

Suman Datta

List of Publications by Year in descending order

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367
papers

15,738
citations

32410

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31191

106
g-index

374
all docs

374
docs citations

374
times ranked

13017
citing authors

#	ARTICLE	IF	CITATIONS
1	Theory of ballistic nanotransistors. IEEE Transactions on Electron Devices, 2003, 50, 1853-1864.	1.6	652
2	Two-dimensional gallium nitride realized via graphene encapsulation. Nature Materials, 2016, 15, 1166-1171.	13.3	626
3	Benchmarking Nanotechnology for High-Performance and Low-Power Logic Transistor Applications. IEEE Nanotechnology Magazine, 2005, 4, 153-158.	1.1	583
4	High- κ /Metal Gate Stack and Its MOSFET Characteristics. IEEE Electron Device Letters, 2004, 25, 408-410.	2.2	422
5	The future of ferroelectric field-effect transistor technology. Nature Electronics, 2020, 3, 588-597.	13.1	398
6	High performance fully-depleted tri-gate CMOS transistors. IEEE Electron Device Letters, 2003, 24, 263-265.	2.2	387
7	Atomically thin resonant tunnel diodes built from synthetic van der Waals heterostructures. Nature Communications, 2015, 6, 7311.	5.8	382
8	The era of hyper-scaling in electronics. Nature Electronics, 2018, 1, 442-450.	13.1	375
9	Integrated nanoelectronics for the future. Nature Materials, 2007, 6, 810-812.	13.3	350
10	Ferroelectric FET analog synapse for acceleration of deep neural network training. , 2017, , .		322
11	A steep-slope transistor based on abrupt electronic phase transition. Nature Communications, 2015, 6, 7812.	5.8	294
12	Critical Role of Interlayer in $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Ferroelectric FET Nonvolatile Memory Performance. IEEE Transactions on Electron Devices, 2018, 65, 2461-2469.	1.6	284
13	A Numerical Study of Scaling Issues for Schottky-Barrier Carbon Nanotube Transistors. IEEE Transactions on Electron Devices, 2004, 51, 172-177.	1.6	263
14	Ferroelectric ternary content-addressable memory for one-shot learning. Nature Electronics, 2019, 2, 521-529.	13.1	217
15	Temperature-Dependent ϵ Characteristics of a Vertical $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ Tunnel FET. IEEE Electron Device Letters, 2010, 31, 564-566.	2.2	203
16	On the performance limits for Si MOSFETs: a theoretical study. IEEE Transactions on Electron Devices, 2000, 47, 232-240.	1.6	197
17	Effective Capacitance and Drive Current for Tunnel FET (TFET) CV/I Estimation. IEEE Transactions on Electron Devices, 2009, 56, 2092-2098.	1.6	197
18	On Enhanced Miller Capacitance Effect in Interband Tunnel Transistors. IEEE Electron Device Letters, 2009, 30, 1102-1104.	2.2	188

#	ARTICLE	IF	CITATIONS
19	Transport Effects on Signal Propagation in Quantum Wires. IEEE Transactions on Electron Devices, 2005, 52, 1734-1742.	1.6	167
20	Tunnel FET technology: A reliability perspective. Microelectronics Reliability, 2014, 54, 861-874.	0.9	155
21	Synchronized charge oscillations in correlated electron systems. Scientific Reports, 2014, 4, .	1.6	155
22	Scaling Length Theory of Double-Gate Interband Tunnel Field-Effect Transistors. IEEE Transactions on Electron Devices, 2012, 59, 902-908.	1.6	153
23	A simple quantum mechanical treatment of scattering in nanoscale transistors. Journal of Applied Physics, 2003, 93, 5613-5625.	1.1	152
24	Fermi level depinning and contact resistivity reduction using a reduced titania interlayer in n-silicon metal-insulator-semiconductor ohmic contacts. Applied Physics Letters, 2014, 104, .	1.5	145
25	Tri-Gate fully-depleted CMOS transistors: fabrication, design and layout. , 0, , .		136
26	Atomically Thin Heterostructures Based on Single-Layer Tungsten Diselenide and Graphene. Nano Letters, 2014, 14, 6936-6941.	4.5	132
27	Electrically Driven Reversible Insulatorâ€“Metal Phase Transition in 1T-TaS ₂ . Nano Letters, 2015, 15, 1861-1866.	4.5	131
28	Enhancing the magnetoelectric response of Metglas/polyvinylidene fluoride laminates by exploiting the flux concentration effect. Applied Physics Letters, 2009, 95, .	1.5	126
29	A Circuit Compatible Accurate Compact Model for Ferroelectric-FETs. , 2018, , .		120
30	Probing electronic excitations in molecular conduction. Physical Review B, 2006, 73, .	1.1	114
31	Variation-tolerant ultra low-power heterojunction tunnel FET SRAM design. , 2011, , .		114
32	A ferroelectric field effect transistor based synaptic weight cell. Journal Physics D: Applied Physics, 2018, 51, 434001.	1.3	113
33	Ultrathin ferroic HfO ₂ â€“ZrO ₂ superlattice gate stack for advanced transistors. Nature, 2022, 604, 65-71.	13.7	108
34	Physics-Based Circuit-Compatible SPICE Model for Ferroelectric Transistors. IEEE Electron Device Letters, 2016, , 1-1.	2.2	106
35	Roadmap on emerging hardware and technology for machine learning. Nanotechnology, 2021, 32, 012002.	1.3	104
36	Sub- kT/q Switching in Strong Inversion in PbZr _{0.52} Ti _{0.48} O ₃ Gated Negative Capacitance FETs. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2015, 1, 43-48.	1.1	101

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37	Joule Heating-Induced Metal-Insulator Transition in Epitaxial VO ₂ /TiO ₂ Devices. ACS Applied Materials & Interfaces, 2016, 8, 12908-12914.	4.0	101
38	Vertex coloring of graphs via phase dynamics of coupled oscillatory networks. Scientific Reports, 2017, 7, 911.	1.6	93
39	Nonvolatile memory design based on ferroelectric FETs. , 2016, , .		91
40	Transport properties of ultra-thin VO ₂ films on (001) TiO ₂ grown by reactive molecular-beam epitaxy. Applied Physics Letters, 2015, 107, .	1.5	88
41	SoC Logic Compatible Multi-Bit FeMFET Weight Cell for Neuromorphic Applications. , 2018, , .		88
42	Barrier-Engineered Arsenide-Antimonide Heterojunction Tunnel FETs With Enhanced Drive Current. IEEE Electron Device Letters, 2012, 33, 1568-1570.	2.2	86
43	Device-Circuit Analysis of Ferroelectric FETs for Low-Power Logic. IEEE Transactions on Electron Devices, 2017, 64, 3092-3100.	1.6	86
44	“Negative capacitance” in resistor-ferroelectric and ferroelectric-dielectric networks: Apparent or intrinsic?. Journal of Applied Physics, 2018, 123, .	1.1	82
45	Current-voltage characteristics of molecular conductors: two versus three terminal. IEEE Nanotechnology Magazine, 2002, 1, 145-153.	1.1	79
46	Opportunities in vanadium-based strongly correlated electron systems. MRS Communications, 2017, 7, 27-52.	0.8	77
47	Indium-Tin-Oxide Transistors with One Nanometer Thick Channel and Ferroelectric Gating. ACS Nano, 2020, 14, 11542-11547.	7.3	75
48	Time-Resolved Measurement of Negative Capacitance. IEEE Electron Device Letters, 2018, 39, 272-275.	2.2	74
49	An Ultra-Dense 2FeFET TCAM Design Based on a Multi-Domain FeFET Model. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 1577-1581.	2.2	74
50	Back-End-of-Line Compatible Transistors for Monolithic 3-D Integration. IEEE Micro, 2019, 39, 8-15.	1.8	73
51	Enabling Energy-Efficient Nonvolatile Computing With Negative Capacitance FET. IEEE Transactions on Electron Devices, 2017, 64, 3452-3458.	1.6	72
52	Write Disturb in Ferroelectric FETs and Its Implication for 1T-FeFET AND Memory Arrays. IEEE Electron Device Letters, 2018, 39, 1656-1659.	2.2	72
53	Exploiting Hybrid Precision for Training and Inference: A 2T-1FeFET Based Analog Synaptic Weight Cell. , 2018, , .		71
54	Tunnel FET RF Rectifier Design for Energy Harvesting Applications. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2014, 4, 400-411.	2.7	70

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55	Quantum mechanical analysis of channel access geometry and series resistance in nanoscale transistors. Journal of Applied Physics, 2004, 95, 292-305.	1.1	69
56	Electrostatics of nanowire transistors. IEEE Nanotechnology Magazine, 2003, 2, 329-334.	1.1	68
57	Modeling and Simulation of Vanadium Dioxide Relaxation Oscillators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2207-2215.	3.5	65
58	Impact of total and partial dipole switching on the switching slope of gate-last negative capacitance FETs with ferroelectric hafnium zirconium oxide gate stack. , 2017, , .		65
59	Small-Signal Response of Inversion Layers in High-Mobility $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ MOSFETs Made With Thin High- κ Dielectrics. IEEE Transactions on Electron Devices, 2010, 57, 742-748.	1.6	64
60	A unified model for insulator selection to form ultra-low resistivity metal-insulator-semiconductor contacts to n-Si, n-Ge, and n-InGaAs. Applied Physics Letters, 2012, 101, 042108.	1.5	64
61	A novel Si-Tunnel FET based SRAM design for ultra low-power 0.3V VDD applications. , 2010, , .		62
62	Phase field modeling of domain dynamics and polarization accumulation in ferroelectric HZO. Applied Physics Letters, 2019, 114, .	1.5	60
63	Molecules on silicon: Self-consistent first-principles theory and calibration to experiments. Physical Review B, 2005, 72, .	1.1	59
64	Pairwise coupled hybrid vanadium dioxide-MOSFET (HVFET) oscillators for non-boolean associative computing. , 2014, , .		59
65	Experimental demonstration of 100nm channel length $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ -based vertical inter-band tunnel field effect transistors (TFETs) for ultra low-power logic and SRAM applications. , 2009, , .		58
66	Supervised Learning in All FeFET-Based Spiking Neural Network: Opportunities and Challenges. Frontiers in Neuroscience, 2020, 14, 634.	1.4	58
67	Analysis of DIBL Effect and Negative Resistance Performance for NCFET Based on a Compact SPICE Model. IEEE Transactions on Electron Devices, 2018, 65, 5525-5529.	1.6	57
68	Computing With Networks of Oscillatory Dynamical Systems. Proceedings of the IEEE, 2019, 107, 73-89.	16.4	57
69	An Ising Hamiltonian solver based on coupled stochastic phase-transition nano-oscillators. Nature Electronics, 2021, 4, 502-512.	13.1	57
70	Monolithic 3D Integration of High Endurance Multi-Bit Ferroelectric FET for Accelerating Compute-In-Memory. , 2020, , .		56
71	Quantitative Mapping of Phase Coexistence in Mott-Peierls Insulator during Electronic and Thermally Driven Phase Transition. ACS Nano, 2015, 9, 2009-2017.	7.3	55
72	Experimental Demonstration of Ferroelectric Spiking Neurons for Unsupervised Clustering. , 2018, , .		55

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73	Electrical Noise in Heterojunction Interband Tunnel FETs. IEEE Transactions on Electron Devices, 2014, 61, 552-560.	1.6	54
74	Programmable coupled oscillators for synchronized locomotion. Nature Communications, 2019, 10, 3299.	5.8	52
75	Synchronization of pairwise-coupled, identical, relaxation oscillators based on metal-insulator phase transition devices: A model study. Journal of Applied Physics, 2015, 117, .	1.1	51
76	Design and Analysis of an Ultra-Dense, Low-Leakage, and Fast FeFET-Based Random Access Memory Array. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2019, 5, 103-112.	1.1	50
77	Demonstration of improved heteroepitaxy, scaled gate stack and reduced interface states enabling heterojunction tunnel FETs with high drive current and high on-off ratio. , 2012, , .		49
78	Advancing Nonvolatile Computing With Nonvolatile NCFET Latches and Flip-Flops. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 2907-2919.	3.5	49
79	0.5 V Supply Voltage Operation of In _{0.65} Ga _{0.35} As/GaAs _{0.4} Sb _{0.6} Tunnel FET. IEEE Electron Device Letters, 2015, 36, 20-22.	2.2	48
80	Exploiting ferroelectric FETs for low-power non-volatile logic-in-memory circuits. , 2016, , .		48
81	Design of Nonvolatile SRAM with Ferroelectric FETs for Energy-Efficient Backup and Restore. IEEE Transactions on Electron Devices, 2017, 64, 3037-3040.	1.6	48
82	Computing with ferroelectric FETs: Devices, models, systems, and applications. , 2018, , .		48
83	Fundamental Understanding and Control of Device-to-Device Variation in Deeply Scaled Ferroelectric FETs. , 2019, , .		48
84	First principles calculations of intrinsic mobilities in tin-based oxide semiconductors SnO, SnO ₂ , and Ta ₂ SnO ₆ . Journal of Applied Physics, 2019, 126, .	1.1	47
85	Comparative Study of Si, Ge and InAs based Steep SubThreshold Slope Tunnel Transistors for 0.25V Supply Voltage Logic Applications. , 2008, , .		46
86	Steep switching tunnel FET: A promise to extend the energy efficient roadmap for post-CMOS digital and analog/RF applications. , 2013, , .		46
87	FerroElectronics for Edge Intelligence. IEEE Micro, 2020, 40, 33-48.	1.8	46
88	Exploiting Heterogeneity for Energy Efficiency in Chip Multiprocessors. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2011, 1, 109-119.	2.7	45
89	Demonstration of MOSFET-like on-current performance in arsenide/antimonide tunnel FETs with staggered hetero-junctions for 300mV logic applications. , 2011, , .		45
90	Soft-Error Performance Evaluation on Emerging Low Power Devices. IEEE Transactions on Device and Materials Reliability, 2014, 14, 732-741.	1.5	45

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91	Ferroelectric transistor model based on self-consistent solution of 2D Poisson's, non-equilibrium Green's function and multi-domain Landau Khalatnikov equations. , 2017, , .		45
92	Insight into the output characteristics of III-V tunneling field effect transistors. Applied Physics Letters, 2013, 102, 092105.	1.5	44
93	Steep-Slope Devices: From Dark to Dim Silicon. IEEE Micro, 2013, 33, 50-59.	1.8	44
94	Novel insb-based quantum well transistors for ultra-high speed, low power logic applications. , 0, , .		43
95	Imprinting of Local Metallic States into VO ₂ with Ultraviolet Light. Advanced Functional Materials, 2016, 26, 6612-6618.	7.8	43
96	Assessment of silicon MOS and carbon nanotube FET performance limits using a general theory of ballistic transistors. , 0, , .		41
97	Opportunities and Challenges of Tunnel FETs. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 2128-2138.	3.5	40
98	Utilization of Negative-Capacitance FETs to Boost Analog Circuit Performances. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2019, 27, 2855-2860.	2.1	40
99	Intrinsic electronic switching time in ultrathin epitaxial vanadium dioxide thin film. Applied Physics Letters, 2013, 102, .	1.5	39
100	Neuro-Mimetic Dynamics of a Ferroelectric FET-Based Spiking Neuron. IEEE Electron Device Letters, 2019, 40, 1213-1216.	2.2	39
101	Impact of Transistor Architecture (Bulk Planar, Trigate on Bulk, Ultrathin-Body Planar SOI) and Material (Silicon or III-V Semiconductor) on Variation for Logic and SRAM Applications. IEEE Transactions on Electron Devices, 2013, 60, 3298-3304.	1.6	38
102	Influence of Body Effect on Sample-and-Hold Circuit Design Using Negative Capacitance FET. IEEE Transactions on Electron Devices, 2018, 65, 3909-3914.	1.6	38
103	Nanoscale Transistorsâ€”Just Around the Gate?. Science, 2013, 341, 140-141.	6.0	37
104	Revisiting the Theory of Ferroelectric Negative Capacitance. IEEE Transactions on Electron Devices, 2016, 63, 2043-2049.	1.6	37
105	The non-equilibrium Green's function (NEGF) formalism: An elementary introduction. , 0, , .		36
106	Electron Transport in Multigate In _x Ga _{1-x} As Nanowire FETs: From Diffusive to Ballistic Regimes at Room Temperature. Nano Letters, 2014, 14, 626-633.	4.5	36
107	Ferroelectric Transistor based Non-Volatile Flip-Flop. , 2016, , .		35
108	Device Circuit Co Design of FEFET Based Logic for Low Voltage Processors. , 2016, , .		35

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109	IIIâ€V Tunnel FET Model With Closed-Form Analytical Solution. IEEE Transactions on Electron Devices, 2016, 63, 2163-2168.	1.6	35
110	Stochastic Insulator-to-Metal Phase Transition-Based True Random Number Generator. IEEE Electron Device Letters, 2018, 39, 139-142.	2.2	35
111	Rf-powered systems using steep-slope devices. , 2014, , .		34
112	Application of Silicon-Germanium Source Tunnel-FET to Enable Ultralow Power Cellular Neural Network-Based Associative Memory. IEEE Transactions on Electron Devices, 2014, 61, 3707-3715.	1.6	34
113	Modeling and in Situ Probing of Surface Reactions in Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2017, 9, 15848-15856.	4.0	33
114	Logic Compatible High-Performance Ferroelectric Transistor Memory. IEEE Electron Device Letters, 2022, 43, 382-385.	2.2	33
115	Steep Switching Hybrid Phase Transition FETs (Hyper-FET) for Low Power Applications: A Device-Circuit Co-design Perspectiveâ€Part I. IEEE Transactions on Electron Devices, 2017, 64, 1350-1357.	1.6	32
116	Double-Gate W-Doped Amorphous Indium Oxide Transistors for Monolithic 3D Capacitorless Gain Cell eDRAM. , 2020, , .		32
117	Band offsets determination and interfacial chemical properties of the Al ₂ O ₃ /GaSb system. Applied Physics Letters, 2010, 97, 162109.	1.5	31
118	Defect assistant band alignment transition from staggered to broken gap in mixed As/Sb tunnel field effect transistor heterostructure. Journal of Applied Physics, 2012, 112, .	1.1	31
119	Nanoscale structural evolution of electrically driven insulator to metal transition in vanadium dioxide. Applied Physics Letters, 2013, 103, .	1.5	31
120	Field Effect and Strongly Localized Carriers in the Metal-Insulator Transition Material VO ₂ . Physical Review Letters, 2015, 115, 196401.	2.9	31
121	Two-dimensional tantalum disulfide: controlling structure and properties via synthesis. 2D Materials, 2018, 5, 025001.	2.0	31
122	In-Memory Computing Primitive for Sensor Data Fusion in 28 nm HKMG FeFET Technology. , 2018, , .		31
123	Time-Delay Encoded Image Recognition in a Network of Resistively Coupled VO ₂ , on Si Oscillators. IEEE Electron Device Letters, 2020, 41, 629-632.	2.2	31
124	Stochastic IMT (Insulator-Metal-Transition) Neurons: An Interplay of Thermal and Threshold Noise at Bifurcation. Frontiers in Neuroscience, 2018, 12, 210.	1.4	30
125	Neuro Inspired Computing with Coupled Relaxation Oscillators. , 2014, , .		29
126	Ultra low power coupled oscillator arrays for computer vision applications. , 2016, , .		29

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127	Experimental Demonstration of Phase Transition Nano-Oscillator Based Ising Machine. , 2019, , .		29
128	Drain-Erase Scheme in Ferroelectric Field Effect Transistorâ€™Part II: 3-D-NAND Architecture for In-Memory Computing. IEEE Transactions on Electron Devices, 2020, 67, 962-967.	1.6	29
129	Low Thermal Budget ($\leq 250\text{ }^\circ\text{C}$) Dual-Gate Amorphous Indium Tungsten Oxide (IWO) Thin-Film Transistor for Monolithic 3-D Integration. IEEE Transactions on Electron Devices, 2020, 67, 5336-5342.	1.6	29
130	Ultra Low Power Circuit Design Using Tunnel FETs. , 2012, , .		28
131	Enabling New Computation Paradigms with HyperFET - An Emerging Device. IEEE Transactions on Multi-Scale Computing Systems, 2016, 2, 30-48.	2.5	28
132	Subnanosecond Fluctuations in Low-Barrier Nanomagnets. Physical Review Applied, 2019, 12, .	1.5	28
133	Role of InAs and GaAs terminated heterointerfaces at source/channel on the mixed As-Sb staggered gap tunnel field effect transistor structures grown by molecular beam epitaxy. Journal of Applied Physics, 2012, 112, 024306.	1.1	27
134	Tunnel transistors for energy efficient computing. , 2013, , .		27
135	Exploiting Synchronization Properties of Correlated Electron Devices in a Non-Boolean Computing Fabric for Template Matching. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2014, 4, 450-459.	2.7	27
136	A Steep-Slope Tunnel FET Based SAR Analog-to-Digital Converter. IEEE Transactions on Electron Devices, 2014, 61, 3661-3667.	1.6	27
137	Reliability Studies on High-Temperature Operation of Mixed As/Sb Staggered Gap Tunnel FET Material and Devices. IEEE Transactions on Device and Materials Reliability, 2014, 14, 245-254.	1.5	27
138	Fabrication, Characterization, and Analysis of Ge/GeSn Heterojunction p-Type Tunnel Transistors. IEEE Transactions on Electron Devices, 2017, 64, 4354-4362.	1.6	27
139	A Novel Ferroelectric Superlattice Based Multi-Level Cell Non-Volatile Memory. , 2019, , .		27
140	Technology assessment of Si and III-V FinFETs and III-V tunnel FETs from soft error rate perspective. , 2012, , .		26
141	Tunnel FET-based ultra-low power, high-sensitivity UHF RFID rectifier. , 2013, , .		26
142	Ag/HfO₂/HfO₂ based threshold switch with extreme non-linearity for unipolar cross-point memory and steep-slope phase-FETs. , 2016, , .		26
143	A Multitask Grocery Assist System for the Visually Impaired: Smart glasses, gloves, and shopping carts provide auditory and tactile feedback. IEEE Consumer Electronics Magazine, 2017, 6, 73-81.	2.3	26
144	Design of 2T/Cell and 3T/Cell Nonvolatile Memories with Emerging Ferroelectric FETs. IEEE Design and Test, 2019, 36, 39-45.	1.1	26

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145	Hf _{0.5} Zr _{0.5} O ₂ -Based Ferroelectric Gate HEMTs With Large Threshold Voltage Tuning Range. IEEE Electron Device Letters, 2020, 41, 337-340.	2.2	26
146	Mismatch of Ferroelectric Film on Negative Capacitance FETs Performance. IEEE Transactions on Electron Devices, 2020, 67, 1297-1304.	1.6	26
147	Drain-Erase Scheme in Ferroelectric Field-Effect Transistor Part I: Device Characterization. IEEE Transactions on Electron Devices, 2020, 67, 955-961.	1.6	26
148	Neural sampling machine with stochastic synapse allows brain-like learning and inference. Nature Communications, 2022, 13, 2571.	5.8	26
149	Reconfigurable BDD based quantum circuits. , 2008, , .		25
150	Impact of Variation in Nanoscale Silicon and Non-Silicon FinFETs and Tunnel FETs on Device and SRAM Performance. IEEE Transactions on Electron Devices, 2015, 62, 1691-1697.	1.6	25
151	Automated mapping for reconfigurable single-electron transistor arrays. , 2011, , .		24
152	26.5 Terahertz electrically triggered RF switch on epitaxial VO ₂ -on-Sapphire (VOS) wafer. , 2015, , .		24
153	Comparative Area and Parasitics Analysis in FinFET and Heterojunction Vertical TFET Standard Cells. ACM Journal on Emerging Technologies in Computing Systems, 2016, 12, 1-23.	1.8	24
154	Steep Switching Hybrid Phase Transition FETs (Hyper-FET) for Low Power Applications: A Device-Circuit Co-design Perspective Part II. IEEE Transactions on Electron Devices, 2017, 64, 1358-1365.	1.6	24
155	Silicon compatible Sn-based resistive switching memory. Nanoscale, 2018, 10, 9441-9449.	2.8	24
156	Performance Enhancement of Ag/HfO ₂ Metal Ion Threshold Switch Cross-Point Selectors. IEEE Electron Device Letters, 2019, 40, 1602-1605.	2.2	24
157	First Principles Design of High Hole Mobility <i>p</i> -Type SnO Ternary Oxides: Valence Orbital Engineering of Sn ²⁺ in Sn ²⁺ by Selection of Appropriate Elements <i>X</i> . Chemistry of Materials, 2021, 33, 212-225.	3.2	24
158	Full band atomistic modeling of homo-junction InGaAs band-to-band tunneling diodes including band gap narrowing. Applied Physics Letters, 2012, 100, 063504.	1.5	23
159	Fully transparent field-effect transistor with high drain current and on-off ratio. APL Materials, 2020, 8, .	2.2	23
160	Flicker noise characterization and analytical modeling of homo and hetero-junction III-V tunnel FETs. , 2012, , .		22
161	Tunnel FET-based ultra-low power, low-noise amplifier design for bio-signal acquisition. , 2014, , .		22
162	Fundamental mechanism behind volatile and non-volatile switching in metallic conducting bridge RAM. , 2017, , .		22

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163	BEOL-Compatible Superlattice FEFET Analog Synapse With Improved Linearity and Symmetry of Weight Update. IEEE Transactions on Electron Devices, 2022, 69, 2094-2100.	1.6	22
164	Ultra low-resistance palladium silicide Ohmic contacts to lightly doped n-InGaAs. Journal of Applied Physics, 2012, 112, 054510.	1.1	21
165	Demonstration of p-type In _{0.7} Ga _{0.3} As/GaAs _{0.35} Sb _{0.65} and n-type GaAs _{0.4} Sb _{0.6} /In _{0.65} Ga _{0.35} As complimentary Heterojunction Vertical Tunnel FETs for ultra-low power logic. , 2015, , .		21
166	Lowering Area Overheads for FeFET-Based Energy-Efficient Nonvolatile Flip-Flops. IEEE Transactions on Electron Devices, 2018, 65, 2670-2674.	1.6	21
167	Power and Area Efficient FPGA Building Blocks Based on Ferroelectric FETs. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1780-1793.	3.5	21
168	Conductance in Coulomb blockaded molecules—fingerprints of wave-particle duality?. Molecular Simulation, 2006, 32, 751-758.	0.9	20
169	Band offset determination of mixed As/Sb type-II staggered gap heterostructure for n-channel tunnel field effect transistor application. Journal of Applied Physics, 2013, 113, 024319.	1.1	20
170	High quality HfO ₂ /p-GaSb(001) metal-oxide-semiconductor capacitors with 0.8%nm equivalent oxide thickness. Applied Physics Letters, 2014, 105, .	1.5	20
171	Dynamics of electrically driven sub-nanosecond switching in vanadium dioxide. , 2016, , .		20
172	Analysis of Functional Oxide based Selectors for Cross-Point Memories. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 2222-2235.	3.5	20
173	Equivalent Oxide Thickness (EOT) Scaling With Hafnium Zirconium Oxide High- ϵ Dielectric Near Morphotropic Phase Boundary. , 2019, , .		20
174	BEOL Compatible Indium-Tin-Oxide Transistors: Switching of Ultrahigh-Density 2-D Electron Gas Over 0.8 Å ⁻¹ 4/cm ² at Oxide/Oxide Interface by the Change of Ferroelectric Polarization. IEEE Transactions on Electron Devices, 2021, 68, 3195-3199.	1.6	20
175	Exploration of vertical MOSFET and tunnel FET device architecture for Sub 10nm node applications. , 2012, , .		19
176	Demonstration of In _{0.9} Ga _{0.1} As/GaAs _{0.18} Sb _{0.82} near broken-gap tunnel FET with I _{ON} =740μAμm, C=M=70μSμm and gigahertz switching performance at V _{Ds} =0.5V. , 2013, , .		19
177	An enumerative method for runlength-limited codes: permutation codes. IEEE Transactions on Information Theory, 1999, 45, 2199-2204.	1.5	18
178	Structural properties and band offset determination of p-channel mixed As/Sb type-II staggered gap tunnel field-effect transistor structure. Applied Physics Letters, 2012, 101, 112106.	1.5	18
179	A Synthesis Algorithm for Reconfigurable Single-Electron Transistor Arrays. ACM Journal on Emerging Technologies in Computing Systems, 2013, 9, 1-20.	1.8	18
180	Design, fabrication, and analysis of p-channel arsenide/antimonide hetero-junction tunnel transistors. Journal of Applied Physics, 2014, 115, .	1.1	18

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