. IEEE Microwave and Wireless Components Letters, 2015, 25, 301-303.	3.2	32
71	Performance analysis of a microwave low-noise amplifier under laser illumination. , 2015, , .		3
72	Embedded DSP-Based Telehealth Radar System for Remote In-Door Fall Detection. IEEE Journal of Biomedical and Health Informatics, 2015, 19, 92-101.	6.3	78

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73	A link between noise parameters and light exposure in GaAs pHEMTâ€™s. Solid-State Electronics, 2015, 105, 16-20.	1.4	8
74	GaN HEMT Noise Model Based on Electromagnetic Simulations. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 2498-2508.	4.6	66
75	Nonlinear modeling of GaAs pHEMTs for millimeter-wave mixer design. Solid-State Electronics, 2015, 104, 25-32.	1.4	11
76	Neural approach for temperatureâ€dependent modeling of GaN HEMTs. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2015, 28, 359-370.	1.9	67
77	3-D Simulation of Nanoscale SOI n-FinFET at a Gate Length of 8 nm Using ATLAS SILVACO. Transactions on Electrical and Electronic Materials, 2015, 16, 156-161.	1.9	11
78	A scalable HEMT noise model based on FW-EM analyses. , 2014, , .		1
79	Small-Versus Large-Signal Extraction of Charge Models of Microwave FETs. IEEE Microwave and Wireless Components Letters, 2014, 24, 394-396.	3.2	12
80	Nonlinear modeling of LDMOS transistors for highâ€power FM transmitters. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2014, 27, 780-791.	1.9	13
81	Straightforward modeling of dynamic I-V characteristics for microwave FETs. International Journal of RF and Microwave Computer-Aided Engineering, 2014, 24, 109-116.	1.2	7
82	Microwave neural modeling for silicon FinFET varactors. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2014, 27, 834-845.	1.9	6
83	Light sensitivity of GaAs pHEMT's: A close insight into the microwave noise behavior. , 2014, , .		3
84	Guest editorial for the special issue on modeling of highâ€frequency silicon transistors. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2014, 27, 703-706.	1.9	0
85	Remarks of an Extensive Investigation on the Microwave HEMT Behavior Under Illumination. IEEE Microwave and Wireless Components Letters, 2014, 24, 102-104.	3.2	18
86	Millimeter-Wave FET Nonlinear Modelling Based on the Dynamic-Bias Measurement Technique. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 2526-2537.	4.6	29
87	A neural network approach for nonlinear modelling of LDMOSFETs. , 2014, , .		2
88	Nonlinear model for 40-GHz cold-FET operation. , 2014, , .		4
89	An Extensive Experimental Analysis of the Kink Effects in ${ S}_{22}$ and ${ h}_{21}$ for a GaN HEMT. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 513-520.	4.6	61
90	A scalable HEMT noise model based on FW-EM analyses. , 2014, , .		4

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91	A Clear-Cut Introduction to the De-embedding Concept. , 2014, , 1-45.		1
92	Call for Papers: Modeling of high-frequency silicon transistors. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2013, 26, 101-101.	1.9	0
93	A comprehensive review on microwave FinFET modeling for progressing beyond the state of art. Solid-State Electronics, 2013, 80, 81-95.	1.4	121
94	A novel technique for the extraction of nonlinear model for microwave transistors under dynamic-bias operation. , 2013, , .		8
95	Modelling insight into the resonance frequencies of the microwave impedance parameters for GaAs HEMTs. , 2013, , .		1
96	Artificial neural network modeling for transistors and varactors in FinFET technology. , 2013, , .		1
97	Identification of the intrinsic capacitive core for GaAs HEMTs by investigating the frequency behavior of the impedance parameters. Microwave and Optical Technology Letters, 2013, 55, 1237-1240.	1.4	10
98	Analysis of microwave noise parameters of scaled AlGaAs/GaAs HEMT's under light exposure. , 2013, , .		0
99	High-frequency multi-bias small-signal neural modeling for FinFET. , 2012, , .		0
100	Transistor vector load-pull characterization for millimeter-wave power amplifier design. , 2012, , .		2
101	Waveforms-based large-signal identification of transistor models. , 2012, , .		4
102	A clearâ€cut understanding of the currentâ€gain peak in HEMTs: Theory and experiments. Microwave and Optical Technology Letters, 2012, 54, 2801-2806.	1.4	16
103	Non-linear look-up table modeling of GaAs HEMTs for mixer application. , 2012, , .		5
104	The Kink Phenomenon in the Transistor ${m S} _{22}$: A Systematic and Numerical Approach. IEEE Microwave and Wireless Components Letters, 2012, 22, 406-408.	3.2	17
105	Multibias neural modeling of fin fieldâ€effect transistor admittance parameters. Microwave and Optical Technology Letters, 2012, 54, 2082-2088.	1.4	17
106	Waveforms-Only Based Nonlinear De-Embedding in Active Devices. IEEE Microwave and Wireless Components Letters, 2012, 22, 215-217.	3.2	18
107	In-deep insight into the extrinsic capacitance impact on GaN HEMT modeling at millimeter-wave band. International Journal of RF and Microwave Computer-Aided Engineering, 2012, 22, 308-318.	1.2	14
108	Temperature dependent vector large-signal measurements. , 2011, , .		1

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109	Microwave small-signal modelling of FinFETs using multi-parameter rational fitting method. Electronics Letters, 2011, 47, 1084.	1.0	7
110	High-Frequency Extraction of the Extrinsic Capacitances for GaN HEMT Technology. IEEE Microwave and Wireless Components Letters, 2011, 21, 445-447.	3.2	35
111	Identification technique of FET model based on vector nonlinear measurements. Electronics Letters, 2011, 47, 1323.	1.0	16
112	GaN HEMT large-signal model accounting for both low-frequency dispersion and high-frequency non-quasi-static effects. , 2011, , .		3
113	Artificial neural network based modeling of FinFET forward transmission coefficient. , 2011, , .		3
114	Team projects for ICT master students: Evaluation and case studies. , 2011, , .		0
115	Investigation on the thermal behavior of microwave GaN HEMTs. Solid-State Electronics, 2011, 64, 28-33.	1.4	36
116	Microwave FinFET modeling based on artificial neural networks including lossy silicon substrate. Microelectronic Engineering, 2011, 88, 3158-3163.	2.4	31
117	Microwave noise modeling of FinFETs. Solid-State Electronics, 2011, 56, 18-22.	1.4	31
118	Accurate GaN HEMT nonquasiâ€static largeâ€signal model including dispersive effects. Microwave and Optical Technology Letters, 2011, 53, 692-697.	1.4	33
119	On the evaluation of the high-frequency load line in active devices. International Journal of Microwave and Wireless Technologies, 2011, 3, 19-24.	1.9	9
120	Theoretical and experimental determination of onset and scaling of non-quasi-static phenomena for interdigitated fin field effect transistors. IET Circuits, Devices and Systems, 2010, 4, 531.	1.4	4
121	Nonlinear Dispersive Modeling of Electron Devices Oriented to GaN Power Amplifier Design. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 710-718.	4.6	99
122	Investigation on the non-quasi-static effect implementation for millimeter-wave FET models. International Journal of RF and Microwave Computer-Aided Engineering, 2010, 20, 87-93.	1.2	42
123	On the noise measurements and modeling for on wafer HEMTs up to 26.5 GHz. Microwave and Optical Technology Letters, 2010, 52, 1799-1803.	1.4	14
124	Comparison between analytical and neural approaches for multibias small signal modeling of microwaveâ€scaled FET<scp>s</scp>. Microwave and Optical Technology Letters, 2010, 52, 2238-2244.	1.4	40
125	Vector two-tone measurements for validation of non-linear microwave FinFET model. Microelectronic Engineering, 2010, 87, 2008-2013.	2.4	13
126	Accurate silicon dummy structure model for nonlinear microwave FinFET modeling. Microelectronics Journal, 2010, 41, 574-578.	2.0	16

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127	A de-embedding procedure oriented to the determination of FET intrinsic I-V characteristics from high-frequency large-signal measurements. , 2010, , .		4
128	Evaluation of lookup-table non-quasi-static nonlinear models at microwave and mm-wave frequencies. , 2010, , .		3
129	On the neural approach for FET small-signal modelling up to 50GHz. , 2010, , .		7
130	Two neural approaches for small-signal modelling of GaAs HEMTs. Journal of Automatic Control, 2010, 20, 39-44.	1.0	0
131	Extraction and Analysis of Noise Parameters of On Wafer HEMTs up to 26.5 GHz. , 2009, , .		2
132	On waferâ€scaled GaAs HEMTs: Direct and robust small signal modeling up to 50 GHz. Microwave and Optical Technology Letters, 2009, 51, 1958-1963.	1.4	36
133	Purely analytical extraction of an improved nonlinear FinFET model including non-quasi-static effects. Microelectronic Engineering, 2009, 86, 2283-2289.	2.4	36
134	Combined empirical and look-up table approach for non-quasi-static modelling of GaN HEMTs. , 2009, , .		4
135	Technology-Independent Non-Quasi-Static Table-Based Nonlinear Model Generation. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 2845-2852.	4.6	30
136	On the small signal modeling of advanced microwave FETs: A comparative study. International Journal of RF and Microwave Computer-Aided Engineering, 2008, 18, 417-425.	1.2	47
137	Analytical extraction of small and large signal models for FinFET varactors. Solid-State Electronics, 2008, 52, 704-710.	1.4	4
138	A New Millimeter-Wave Small-Signal Modeling Approach for pHEMTs Accounting for the Output Conductance Time Delay. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 741-746.	4.6	70
139	Fundamentals and extraction of velocity saturation in sub-100nm (110)-Si and (100)-Ge. , 2008, , .		10
140	Non-quasi-static nonlinear model for FinFETs using higher-order sources. , 2008, , .		2
141	Determination and Validation of New Nonlinear FinFET Model Based on Lookup Tables. IEEE Microwave and Wireless Components Letters, 2007, 17, 361-363.	3.2	39
142	Analytical Construction of Nonlinear Lookup Table Model for Advanced Microwave Transistors. , 2007, , .		2
143	Temperature effects on DC and small signal RF performance of AlGaAs/GaAs HEMTs. Microelectronics Reliability, 2006, 46, 169-173.	1.7	35
144	Scalable and multibias high frequency modeling of multi-fin FETs. Solid-State Electronics, 2006, 50, 1780-1786.	1.4	51

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145	Microwave Characterization and Modeling of Packaged HEMTs by a Direct Extraction Procedure Down to 30 K. IEEE Transactions on Instrumentation and Measurement, 2006, 55, 465-470.	4.7	42
146	Accurate Multibias Equivalent-Circuit Extraction for GaN HEMTs. IEEE Transactions on Microwave Theory and Techniques, 2006, 54, 3616-3622.	4.6	151
147	Temperature and bias investigation of self heating effect and threshold voltage shift in pHEMT's. Microelectronics Journal, 2005, 36, 732-736.	2.0	17
148	On the soft breakdown phenomenon in AlGaAs/InGaAs HEMT: An experimental study down to cryogenic temperature. Solid-State Electronics, 2005, 49, 928-934.	1.4	10
149	Impact of the self-generated heat on the scalability of HEMTs. Microelectronic Engineering, 2005, 82, 143-147.	2.4	5
150	A robust and fast procedure for the determination of the small signal equivalent circuit of HEMTs. Microelectronics Journal, 2004, 35, 431-436.	2.0	33
151	A robust approach for the direct extraction of HEMT circuit elements vs. bias and temperature. , 0, , .		6
152	Microwave characterization and modeling of packaged HEMTs by a direct extraction procedure at cryogenic temperatures. , 0, , .		7
153	Optimizing microwave measurements for model construction and validation. , 0, , 257-286.		0