Alexander Kloes

List of Publications by Year
in descending order

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84	814	623734	610901
papers	citations	14	24
		h-index	g-index

86	86	86	490
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Compact Model for Short-Channel Junctionless Accumulation Mode Double Gate MOSFETs. IEEE Transactions on Electron Devices, 2014, 61, 288-299.	3.0	95
2	Threshold voltage, and 2D potential modeling within short-channel junctionless DG MOSFETs in subthreshold region. Solid-State Electronics, 2013, 90, 107-115.	1.4	52
3	Three-Dimensional Closed-Form Model for Potential Barrier in Undoped FinFETs Resulting in Analytical Equations for V_{T} and Subthreshold Slope. IEEE Transactions on Electron Devices, 2008, 55, 3467-3475.	3.0	45
4	Efficient and low-voltage vertical organic permeable base light-emitting transistors. Nature Materials, 2021, 20, 1007-1014.	27.5	36
5	Organic bipolar transistors. Nature, 2022, 606, 700-705.	27.8	35
6	$hbox{MOS}^{3}$: A New Physics-Based Explicit Compact Model for Lightly Doped Short-Channel Triple-Gate SOI MOSFETs. IEEE Transactions on Electron Devices, 2012, 59, 349-358.	3.0	32
7	2-D Physics-Based Compact DC Modeling of Double-Gate Tunnel-FETs. IEEE Transactions on Electron Devices, 2019, 66, 132-138.	3.0	29
8	On the Physical Behavior of Cryogenic IV and IIIâ€“V Schottky Barrier MOSFET Devices. IEEE Transactions on Electron Devices, 2017, 64, 3808-3815.	3.0	28
9	A 2D closed form model for the electrostatics in hetero-junction double-gate tunnel-FETs for calculation of band-to-band tunneling current. Microelectronics Journal, 2014, 45, 1144-1153.	2.0	26
10	Analytical compact modeling framework for the 2D electrostatics in lightly doped double-gate MOSFETs. Solid-State Electronics, 2012, 69, 72-84.	1.4	25
11	Vertical organic permeable dual-base transistors for logic circuits. Nature Communications, 2020, 11, 4725.	12.8	25
12	2D analytical potential modeling of junctionless DG MOSFETs in subthreshold region including proposal for calculating the threshold voltage. , 2012, , .		22
13	Charge based, continuous compact model for the channel current in organic thin-film transistors for all regions of operation. Solid-State Electronics, 2017, 133, 17-24.	1.4	22
14	2D analytical calculation of the electrostatic potential in lightly doped Schottky barrier Double-Gate MOSFET. Solid-State Electronics, 2010, 54, 1372-1380.	1.4	19
15	3-D compact model for nanoscale junctionless triple-gate nanowire MOSFETs, including simple treatment of quantization effects. Solid-State Electronics, 2015, 112, 85-98.	1.4	18
16	Compact Modeling of Nonlinear Contact Effects in Short-Channel Coplanar and Staggered Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2021, 68, 3843-3850.	3.0	15
17	Analysis and Performance Study of IIIâ€“V Schottky Barrier Double-Gate MOSFETs Using a 2-D Analytical Model. IEEE Transactions on Electron Devices, 2016, 63, 2757-2763.	3.0	14
18	2D analytical calculation of the electric field in lightly doped Schottky barrier double-gate MOSFETs and estimation of the tunneling/thermionic current. Solid-State Electronics, 2011, 63, 119-129.	1.4	13

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19	Quantum Confinement and Volume Inversion in ${m MOS}^{3}$ Model for Short-Channel Tri-Gate MOSFETs. IEEE Transactions on Electron Devices, 2013, 60, 2691-2694.	3.0	13
20	Unified current equation for predictive modeling of submicron MOSFETs. Solid-State Electronics, 2005, 49, 85-95.	1.4	11
21	Unraveling Structure and Device Operation of Organic Permeable Base Transistors. Advanced Electronic Materials, 2020, 6, 2000230.	5.1	11
22	Analytical current equation for short channel SOI multigate FETs including 3D effects. Solid-State Electronics, 2010, 54, 1408-1415.	1.4	10
23	Compact modeling solutions for short-channel SOI Schottky barrier MOSFETs. Solid-State Electronics, 2013, 82, 86-98.	1.4	10
24	Charge-Based Compact Modeling of Capacitances in Staggered Multi-Finger OTFTs. IEEE Journal of the Electron Devices Society, 2020, 8, 396-406.	2.1	10
25	Modeling and performance study of nanoscale double gate junctionless and inversion mode MOSFETs including carrier quantization effects. Microelectronics Journal, 2014, 45, 1220-1225.	2.0	9
26	Advanced analytical modeling of double-gate Tunnel-FETs â€“ A performance evaluation. Solid-State Electronics, 2018, 141, 31-39.	1.4	9
27	Self-consistent 2D compact modeling of nanoscale bulk MOSFETs. Solid-State Electronics, 2007, 51, 739-748.	1.4	8
28	Improved analytical potential modeling in double-gate tunnel-FETs. , 2014, , .		8
29	Implementation of a DC compact model for double-gate Tunnel-FET based on 2D calculations and application in circuit simulation. , 2016, , .		8
30	Charge-Based Model for the Drain-Current Variability in Organic Thin-Film Transistors Due to Carrier-Number and Correlated- Mobility Fluctuation. IEEE Transactions on Electron Devices, 2020, 67, 4667-4671.	3.0	8
31	A Comprehensive Physics-Based Currentâ€“Voltage SPICE Compact Model for 2-D-Material-Based Top-Contact Bottom-Gated Schottky-Barrier FETs. IEEE Transactions on Electron Devices, 2020, 67, 5188-5195.	3.0	8
32	New Compact Modeling Solutions for Organic and Amorphous Oxide TFTs. IEEE Journal of the Electron Devices Society, 2021, 9, 911-932.	2.1	8
33	Characterization of the Charge-Trap Dynamics in Organic Thin-Film Transistors. , 2019, , .		7
34	Compact Modeling of Short-Channel Effects in Staggered Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2020, 67, 5082-5090.	3.0	7
35	Physics-Based DC Compact Modeling of Schottky Barrier and Reconfigurable Field-Effect Transistors. IEEE Journal of the Electron Devices Society, 2022, 10, 416-423.	2.1	7
36	2D Analytical Calculation of the Parasitic Source/Drain Resistances in DG-MOSFETs Using the Conformal Mapping Technique. IETE Journal of Research, 2012, 58, 205.	2.6	6

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37	Two-dimensional modeling of an ultra-thin body single-gate Si Tunnel-FET. , 2014, , .		6
38	Performance analysis of parallel array of nanowires and a nanosheet in SG, DG and GAA FETs. Solid-State Electronics, 2019, 162, 107641.	1.4	6
39	Analytical modeling of capacitances in tunnel-FETs including the effect of Schottky barrier contacts. Solid-State Electronics, 2019, 159, 191-196.	1.4	6
40	Flexible megahertz organic transistors and the critical role of the device geometry on their dynamic performance. Journal of Applied Physics, 2021, 130, .	2.5	6
41	Performance Study of a Schottky Barrier Double-Gate MOSFET Using a Two-Dimensional Analytical Model. IEEE Transactions on Electron Devices, 2013, 60, 884-886.	3.0	5
42	Charge-Based Compact Modeling of Capacitances in Staggered OTFTs. , 2019, , .		5
43	Model for investigation of I<inf>on</inf>/I<inf>off</inf> ratios in short-channel junctionless double gate MOSFETs. , 2013, , .		4
44	Numerical analysis and analytical modeling of RDF in DG Tunnel-FETs. , 2016, , .		4
45	Macromodel for AC and Transient Simulations of Organic Thin-Film Transistor Circuits Including Nonquasistatic Effects. IEEE Transactions on Electron Devices, 2020, 67, 4672-4676.	3.0	4
46	Equivalent DG Dimensions Concept for Compact Modeling of Short-Channel and Thin Body GAA MOSFETs Including Quantum Confinement. IEEE Transactions on Electron Devices, 2020, 67, 5381-5387.	3.0	4
47	Quasi-Compact Model of Direct Source-to-Drain Tunneling Current in Ultrashort-Channel Nanosheet MOSFETs by Wavelet Transform. IEEE Transactions on Electron Devices, 2022, 69, 17-24.	3.0	4
48	Cryogenic Temperature and Doping Analysis of Source-to-Drain Tunneling Current in Ultrashort-Channel Nanosheet MOSFETs. IEEE Transactions on Electron Devices, 2022, 69, 1588-1595.	3.0	4
49	2D Analysis of source/drain carrier tunneling in lightly doped Schottky barrier DG-MOSFETs using a fully analytical model. , 2011, , .		3
50	3-D compact model for nanoscale junctionless triple-gate nanowire MOSFETs. , 2014, , .		3
51	2D physics-based closed-form modeling of dopant-segregated Schottky barrier UTB MOSFETs. Solid-State Electronics, 2014, 99, 65-77.	1.4	3
52	Wavelet-based calculation of the transmission coefficient for tunneling events in Tunnel-FETs. , 2015, , .		3
53	Comparative numerical analysis and analytical RDF-modeling of MOSFETs and DG Tunnel-FETs. , 2016, , .		3
54	Closed-Form Modeling Approach of Trap-Assisted Tunneling Current for Use in Compact TFET Models. , 2019, , .		3

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55	Direct Source-to-Drain Tunneling Current in Ultra-Short Channel DG MOSFETs by Wavelet Transform. , 2020, , .		3
56	Noise-Based Simulation Technique for Circuit-Variability Analysis. IEEE Journal of the Electron Devices Society, 2021, 9, 450-455.	2.1	3
57	Implementation of device-to-device and cycle-to-cycle variability of memristive devices in circuit simulations. Solid-State Electronics, 2022, 194, 108321.	1.4	3
58	Analytical 3D Approach for Modeling the Electrostatic Potential in Triple-Gate SOI MOSFETs. , 2007, , .		2
59	2D analytical DC model for nanoscale Schottky barrier DG-MOSFETs. , 2011, , .		2
60	Two-dimensional bias dependent model for the screening length in double-gate Tunnel-FETs. , 2013, , .		2
61	Modeling approach for rapid NEGF-based simulation of ballistic current in ultra-short DG MOSFETs. , 2016, , .		2
62	Equivalent Length Concept for Compact Modeling of Short-Channel GAA and DG MOSFETs. , 2019, , .		2
63	Modeling the Short-Channel Effects in Coplanar Organic Thin-Film Transistors. IEEE Transactions on Electron Devices, 2022, 69, 1099-1106.	3.0	2
64	Compact Model for Electric Field at Pinch-Off and Channel Length Shortening in Bulk MOSFET. , 2007, , .		1
65	2D Analytical calculation of the source/drain access resistance in DG-MOSFET structures. , 2011, , .		1
66	Complex 2D Electric Field Solution in Undoped Double-gate MOSFETs. IETE Journal of Research, 2012, 58, 197.	2.6	1
67	Explicit model for tunneling and thermionic current in Schottky barrier Double-Gate MOSFETs. , 2012, , .		1
68	Non-iterative NEGF based model for band-to-band tunneling current in DG TFETs. , 2017, , .		1
69	Analytical modeling of RDF effects on the threshold voltage in short-channel double-gate MOSFETs. , 2017, , .		1
70	Analytical Model for Threshold-Voltage Shift in Submicron Staggered Organic Thin-Film Transistors. , 2019, , .		1
71	Uniform DC Compact Model for Schottky Barrier and Reconfigurable Field-Effect Transistors. , 2021, , .		1
72	Closed-form Model of Barrier Height in Bulk MOSFET Including 2D Effects and Electron Statistics. , 2006, , .		0

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73	Physics-based modeling of output conductance in nanoscale bulk MOSFET by analytically solving 2D poisson. , 2007, , .		0
74	Compact Model for Electric Field at Pinch-Off and Channel Length Shortening in Bulk MOSFET. , 2007, , .		0
75	Compact model of output conductance in nanoscale bulk MOSFET based on 2D analytical calculations. Solid-State Electronics, 2008, 52, 1722-1729.	1.4	0
76	Two-dimensional model for the potential profile in a short channel Schottky barrier DG-FET. , 2009, , .		0
77	Analysis and modeling of the pinch-off point in a lightly doped asymmetrically biased double gate MOSFET. , 2009, , .		0
78	Design considerations for undoped FinFETs based on a 3D compact model for the potential barrier. , 2009, , .		0
79	Physics-based, closed-form DC model for lightly-doped short channel triple-gate MOSFETs including three-dimensional effects. , 2011, , .		0
80	A quantum wave based compact modeling approach for the current in ultra-short DG MOSFETs suitable for rapid multi-scale simulations. Solid-State Electronics, 2017, 137, 70-79.	1.4	0
81	(Invited) Compact Model for Short-Channel Organic Thin-Film Transistors with Extension for Non-Quasistatic Circuit Simulation and Variability Analysis. ECS Meeting Abstracts, 2021, MA2021-01, 1064-1064.	0.0	0
82	Temperature-dependent performance of Schottky-Barrier FET ultra-low-power diode. Solid-State Electronics, 2021, 184, 108124.	1.4	0
83	(Invited) Physics-Based Compact Model for Organic Thin-Film Transistors with a Universal Charge Expression for Quasi-Static Operation. ECS Meeting Abstracts, 2019, , .	0.0	0
84	Impact of On-Current on the Static and Dynamic Performance of TFET Inverters. , 2019, , .		0