

# Cheol Seong Hwang

## List of Publications by Year in descending order

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621  
papers

33,683  
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634  
docs citations

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times ranked

23532  
citing authors

#	ARTICLE	IF	CITATIONS
1	Review of Semiconductor Flash Memory Devices for Material and Process Issues. <i>Advanced Materials</i> , 2023, 35, e2200659.	11.1	42
2	Enhanced Ferroelectric Properties in Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> Films Using a HfO <sub>0.61</sub> N <sub>0.72</sub> Interfacial Layer. <i>Advanced Electronic Materials</i> , 2022, 8, 2100042.	2.6	24
3	Atomic layer deposition of SnSe thin films using Sn(N(CH <sub>3</sub> ) <sub>2</sub> ) <sub>4</sub> and Se(Si(CH <sub>3</sub> ) <sub>3</sub> ) <sub>2</sub> with NH <sub>3</sub> co-injection. <i>Dalton Transactions</i> , 2022, 51, 594-601.	1.6	2
4	Cross-linked structure of self-aligned p-type SnS nanoplates for highly sensitive NO <sub>2</sub> detection at room temperature. <i>Journal of Materials Chemistry A</i> , 2022, 10, 4711-4719.	5.2	14
5	Negative Capacitance from the Inhomogenous Stray Field in a Ferroelectric Dielectric Structure. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	11
6	Reversible transition between the polar and antipolar phases and its implications for wake-up and fatigue in HfO <sub>2</sub> -based ferroelectric thin film. <i>Nature Communications</i> , 2022, 13, 645.	5.8	66
7	Improving the water-resistance of MgO-based metal-insulator-metal capacitors by inserting a BeO thin film grown via atomic layer deposition. <i>Journal of Materials Chemistry C</i> , 2022, 10, 6611-6620.	2.7	1
8	Training Method for Accurate Off-Chip Training of One-Selector-One-Resistor Crossbar Array with Nonlinearity and Wire Resistance. <i>Advanced Intelligent Systems</i> , 2022, 4, .	3.3	1
9	The fundamentals and applications of ferroelectric HfO <sub>2</sub> . <i>Nature Reviews Materials</i> , 2022, 7, 653-669.	23.3	162
10	Demonstration of Neuromodulation-Inspired Stashing System for Energy-efficient Learning of Spiking Neural Network using a Self-Rectifying Memristor Array. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	12
11	The Contrasting Impacts of the Al <sub>2</sub> O <sub>3</sub> and Y <sub>2</sub> O <sub>3</sub> Insertion Layers on the Crystallization of ZrO <sub>2</sub> Films for Dynamic Random Access Memory Capacitors. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	4
12	Atomistic prediction on the composition- and configuration-dependent bandgap of Ga(As,Sb) using cluster expansion and ab initio thermodynamics. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2022, 280, 115713.	1.7	1
13	Enhanced Electrical Properties of an Al-Doped TiO <sub>2</sub> Dielectric Film on a TiN Electrode by Adopting an Atomic Layer Deposited Ru Interlayer. <i>ACS Applied Electronic Materials</i> , 2022, 4, 2005-2014.	2.0	2
14	Reliable Domain-Specific Exclusive Logic Gates Using Reconfigurable Sequential Logic Based on Antiparallel Bipolar Memristors. <i>Advanced Intelligent Systems</i> , 2022, 4, 2270021.	3.3	1
15	Memory Window Expansion for Ferroelectric FET based Multilevel NVM: Hybrid Solution with Combination of Polarization and Injected Charges. , 2022, , .		0
16	Oxygen-Scavenging Effects of Added Ti Layer in the TiN Gate of Metal-Ferroelectric-Insulator-Semiconductor Capacitor with Al-Doped HfO <sub>2</sub> Ferroelectric Film. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	13
17	Characterization of a 2D Electron Gas at the Interface of Atomic-Layer Deposited Al <sub>2</sub> O <sub>3</sub> /ZnO Thin Films for a Field-Effect Transistor. <i>Advanced Electronic Materials</i> , 2021, 7, 2000876.	2.6	8
18	Review of ferroelectric field-effect transistors for three-dimensional storage applications. <i>Nano Select</i> , 2021, 2, 1187-1207.	1.9	27

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19	Atomistic prediction on the configuration- and temperature-dependent dielectric constant of $\text{Be}_{0.25}\text{Mg}_{0.75}\text{O}$ superlattice as a high- $\epsilon_r$ dielectric layer. <i>Journal of Materials Chemistry C</i> , 2021, 9, 851-859.	2.7	7
20	Atomic layer deposition of chalcogenides for next-generation phase change memory. <i>Journal of Materials Chemistry C</i> , 2021, 9, 3708-3725.	2.7	23
21	Enhancement of electrical performance of atomic layer deposited SnO films via substrate surface engineering. <i>Journal of Materials Chemistry C</i> , 2021, 9, 12314-12321.	2.7	6
22	Polarizing and depolarizing charge injection through a thin dielectric layer in a ferroelectric-dielectric bilayer. <i>Nanoscale</i> , 2021, 13, 2556-2572.	2.8	26
23	Comparison of high- $k$ $\text{Y}_2\text{O}_3/\text{TiO}_2$ bilayer and Y-doped $\text{TiO}_2$ thin films on Ge substrate. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 185110.	1.3	2
24	Atomistic Understanding of the Ferroelectric Properties of a Wurtzite Structure $(\text{AlN})_n/(\text{ScN})_m$ Superlattice. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100009.	1.2	14
25	Improved Properties of the Atomic Layer Deposited Ru Electrode for Dynamic Random-Access Memory Capacitor Using Discrete Feeding Method. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 23915-23927.	4.0	7
26	A High-Speed True Random Number Generator Based on a $\text{Cu}_x\text{Te}_{1-x}$ Diffusive Memristor. <i>Advanced Intelligent Systems</i> , 2021, 3, 2100062.	3.3	21
27	Threshold Voltage Modulation in a Transistor with a Two-Dimensional Electron Gas Channel at the Interface between $\text{Al}_2\text{O}_3$ and Sub-5 nm ZnO Films. <i>ACS Applied Electronic Materials</i> , 2021, 3, 3247-3255.	2.0	7
28	A High-Speed True Random Number Generator Based on a $\text{Cu}_x\text{Te}_{1-x}$ Diffusive Memristor. <i>Advanced Intelligent Systems</i> , 2021, 3, 2170057.	3.3	1
29	In-Memory Stateful Logic Computing Using Memristors: Gate, Calculation, and Application. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100208.	1.2	25
30	Area-Type Electronic Bipolar Switching $\text{Al}/\text{TiO}_{1.7}/\text{TiO}_2/\text{Al}$ Memory with Linear Potentiation and Depression Characteristics. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 39561-39572.	4.0	10
31	Improved ferroelectricity in $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ by inserting an upper $\text{HfO}_x\text{Ny}$ interfacial layer. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	8
32	Time-varying data processing with nonvolatile memristor-based temporal kernel. <i>Nature Communications</i> , 2021, 12, 5727.	5.8	42
33	InterPhon: Ab initio interface phonon calculations within a 3D electronic structure framework. <i>Computer Physics Communications</i> , 2021, 268, 108089.	3.0	0
34	eWB: Event-Based Weight Binarization Algorithm for Spiking Neural Networks. <i>IEEE Access</i> , 2021, 9, 38097-38106.	2.6	4
35	Investigating the Reasons for the Difficult Erase Operation of a Charge-Trap Flash Memory Device with Amorphous Oxide Semiconductor Thin-Film Channel Layers. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000549.	1.2	13
36	Trap Reduction through $\text{O}_3$ Post-Deposition Treatment of $\text{Y}_2\text{O}_3$ Thin Films Grown by Atomic Layer Deposition on Ge Substrates. <i>Advanced Electronic Materials</i> , 2021, 7, 2000819.	2.6	3

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37	Optimized Al-doped TiO <sub>2</sub> gate insulator for a metal-oxide-semiconductor capacitor on a Ge substrate. <i>Journal of Materials Chemistry C</i> , 2021, 9, 1572-1583.	2.7	6
38	Influences of oxygen source and substrate temperature on the unusual growth mechanism of atomic layer deposited magnesium oxide using bis(cyclopentadienyl)magnesium precursor. <i>Journal of Materials Chemistry C</i> , 2021, 9, 15359-15374.	2.7	4
39	Effect of local strain energy to predict accurate phase diagram of III-V pseudobinary systems: case of Ga(As,Sb) and (In,Ga)As. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 045104.	1.3	4
40	A new sensing mechanism of Si FET-based gas sensor using pre-bias. <i>Sensors and Actuators B: Chemical</i> , 2020, 302, 127147.	4.0	10
41	X-ray spectroscopy study on the electronic structure of Sn-added p-type SnO films. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 065502.	0.7	10
42	Initial oxidation and surface stability diagram of Ge(100) as a function of the temperature and oxygen partial pressure through <i>ab initio</i> thermodynamics. <i>Physica Scripta</i> , 2020, 95, 025701.	1.2	0
43	Atomic engineering of metastable BeO <sub>6</sub> octahedra in a rocksalt framework. <i>Applied Surface Science</i> , 2020, 501, 144280.	3.1	8
44	A Stateful Logic Family Based on a New Logic Primitive Circuit Composed of Two Antiparallel Bipolar Memristors. <i>Advanced Intelligent Systems</i> , 2020, 2, 1900082.	3.3	36
45	Kernel Application of the Stacked Crossbar Array Composed of Self-Rectifying Resistive Switching Memory for Convolutional Neural Networks. <i>Advanced Intelligent Systems</i> , 2020, 2, 1900116.	3.3	11
46	Bipolar resistive switching property of Si <sub>3</sub> N <sub>4</sub> <sup>x</sup> thin films depending on N deficiency. <i>Journal of Materials Chemistry C</i> , 2020, 8, 1755-1761.	2.7	4
47	Field-Induced Ferroelectric Hf <sub>1-x</sub> Zr <sub>x</sub> O <sub>2</sub> Thin Films for High-Dynamic Random Access Memory. <i>Advanced Electronic Materials</i> , 2020, 6, 2000631.	2.6	19
48	Substrate Surface Modification for Enlarging Two-Dimensional SnS Grains at Low Temperatures. <i>Chemistry of Materials</i> , 2020, 32, 9026-9033.	3.2	9
49	Study of ferroelectric characteristics of Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> thin films grown on sputtered or atomic-layer-deposited TiN bottom electrodes. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	19
50	Impact of the Atomic Layer-Deposited Ru Electrode Surface Morphology on Resistive Switching Properties of TaO <sub>x</sub> -Based Memory Structures. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 55331-55341.	4.0	14
51	Substrate-Dependent Growth Behavior of Atomic-Layer-Deposited Zinc Oxide and Zinc Tin Oxide Thin Films for Thin-Film Transistor Applications. <i>Journal of Physical Chemistry C</i> , 2020, 124, 26780-26792.	1.5	12
52	Highly sensitive flexible NO <sub>2</sub> sensor composed of vertically aligned 2D SnS <sub>2</sub> operating at room temperature. <i>Journal of Materials Chemistry C</i> , 2020, 8, 11874-11881.	2.7	38
53	Comparative Study on the Gate-Induced Electrical Instability of p-type SnO Thin-Film Transistors with SiO <sub>2</sub> and Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub> Gate Dielectrics. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 2000304.	1.2	1
54	Radical-Enhanced Atomic Layer Deposition of a Tungsten Oxide Film with the Tunable Oxygen Vacancy Concentration. <i>Journal of Physical Chemistry C</i> , 2020, 124, 18156-18164.	1.5	14

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55	Complementary Resistive Switching and Synaptic-Like Memory Behavior in an Epitaxial SrFeO <sub>2.5</sub> Thin Film through Oriented Oxygen-Vacancy Channels. ACS Applied Materials & Interfaces, 2020, 12, 41740-41748.	4.0	36
56	Origin of the Threshold Voltage Shift in a Transistor with a 2D Electron Gas Channel at the Al <sub>2</sub> O <sub>3</sub> /SrTiO <sub>3</sub> Interface. Advanced Electronic Materials, 2020, 6, 1901286.	2.6	8
57	Area-Type Electronic Bipolar Resistive Switching of Pt/Al <sub>2</sub> O <sub>3</sub> /Si <sub>3</sub> N <sub>4</sub> /Ti with Forming-Free, Self-Rectification, and Nonlinear Characteristics. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000209.	1.2	9
58	Atomic Layer Deposition of SnTe Thin Film Using Sn(N(CH <sub>3</sub> ) <sub>2</sub> ) <sub>4</sub> and Te(Si(CH <sub>3</sub> ) <sub>3</sub> ) <sub>2</sub> with Ammonia Coinjection. Crystal Growth and Design, 2020, 20, 4649-4656.	1.4	5
59	Resistive random access memory based on gallium oxide thin films for self-powered pressure sensor systems. Ceramics International, 2020, 46, 21141-21148.	2.3	14
60	Ferroelectric domain wall memory with embedded selector realized in LiNbO <sub>3</sub> single crystals integrated on Si wafers. Nature Materials, 2020, 19, 1188-1194.	13.3	92
61	An <i>ab initio</i> approach on the asymmetric stacking of GaAs nanowires grown by a vapor-solid method. Nanoscale, 2020, 12, 17703-17714.	2.8	6
62	Review of defect chemistry in fluorite-structure ferroelectrics for future electronic devices. Journal of Materials Chemistry C, 2020, 8, 10526-10550.	2.7	94
63	A Combination of a Volatile Memristor-Based True Random Number Generator and a Nonlinear Feedback Shift Register for High-Speed Encryption. Advanced Electronic Materials, 2020, 6, 1901117.	2.6	22
64	Cation-Regulated Transformation for Continuous Two-Dimensional Tin Monosulfide. Chemistry of Materials, 2020, 32, 2313-2320.	3.2	21
65	Investigation of the electronic structure of amorphous SnO film using x-ray absorption spectroscopy. Applied Physics Letters, 2020, 116, 052102.	1.5	1
66	Electroforming-Free, Flexible, and Reliable Resistive Random-Access Memory Based on an Ultrathin TaO <sub>x</sub> Film. ACS Applied Materials & Interfaces, 2020, 12, 10681-10688.	4.0	26
67	Resistive switching materials for information processing. Nature Reviews Materials, 2020, 5, 173-195.	23.3	668
68	Modulated filamentary conduction of Ag/TiO <sub>2</sub> core-shell nanowires to impart extremely sustained resistance switching behavior in a flexible composite. Applied Materials Today, 2020, 19, 100569.	2.3	12
69	Atomic Layer Deposition of Ge <sub>x</sub> Se <sub>1-x</sub> Thin Films for Endurable Ovonic Threshold Selectors with a Low Threshold Voltage. ACS Applied Materials & Interfaces, 2020, 12, 23110-23118.	4.0	19
70	Atomic layer deposition of Ru thin films using (2,4-dimethyloxopentadienyl)(ethylcyclopentadienyl)Ru and the effect of ammonia treatment during the deposition. Journal of Materials Chemistry C, 2020, 8, 6993-7004.	2.7	17
71	A Comparative Study on the Ferroelectric Performances in Atomic Layer Deposited Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> Thin Films Using Tetrakis(ethylmethylamino) and Tetrakis(dimethylamino) Precursors. Nanoscale Research Letters, 2020, 15, 72.	3.1	38
72	Novel Applications of Antiferroelectrics and Relaxor Ferroelectrics: A Materials Point of View. Topics in Applied Physics, 2020, , 343-357.	0.4	2

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73	A first-principles study of the structural and electronic properties of the epitaxial $\text{Ge}(\text{La}_{0.1}\text{O}_{0.1})/\text{La}_{2}\text{O}_{3}$ ( $\text{La}_{0.1}\text{O}_{0.1}$ ) heterostructure. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 365101.		
74	Scaling the Equivalent Oxide Thickness by Employing a $\text{TiO}_{2}$ Thin Film on a $\text{ZrO}_{2}\text{-Al}_{2}\text{O}_{3}$ -Based Dielectric for Further Scaling of Dynamic Random Access Memory. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1900282.	1.2	9
75	Memristor crossbar array for binarized neural networks. <i>AIP Advances</i> , 2019, 9, .	0.6	21
76	Leakage Current Control of $\text{SrTiO}_{3}$ Thin Films through Al Doping at the Interface between Dielectric and Electrode Layers via Atomic Layer Deposition. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1900373.	1.2	5
77	Electrically-generated memristor based on inkjet printed silver nanoparticles. <i>Nanoscale Advances</i> , 2019, 1, 2990-2998.	2.2	22
78	Atomic Layer Deposition of Nanocrystalline-As-Deposited $(\text{GeTe})_{x}(\text{Sb}_{2}\text{Te}_{3})_{1-x}$ Films for Endurable Phase Change Memory. <i>Chemistry of Materials</i> , 2019, 31, 8752-8763.	3.2	15
79	A First-Principles Study on the Oxygen Adsorption and Interface Characteristics with a- $\text{GeO}_{2}$ of $\text{Ge}[001]$ Nanowire. <i>Journal of the Korean Physical Society</i> , 2019, 75, 283-287.	0.3	0
80	Fluorite-structure antiferroelectrics. <i>Reports on Progress in Physics</i> , 2019, 82, 124502.	8.1	47
81	A comprehensive study on the mechanism of ferroelectric phase formation in hafnia-zirconia nanolaminates and superlattices. <i>Applied Physics Reviews</i> , 2019, 6, .	5.5	73
82	Theoretical understanding of the catalyst-free growth mechanism of GaAs &lt;111>B nanowires. <i>Applied Surface Science</i> , 2019, 497, 143740.	3.1	7
83	Ferroelectric switching in bilayer $3\text{R MoS}_{2}$ via interlayer shear mode driven by nonlinear phononics. <i>Scientific Reports</i> , 2019, 9, 14919.	1.6	19
84	Atomic layer deposition of Ta-doped $\text{SnO}_{2}$ films with enhanced dopant distribution for thermally stable capacitor electrode applications. <i>Applied Surface Science</i> , 2019, 497, 143804.	3.1	11
85	Substrate Effects on the Growth Behavior of Atomic-Layer-Deposited Ru Thin Films Using $\text{RuO}_{4}$ Precursor and $\text{N}_{2}/\text{H}_{2}$ Mixed Gas. <i>Journal of Physical Chemistry C</i> , 2019, 123, 22539-22549.	1.5	8
86	Understanding ferroelectric phase formation in doped $\text{HfO}_{2}$ thin films based on classical nucleation theory. <i>Nanoscale</i> , 2019, 11, 19477-19487.	2.8	55
87	VCAM: Variation Compensation through Activation Matching for Analog Binarized Neural Networks. , 2019, , .		7
88	Developing Precursor Chemistry for Atomic Layer Deposition of High-Density, Conformal GeTe Films for Phase-Change Memory. <i>Chemistry of Materials</i> , 2019, 31, 8663-8672.	3.2	12
89	Electroforming-Free Bipolar Resistive Switching in GeSe Thin Films with a Ti-Containing Electrode. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 38910-38920.	4.0	13
90	Effect of the Annealing Temperature of the Seed Layer on the Following Main Layer in Atomic-Layer-Deposited $\text{SrTiO}_{3}$ Thin Films. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1800557.	1.2	3

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91	Novel Selector-Induced Current-Limiting Effect through Asymmetry Control for High-Density One-Selector-One-Resistor Crossbar Arrays. <i>Advanced Electronic Materials</i> , 2019, 5, 1800806.	2.6	10
92	Reduction of the Hysteresis Voltage in Atomic-Layer-Deposited p-Type SnO Thin-Film Transistors by Adopting an Al <sub>2</sub> O <sub>3</sub> Interfacial Layer. <i>Advanced Electronic Materials</i> , 2019, 5, 1900371.	2.6	23
93	Ferroelectric memories. , 2019, , 393-441.		10
94	Modeling of Negative Capacitance in Ferroelectric Thin Films. <i>Advanced Materials</i> , 2019, 31, e1805266.	11.1	101
95	Stochastic Learning with Back Propagation. , 2019, , .		2
96	Matrix Mapping on Crossbar Memory Arrays with Resistive Interconnects and Its Use in In-Memory Compression of Biosignals. <i>Micromachines</i> , 2019, 10, 306.	1.4	16
97	Effect of Electrode Material on the Crystallization of GeTe Grown by Atomic Layer Deposition for Phase Change Random Access Memory. <i>Micromachines</i> , 2019, 10, 281.	1.4	8
98	Role of the Short-Range Order in Amorphous Oxide on MoS <sub>2</sub> /a- <i>SiO<sub>2</sub></i> and MoS <sub>2</sub> /a- <i>HfO<sub>2</sub></i> Interfaces. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1900002.	0.7	3
99	Broad Phase Transition of Fluorite-Structured Ferroelectrics for Large Electrocaloric Effect. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1900177.	1.2	8
100	Orientation-dependent structural and electronic properties of Ge/a-GeO <sub>2</sub> interfaces: first-principles study. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 155101.	1.3	4
101	Tunneling Properties of the Charge Carriers through Sub-2-nm-Thick Oxide in Ge/a-GeO <sub>2</sub> /Ge Structures Using the First-Principles Scattering-State Method. <i>Physical Review Applied</i> , 2019, 11, .	1.5	3
102	Transient Negative Capacitance Effect in Atomic-Layer-Deposited Al <sub>2</sub> O <sub>3</sub> /Hf <sub>0.3</sub> Zr <sub>0.7</sub> O <sub>2</sub> Bilayer Thin Film. <i>Advanced Functional Materials</i> , 2019, 29, 1808228.	7.8	47
103	Impact of Zr Content in Atomic Layer Deposited Hf <sub>1-x</sub> Zr <sub>x</sub> O <sub>2</sub> Thin Films. , 2019, , 75-101.		5
104	Impact of Electrodes on the Ferroelectric Properties. , 2019, , 341-364.		3
105	Effect of Surface/Interface Energy and Stress on the Ferroelectric Properties. , 2019, , 145-172.		5
106	Pyroelectric and Electrocaloric Effects and Their Applications. , 2019, , 217-244.		2
107	Negative Capacitance in HfO <sub>2</sub> - and ZrO <sub>2</sub> -Based Ferroelectrics. , 2019, , 473-493.		4
108	Artificial Neural Network for Response Inference of a Nonvolatile Resistance-Switch Array. <i>Micromachines</i> , 2019, 10, 219.	1.4	1

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109	High-Performance Thin-Film Transistors of Quaternary Indium-Zinc-Tin Oxide Films Grown by Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2019, 11, 14892-14901.	4.0	48
110	Markov Chain Hebbian Learning Algorithm With Ternary Synaptic Units. IEEE Access, 2019, 7, 10208-10223.	2.6	4
111	Time-Efficient Stateful Dual-Bit Memristor Logic. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900033.	1.2	17
112	Equilibrium crystal shape of GaAs and InAs considering surface vibration and new (111)B reconstruction: ab-initio thermodynamics. Scientific Reports, 2019, 9, 1127.	1.6	16
113	What Will Come After V-NAND? Vertical Resistive Switching Memory?. Advanced Electronic Materials, 2019, 5, 1800914.	2.6	61
114	Optical control of the layer degree of freedom through Wannier-Stark states in polar 3R MoS <sub>2</sub> . Journal of Physics Condensed Matter, 2019, 31, 315502.	0.7	5
115	Synthesis of Large Area Two-Dimensional MoS <sub>2</sub> Films by Sulfurization of Atomic Layer Deposited MoO <sub>3</sub> Thin Film for Nanoelectronic Applications. ACS Applied Nano Materials, 2019, 2, 7521-7531.	2.4	34
116	Defect-Engineered Electroforming-Free Analog HfO <sub>x</sub> Memristor and Its Application to the Neural Network. ACS Applied Materials & Interfaces, 2019, 11, 47063-47072.	4.0	33
117	Temperature controlled Ru and RuO <sub>2</sub> growth via O* radical-enhanced atomic layer deposition with Ru(EtCp) <sub>2</sub> . Journal of Chemical Physics, 2019, 151, 204701.	1.2	18
118	Single-Cell Stateful Logic Using a Dual-Bit Memristor. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1800629.	1.2	23
119	Nucleation-Limited Ferroelectric Orthorhombic Phase Formation in Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> Thin Films. Advanced Electronic Materials, 2019, 5, 1800436.	2.6	55
120	Thermodynamic and Kinetic Origins of Ferroelectricity in Fluorite Structure Oxides. Advanced Electronic Materials, 2019, 5, 1800522.	2.6	128
121	Fabrication of a Cone-Shaped Cation Source Inserted Conductive Bridge Random Access Memory and Its Improved Switching Reliability. Advanced Functional Materials, 2019, 29, 1806278.	7.8	51
122	Mitigating wakeup effect and improving endurance of ferroelectric HfO <sub>2</sub> -ZrO <sub>2</sub> thin films by careful La-doping. Journal of Applied Physics, 2019, 125, .	1.1	110
123	2D Electron Gas at the Interface of Atomic-Layer-Deposited Al <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> on SrTiO <sub>3</sub> Single Crystal Substrate. Advanced Electronic Materials, 2019, 5, 1800527.	2.6	18
124	A True Random Number Generator Using Threshold-Switching-Based Memristors in an Efficient Circuit Design. Advanced Electronic Materials, 2019, 5, 1800543.	2.6	32
125	Controlling the Electrical Characteristics of ZrO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> Capacitors by Adopting a Ru Top Electrode Grown via Atomic Layer Deposition. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1800454.	1.2	23
126	Quantitative Analysis of the Incorporation Behaviors of Sr and Ti Atoms During the Atomic Layer Deposition of SrTiO <sub>3</sub> Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 8836-8844.	4.0	15



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127	In <sub>2</sub> Ga <sub>2</sub> ZnO <sub>7</sub> oxide semiconductor based charge trap device for NAND flash memory. Nanotechnology, 2018, 29, 155203.	1.3	26
128	Nonvolatile Memory Materials for Neuromorphic Intelligent Machines. Advanced Materials, 2018, 30, e1704729.	11.1	187
129	Chemical interactions in the atomic layer deposition of GeSbSeTe films and their ovonic threshold switching behavior. Journal of Materials Chemistry C, 2018, 6, 5025-5032.	2.7	33
130	An artificial nociceptor based on a diffusive memristor. Nature Communications, 2018, 9, 417.	5.8	295
131	Improved Ferroelectric Switching Endurance of La-Doped Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 2701-2708.	4.0	207
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