

Walter M Weber

List of Publications by Year in descending order

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114
papers

3,085
citations

172386
29
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175177
52
g-index

115
all docs

115
docs citations

115
times ranked

2607
citing authors

#	ARTICLE	IF	CITATIONS
1	Reconfigurable Silicon Nanowire Transistors. Nano Letters, 2012, 12, 119-124.	4.5	343
2	Silicon-Nanowire Transistors with Intruded Nickel-Silicide Contacts. Nano Letters, 2006, 6, 2660-2666.	4.5	231
3	Direct comparison of catalyst-free and catalyst-induced GaN nanowires. Nano Research, 2010, 3, 528-536.	5.8	161
4	Dually Active Silicon Nanowire Transistors and Circuits with Equal Electron and Hole Transport. Nano Letters, 2013, 13, 4176-4181.	4.5	146
5	Elementary Aspects for Circuit Implementation of Reconfigurable Nanowire Transistors. IEEE Electron Device Letters, 2014, 35, 141-143.	2.2	96
6	Functionality-Enhanced Logic Gate Design Enabled by Symmetrical Reconfigurable Silicon Nanowire Transistors. IEEE Nanotechnology Magazine, 2015, 14, 689-698.	1.1	93
7	The RFET—a reconfigurable nanowire transistor and its application to novel electronic circuits and systems. Semiconductor Science and Technology, 2017, 32, 043001.	1.0	88
8	Enabling Energy Efficiency and Polarity Control in Germanium Nanowire Transistors by Individually Gated Nanojunctions. ACS Nano, 2017, 11, 1704-1711.	7.3	84
9	Reconfigurable nanowire electronics — A review. Solid-State Electronics, 2014, 102, 12-24.	0.8	83
10	Axial and radial growth of Ni-induced GaN nanowires. Applied Physics Letters, 2007, 91, .	1.5	74
11	High Area Capacity Lithium-Sulfur Full-cell Battery with Prelithiated Silicon Nanowire-Carbon Anodes for Long Cycling Stability. Scientific Reports, 2016, 6, 27982.	1.6	69
12	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
13	Reconfigurable Nanowire Electronics-Enabling a Single CMOS Circuit Technology. IEEE Nanotechnology Magazine, 2014, 13, 1020-1028.	1.1	63
14	Silicon nanowires — a versatile technology platform. Physica Status Solidi - Rapid Research Letters, 2013, 7, 793-799.	1.2	61
15	Silicon and germanium nanowire electronics: physics of conventional and unconventional transistors. Reports on Progress in Physics, 2017, 80, 066502.	8.1	59
16	Light Weight and Flexible High-Performance Diagnostic Platform. Advanced Healthcare Materials, 2015, 4, 1517-1525.	3.9	58
17	Parallel arrays of Schottky barrier nanowire field effect transistors: Nanoscopic effects for macroscopic current output. Nano Research, 2013, 6, 381-388.	5.8	55
18	Direct Probing of Schottky Barriers in Si Nanowire Schottky Barrier Field Effect Transistors. Physical Review Letters, 2011, 107, 216807.	2.9	45

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19	Schottky barrier-based silicon nanowire pH sensor with live sensitivity control. Nano Research, 2014, 7, 263-271.	5.8	45
20	Exploiting transistor-level reconfiguration to optimize combinational circuits. , 2017, , .		43
21	Mesoscopic analysis of leakage current suppression in ZrO ₂ /Al ₂ O ₃ /ZrO ₂ nano-laminates. Journal of Applied Physics, 2013, 113, .	1.1	42
22	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
23	Top-Down Fabricated Reconfigurable FET With Two Symmetric and High-Current On-States. IEEE Electron Device Letters, 2020, 41, 1110-1113.	2.2	38
24	Reconfigurable Nanowire Transistors with Multiple Independent Gates for Efficient and Programmable Combinational Circuits. , 2016, , .		38
25	Compact Nanowire Sensors Probe Microdroplets. Nano Letters, 2016, 16, 4991-5000.	4.5	37
26	Top-Down Technology for Reconfigurable Nanowire FETs With Symmetric On-Currents. IEEE Nanotechnology Magazine, 2017, 16, 812-819.	1.1	37
27	Silicon to nickel-silicide axial nanowire heterostructures for high performance electronics. Physica Status Solidi (B): Basic Research, 2007, 244, 4170-4175.	0.7	34
28	Investigation of band gap and permittivity of the perovskite CaTiO ₃ in ultrathin layers. Journal Physics D: Applied Physics, 2015, 48, 415304.	1.3	32
29	Optoelectronic switching of nanowire-based hybrid organic/oxide/semiconductor field-effect transistors. Nano Research, 2015, 8, 1229-1240.	5.8	32
30	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
31	A Silicon Nanowire Ferroelectric Field-Effect Transistor. Advanced Electronic Materials, 2020, 6, 1901244.	2.6	30
32	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
33	Silicon nanowires: catalytic growth and electrical characterization. Physica Status Solidi (B): Basic Research, 2006, 243, 3340-3345.	0.7	26
34	Tuning the tunneling probability by mechanical stress in Schottky barrier based reconfigurable nanowire transistors. Solid-State Electronics, 2017, 128, 148-154.	0.8	26
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	Nanometer-Scale Ge-Based Adaptable Transistors Providing Programmable Negative Differential Resistance Enabling Multivalued Logic. ACS Nano, 2021, 15, 18135-18141.	7.3	24
38	Material Prospects of Reconfigurable Transistor (RFETs) â€œ From Silicon to Germanium Nanowires. Materials Research Society Symposia Proceedings, 2014, 1659, 225-230.	0.1	23
39	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
40	Sub-40nm tri-gate charge trapping nonvolatile memory cells for high-density applications. , 2004, , .		21
41	Reconfigurable Si Nanowire Nonvolatile Transistors. Advanced Electronic Materials, 2018, 4, 1700399.	2.6	21
42	An investigation of the electrical properties of pyrolytic carbon in reduced dimensions: Vias and wires. Journal of Applied Physics, 2010, 107, .	1.1	20
43	Gating Hysteresis as an Indicator for Silicon Nanowire FET Biosensors. Applied Sciences (Switzerland), 2018, 8, 950.	1.3	18
44	Surface Modification of Silicon Nanowire Based Field Effect Transistors with Stimuli Responsive Polymer Brushes for Biosensing Applications. Micromachines, 2020, 11, 274.	1.4	18
45	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
46	Stress-Dependent Performance Optimization of Reconfigurable Silicon Nanowire Transistors. IEEE Electron Device Letters, 2015, 36, 991-993.	2.2	17
47	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
48	Towards Reconfigurable Electronics: Silicidation of Top-Down Fabricated Silicon Nanowires. Applied Sciences (Switzerland), 2019, 9, 3462.	1.3	16
49	Local charge transport in nanoscale amorphous and crystalline regions of high-k (ZrO ₂) _{0.8} (Al ₂ O ₃) _{0.2} thin films. Applied Physics Letters, 2009, 95, 142906.	1.5	14
50	Gateâ€œTunable Negative Differential Resistance in Nextâ€œGeneration Ge Nanodevices and their Performance Metrics. Advanced Electronic Materials, 2021, 7, 2001178.	2.6	14
51	Multi-level p+ tri-gate SONOS NAND string arrays. , 2006, , .		13
52	Tuning the Polarity of Si-Nanowire Transistors Without the Use of Doping. , 2008, , .		13
53	Multiscale modeling of nanowire-based Schottky-barrier field-effect transistors for sensor applications. Nanotechnology, 2011, 22, 325703.	1.3	13
54	Monolithic Metalâ€œSemiconductorâ€œMetal Heterostructures Enabling Next-Generation Germanium Nanodevices. ACS Applied Materials & Interfaces, 2021, 13, 12393-12399.	4.0	13

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55	Monolithic and Single-Crystalline Aluminum-Silicon Heterostructures. ACS Applied Materials & Interfaces, 2022, 14, 26238-26244.	4.0	13
56	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
57	Ionic effects on the transport characteristics of nanowire-based FETs in a liquid environment. Nano Research, 2014, 7, 380-389.	5.8	12
58	Silicon Nanowires: Fabrication and Applications. Nanoscience and Technology, 2015, , 1-25.	1.5	12
59	Bringing reconfigurable nanowire FETs to a logic circuits compatible process platform. , 2016, , .		12
60	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
61	Macroscopic and microscopic electrical characterizations of high-k ZrO ₂ and ZrO ₂ /Al ₂ O ₃ /ZrO ₂ metal-insulator-metal structures. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2011, 29, 01AC02.	0.6	10
62	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
63	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
64	A Top-Down Platform Enabling Ge Based Reconfigurable Transistors. Advanced Materials Technologies, 2022, 7, 2100647.	3.0	9
65	Microfluidic alignment and trapping of 1D nanostructures – a simple fabrication route for single-nanowire field effect transistors. RSC Advances, 2015, 5, 94702-94706.	1.7	8
66	Reconfigurable germanium transistors with low source-drain leakage for secure and energy-efficient doping-free complementary circuits. , 2017, , .		8
67	Size effect of electronic properties in highly arsenic-doped silicon nanowires. Solid-State Electronics, 2020, 168, 107724.	0.8	8
68	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
69	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
70	Vertically Integrated Reconfigurable Nanowire Arrays. IEEE Electron Device Letters, 2018, 39, 1242-1245.	2.2	7
71	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
72	Formation and crystallographic orientation of NiSi ₂ -Si interfaces. Journal of Applied Physics, 2020, 128, 085301.	1.1	7

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73	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
74	Multisite Dopamine Sensing With Femtomolar Resolution Using a CMOS Enabled Aptasensor Chip. Frontiers in Neuroscience, 2022, 16, .	1.4	7
75	Non-Linear Gate Length Dependence of On-Current in Si-Nanowire FETs. , 2006, , .		6
76	Signal and Noise of Schottky-Junction Parallel Silicon Nanowire Transducers for Biochemical Sensing. IEEE Sensors Journal, 2018, 18, 967-975.	2.4	6
77	Junction Tuning by Ferroelectric Switching in Silicon Nanowire Schottky-Barrier Field Effect Transistors. , 2018, , .		6
78	Bias-Switchable Photoconductance in a Nanoscale Ge Photodetector Operated in the Negative Differential Resistance Regime. ACS Photonics, 2021, 8, 3469-3475.	3.2	6
79	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
80	Influence of composition and bottom electrode properties on the local conductivity of TiN/HfTiO ₂ and TiN/Ru/HfTiO ₂ stacks. Applied Physics Letters, 2011, 98, .	1.5	5
81	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
82	Comparison of Silicon Nanowire Growth on SiO ₂ and on Carbon Substrates. ECS Transactions, 2015, 70, 69-78.	0.3	5
83	Effect of independently sized gates on the delay of reconfigurable silicon nanowire transistor based circuits. , 2015, , .		5
84	Operation regimes and electrical transport of steep slope Schottky Si-FinFETs. Journal of Applied Physics, 2017, 121, .	1.1	5
85	Reconfigurable NAND-NOR circuits fabricated by a CMOS printing technique. , 2017, , .		5
86	Scaling Aspects of Nanowire Schottky Junction based Reconfigurable Field Effect Transistors. , 2019, , .		5
87	Polycrystalline Ge Nanosheets Embedded in Metal-Semiconductor Heterostructures Enabling Wafer-Scale 3D Integration of Ge Nanodevices with Self-Aligned Al Contacts. Advanced Electronic Materials, 2021, 7, 2100101.	2.6	5
88	Al-Ge-Al Nanowire Heterostructure: From Single-Hole Quantum Dot to Josephson Effect. Advanced Materials, 2021, 33, e2101989.	11.1	5
89	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
90	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

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91	Channel length dependent sensor response of Schottky-barrier FET pH sensors. , 2013, , .		3
92	Structural and dielectric properties of sputtered $\text{Sr}_{1-x}\text{Zr}_x\text{O}_y$. Journal of Applied Physics, 2013, 113, .	1.1	3
93	Investigation of Embedded Perovskite Nanoparticles for Enhanced Capacitor Permittivities. ACS Applied Materials & Interfaces, 2014, 6, 19737-19743.	4.0	3
94	In-depth electrical characterization of carrier transport in ambipolar Si-NW Schottky-barrier FETs. , 2017, , .		3
95	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
96	Electrical characterization and size effect of highly arsenic-doped silicon nanowires. , 2019, , .		2
97	Eliminating Charge Sharing in Clocked Logic Gates on the Device Level Employing Transistors with Multiple Independent Inputs. , 2019, , .		2
98	IPCEI subcontracts contributing to 22-FDX Add-On Functionalities at GF. , 2019, , .		2
99	Reconfigurable thin-film transistors based on a parallel array of Si-nanowires. Journal of Applied Physics, 2021, 129, .	1.1	2
100	Investigation of zirconium oxide based high-k dielectrics for future memory applications. , 2009, , .		1
101	Phase stabilization of sputtered strontium zirconate. Microelectronic Engineering, 2011, 88, 1326-1329.	1.1	1
102	TEM Study of Schottky Junctions in Reconfigurable Silicon Nanowire Devices. Advanced Engineering Materials, 2016, 18, 180-184.	1.6	1
103	Human Î± -thrombin detection platform using aptamers on a silicon nanowire field-effect transistor. , 2017, , .		1
104	Uniform DC Compact Model for Schottky Barrier and Reconfigurable Field-Effect Transistors. , 2021, , .		1
105	Plasmon-Assisted Polarization-Sensitive Photodetection with Tunable Polarity for Integrated Silicon Photonic Communication Systems. Nanotechnology, 2021, 32, .	1.3	1
106	Polarity Behavior and Adjustment in Silicon Nanowire Schottky Junction Transistors. ECS Transactions, 2011, 35, 93-101.	0.3	0
107	Reconfigurable nanowire electronics — Device principles and circuit prospects. , 2013, , .		0
108	Development Of nanowire devices with quantum functionalities. , 2014, , .		0

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109	Reconfigurable silicon nanowire devices and circuits: Opportunities and challenges. , 2014, , .		0
110	Reconfigurable silicon nanowire devices and circuits: Opportunities and challenges. , 2014, , .		0
111	In-Situ Investigations of Individual Nanowires within a FIB/SEM System. Microscopy and Microanalysis, 2014, 20, 360-361.	0.2	0
112	Low loss dielectric loaded plasmonic waveguides for sensing applications above nine microns. , 2021, , .		0
113	(Invited) High-Yield Reconfigurable Silicon and Germanium Nanowire Transistors and Compact Logic Circuits. ECS Meeting Abstracts, 2016, , .	0.0	0
114	Silicon Nanowires: Pushing Energy Storage Capacity in Li Based Battery Systems. ECS Meeting Abstracts, 2016, , .	0.0	0