Walter M Weber

List of Publications by Year
in descending order

114 papers	3,085 citations	172386 29 h-index	175177 52 g-index
115 all docs	115 docs citations	115 times ranked	2607 citing authors

#	Article	IF	Citations
1	A Topâ€Down Platform Enabling Ge Based Reconfigurable Transistors. Advanced Materials Technologies, 2022, 7, 2100647.	3.0	9
2	Physics-Based DC Compact Modeling of Schottky Barrier and Reconfigurable Field-Effect Transistors. IEEE Journal of the Electron Devices Society, 2022, 10, 416-423.	1.2	7
3	Monolithic and Single-Crystalline Aluminumâ€“Silicon Heterostructures. ACS Applied Materials & Interfaces, 2022, 14, 26238-26244.	4.0	13
4	Multisite Dopamine Sensing With Femtomolar Resolution Using a CMOS Enabled Aptasensor Chip. Frontiers in Neuroscience, 2022, 16, .	1.4	7
5	Monolithic Metalâ€“Semiconductorâ€“Metal Heterostructures Enabling Next-Generation Germanium Nanodevices. ACS Applied Materials & Interfaces, 2021, 13, 12393-12399.	4.0	13
6	Reconfigurable thin-film transistors based on a parallel array of Si-nanowires. Journal of Applied Physics, 2021, 129, .	1.1	2
7	Uniform DC Compact Model for Schottky Barrier and Reconfigurable Field-Effect Transistors. , 2021, , .		1
8	Lateral Extensions to Nanowires for Controlling Nickel Silicidation Kinetics: Improving Contact Uniformity of Nanoelectronic Devices. ACS Applied Nano Materials, 2021, 4, 4371-4378.	2.4	9
9	Polycrystalline Ge Nanosheets Embedded in Metalâ€Semiconductor Heterostructures Enabling Waferâ€Scale 3D Integration of Ge Nanodevices with Selfâ€Aligned Al Contacts. Advanced Electronic Materials, 2021, 7, 2100101.	2.6	5
10	Low loss dielectric loaded plasmonic waveguides for sensing applications above nine microns. , 2021, , .		0
11	Alâ€“Geâ€“Al Nanowire Heterostructure: From Singleâ€Hole Quantum Dot to Josephson Effect. Advanced Materials, 2021, 33, e2101989.	11.1	5
12	Plasmon-Assisted Polarization-Sensitive Photodetection with Tunable Polarity for Integrated Silicon Photonic Communication Systems. Nanotechnology, 2021, 32, .	1.3	1
13	Gateâ€Tunable Negative Differential Resistance in Nextâ€Generation Ge Nanodevices and their Performance Metrics. Advanced Electronic Materials, 2021, 7, 2001178.	2.6	14
14	Nanometer-Scale Ge-Based Adaptable Transistors Providing Programmable Negative Differential Resistance Enabling Multivalued Logic. ACS Nano, 2021, 15, 18135-18141.	7.3	24
15	Bias-Switchable Photoconductance in a Nanoscale Ge Photodetector Operated in the Negative Differential Resistance Regime. ACS Photonics, 2021, 8, 3469-3475.	3.2	6
16	Surface related differences between uncoated versus carbon-coated silicon nanowire electrodes on performance in lithium ion batteries. Journal of Energy Storage, 2020, 27, 101052.	3.9	7
17	Size effect of electronic properties in highly arsenic-doped silicon nanowires. Solid-State Electronics, 2020, 168, 107724.	0.8	8
18	Channel Length-Dependent Operation of Ambipolar Schottky-Barrier Transistors on a Single Si Nanowire. ACS Applied Materials & Interfaces, 2020, 12, 43927-43932.	4.0	8

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19	Formation and crystallographic orientation of NiSi2â€“Si interfaces. Journal of Applied Physics, 2020, 128, 085301.	1.1	7
20	Top-Down Fabricated Reconfigurable FET With Two Symmetric and High-Current On-States. IEEE Electron Device Letters, 2020, 41, 1110-1113.	2.2	38
21	Surface Modification of Silicon Nanowire Based Field Effect Transistors with Stimuli Responsive Polymer Brushes for Biosensing Applications. Micromachines, 2020, 11, 274.	1.4	18
22	A Silicon Nanowire Ferroelectric Fieldâ€Effect Transistor. Advanced Electronic Materials, 2020, 6, 1901244.	2.6	30
23	Inherent Charge-Sharing-Free Dynamic Logic Gates Employing Transistors With Multiple Independent Inputs. IEEE Journal of the Electron Devices Society, 2020, 8, 740-747.	1.2	9
24	Towards Reconfigurable Electronics: Silicidation of Top-Down Fabricated Silicon Nanowires. Applied Sciences (Switzerland), 2019, 9, 3462.	1.3	16
25	In Situ Raman Spectroscopy on Silicon Nanowire Anodes Integrated in Lithium Ion Batteries. Journal of the Electrochemical Society, 2019, 166, A5378-A5385.	1.3	42
26	Scaling Aspects of Nanowire Schottky Junction based Reconfigurable Field Effect Transistors. , 2019, , .		5
27	Electrical characterization and size effect of highly arsenic-doped silicon nanowires. , 2019, , .		2
28	Eliminating Charge Sharing in Clocked Logic Gates on the Device Level Employing Transistors with Multiple Independent Inputs. , 2019, , .		2
29	IPCEI subcontracts contributing to 22-FDX Add-On Functionalities at GF. , 2019, , .		2
30	Designing Efficient Circuits Based on Runtime-Reconfigurable Field-Effect Transistors. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2019, 27, 560-572.	2.1	64
31	Signal and Noise of Schottky-Junction Parallel Silicon Nanowire Transducers for Biochemical Sensing. IEEE Sensors Journal, 2018, 18, 967-975.	2.4	6
32	Reconfigurable Si Nanowire Nonvolatile Transistors. Advanced Electronic Materials, 2018, 4, 1700399.	2.6	21
33	Junction Tuning by Ferroelectric Switching in Silicon Nanowire Schottky-Barrier Field Effect Transistors. , 2018, , .		6
34	Gating Hysteresis as an Indicator for Silicon Nanowire FET Biosensors. Applied Sciences (Switzerland), 2018, 8, 950.	1.3	18
35	A physical synthesis flow for early technology evaluation of silicon nanowire based reconfigurable FETs. , 2018, , .		24
36	A wired-AND transistor: Polarity controllable FET with multiple inputs. , 2018, , .		24

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37	Vertically Integrated Reconfigurable Nanowire Arrays. IEEE Electron Device Letters, 2018, 39, 1242-1245.	2.2	7
38	Enabling Energy Efficiency and Polarity Control in Germanium Nanowire Transistors by Individually Gated Nanojunctions. ACS Nano, 2017, 11, 1704-1711.	7.3	84
39	Top-Down Technology for Reconfigurable Nanowire FETs With Symmetric On-Currents. IEEE Nanotechnology Magazine, 2017, 16, 812-819.	1.1	37
40	Tuning the tunneling probability by mechanical stress in Schottky barrier based reconfigurable nanowire transistors. Solid-State Electronics, 2017, 128, 148-154.	0.8	26
41	Exploiting transistor-level reconfiguration to optimize combinational circuits. , 2017, , .		43
42	Operation regimes and electrical transport of steep slope Schottky Si-FinFETs. Journal of Applied Physics, 2017, 121, .	1.1	5
43	The RFETâ€"a reconfigurable nanowire transistor and its application to novel electronic circuits and systems. Semiconductor Science and Technology, 2017, 32, 043001.	1.0	88
44	Silicon and germanium nanowire electronics: physics of conventional and unconventional transistors. Reports on Progress in Physics, 2017, 80, 066502.	8.1	59
45	In-depth electrical characterization of carrier transport in ambipolar Si-NW Schottky-barrier FETs. , 2017, , .		3
46	Reconfigurable germanium transistors with low source-drain leakage for secure and energy-efficient doping-free complementary circuits. , 2017, , .		8
47	Human Î±-thrombin detection platform using aptamers on a silicon nanowire field-effect transistor. , 2017, , .		1
48	Reconfigurable NAND-NOR circuits fabricated by a CMOS printing technique. , 2017, , .		5
49	Bringing reconfigurable nanowire FETs to a logic circuits compatible process platform. , 2016, , .		12
50	Printable Parallel Arrays of Si Nanowire Schottky-Barrier-FETs With Tunable Polarity for Complementary Logic. IEEE Nanotechnology Magazine, 2016, 15, 549-556.	1.1	27
51	Compact Nanowire Sensors Probe Microdroplets. Nano Letters, 2016, 16, 4991-5000.	4.5	37
52	Current Progress in the Chemical Vapor Deposition of Type-Selected Horizontally Aligned Single-Walled Carbon Nanotubes. ACS Nano, 2016, 10, 7248-7266.	7.3	22
53	High Area Capacity Lithium-Sulfur Full-cell Battery with Prelitiathed Silicon Nanowire-Carbon Anodes for Long Cycling Stability. Scientific Reports, 2016, 6, 27982.	1.6	69
54	TEM Study of Schottky Junctions in Reconfigurable Silicon Nanowire Devices. Advanced Engineering Materials, 2016, 18, 180-184.	1.6	1

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55	Reconfigurable Nanowire Transistors with Multiple Independent Gates for Efficient and Programmable Combinational Circuits. , 2016, , .		38
56	(Invited) High-Yield Reconfigurable Silicon and Germanium Nanowire Transistors and Compact Logic Circuits. ECS Meeting Abstracts, 2016, , .	0.0	0
57	Silicon Nanowires: Pushing Energy Storage Capacity in Li Based Battery Systems. ECS Meeting Abstracts, 2016, , .	0.0	0
58	Microfluidic alignment and trapping of 1D nanostructures â€“ a simple fabrication route for single-nanowire field effect transistors. RSC Advances, 2015, 5, 94702-94706.	1.7	8
59	Silicon Nanowires: Fabrication and Applications. Nanoscience and Technology, 2015, , 1-25.	1.5	12
60	On Temperature Dependency of Steep Subthreshold Slope in Dual-Independent-Gate FinFET. IEEE Journal of the Electron Devices Society, 2015, 3, 452-456.	1.2	17
61	Comparison of Silicon Nanowire Growth on SiO2 and on Carbon Substrates. ECS Transactions, 2015, 70, 69-78.	0.3	5
62	Stress-Dependent Performance Optimization of Reconfigurable Silicon Nanowire Transistors. IEEE Electron Device Letters, 2015, 36, 991-993.	2.2	17
63	Stability and Performance of Heterogeneous Anode Assemblies of Silicon Nanowires on Carbon Meshes for Lithium-Sulfur Battery Applications. Materials Research Society Symposia Proceedings, 2015, 1751, 19.	0.1	2
64	Investigation of band gap and permittivity of the perovskite CaTiO₃in ultrathin layers. Journal Physics D: Applied Physics, 2015, 48, 415304.	1.3	32
65	Optoelectronic switching of nanowire-based hybrid organic/oxide/semiconductor field-effect transistors. Nano Research, 2015, 8, 1229-1240.	5.8	32
66	Scaling and Graphical Transport-Map Analysis of Ambipolar Schottky-Barrier Thin-Film Transistors Based on a Parallel Array of Si Nanowires. Nano Letters, 2015, 15, 4578-4584.	4.5	31
67	Light Weight and Flexible Highâ€Performance Diagnostic Platform. Advanced Healthcare Materials, 2015, 4, 1517-1525.	3.9	58
68	Effect of independently sized gates on the delay of reconfigurable silicon nanowire transistor based circuits. , 2015, , .		5
69	Functionality-Enhanced Logic Gate Design Enabled by Symmetrical Reconfigurable Silicon Nanowire Transistors. IEEE Nanotechnology Magazine, 2015, 14, 689-698.	1.1	93
70	Elementary Aspects for Circuit Implementation of Reconfigurable Nanowire Transistors. IEEE Electron Device Letters, 2014, 35, 141-143.	2.2	96
71	Development Of nanowire devices with quantum functionalities. , 2014, , .		0
72	Temperature dependent switching behaviour of nickel silicided undoped silicon nanowire devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 1611-1617.	0.8	16

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73	Reconfigurable silicon nanowire devices and circuits: Opportunities and challenges. , 2014, , .		0
74	Investigation of Embedded Perovskite Nanoparticles for Enhanced Capacitor Permittivities. ACS Applied Materials & Interfaces, 2014, 6, 19737-19743.	4.0	3
75	Material Prospects of Reconfigurable Transistor (RFETs) â€“ From Silicon to Germanium Nanowires. Materials Research Society Symposia Proceedings, 2014, 1659, 225-230.	0.1	23
76	Schottky barrier-based silicon nanowire pH sensor with live sensitivity control. Nano Research, 2014, 7, 263-271.	5.8	45
77	Ionic effects on the transport characteristics of nanowire-based FETs in a liquid environment. Nano Research, 2014, 7, 380-389.	5.8	12
78	Reconfigurable Nanowire Electronics-Enabling a Single CMOS Circuit Technology. IEEE Nanotechnology Magazine, 2014, 13, 1020-1028.	1.1	63
79	Reconfigurable nanowire electronics â€“ A review. Solid-State Electronics, 2014, 102, 12-24.	0.8	83
80	Reconfigurable silicon nanowire devices and circuits: Opportunities and challenges. , 2014, , .		0
81	In-Situ Investigations of Individual Nanowires within a FIB/SEM System. Microscopy and Microanalysis, 2014, 20, 360-361.	0.2	0
82	Dually Active Silicon Nanowire Transistors and Circuits with Equal Electron and Hole Transport. Nano Letters, 2013, 13, 4176-4181.	4.5	146
83	Parallel arrays of Schottky barrier nanowire field effect transistors: Nanoscopic effects for macroscopic current output. Nano Research, 2013, 6, 381-388.	5.8	55
84	Reconfigurable nanowire electronics — Device principles and circuit prospects. , 2013, , .		0
85	Channel length dependent sensor response of Schottky-barrier FET pH sensors. , 2013, , .		3
86	Mesoscopic analysis of leakage current suppression in ZrO2/Al2O3/ZrO2 nano-laminates. Journal of Applied Physics, 2013, 113, .	1.1	42
87	Silicon nanowires â€“ a versatile technology platform. Physica Status Solidi - Rapid Research Letters, 2013, 7, 793-799.	1.2	61
88	Structural and dielectric properties of sputtered SrxZr(1â^'x)Oy. Journal of Applied Physics, 2013, 113, .	1.1	3
89	An investigation of the electrical properties of the interface between pyrolytic carbon and silicon for Schottky diode applications. Journal of Applied Physics, 2012, 111, 124511.	1.1	3
90	Reconfigurable Silicon Nanowire Transistors. Nano Letters, 2012, 12, 119-124.	4.5	343

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91	Multiscale modeling of nanowire-based Schottky-barrier field-effect transistors for sensor applications. Nanotechnology, 2011, 22, 325703.	1.3	13
92	Macroscopic and microscopic electrical characterizations of high-k ZrO2 and ZrO2/Al2O3/ZrO2 metal-insulator-metal structures. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 01AC02.	0.6	10
93	Phase stabilization of sputtered strontium zirconate. Microelectronic Engineering, 2011, 88, 1326-1329.	1.1	1
94	Direct Probing of Schottky Barriers in Si Nanowire Schottky Barrier Field Effect Transistors. Physical Review Letters, 2011, 107, 216807.	2.9	45
95	Evaluation of the electrical and physical properties of thin calcium titanate high-k insulators for capacitor applications. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 01AC07.	0.6	12
96	Influence of composition and bottom electrode properties on the local conductivity of TiN/HfTiO2 and TiN/Ru/HfTiO2 stacks. Applied Physics Letters, 2011, 98, .	1.5	5
97	Applicability of molecular beam deposition for the growth of high-k oxides. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	0.6	5
98	Reduction of leakage currents with nanocrystals embedded in an amorphous matrix in metal-insulator-metal capacitor stacks. Applied Physics Letters, 2011, 99, 222905.	1.5	3
99	Polarity Behavior and Adjustment in Silicon Nanowire Schottky Junction Transistors. ECS Transactions, 2011, 35, 93-101.	0.3	0
100	Direct comparison of catalyst-free and catalyst-induced GaN nanowires. Nano Research, 2010, 3, 528-536.	5.8	161
101	An investigation of the electrical properties of metal-insulator-silicon capacitors with pyrolytic carbon electrodes. Journal of Applied Physics, 2010, 108, 104508.	1.1	7
102	An investigation of the electrical properties of pyrolytic carbon in reduced dimensions: Vias and wires. Journal of Applied Physics, 2010, 107, .	1.1	20
103	Local charge transport in nanoscale amorphous and crystalline regions of high-k (Zr02)0.8(Al2O3)0.2 thin films. Applied Physics Letters, 2009, 95, 142906.	1.5	14
104	Investigation of zirconium oxide based high-k dielectrics for future memory applications. , 2009, , .		1
105	Analysis of the hysteretic behavior of silicon nanowire transistors. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 27-30.	0.8	10
106	Tuning the Polarity of Si-Nanowire Transistors Without the Use of Doping. , 2008, , .		13
107	Axial and radial growth of Ni-induced GaN nanowires. Applied Physics Letters, 2007, 91, .	1.5	74
108	Fabrication of a nano-scale NAND memory array based on a SONOS Fin-FET cell using e-beam lithography and hydrogen-silsesquioxane resist. Microelectronic Engineering, 2007, 84, 1578-1580.	1.1	5

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109	Silicon to nickel-silicide axial nanowire heterostructures for high performance electronics. Physica Status Solidi (B): Basic Research, 2007, 244, 4170-4175.	0.7	34
110	Non-Linear Gate Length Dependence of On-Current in Si-Nanowire FETs. , 2006, , .		6
111	Silicon-Nanowire Transistors with Intruded Nickel-Silicide Contacts. Nano Letters, 2006, 6, 2660-2666.	4.5	231
112	Silicon nanowires: catalytic growth and electrical characterization. Physica Status Solidi (B): Basic Research, 2006, 243, 3340-3345.	0.7	26
113	Multi-level p+ tri-gate SONOS NAND string arrays. , 2006, , .		13
114	Sub-40nm tri-gate charge trapping nonvolatile memory cells for high-density applications. , 2004, , .		21