H-S Philip Wong

List of Publications by Year
in descending order

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412 papers	35,760 citations	5876 81 h-index	3997 176 g-index
417 all docs	417 docs citations	417 times ranked	22115 citing authors

#	Article	IF	Citations
1	Electro-Thermal Confinement Enables Improved Superlattice Phase Change Memory. IEEE Electron Device Letters, 2022, 43, 204-207.	2.2	11
2	Bandgap Extraction at 10 K to Enable Leakage Control in Carbon Nanotube MOSFETs. IEEE Electron Device Letters, 2022, 43, 490-493.	2.2	11
3	CeO₂ Doping of Hf_{0.5}Zr_{0.5}O₂ Thin Films for High Endurance Ferroelectric Memories. Advanced Electronic Materials, 2022, 8, .	2.6	5
4	Laser-induced patterning for a diffraction grating using the phase change material of Ge₂Sb₂Te₅ (GST) as a spatial light modulator in X-ray optics: a proof of concept. Optical Materials Express, 2022, 12, 1408.	1.6	2
5	Impact of Metal Hybridization on Contact Resistance and Leakage Current of Carbon Nanotube Transistors. IEEE Electron Device Letters, 2022, 43, 1367-1370.	2.2	5
6	SAPIENS: A 64-kb RRAM-Based Non-Volatile Associative Memory for One-Shot Learning and Inference at the Edge. IEEE Transactions on Electron Devices, 2021, 68, 6637-6643.	1.6	34
7	Intracellular detection and communication of a wireless chip in cell. Scientific Reports, 2021, 11, 5967.	1.6	10
8	Electrical tuning of phase-change antennas and metasurfaces. Nature Nanotechnology, 2021, 16, 667-672.	15.6	196
9	Ultrathin Three-Monolayer Tunneling Memory Selectors. ACS Nano, 2021, 15, 8484-8491.	7.3	8
10	Toward Low-Temperature Solid-Source Synthesis of Monolayer MoS₂. ACS Applied Materials & Interfaces, 2021, 13, 41866-41874.	4.0	21
11	Application-driven synthesis and characterization of hexagonal boron nitride deposited on metals and carbon nanotubes. 2D Materials, 2021, 8, 045024.	2.0	2
12	Ultralowâ€“switching current density multilevel phase-change memory on a flexible substrate. Science, 2021, 373, 1243-1247.	6.0	78
13	RADAR: A Fast and Energy-Efficient Programming Technique for Multiple Bits-Per-Cell RRAM Arrays. IEEE Transactions on Electron Devices, 2021, 68, 4397-4403.	1.6	24
14	Illusion of large on-chip memory by networked computing chips for neural network inference. Nature Electronics, 2021, 4, 71-80.	13.1	15
15	Layered Semiconducting 2D Materials for Future Transistor Applications. Small Structures, 2021, 2, 2000103.	6.9	85
16	Reduced HfOâ„‚ Resistive Memory Variability by Inserting a Thin SnOâ„‚ as Oxygen Stopping Layer. IEEE Electron Device Letters, 2021, 42, 1778-1781.	2.2	4
17	Self-assembly for electronics. MRS Bulletin, 2020, 45, 807-814.	1.7	10
18	Design Space Analysis for Cross-Point 1S1MTJ MRAM: Selectorâ€“MTJ Cooptimization. IEEE Transactions on Electron Devices, 2020, 67, 3102-3108.	1.6	3

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19	Molybdenum oxide on carbon nanotube: Doping stability and correlation with work function. Journal of Applied Physics, 2020, 128, 045111.	1.1	6
20	Two-Fold Reduction of Switching Current Density in Phase Change Memory Using Biâ‚‚Teâ‚ƒ Thermoelectric Interfacial Layer. IEEE Electron Device Letters, 2020, 41, 1657-1660.	2.2	17
21	Bidirectional Analog Conductance Modulation for RRAM-Based Neural Networks. IEEE Transactions on Electron Devices, 2020, 67, 4904-4910.	1.6	4
22	Wafer-scale single-crystal hexagonal boron nitride monolayers on CuÂ(111). Nature, 2020, 579, 219-223.	13.7	409
23	Hyperdimensional computing nanosystem: in-memory computing using monolithic 3D integration of RRAM and CNFET. , 2020, , 195-219.		2
24	A Density Metric for Semiconductor Technology [Point of View]. Proceedings of the IEEE, 2020, 108, 478-482.	16.4	25
25	Heterogeneous 3D Nano-systems: The N3XT Approach?. The Frontiers Collection, 2020, , 127-151.	0.1	6
26	Beyond-Silicon Devices: Considerations for Circuits and Architectures. , 2019, , 1-19.		0
27	Localized Triggering of the Insulator-Metal Transition in VO₂ Using a Single Carbon Nanotube. ACS Nano, 2019, 13, 11070-11077.	7.3	25
28	Fast Spiking of a Mott VO₂â€“Carbon Nanotube Composite Device. Nano Letters, 2019, 19, 6751-6755.	4.5	56
29	Optoelectronic resistive random access memory for neuromorphic vision sensors. Nature Nanotechnology, 2019, 14, 776-782.	15.6	783
30	Demonstration of 40-nm Channel Length Top-Gate p-MOSFET of WS₂ Channel Directly Grown on SiO$_{{x}}$ /Si Substrates Using Area-Selective CVD Technology. IEEE Transactions on Electron Devices, 2019, 66, 5381-5386.	1.6	5
31	How 2D semiconductors could extend Mooreâ€™s law. Nature, 2019, 567, 169-170.	13.7	222
32	Gate Quantum Capacitance Effects in Nanoscale Transistors. Nano Letters, 2019, 19, 7130-7137.	4.5	6
33	Graphene and two-dimensional materials for silicon technology. Nature, 2019, 573, 507-518.	13.7	936
34	Low-Temperature Side Contact to Carbon Nanotube Transistors: Resistance Distributions Down to 10 nm Contact Length. Nano Letters, 2019, 19, 1083-1089.	4.5	42
35	Intrinsic limits of leakage current in self-heating-triggered threshold switches. Applied Physics Letters, 2019, 114, .	1.5	9
36	Low-voltage high-performance flexible digital and analog circuits based on ultrahigh-purity semiconducting carbon nanotubes. Nature Communications, 2019, 10, 2161.	5.8	141

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37	Understanding the switching mechanism of interfacial phase change memory. Journal of Applied Physics, 2019, 125, .	1.1	35
38	A Physics-Based Compact Model for CBRAM Retention Behaviors Based on Atom Transport Dynamics and Percolation Theory. IEEE Electron Device Letters, 2019, 40, 647-650.	2.2	13
39	Engineering thermal and electrical interface properties of phase change memory with monolayer MoS2. Applied Physics Letters, 2019, 114, .	1.5	36
40	Scanning microwave imaging of optically patterned Ge2Sb2Te5. Applied Physics Letters, 2019, 114, 093106.	1.5	3
41	Ternary content-addressable memory with MoS2 transistors for massively parallel data search. Nature Electronics, 2019, 2, 108-114.	13.1	83
42	In-Situ Grown Graphene Enabled Copper Interconnects With Improved Electromigration Reliability. IEEE Electron Device Letters, 2019, 40, 815-817.	2.2	24
43	Vertical Sidewall MoS₂ Growth and Transistors. , 2019, , .		2
44	Monolithic 3-D Integration. IEEE Micro, 2019, 39, 16-27.	1.8	24
45	Next-Generation Ultrahigh-Density 3-D Vertical Resistive Switching Memory (VRSM)â€”Part I: Accurate and Computationally Efficient Modeling. IEEE Transactions on Electron Devices, 2019, 66, 5139-5146.	1.6	18
46	Next-Generation Ultrahigh-Density 3-D Vertical Resistive Switching Memory (VRSM)â€”Part II: Design Guidelines for Device, Array, and Architecture. IEEE Transactions on Electron Devices, 2019, 66, 5147-5154.	1.6	22
47	The N3XT Approach to Energy-Efficient Abundant-Data Computing. Proceedings of the IEEE, 2019, 107, 19-48.	16.4	71
48	Spatial Separation of Carrier Spin by the Valley Hall Effect in Monolayer WSe₂ Transistors. Nano Letters, 2019, 19, 770-774.	4.5	31
49	Resistive RAM With Multiple Bits Per Cell: Array-Level Demonstration of 3 Bits Per Cell. IEEE Transactions on Electron Devices, 2019, 66, 641-646.	1.6	43
50	Device and materials requirements for neuromorphic computing. Journal Physics D: Applied Physics, 2019, 52, 113001.	1.3	105
51	Recommended Methods to Study Resistive Switching Devices. Advanced Electronic Materials, 2019, 5, 1800143.	2.6	452
52	Neuro-inspired computing with emerging memories: where device physics meets learning algorithms. , 2019, , .		2
53	Carbon nanomaterials for non-volatile memories. Nature Reviews Materials, 2018, 3, .	23.3	87
54	Scaling the CBRAM Switching Layer Diameter to 30 nm Improves Cycling Endurance. IEEE Electron Device Letters, 2018, 39, 23-26.	2.2	24

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55	Unipolar n-Type Black Phosphorus Transistors with Low Work Function Contacts. Nano Letters, 2018, 18, 2822-2827.	4.5	40
56	Effect of thermal insulation on the electrical characteristics of NbOx threshold switches. Applied Physics Letters, 2018, 112, .	1.5	26
57	Brain-inspired computing exploiting carbon nanotube FETs and resistive RAM: Hyperdimensional computing case study. , 2018, , .		84
58	Photoelectrochemical Water Oxidation by GaAs Nanowire Arrays Protected with Atomic Layer Deposited NiO x Electrocatalysts. Journal of Electronic Materials, 2018, 47, 932-937.	1.0	6
59	First Principles Study of Memory Selectors using Heterojunctions of 2D Layered Materials. , 2018, , .		2
60	Artificial optic-neural synapse for colored and color-mixed pattern recognition. Nature Communications, 2018, 9, 5106.	5.8	462
61	Hyperdimensional Computing Exploiting Carbon Nanotube FETs, Resistive RAM, and Their Monolithic 3D Integration. IEEE Journal of Solid-State Circuits, 2018, 53, 3183-3196.	3.5	49
62	Understanding Energy Efficiency Benefits of Carbon Nanotube Field-Effect Transistors for Digital VLSI. IEEE Nanotechnology Magazine, 2018, 17, 1259-1269.	1.1	87
63	Selector Requirements for Tera-Bit Ultra-High-Density 3D Vertical RRAM. , 2018, , .		11
64	Transient dynamics of NbOx threshold switches explained by Poole-Frenkel based thermal feedback mechanism. Applied Physics Letters, 2018, 112, .	1.5	27
65	Coming Up N3XT, After 2D Scaling of Si CMOS. , 2018, , .		7
66	Electronic synapses made of layered two-dimensional materials. Nature Electronics, 2018, 1, 458-465.	13.1	459
67	Energy-Efficient Phase Change Memory Programming by Nanosecond Pulses. , 2018, , .		3
68	Internalization of subcellular-scale microfabricated chips by healthy and cancer cells. PLoS ONE, 2018, 13, e0194712.	1.1	5
69	In-memory computing with resistive switching devices. Nature Electronics, 2018, 1, 333-343.	13.1	1,316
70	Face classification using electronic synapses. Nature Communications, 2017, 8, 15199.	5.8	683
71	Hysteresis-Free Carbon Nanotube Field-Effect Transistors. ACS Nano, 2017, 11, 4785-4791.	7.3	50
72	Synaptic Devices Based on Phase-Change Memory. , 2017, , 19-51.		7

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73	Resistive RAM-Centric Computing: Design and Modeling Methodology. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 2263-2273.	3.5	61
74	Universal Selective Dispersion of Semiconducting Carbon Nanotubes from Commercial Sources Using a Supramolecular Polymer. ACS Nano, 2017, 11, 5660-5669.	7.3	47
75	Ultrafast Accelerated Retention Test Methodology for RRAM Using Micro Thermal Stage. IEEE Electron Device Letters, 2017, 38, 863-866.	2.2	7
76	Statistical study of RRAM MLC SET variability induced by filament morphology. , 2017, , .		1
77	The End of Moore's Law: A New Beginning for Information Technology. Computing in Science and Engineering, 2017, 19, 41-50.	1.2	481
78	Real-Time Observation of the Electrode-Size-Dependent Evolution Dynamics of the Conducting Filaments in a SiO₂ Layer. ACS Nano, 2017, 11, 4097-4104.	7.3	79
79	Phase-Change Memoryâ€"Towards a Storage-Class Memory. IEEE Transactions on Electron Devices, 2017, 64, 4374-4385.	1.6	291
80	3D nanosystems enable embedded abundant-data computing. , 2017, , .		6
81	A simple technique to design microfluidic devices for system integration. Analytical Methods, 2017, 9, 6349-6356.	1.3	2
82	AC stress and electronic effects on SET switching of HfO2 RRAM. Applied Physics Letters, 2017, 111, 093502.	1.5	1
83	Dual-Layer Dielectric Stack for Thermally-Isolated Low-Power Phase-Change Memory. , 2017, , .		5
84	Three-dimensional integration of nanotechnologies for computing and data storage on a single chip. Nature, 2017, 547, 74-78.	13.7	577
85	Resistive random access memory (RRAM) technology: From material, device, selector, 3D integration to bottom-up fabrication. Journal of Electroceramics, 2017, 39, 21-38.	0.8	79
86	Carbon Nanotubes for Monolithic 3D ICs. , 2017, , 315-333.		2
87	Device and Circuit Interaction Analysis of Stochastic Behaviors in Cross-Point RRAM Arrays. IEEE Transactions on Electron Devices, 2017, 64, 4928-4936.	1.6	22
88	Dual-Layer Dielectric Stack for Thermally Isolated Low-Energy Phase-Change Memory. IEEE Transactions on Electron Devices, 2017, 64, 4496-4502.	1.6	29
89	Challenges and opportunities toward online training acceleration using RRAM-based hardware neural network. , 2017, , .		26
90	Sub-15 nm nanowires enabled by cryo pulsed self-aligned nanotrench ablation on carbon nanotubes. , 2017, , .		0

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91	Micrometer-Scale Magnetic-Resonance-Coupled Radio-Frequency Identification and Transceivers for Wireless Sensors in Cells. Physical Review Applied, 2017, 8, .	1.5	18
92	Transforming nanodevices to next generation nanosystems. , 2016, , .		0
93	32-bit Processor core at 5-nm technology: Analysis of transistor and interconnect impact on VLSI system performance. , 2016, , .		26
94	Hyperdimensional computing with 3D VRRAM in-memory kernels: Device-architecture co-design for energy-efficient, error-resilient language recognition. , 2016, , .		95
95	Microsecond transient thermal behavior of HfOx-based resistive random access memory using a micro thermal stage (MTS). , 2016, , .		10
96	High-Performance p-Type Black Phosphorus Transistor with Scandium Contact. ACS Nano, 2016, 10, 4672-4677.	7.3	119
97	A Compact Model for Metalâ€“Oxide Resistive Random Access Memory With Experiment Verification. IEEE Transactions on Electron Devices, 2016, 63, 1884-1892.	1.6	163
98	Four-layer 3D vertical RRAM integrated with FinFET as a versatile computing unit for brain-inspired cognitive information processing. , 2016, , .		48
99	MoS ₂ transistors with 1-nanometer gate lengths. Science, 2016, 354, 99-102.	6.0	1,140
100	Picosecond Electric-Field-Induced Threshold Switching in Phase-Change Materials. Physical Review Letters, 2016, 117, 067601.	2.9	59
101	Distinctive in-Plane Cleavage Behaviors of Two-Dimensional Layered Materials. ACS Nano, 2016, 10, 8980-8988.	7.3	90
102	High Current Density and Low Thermal Conductivity of Atomically Thin Semimetallic WTe₂. ACS Nano, 2016, 10, 7507-7514.	7.3	100
103	Engineering a Large Scale Indium Nanodot Array for Refractive Index Sensing. ACS Applied Materials & Interfaces, 2016, 8, 31871-31877.	4.0	13
104	Memory â€” The N3XT frontier. , 2016, , .		0
105	Neuromorphic architectures with electronic synapses. , 2016, , .		26
106	Disturbance characteristics of half-selected cells in a cross-point resistive switching memory array. Nanotechnology, 2016, 27, 215204.	1.3	5
107	Hysteresis in Carbon Nanotube Transistors: Measurement and Analysis of Trap Density, Energy Level, and Spatial Distribution. ACS Nano, 2016, 10, 4599-4608.	7.3	62
108	Time-Based Sensor Interface Circuits in CMOS and Carbon Nanotube Technologies. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 577-586.	3.5	20

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109	Removable and Recyclable Conjugated Polymers for Highly Selective and High-Yield Dispersion and Release of Low-Cost Carbon Nanotubes. Journal of the American Chemical Society, 2016, 138, 802-805.	6.6	152
110	Statistical Study on the Schottky Barrier Reduction of Tunneling Contacts to CVD Synthesized MoS₂. Nano Letters, 2016, 16, 276-281.	4.5	156
111	Efficient metallic carbon nanotube removal for highly-scaled technologies. , 2015, , .		25
112	Memory Devices: In Situ Tuning of Switching Window in a Gate-Controlled Bilayer Graphene-Electrode Resistive Memory Device (Adv. Mater. 47/2015). Advanced Materials, 2015, 27, 7766-7766.	11.1	1
113	In Situ Tuning of Switching Window in a Gateâ€Controlled Bilayer Grapheneâ€Electrode Resistive Memory Device. Advanced Materials, 2015, 27, 7767-7774.	11.1	54
114	Partitioning Electrostatic and Mechanical Domains in Nanoelectromechanical Relays. Journal of Microelectromechanical Systems, 2015, 24, 592-598.	1.7	8
115	Largeâ€Area Assembly of Densely Aligned Singleâ€Walled Carbon Nanotubes Using Solution Shearing and Their Application to Fieldâ€Effect Transistors. Advanced Materials, 2015, 27, 2656-2662.	11.1	123
116	Rapid Co-Optimization of Processing and Circuit Design to Overcome Carbon Nanotube Variations. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 1082-1095.	1.9	36
117	Cu diffusion barrier: Graphene benchmarked to TaN for ultimate interconnect scaling. , 2015, , .		16
118	Energy-Efficient Abundant-Data Computing: The N3XT 1,000x. Computer, 2015, 48, 24-33.	1.2	156
119	A General Design Strategy for Block Copolymer Directed Self-Assembly Patterning of Integrated Circuits Contact Holes using an Alphabet Approach. Nano Letters, 2015, 15, 805-812.	4.5	41
120	Memory leads the way to better computing. Nature Nanotechnology, 2015, 10, 191-194.	15.6	671
121	Physical Layout Design of Directed Self-Assembly Guiding Alphabet for IC Contact Hole/via Patterning. , 2015, , .		3
122	Vertical and Lateral Copper Transport through Graphene Layers. ACS Nano, 2015, 9, 8361-8367.	7.3	31
123	1D Selection Device Using Carbon Nanotube FETs for High-Density Cross-Point Memory Arrays. IEEE Transactions on Electron Devices, 2015, 62, 2197-2204.	1.6	34
124	Metal oxide-resistive memory using graphene-edge electrodes. Nature Communications, 2015, 6, 8407.	5.8	127
125	Compact modeling and design optimization of carbon nanotube field-effect transistors for the sub-10-nm technology nodes. , 2015, , .		4
126	Layout optimization and template pattern verification for directed self-assembly (DSA). , 2015, , .		2

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127	3-D Resistive Memory Arrays: From Intrinsic Switching Behaviors to Optimization Guidelines. IEEE Transactions on Electron Devices, 2015, 62, 3160-3167.	1.6	16
128	Energy-Efficient Phase-Change Memory with Graphene as a Thermal Barrier. Nano Letters, 2015, 15, 6809-6814.	4.5	121
129	RRAM based synaptic devices for neuromorphic visual systems. , 2015, , .		5
130	3D RRAM: Design and optimization. , 2014, , .		3
131	Statistical assessment methodology for the design and optimization of cross-point RRAM arrays. , 2014, , .		10
132	Ultrathin (∼2nm) HfO<inf>x</inf> as the fundamental resistive switching element: Thickness scaling limit, stack engineering and 3D integration. , 2014, , .		12
133	Capacity optimization of emerging memory systems: A shannon-inspired approach to device characterization. , 2014, , .		4
134	Robust design and experimental demonstrations of carbon nanotube digital circuits. , 2014, , .		3
135	System Level Benchmarking with Yield-Enhanced Standard Cell Library for Carbon Nanotube VLSI Circuits. ACM Journal on Emerging Technologies in Computing Systems, 2014, 10, 1-19.	1.8	8
136	DSA-aware detailed routing for via layer optimization. , 2014, , .		13
137	DSA template optimization for contact layer in 1D standard cell design. , 2014, , .		11
138	GaAs buffer layer technique for vertical nanowire growth on Si substrate. Applied Physics Letters, 2014, 104, 083113.	1.5	1
139	Ultrafast terahertz-induced response of GeSbTe phase-change materials. Applied Physics Letters, 2014, 104, .	1.5	38
140	Improved multi-level control of RRAM using pulse-train programming. , 2014, , .		6
141	Characterization and Modeling of the Conduction and Switching Mechanisms of HfO_x Based RRAM. Materials Research Society Symposia Proceedings, 2014, 1631, 1.	0.1	6
142	Atomically thin graphene plane electrode for 3D RRAM. , 2014, , .		12
143	Monolithic 3D integration of logic and memory: Carbon nanotube FETs, resistive RAM, and silicon FETs. , 2014, , .		105
144	High-performance carbon nanotube field-effect transistors. , 2014, , .		37

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145	3-D Cross-Point Array Operation on <inline-formula> <tex-math notation="TeX">${m AlO}_{y}/{m HfO}_{x}$ </tex-math></inline-formula>-Based Vertical Resistive Switching Memory. IEEE Transactions on Electron Devices, 2014, 61, 1377-1381.	1.6	22
146	Sensor-to-Digital Interface Built Entirely With Carbon Nanotube FETs. IEEE Journal of Solid-State Circuits, 2014, 49, 190-201.	3.5	101
147	Impact of pulse rise time on programming of cross-point RRAM arrays. , 2014, , .		0
148	Cross plane thermal conductance of graphene-metal interfaces. , 2014, , .		7
149	Carbon nanotubes for high-performance logic. MRS Bulletin, 2014, 39, 719-726.	1.7	11
150	Design guidelines for 3D RRAM cross-point architecture. , 2014, , .		17
151	Multi-level control of conductive nano-filament evolution in HfO₂ ReRAM by pulse-train operations. Nanoscale, 2014, 6, 5698-5702.	2.8	137
152	The Role of Ti Capping Layer in HfO_{<italic>x</italic>}-Based RRAM Devices. IEEE Electron Device Letters, 2014, 35, 912-914.	2.2	55
153	Ultrafast Characterization of Phase-Change Material Crystallization Properties in the Melt-Quenched Amorphous Phase. Nano Letters, 2014, 14, 3419-3426.	4.5	102
154	Continuous wireless pressure monitoring and mapping with ultra-small passive sensors for health monitoring and critical care. Nature Communications, 2014, 5, 5028.	5.8	418
155	Carbon Nanotube Circuit Integration up to Sub-20 nm Channel Lengths. ACS Nano, 2014, 8, 3434-3443.	7.3	70
156	Ultra-Low-Energy Three-Dimensional Oxide-Based Electronic Synapses for Implementation of Robust High-Accuracy Neuromorphic Computation Systems. ACS Nano, 2014, 8, 6998-7004.	7.3	172
157	Cost-Effective, Transfer-Free, Flexible Resistive Random Access Memory Using Laser-Scribed Reduced Graphene Oxide Patterning Technology. Nano Letters, 2014, 14, 3214-3219.	4.5	114
158	Monolithic three-dimensional integration of carbon nanotube FETs with silicon CMOS. , 2014, , .		21
159	VLSI-Compatible Carbon Nanotube Doping Technique with Low Work-Function Metal Oxides. Nano Letters, 2014, 14, 1884-1890.	4.5	63
160	Brain-like associative learning using a nanoscale non-volatile phase change synaptic device array. Frontiers in Neuroscience, 2014, 8, 205.	1.4	176
161	Atomic layer deposition of high-kdielectrics on single-walled carbon nanotubes: a Raman study. Nanotechnology, 2013, 24, 245703.	1.3	19
162	Combinational Logic Design Using Six-Terminal NEM Relays. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 653-666.	1.9	32

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164	Synaptic electronics: materials, devices and applications. Nanotechnology, 2013, 24, 382001.	1.3	1,012
165	Carbon Nanotube Circuits: Opportunities and Challenges. , 2013, , .		3
166	Compact models of emerging devices. , 2013, , .		0
167	Phonon and electron transport through Ge2Sb2Te5 films and interfaces bounded by metals. Applied Physics Letters, 2013, 102, .	1.5	68
168	Block copolymer directed self-assembly (DSA) aware contact layer optimization for 10 nm 1D standard cell library. , 2013, , .		31
169	Synergetic carbon nanotube growth. Carbon, 2013, 62, 61-68.	5.4	5
170	Compact Model for Carbon Nanotube Field-Effect Transistors Including Nonidealities and Calibrated With Experimental Data Down to 9-nm Gate Length. IEEE Transactions on Electron Devices, 2013, 60, 1834-1843.	1.6	64
171	HfO_x-Based Vertical Resistive Switching Random Access Memory Suitable for Bit-Cost-Effective Three-Dimensional Cross-Point Architecture. ACS Nano, 2013, 7, 2320-2325.	7.3	309
172	Monitoring Oxygen Movement by Raman Spectroscopy of Resistive Random Access Memory with a Graphene-Inserted Electrode. Nano Letters, 2013, 13, 651-657.	4.5	121
173	Experimental study of plane electrode thickness scaling for 3D vertical resistive random access memory. Nanotechnology, 2013, 24, 465201.	1.3	24
174	First demonstration of RRAM patterned by block copolymer self-assembly. , 2013, , .		6
175	Impact of IIIâ€“V and Ge Devices on Circuit Performance. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 1189-1200.	2.1	0
176	Nanometer-Scale ${m HfO}_{x}$ RRAM. IEEE Electron Device Letters, 2013, 34, 1005-1007.	2.2	51
177	Design and optimization methodology for 3D RRAM arrays. , 2013, , .		36
178	Monolithic three-dimensional integration of carbon nanotube FET complementary logic circuits. , 2013, , .		19
179	Experimental demonstration of array-level learning with phase change synaptic devices. , 2013, , .		35
180	A Low Energy Oxideâ€Based Electronic Synaptic Device for Neuromorphic Visual Systems with Tolerance to Device Variation. Advanced Materials, 2013, 25, 1774-1779.	11.1	445

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181	Single-Tube Characterization Methodology for Experimental and Analytical Evaluation of Carbon Nanotube Synthesis. Japanese Journal of Applied Physics, 2012, 51, 04DB02.	0.8	0
182	Electrothermal Modeling and Design Strategies for Multibit Phase-Change Memory. IEEE Transactions on Electron Devices, 2012, 59, 3561-3567.	1.6	28
183	Electrode/oxide interface engineering by inserting single-layer graphene: Application for HfO<inf>x</inf>-based resistive random access memory. , 2012, , .		12
184	Optical Absorption Enhancement: Optical Absorption Enhancement in Freestanding GaAs Thin Film Nanopyramid Arrays (Adv. Energy Mater. 10/2012). Advanced Energy Materials, 2012, 2, 1150-1150.	10.2	7
185	Low-Energy Robust Neuromorphic Computation Using Synaptic Devices. IEEE Transactions on Electron Devices, 2012, 59, 3489-3494.	1.6	76
186	Scaling behavior of PCM cells in off-state conduction. , 2012, , .		3
187	Electrical properties of CuPc-based OTFTs with atomic layer deposited HfAlO gate dielectric. , 2012, , .		0
188	Recent progress of resistive switching random access memory (RRAM). , 2012, , .		10
189	HfOx based vertical resistive random access memory for cost-effective 3D cross-point architecture without cell selector. , 2012, , .		106
190	A SPICE Compact Model of Metal Oxide Resistive Switching Memory With Variations. IEEE Electron Device Letters, 2012, 33, 1405-1407.	2.2	212
191	Metalâ€“Oxide RRAM. Proceedings of the IEEE, 2012, 100, 1951-1970.	16.4	2,225
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193	Metal Oxide Resistive Switching Memory. Springer Series in Materials Science, 2012, , 303-335.	0.4	17
194	Resistive switching random access memory — Materials, device, interconnects, and scaling considerations. , 2012, , .		0
195	Nano-Electro-Mechanical relays for FPGA routing: Experimental demonstration and a design technique. , 2012, , .		28
196	Graphene Interconnect Lifetime: A Reliability Analysis. IEEE Electron Device Letters, 2012, 33, 1604-1606.	2.2	30
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