Uwe Schroeder

List of Publications by Year
in descending order

193 papers	14,366 citations	19657 61 h-index	21540 114 g-index
198 all docs	198 docs citations	198 times ranked	5129 citing authors

#	Article	IF	Citations
1	Ferroelectricity and Antiferroelectricity of Doped Thin HfO₂â€Based Films. Advanced Materials, 2015, 27, 1811-1831.	21.0	777
2	Incipient Ferroelectricity in Alâ€Doped HfO₂ Thin Films. Advanced Functional Materials, 2012, 22, 2412-2417.	14.9	640
3	Physical Mechanisms behind the Fieldâ€Cycling Behavior of HfO₂â€Based Ferroelectric Capacitors. Advanced Functional Materials, 2016, 26, 4601-4612.	14.9	586
4	On the structural origins of ferroelectricity in HfO2 thin films. Applied Physics Letters, 2015, 106, .	3.3	447
5	Stabilizing the ferroelectric phase in doped hafnium oxide. Journal of Applied Physics, 2015, 118, .	2.5	424
6	Review and perspective on ferroelectric HfO2-based thin films for memory applications. MRS Communications, 2018, 8, 795-808.	1.8	360
7	Impact of different dopants on the switching properties of ferroelectric hafniumoxide. Japanese Journal of Applied Physics, 2014, 53, 08LE02.	1.5	318
8	Structural Changes Underlying Fieldâ€Cycling Phenomena in Ferroelectric HfO₂ Thin Films. Advanced Electronic Materials, 2016, 2, 1600173.	5.1	301
9	Unveiling the double-well energy landscape in a ferroelectric layer. Nature, 2019, 565, 464-467.	27.8	286
10	Switching Kinetics in Nanoscale Hafnium Oxide Based Ferroelectric Field-Effect Transistors. ACS Applied Materials & Interfaces, 2017, 9, 3792-3798.	8.0	252
11	A comprehensive study on the structural evolution of HfO₂thin films doped with various dopants. Journal of Materials Chemistry C, 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. Nanoscale, 2017, 9, 9973-9986.	5.6	249
13	Crystallization behavior of thin ALD-Al2O3 films. Thin Solid Films, 2003, 425, 216-220.	1.8	245
14	Lanthanum-Doped Hafnium Oxide: A Robust Ferroelectric Material. Inorganic Chemistry, 2018, 57, 2752-2765.	4.0	241
15	Towards Oxide Electronics: a Roadmap. Applied Surface Science, 2019, 482, 1-93.	6.1	236
16	Direct Observation of Negative Capacitance in Polycrystalline Ferroelectric HfO₂. Advanced Functional Materials, 2016, 26, 8643-8649.	14.9	234
17	Charge-Trapping Phenomena in HfO₂-Based FeFET-Type Nonvolatile Memories. IEEE Transactions on Electron Devices, 2016, 63, 3501-3507.	3.0	233
18	The Past, the Present, and the Future of Ferroelectric Memories. IEEE Transactions on Electron Devices, 2020, 67, 1434-1443.	3.0	226

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19	Ferroelectricity in Gd-Doped HfO₂Thin 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}O₂ 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 HfO2: 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 $ hbox{Si: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_{1â€"<i>x</i>}Zr_{<i>x</i>}O₂ Films. ACS Applied Materials & Interfaces, 2016, 8, 15466-15475.	8.0	172
28	The fundamentals and applications of ferroelectric HfO2. Nature Reviews Materials, 2022, 7, 653-669.	48.7	162
29	Nonvolatile Random Access Memory and Energy Storage Based on Antiferroelectric Like Hysteresis in ZrO₂. 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 hafniaâ€"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 Hf1-xZrxO2 and pure ZrO2 films. Applied Physics Letters, 2017, 110, .	3.3	141
34	Ten-Nanometer Ferroelectric $hbox{Si:HfO}_{2}$ Films for Next-Generation FRAM Capacitors. IEEE Electron Device Letters, 2012, 33, 1300-1302.	3.9	136
35	Si Doped Hafnium Oxideâ€"A â€œFragileâ€•Ferroelectric System. Advanced Electronic Materials, 2017, 3, 1700131.	5.1	136
36	Impact of Scaling on the Performance of HfO₂-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. Advanced Electronic Materials, 2019, 5, 1800522.	5.1	128
38	Origin of Ferroelectric Phase in Undoped HfO₂ Films Deposited by Sputtering. Advanced Materials Interfaces, 2019, 6, 1900042.	3.7	118
39	Atomic Structure of Domain and Interphase Boundaries in Ferroelectric HfO₂. Advanced Materials Interfaces, 2018, 5, 1701258.	3.7	114
40	On the stabilization of ferroelectric negative capacitance in nanoscale devices. Nanoscale, 2018, 10, 10891-10899.	5.6	110
41	Hafnium Oxide Based CMOS Compatible Ferroelectric Materials. ECS Journal of Solid State Science and Technology, 2013, 2, N69-N72.	1.8	101
42	Physical chemistry of the TiN/Hf0.5Zr0.5O2 interface. Journal of Applied Physics, 2020, 127, .	2.5	101
43	Domain Pinning: Comparison of Hafnia and PZT Based Ferroelectrics. Advanced Electronic Materials, 2017, 3, 1600505.	5.1	99
44	Review of defect chemistry in fluorite-structure ferroelectrics for future electronic devices. Journal of Materials Chemistry C, 2020, 8, 10526-10550.	5.5	94
45	Silicon-doped hafnium oxide anti-ferroelectric thin films for energy storage. Journal of Applied Physics, 2017, 122, .	2.5	93
46	Electric field and temperature scaling of polarization reversal in silicon doped hafnium oxide ferroelectric thin films. Acta Materialia, 2015, 99, 240-246.	7.9	89
47	Optimizing process conditions for improved Hf1â˘’xZrxO2 ferroelectric capacitor performance. Microelectronic Engineering, 2017, 178, 48-51.	2.4	88
48	Nanoscopic studies of domain structure dynamics in ferroelectric La:HfO2 capacitors. Applied Physics Letters, 2018, 112, .	3.3	85
49	On the Origin of the Large Remanent Polarization in La:HfO₂. Advanced Electronic Materials, 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 HfO₂ Thin Films: In Situ, High Temperature Xâ€Ray Diffraction. Advanced Electronic Materials, 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. Applied Physics Letters, 2008, 92, .	3.3	76
53	Identification of the nature of traps involved in the field cycling of Hf0.5Zr0.5O2-based ferroelectric thin films. Acta Materialia, 2019, 166, 47-55.	7.9	76
54	On the relationship between field cycling and imprint in ferroelectric Hf0.5Zr0.5O2. Journal of Applied Physics, 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 ALDâ€“Al2O3 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:HfO2 thin films grown by plasma-assisted atomic layer deposition. Applied Physics Letters, 2017, 111, .	3.3	69
59	Origin of Temperatureâ€Dependent Ferroelectricity in Siâ€Doped HfO₂. 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_{<i>x</i>}Zr_{1â€“<i>x</i>}O₂ Layers. ACS Applied Electronic Materials, 2020, 2, 3618-3626.	4.3	65
62	Effect of acceptor doping on phase transitions of HfO2 thin films for energy-related applications. Nano Energy, 2017, 36, 381-389.	16.0	64
63	Memory technologyâ€"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, SL0801.	1.5	62
65	Interplay between oxygen defects and dopants: effect on structure and performance of HfO₂-based ferroelectrics. Inorganic Chemistry Frontiers, 2021, 8, 2650-2672.	6.0	62
66	Many routes to ferroelectric HfO2: 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}O₂ Capacitors. Advanced Materials Interfaces, 2019, 6, 1901180.	3.7	59
68	SoC Compatible 1T1C FeRAM Memory Array Based on Ferroelectric Hf0.5Zr0.5O2. , 2020, , .		59
69	Fluid Imprint and Inertial Switching in Ferroelectric La:HfO₂ 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}O₂ scaled FeRAM co-integrated with 130nm CMOS for embedded NVM applications. , 2019, , .		57
72	Involvement of Unsaturated Switching in the Endurance Cycling of Siâ€doped HfO₂ Ferroelectric Thin Films. Advanced Electronic Materials, 2020, 6, 2000264.	5.1	56

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73	Analysis of Performance Instabilities of Hafniaâ€Based Ferroelectrics Using Modulus Spectroscopy and Thermally Stimulated Depolarization Currents. Advanced Electronic Materials, 2018, 4, 1700547.	5.1	51
74	Negative Capacitance for Electrostatic Supercapacitors. Advanced Energy Materials, 2019, 9, 1901154.	19.5	50
75	Domains and domain dynamics in fluorite-structured ferroelectrics. Applied Physics Reviews, 2021, 8, .	11.3	50
76	Breakdown and Protection of ALD Moisture Barrier Thin Films. ACS Applied Materials & Interfaces, 2015, 7, 22121-22127.	8.0	46
77	Built-In Bias Generation in Anti-Ferroelectric Stacks: Methods and Device Applications. IEEE Journal of the Electron Devices Society, 2018, 6, 1019-1025.	2.1	45
78	Demonstration of High-speed Hysteresis-free Negative Capacitance in Ferroelectric Hf<inf>0.5</inf>Zr<inf>0.5</inf>O<inf>2</inf>. , 2018, , .		45
79	Polarization switching in thin doped HfO2 ferroelectric layers. Applied Physics Letters, 2020, 117, .	3.3	45
80	Impact of vacancies and impurities on ferroelectricity in PVD- and ALD-grown HfO2 films. Applied Physics Letters, 2021, 118, .	3.3	44
81	Pyroelectricity of silicon-doped hafnium oxide thin films. Applied Physics Letters, 2018, 112, 142901.	3.3	42
82	Whatâ€™s next for negative capacitance electronics?. Nature Electronics, 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<tex>$hbox Al_2hbox O_3$</tex>Dielectrics on the Trap-Depth Profiles in MOS Devices Investigated by the Charge-Pumping Method. IEEE Transactions on Electron Devices, 2004, 51, 2252-2255.	3.0	39
86	Origin of the endurance degradation in the novel HfO<inf>2</inf>-based 1T ferroelectric non-volatile memories. , 2014, , .		39
87	Stabilizing the ferroelectric phase in HfO₂-based films sputtered from ceramic targets under ambient oxygen. Nanoscale, 2021, 13, 912-921.	5.6	39
88	Piezoelectricity in hafnia. Nature Communications, 2021, 12, 7301.	12.8	37
89	Genuinely Ferroelectric Sub-1-Volt-Switchable Nanodomains in Hf_{<i>x</i>}Zr_(1â€“<i>x</i>)O₂ Ultrathin Capacitors. ACS Applied Materials & Interfaces, 2018, 10, 30514-30521.	8.0	36
90	Conduction barrier offset engineering for DRAM capacitor scaling. Solid-State Electronics, 2016, 115, 133-139.	1.4	35

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91	Interface chemistry of pristine TiN/La:Hf0.5Zr0.5O2 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/HfO₂/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}O₂ Films. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100012.	2.4	33
95	New Materials in Memory Development Sub 50â€‰nm: Trends in Flash and DRAM. Advanced Engineering Materials, 2009, 11, 241-248.	3.5	32
96	Reliability of Al2O3-doped ZrO2 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 HfO₂. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 270-273.	1.8	28
98	Material perspectives of HfO₂-based ferroelectric films for device applications. , 2019, , .		28
99	Low leakage ZrO2 based capacitors for sub 20â€‰nm dynamic random access memory technology nodes. Journal of Applied Physics, 2016, 119, .	2.5	27
100	Universal Curie constant and pyroelectricity in doped ferroelectric HfO2 thin films. Nano Energy, 2020, 74, 104733.	16.0	27
101	Conduction Mechanisms and Breakdown Characteristics of $hbox{Al}_{2}hbox{O}_{3}$-Doped $hbox{ZrO}_{2}$ High-k Dielectrics for Three-Dimensional Stacked Metalâ€“Insulatorâ€“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	HfxZr1â€‰â^'â€‰xO2 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 Hf0.5Zr0.5O2 and Si:HfO2-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_xO₂ 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	Temperatureâ€Dependent Phase Transitions in Hf_xZr_{1â€x}O₂ Mixed Oxides: Indications of a Proper Ferroelectric Material. Advanced Electronic Materials, 2022, 8, .	5.1	22
112	Reliability of $hbox{SrRuO}_{3}hbox{/SrTiO}_{3}hbox{/SrRuO}_{3}$ 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-Al2O3 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 Hf_{1-x}Zr_xO₂ memories: device reliability and depolarization fields. , 2019, , .		20
118	Film properties of low temperature HfO2 grown with H2O, O3, or remote O2-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 ZrAlxOy high-k dielectric used in dynamic random access memory metal-insulator-metal capacitor. Journal of Applied Physics, 2009, 106, .	2.5	18
122	Wakeâ€Up Mechanisms in Ferroelectric Lanthanumâ€Doped Hf_{0.5}Zr_{0.5}O₂ 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 ZrO2/SrO/ZrO2 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 Hf1âˆ’xZrxO2 thin film. Applied Physics Letters, 2020, 117, .	3.3	17
126	Harnessing Phase Transitions in Antiferroelectric ZrO₂ 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/Hf0.5Zr0.5O2/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 ZrO₂â€Based Films. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	15
129	Root cause of degradation in novel HfO<inf>2</inf>-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 ZrO2 and Si-doped HfO2. Applied Physics Letters, 2020, 117, .	3.3	14
132	Chemical Stability of IrO₂ Top Electrodes in Ferroelectric Hf_{0.5}Zr_{0.5}O₂â€Based Metalâ€“Insulatorâ€“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 HfO2 Thin Films. , 2019, , 49-74.		13
136	High-Performance Operation and Solder Reflow Compatibility in BEOL-Integrated 16-kb HfO₂: 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$$hbox{ZrO}_{2}/hbox{SiO}_{2}/hbox{ZrO}_{2}$ Stacks for Advanced DRAM Technology Nodes. IEEE Electron Device Letters, 2009, 30, 340-342.	3.9	12
138	Anti-ferroelectric ZrO<inf>2</inf>, an enabler for low power non-volatile 1T-1C and 1T random access memories. , 2017, , .		12
139	Temperature-Dependent Subcycling Behavior of Si-Doped HfO₂ Ferroelectric Thin Films. ACS Applied Electronic Materials, 2021, 3, 2415-2422.	4.3	12
140	16kbit HfO₂: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 Hf1âˆ'xZrxO2-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 HfO2- and ZrO2-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 /AlO 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 HfO₂-based ferroelectric capacitors for FeRAM memory arrays. , 2020, , .		10
152	An unexplored antipolar phase in HfO2 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 ZrO₂ Films. ACS Applied Electronic Materials, 2022, 4, 3648-3654.	4.3	10
154	Reliability Comparison of ZrO₂-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}Oâ,, Thickness Scaling. IEEE Journal of the Electron Devices Society, 2022, 10, 778-783.	2.1	9
157	High-Quality$hboxAl_2hboxO_3/hboxPr_2hboxO_3/hboxAl_2hboxO_3$MIM Capacitors for RF Applications. IEEE Transactions on Electron Devices, 2006, 53, 1937-1939.	3.0	8
158	Broad Phase Transition of Fluoriteâ€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 HfO2 Films. Topics in Applied Physics, 2016, , 57-72.	0.8	7
160	The atomic and electronic structure of Hf0.5Zr0.5O2 and Hf0.5Zr0.5O2:La films. Journal of Science: Advanced Materials and Devices, 2021, 6, 595-600.	3.1	7
161	Pyroelectric dependence of atomic layer-deposited Hf0.5Zr0.5O2 on film thickness and annealing temperature. Applied Physics Letters, 2021, 119, .	3.3	7
162	Impact of field cycling on HfO₂ based non-volatile memory devices. , 2016, , .		6

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163	Memory Window Enhancement in Antiferroelectric RAM by Hf Doping in ZrOâ‚‚. IEEE Electron Device Letters, 2022, 43, 1447-1450.	3.9	6
164	Effect of Surface/Interface Energy and Stress on the Ferroelectric Properties. , 2019, , 145-172.		5
165	Ferroelectric One Transistor/One Capacitor Memory Cell. , 2019, , 413-424.		5
166	The Case for Ferroelectrics in Future Memory Devices. , 2021, , .		5
167	Bipolar conductivity in ferroelectric La:HfZrO films. Applied Physics Letters, 2021, 118, .	3.3	5
168	(Invited) Hafnium Oxide Based CMOS Compatible Ferroelectric Materials. ECS Transactions, 2013, 50, 15-20.	0.5	4
169	Reliability aspects of novel anti-ferroelectric non-volatile memories compared to hafnia based ferroelectric memories. , 2017, , .		4
170	Hafnium oxide based ferroelectric devices for memories and beyond. , 2018, , .		4
171	Field Cycling Behavior of Ferroelectric HfO2-Based Capacitors. , 2019, , 381-398.		4
172	Thickness Scaling of AFE-RAM ZrO₂ Capacitors with High Cycling Endurance and Low Process Temperature. , 2020, , .		4
173	Demonstration of Fatigue and Recovery Phenomena in Hf_{0.5}Zr_{0.5}O₂-based 1T1C FeRAM Memory Arrays. , 2022, , .		4
174	Downscaling ferroelectric field effect transistors by using ferroelectric Si-doped HfO2. , 2012, , .		3
175	Non-volatile data storage in HfO2-based ferroelectric FETs. , 2012, , .		3
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