

Uwe Schroeder

List of Publications by Year in descending order

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193
papers

14,366
citations

19655

61
h-index

21539

114
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all docs

198
docs citations

198
times ranked

5129
citing authors

#	ARTICLE	IF	CITATIONS
1	Ferroelectricity and Antiferroelectricity of Doped Thin HfO ₂ -Based Films. <i>Advanced Materials</i> , 2015, 27, 1811-1831.	21.0	777
2	Incipient Ferroelectricity in Al-Doped HfO ₂ Thin Films. <i>Advanced Functional Materials</i> , 2012, 22, 2412-2417.	14.9	640
3	Physical Mechanisms behind the Field-Cycling Behavior of HfO ₂ -Based Ferroelectric Capacitors. <i>Advanced Functional Materials</i> , 2016, 26, 4601-4612.	14.9	586
4	On the structural origins of ferroelectricity in HfO ₂ thin films. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	447
5	Stabilizing the ferroelectric phase in doped hafnium oxide. <i>Journal of Applied Physics</i> , 2015, 118, .	2.5	424
6	Review and perspective on ferroelectric HfO ₂ -based thin films for memory applications. <i>MRS Communications</i> , 2018, 8, 795-808.	1.8	360
7	Impact of different dopants on the switching properties of ferroelectric hafniumoxide. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 08LE02.	1.5	318
8	Structural Changes Underlying Field-Cycling Phenomena in Ferroelectric HfO ₂ Thin Films. <i>Advanced Electronic Materials</i> , 2016, 2, 1600173.	5.1	301
9	Unveiling the double-well energy landscape in a ferroelectric layer. <i>Nature</i> , 2019, 565, 464-467.	27.8	286
10	Switching Kinetics in Nanoscale Hafnium Oxide Based Ferroelectric Field-Effect Transistors. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 3792-3798.	8.0	252
11	A comprehensive study on the structural evolution of HfO ₂ thin films doped with various dopants. <i>Journal of Materials Chemistry C</i> , 2017, 5, 4677-4690.	5.5	250
12	Surface and grain boundary energy as the key enabler of ferroelectricity in nanoscale hafnia-zirconia: a comparison of model and experiment. <i>Nanoscale</i> , 2017, 9, 9973-9986.	5.6	249
13	Crystallization behavior of thin ALD-Al ₂ O ₃ films. <i>Thin Solid Films</i> , 2003, 425, 216-220.	1.8	245
14	Lanthanum-Doped Hafnium Oxide: A Robust Ferroelectric Material. <i>Inorganic Chemistry</i> , 2018, 57, 2752-2765.	4.0	241
15	Towards Oxide Electronics: a Roadmap. <i>Applied Surface Science</i> , 2019, 482, 1-93.	6.1	236
16	Direct Observation of Negative Capacitance in Polycrystalline Ferroelectric HfO ₂ . <i>Advanced Functional Materials</i> , 2016, 26, 8643-8649.	14.9	234
17	Charge-Trapping Phenomena in HfO ₂ -Based FeFET-Type Nonvolatile Memories. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 3501-3507.	3.0	233
18	The Past, the Present, and the Future of Ferroelectric Memories. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 1434-1443.	3.0	226

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19	Ferroelectricity in Gd-Doped HfO ₂ Thin Films. ECS Journal of Solid State Science and Technology, 2012, 1, N123-N126.	1.8	224
20	Ferroelectric hafnium oxide for ferroelectric random-access memories and ferroelectric field-effect transistors. MRS Bulletin, 2018, 43, 340-346.	3.5	222
21	Improved Ferroelectric Switching Endurance of La-Doped Hf _{0.5} Zr _{0.5} O ₂ Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 2701-2708.	8.0	207
22	Complex Internal Bias Fields in Ferroelectric Hafnium Oxide. ACS Applied Materials & Interfaces, 2015, 7, 20224-20233.	8.0	200
23	Identification of the ferroelectric switching process and dopant-dependent switching properties in orthorhombic HfO ₂ : A first principles insight. Applied Physics Letters, 2014, 104, .	3.3	183
24	Next generation ferroelectric materials for semiconductor process integration and their applications. Journal of Applied Physics, 2021, 129, .	2.5	181
25	Reliability Characteristics of Ferroelectric HfO_2 Thin Films for Memory Applications. IEEE Transactions on Device and Materials Reliability, 2013, 13, 93-97.	2.0	176
26	Ferroelectric phase transitions in nanoscale HfO ₂ films enable giant pyroelectric energy conversion and highly efficient supercapacitors. Nano Energy, 2015, 18, 154-164.	16.0	175
27	Effect of Zr Content on the Wake-Up Effect in Hf _{1-x} Zr _x O ₂ Films. ACS Applied Materials & Interfaces, 2016, 8, 15466-15475.	8.0	172
28	The fundamentals and applications of ferroelectric HfO ₂ . Nature Reviews Materials, 2022, 7, 653-669.	48.7	162
29	Nonvolatile Random Access Memory and Energy Storage Based on Antiferroelectric Like Hysteresis in ZrO ₂ . Advanced Functional Materials, 2016, 26, 7486-7494.	14.9	161
30	About the deformation of ferroelectric hystereses. Applied Physics Reviews, 2014, 1, 041103.	11.3	159
31	Understanding the formation of the metastable ferroelectric phase in hafnia-zirconia solid solution thin films. Nanoscale, 2018, 10, 716-725.	5.6	159
32	Electric Field Cycling Behavior of Ferroelectric Hafnium Oxide. ACS Applied Materials & Interfaces, 2014, 6, 19744-19751.	8.0	154
33	Ferroelectric and piezoelectric properties of Hf _{1-x} Zr _x O ₂ and pure ZrO ₂ films. Applied Physics Letters, 2017, 110, .	3.3	141
34	Ten-Nanometer Ferroelectric HfO_2 Films for Next-Generation FRAM Capacitors. IEEE Electron Device Letters, 2012, 33, 1300-1302.	3.9	136
35	Si Doped Hafnium Oxide as a Ferroelectric System. Advanced Electronic Materials, 2017, 3, 1700131.	5.1	136
36	Impact of Scaling on the Performance of HfO ₂ -Based Ferroelectric Field Effect Transistors. IEEE Transactions on Electron Devices, 2014, 61, 3699-3706.	3.0	132

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37	Thermodynamic and Kinetic Origins of Ferroelectricity in Fluorite Structure Oxides. <i>Advanced Electronic Materials</i> , 2019, 5, 1800522.	5.1	128
38	Origin of Ferroelectric Phase in Undoped HfO ₂ Films Deposited by Sputtering. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900042.	3.7	118
39	Atomic Structure of Domain and Interphase Boundaries in Ferroelectric HfO ₂ . <i>Advanced Materials Interfaces</i> , 2018, 5, 1701258.	3.7	114
40	On the stabilization of ferroelectric negative capacitance in nanoscale devices. <i>Nanoscale</i> , 2018, 10, 10891-10899.	5.6	110
41	Hafnium Oxide Based CMOS Compatible Ferroelectric Materials. <i>ECS Journal of Solid State Science and Technology</i> , 2013, 2, N69-N72.	1.8	101
42	Physical chemistry of the TiN/Hf _{0.5} Zr _{0.5} O ₂ interface. <i>Journal of Applied Physics</i> , 2020, 127, .	2.5	101
43	Domain Pinning: Comparison of Hafnia and PZT Based Ferroelectrics. <i>Advanced Electronic Materials</i> , 2017, 3, 1600505.	5.1	99
44	Review of defect chemistry in fluorite-structure ferroelectrics for future electronic devices. <i>Journal of Materials Chemistry C</i> , 2020, 8, 10526-10550.	5.5	94
45	Silicon-doped hafnium oxide anti-ferroelectric thin films for energy storage. <i>Journal of Applied Physics</i> , 2017, 122, .	2.5	93
46	Electric field and temperature scaling of polarization reversal in silicon doped hafnium oxide ferroelectric thin films. <i>Acta Materialia</i> , 2015, 99, 240-246.	7.9	89
47	Optimizing process conditions for improved Hf _{1-x} Zr _x O ₂ ferroelectric capacitor performance. <i>Microelectronic Engineering</i> , 2017, 178, 48-51.	2.4	88
48	Nanosopic studies of domain structure dynamics in ferroelectric La:HfO ₂ capacitors. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	85
49	On the Origin of the Large Remanent Polarization in La:HfO ₂ . <i>Advanced Electronic Materials</i> , 2019, 5, 1900303.	5.1	85
50	Strontium doped hafnium oxide thin films: Wide process window for ferroelectric memories. , 2013, , .		84
51	Effect of Annealing Ferroelectric HfO ₂ Thin Films: In Situ, High Temperature X-ray Diffraction. <i>Advanced Electronic Materials</i> , 2018, 4, 1800091.	5.1	81
52	Tunneling atomic-force microscopy as a highly sensitive mapping tool for the characterization of film morphology in thin high-k dielectrics. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	76
53	Identification of the nature of traps involved in the field cycling of Hf _{0.5} Zr _{0.5} O ₂ -based ferroelectric thin films. <i>Acta Materialia</i> , 2019, 166, 47-55.	7.9	76
54	On the relationship between field cycling and imprint in ferroelectric Hf _{0.5} Zr _{0.5} O ₂ . <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	75

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55	Depolarization as Driving Force in Antiferroelectric Hafnia and Ferroelectric Wake-Up. ACS Applied Electronic Materials, 2020, 2, 1583-1595.	4.3	73
56	Physical characterization of thin ALD Al ₂ O ₃ films. Applied Surface Science, 2003, 211, 352-359.	6.1	72
57	Ferroelectric negative capacitance domain dynamics. Journal of Applied Physics, 2018, 123, .	2.5	72
58	Ferroelectric properties of lightly doped La:HfO ₂ thin films grown by plasma-assisted atomic layer deposition. Applied Physics Letters, 2017, 111, .	3.3	69
59	Origin of Temperature-Dependent Ferroelectricity in Si-Doped HfO ₂ . Advanced Electronic Materials, 2018, 4, 1700489.	5.1	67
60	Thickness dependent barrier performance of permeation barriers made from atomic layer deposited alumina for organic devices. Organic Electronics, 2015, 17, 138-143.	2.6	66
61	Influence of Oxygen Content on the Structure and Reliability of Ferroelectric Hf _x Zr _{1-x} O ₂ Layers. ACS Applied Electronic Materials, 2020, 2, 3618-3626.	4.3	65
62	Effect of acceptor doping on phase transitions of HfO ₂ thin films for energy-related applications. Nano Energy, 2017, 36, 381-389.	16.0	64
63	Memory technology—a primer for material scientists. Reports on Progress in Physics, 2020, 83, 086501.	20.1	64
64	Recent progress for obtaining the ferroelectric phase in hafnium oxide based films: impact of oxygen and zirconium. Japanese Journal of Applied Physics, 2019, 58, SLO801.	1.5	62
65	Interplay between oxygen defects and dopants: effect on structure and performance of HfO ₂ -based ferroelectrics. Inorganic Chemistry Frontiers, 2021, 8, 2650-2672.	6.0	62
66	Many routes to ferroelectric HfO ₂ : A review of current deposition methods. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	2.1	60
67	Bulk Depolarization Fields as a Major Contributor to the Ferroelectric Reliability Performance in Lanthanum Doped Hf _{0.5} Zr _{0.5} O ₂ Capacitors. Advanced Materials Interfaces, 2019, 6, 1901180.	3.7	59
68	SoC Compatible 1T1C FeRAM Memory Array Based on Ferroelectric Hf _{0.5} Zr _{0.5} O ₂ . , 2020, , .		59
69	Fluid Imprint and Inertial Switching in Ferroelectric La:HfO ₂ Capacitors. ACS Applied Materials & Interfaces, 2019, 11, 35115-35121.	8.0	58
70	Comparative Study of Reliability of Ferroelectric and Anti-Ferroelectric Memories. IEEE Transactions on Device and Materials Reliability, 2018, 18, 154-162.	2.0	57
71	Demonstration of BEOL-compatible ferroelectric Hf _{0.5} Zr _{0.5} O ₂ scaled FeRAM co-integrated with 130nm CMOS for embedded NVM applications. , 2019, , .		57
72	Involvement of Unsaturated Switching in the Endurance Cycling of Si-Doped HfO ₂ Ferroelectric Thin Films. Advanced Electronic Materials, 2020, 6, 2000264.	5.1	56

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73	Analysis of Performance Instabilities of Hafnia-Based Ferroelectrics Using Modulus Spectroscopy and Thermally Stimulated Depolarization Currents. <i>Advanced Electronic Materials</i> , 2018, 4, 1700547.	5.1	51
74	Negative Capacitance for Electrostatic Supercapacitors. <i>Advanced Energy Materials</i> , 2019, 9, 1901154.	19.5	50
75	Domains and domain dynamics in fluorite-structured ferroelectrics. <i>Applied Physics Reviews</i> , 2021, 8, .	11.3	50
76	Breakdown and Protection of ALD Moisture Barrier Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 22121-22127.	8.0	46
77	Built-In Bias Generation in Anti-Ferroelectric Stacks: Methods and Device Applications. <i>IEEE Journal of the Electron Devices Society</i> , 2018, 6, 1019-1025.	2.1	45
78	Demonstration of High-speed Hysteresis-free Negative Capacitance in Ferroelectric $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$, , 2018, , .		45
79	Polarization switching in thin doped HfO_2 ferroelectric layers. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	45
80	Impact of vacancies and impurities on ferroelectricity in PVD- and ALD-grown HfO_2 films. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	44
81	Pyroelectricity of silicon-doped hafnium oxide thin films. <i>Applied Physics Letters</i> , 2018, 112, 142901.	3.3	42
82	What's next for negative capacitance electronics?. <i>Nature Electronics</i> , 2020, 3, 504-506.	26.0	42
83	Impact of Oxygen Vacancy Content in Ferroelectric HZO films on the Device Performance. , 2020, , .		42
84	How to make DRAM non-volatile? Anti-ferroelectrics: A new paradigm for universal memories. , 2016, , .		40
85	Influence of Al_2O_3 Dielectrics on the Trap-Depth Profiles in MOS Devices Investigated by the Charge-Pumping Method. <i>IEEE Transactions on Electron Devices</i> , 2004, 51, 2252-2255.	3.0	39
86	Origin of the endurance degradation in the novel HfO_2 -based 1T ferroelectric non-volatile memories. , 2014, , .		39
87	Stabilizing the ferroelectric phase in HfO_2 -based films sputtered from ceramic targets under ambient oxygen. <i>Nanoscale</i> , 2021, 13, 912-921.	5.6	39
88	Piezoelectricity in hafnia. <i>Nature Communications</i> , 2021, 12, 7301.	12.8	37
89	Genuinely Ferroelectric Sub-1-Volt-Switchable Nanodomains in $\text{Hf}_{1-x}\text{Zr}_x\text{O}_2$ Ultrathin Capacitors. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 30514-30521.	8.0	36
90	Conduction barrier offset engineering for DRAM capacitor scaling. <i>Solid-State Electronics</i> , 2016, 115, 133-139.	1.4	35

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91	Interface chemistry of pristine TiN/La:Hf _{0.5} Zr _{0.5} O ₂ capacitors. Applied Physics Letters, 2020, 116, .	3.3	35
92	A computational study of hafnia-based ferroelectric memories: from ab initio via physical modeling to circuit models of ferroelectric device. Journal of Computational Electronics, 2017, 16, 1236-1256.	2.5	33
93	Enhanced Ferroelectric Polarization in TiN/HfO ₂ /TiN Capacitors by Interface Design. ACS Applied Electronic Materials, 2020, 2, 3152-3159.	4.3	33
94	Impact of Iridium Oxide Electrodes on the Ferroelectric Phase of Thin Hf _{0.5} Zr _{0.5} O ₂ Films. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100012.	2.4	33
95	New Materials in Memory Development Sub 50nm: Trends in Flash and DRAM. Advanced Engineering Materials, 2009, 11, 241-248.	3.5	32
96	Reliability of Al ₂ O ₃ -doped ZrO ₂ high-k dielectrics in three-dimensional stacked metal-insulator-metal capacitors. Journal of Applied Physics, 2010, 108, .	2.5	32
97	Impact of charge trapping on the ferroelectric switching behavior of doped HfO ₂ . Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 270-273.	1.8	28
98	Material perspectives of HfO ₂ -based ferroelectric films for device applications. , 2019, , .		28
99	Low leakage ZrO ₂ based capacitors for sub 20nm dynamic random access memory technology nodes. Journal of Applied Physics, 2016, 119, .	2.5	27
100	Universal Curie constant and pyroelectricity in doped ferroelectric HfO ₂ thin films. Nano Energy, 2020, 74, 104733.	16.0	27
101	Conduction Mechanisms and Breakdown Characteristics of Al ₂ O ₃ -Doped ZrO ₂ High-k Dielectrics for Three-Dimensional Stacked Metal-Insulator-Metal Capacitors. IEEE Transactions on Device and Materials Reliability, 2014, 14, 154-160.	2.0	25
102	Insights into antiferroelectrics from first-order reversal curves. Applied Physics Letters, 2017, 111, .	3.3	25
103	Hf _{1-x} Zr _x O ₂ thin films for semiconductor applications: An Hf- and Zr-ALD precursor comparison. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	2.1	25
104	Impact of area scaling on the ferroelectric properties of back-end of line compatible Hf _{0.5} Zr _{0.5} O ₂ and Si:HfO ₂ -based MFM capacitors. Applied Physics Letters, 2021, 118, .	3.3	25
105	Low Temperature Compatible Hafnium Oxide Based Ferroelectrics. Ferroelectrics, 2015, 480, 16-23.	0.6	24
106	Next Generation Ferroelectric Memories enabled by Hafnium Oxide. , 2019, , .		24
107	High-Endurance and Low-Voltage operation of 1T1C FeRAM Arrays for Nonvolatile Memory Application. , 2021, , .		24
108	Influence of oxygen source on the ferroelectric properties of ALD grown Hf _{1-x} Zr _x O ₂ films. Journal Physics D: Applied Physics, 2021, 54, 035102.	2.8	24

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109	1T1C FeRAM Memory Array Based on Ferroelectric HZO With Capacitor Under Bitline. IEEE Journal of the Electron Devices Society, 2022, 10, 29-34.	2.1	24
110	Modeling and design considerations for negative capacitance field-effect transistors. , 2017, , .		22
111	Temperature-Dependent Phase Transitions in $\text{Hf}_{1-x}\text{Zr}_x\text{O}_2$ Mixed Oxides: Indications of a Proper Ferroelectric Material. Advanced Electronic Materials, 2022, 8, .	5.1	22
112	Reliability of $\text{SrRuO}_3/\text{SrTiO}_3/\text{SrRuO}_3$ Stacks for DRAM Applications. IEEE Electron Device Letters, 2012, 33, 1699-1701.	3.9	21
113	OLED compatible water-based nanolaminate encapsulation systems using ozone based starting layer. Organic Electronics, 2014, 15, 2587-2592.	2.6	21
114	Comparison of hafnia and PZT based ferroelectrics for future non-volatile FRAM applications. , 2016, , .		21
115	Physical properties of ALD- Al_2O_3 in a DRAM-capacitor equivalent structure comparing interfaces and oxygen precursors. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2004, 107, 251-254.	3.5	20
116	Influence of Frequency Dependent Time to Breakdown on High-K/Metal Gate Reliability. IEEE Transactions on Electron Devices, 2013, 60, 2368-2371.	3.0	20
117	Ferroelectric $\text{Hf}_{1-x}\text{Zr}_x\text{O}_2$ memories: device reliability and depolarization fields. , 2019, , .		20
118	Film properties of low temperature HfO_2 grown with H_2O , O_3 , or remote O_2 -plasma. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, .	2.1	19
119	Embedding hafnium oxide based FeFETs in the memory landscape. , 2018, , .		19
120	Local structural investigation of hafnia-zirconia polymorphs in powders and thin films by X-ray absorption spectroscopy. Acta Materialia, 2019, 180, 158-169.	7.9	19
121	Time dependent dielectric breakdown of amorphous ZrAl_xO_y high-k dielectric used in dynamic random access memory metal-insulator-metal capacitor. Journal of Applied Physics, 2009, 106, .	2.5	18
122	Wake-Up Mechanisms in Ferroelectric Lanthanum-Doped $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Thin Films. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000281.	1.8	18
123	Ferroelectricity in bulk hafnia. Nature Materials, 2021, 20, 718-719.	27.5	18
124	Ultra-thin $\text{ZrO}_2/\text{SrO}/\text{ZrO}_2$ insulating stacks for future dynamic random access memory capacitor applications. Journal of Applied Physics, 2015, 117, .	2.5	17
125	Lanthanum doping induced structural changes and their implications on ferroelectric properties of $\text{Hf}_{1-x}\text{Zr}_x\text{O}_2$ thin film. Applied Physics Letters, 2020, 117, .	3.3	17
126	Harnessing Phase Transitions in Antiferroelectric ZrO_2 Using the Size Effect. Advanced Electronic Materials, 2022, 8, 2100556.	5.1	17

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127	Oxygen vacancy concentration as a function of cycling and polarization state in TiN/Hf _{0.5} Zr _{0.5} O ₂ /TiN ferroelectric capacitors studied by x-ray photoemission electron microscopy. Applied Physics Letters, 2022, 120, .	3.3	16
128	Raman Spectroscopy as a Key Method to Distinguish the Ferroelectric Orthorhombic Phase in Thin ZrO ₂ -Based Films. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	15
129	Root cause of degradation in novel HfO ₂ -based ferroelectric memories. , 2016, , .		14
130	Physical Approach to Ferroelectric Impedance Spectroscopy: The Rayleigh Element. Physical Review Applied, 2018, 10, .	3.8	14
131	A Gibbs energy view of double hysteresis in ZrO ₂ and Si-doped HfO ₂ . Applied Physics Letters, 2020, 117, .	3.3	14
132	Chemical Stability of IrO ₂ Top Electrodes in Ferroelectric Hf _{0.5} Zr _{0.5} O ₂ -Based Metal-Insulator-Metal Structures: The Impact of Annealing Gas. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100027.	2.4	14
133	Special topic on ferroelectricity in hafnium oxide: Materials and devices. Applied Physics Letters, 2021, 118, .	3.3	14
134	Integration of molecular-layer-deposited aluminum alkoxide interlayers into inorganic nanolaminate barriers for encapsulation of organic electronics with improved stress resistance. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	13
135	Dopants in Atomic Layer Deposited HfO ₂ Thin Films. , 2019, , 49-74.		13
136	High-Performance Operation and Solder Reflow Compatibility in BEOL-Integrated 16-kb HfO ₂ : Si-Based 1T-1C FeRAM Arrays. IEEE Transactions on Electron Devices, 2022, 69, 2108-2114.	3.0	13
137	First Insight Into the Lifetime Acceleration Model of High- k $\text{HfO}_2/\text{SiO}_2/\text{ZrO}_2$ Stacks for Advanced DRAM Technology Nodes. IEEE Electron Device Letters, 2009, 30, 340-342.	3.9	12
138	Anti-ferroelectric ZrO ₂ , an enabler for low power non-volatile 1T-1C and 1T random access memories. , 2017, , .		12
139	Temperature-Dependent Subcycling Behavior of Si-Doped HfO ₂ Ferroelectric Thin Films. ACS Applied Electronic Materials, 2021, 3, 2415-2422.	4.3	12
140	16kbit HfO ₂ :Si-based 1T-1C FeRAM Arrays Demonstrating High Performance Operation and Solder Reflow Compatibility. , 2021, , .		12
141	Recent Developments in ALD Technology for 50 nm Trench DRAM Applications. ECS Transactions, 2006, 1, 125-132.	0.5	11
142	Reliability aspects of Hf-based capacitors: Breakdown and trapping effects. Microelectronics Reliability, 2007, 47, 497-500.	1.7	11
143	Intrinsic or nucleation-driven switching: An insight from nanoscopic analysis of negative capacitance Hf _{1-x} Zr _x O ₂ -based structures. Applied Physics Letters, 2020, 117, .	3.3	11
144	Binary ferroelectric oxides for future computing paradigms. MRS Bulletin, 2021, 46, 1071-1079.	3.5	11

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145	Atomic layer etching of ferroelectric hafnium zirconium oxide thin films enables giant tunneling electroresistance. Applied Physics Letters, 2022, 120, .	3.3	11
146	Detailed Correlation of Electrical and Breakdown Characteristics to the Structural Properties of ALD Grown HfO ₂ - and ZrO ₂ -based Capacitor Dielectrics. ECS Transactions, 2009, 25, 357-366.	0.5	10
147	The Rayleigh law in silicon doped hafnium oxide ferroelectric thin films. Physica Status Solidi - Rapid Research Letters, 2015, 9, 589-593.	2.4	10
148	Correspondence - Dynamic leakage current compensation revisited. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 596-599.	3.0	10
149	Atomic layer deposited TiO ₂ /AlO ₃ nanolaminates as moisture barriers for organic devices. Organic Electronics, 2016, 38, 84-88.	2.6	10
150	Subthreshold Behavior of Floating-Gate MOSFETs With Ferroelectric Capacitors. IEEE Transactions on Electron Devices, 2018, 65, 4641-4645.	3.0	10
151	Performance assessment of BEOL-integrated HfO ₂ -based ferroelectric capacitors for FeRAM memory arrays. , 2020, , .		10
152	An unexplored antipolar phase in HfO ₂ from first principles and implication for wake-up mechanism. Applied Physics Letters, 2021, 119, 082903.	3.3	10
153	Influence of Si-Doping on 45 nm Thick Ferroelectric ZrO ₂ Films. ACS Applied Electronic Materials, 2022, 4, 3648-3654.	4.3	10
154	Reliability Comparison of ZrO ₂ -Based DRAM High-k Dielectrics Under DC and AC Stress. IEEE Transactions on Device and Materials Reliability, 2017, 17, 324-330.	2.0	9
155	Reliability aspects of ferroelectric hafnium oxide for application in non-volatile memories. , 2021, , .		9
156	Reliability Study of 1T1C FeRAM Arrays With Hf _{0.5} Zr _{0.5} O ₂ , Thickness Scaling. IEEE Journal of the Electron Devices Society, 2022, 10, 778-783.	2.1	9
157	High-Quality Al ₂ O ₃ /Pr ₂ O ₃ /Al ₂ O ₃ MIM Capacitors for RF Applications. IEEE Transactions on Electron Devices, 2006, 53, 1937-1939.	3.0	8
158	Broad Phase Transition of Fluorite-Structured Ferroelectrics for Large Electrocaloric Effect. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900177.	2.4	8
159	Nonvolatile Field-Effect Transistors Using Ferroelectric Doped HfO ₂ Films. Topics in Applied Physics, 2016, , 57-72.	0.8	7
160	The atomic and electronic structure of Hf _{0.5} Zr _{0.5} O ₂ and Hf _{0.5} Zr _{0.5} O ₂ :La films. Journal of Science: Advanced Materials and Devices, 2021, 6, 595-600.	3.1	7
161	Pyroelectric dependence of atomic layer-deposited Hf _{0.5} Zr _{0.5} O ₂ on film thickness and annealing temperature. Applied Physics Letters, 2021, 119, .	3.3	7
162	Impact of field cycling on HfO ₂ based non-volatile memory devices. , 2016, , .		6

#	ARTICLE	IF	CITATIONS
163	Memory Window Enhancement in Antiferroelectric RAM by Hf Doping in ZrO ₂ , IEEE Electron Device Letters, 2022, 43, 1447-1450.	3.9	6
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