

Uwe Schroeder

List of Publications by Citations

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179
papers

9,547
citations

51
h-index

94
g-index

198
ext. papers

11,692
ext. citations

6
avg, IF

6.53
L-index

| # | Paper | IF | Citations |
|-----|--|------|-----------|
| 179 | Ferroelectricity and antiferroelectricity of doped thin HfO ₂ -based films. <i>Advanced Materials</i> , 2015 , 27, 1811-31 | 24 | 554 |
| 178 | Incipient Ferroelectricity in Al-Doped HfO ₂ Thin Films. <i>Advanced Functional Materials</i> , 2012 , 22, 2412-2417 | 5.6 | 477 |
| 177 | Physical Mechanisms behind the Field-Cycling Behavior of HfO ₂ -Based Ferroelectric Capacitors. <i>Advanced Functional Materials</i> , 2016 , 26, 4601-4612 | 15.6 | 397 |
| 176 | On the structural origins of ferroelectricity in HfO ₂ thin films. <i>Applied Physics Letters</i> , 2015 , 106, 162905 | 3.4 | 310 |
| 175 | Stabilizing the ferroelectric phase in doped hafnium oxide. <i>Journal of Applied Physics</i> , 2015 , 118, 072006 | 2.5 | 294 |
| 174 | Impact of different dopants on the switching properties of ferroelectric hafniumoxide. <i>Japanese Journal of Applied Physics</i> , 2014 , 53, 08LE02 | 1.4 | 240 |
| 173 | Crystallization behavior of thin ALD-Al ₂ O ₃ films. <i>Thin Solid Films</i> , 2003 , 425, 216-220 | 2.2 | 216 |
| 172 | Structural Changes Underlying Field-Cycling Phenomena in Ferroelectric HfO ₂ Thin Films. <i>Advanced Electronic Materials</i> , 2016 , 2, 1600173 | 6.4 | 215 |
| 171 | Review and perspective on ferroelectric HfO ₂ -based thin films for memory applications. <i>MRS Communications</i> , 2018 , 8, 795-808 | 2.7 | 209 |
| 170 | Unveiling the double-well energy landscape in a ferroelectric layer. <i>Nature</i> , 2019 , 565, 464-467 | 50.4 | 190 |
| 169 | Switching Kinetics in Nanoscale Hafnium Oxide Based Ferroelectric Field-Effect Transistors. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 3792-3798 | 9.5 | 179 |
| 168 | Ferroelectricity in Gd-Doped HfO ₂ Thin Films. <i>ECS Journal of Solid State Science and Technology</i> , 2012 , 1, N123-N126 | 2 | 177 |
| 167 | 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 | 7.1 | 174 |
| 166 | Direct Observation of Negative Capacitance in Polycrystalline Ferroelectric HfO ₂ . <i>Advanced Functional Materials</i> , 2016 , 26, 8643-8649 | 15.6 | 168 |
| 165 | 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 | 7.7 | 162 |
| 164 | Lanthanum-Doped Hafnium Oxide: A Robust Ferroelectric Material. <i>Inorganic Chemistry</i> , 2018 , 57, 2752-2765 | 3.65 | 161 |
| 163 | Towards Oxide Electronics: a Roadmap. <i>Applied Surface Science</i> , 2019 , 482, 1-93 | 6.7 | 160 |

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| 162 | Charge-Trapping Phenomena in HfO ₂ -Based FeFET-Type Nonvolatile Memories. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 3501-3507 | 2.9 | 152 |
| 161 | Complex Internal Bias Fields in Ferroelectric Hafnium Oxide. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 20224-33 | 9.5 | 151 |
| 160 | Identification of the ferroelectric switching process and dopant-dependent switching properties in orthorhombic HfO ₂ : A first principles insight. <i>Applied Physics Letters</i> , 2014 , 104, 092906 | 3.4 | 142 |
| 159 | Improved Ferroelectric Switching Endurance of La-Doped HfZrO Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 2701-2708 | 9.5 | 134 |
| 158 | Ferroelectric hafnium oxide for ferroelectric random-access memories and ferroelectric field-effect transistors. <i>MRS Bulletin</i> , 2018 , 43, 340-346 | 3.2 | 134 |
| 157 | Ferroelectric phase transitions in nanoscale HfO ₂ films enable giant pyroelectric energy conversion and highly efficient supercapacitors. <i>Nano Energy</i> , 2015 , 18, 154-164 | 17.1 | 133 |
| 156 | Reliability Characteristics of Ferroelectric Si:HfO_2 Thin Films for Memory Applications. <i>IEEE Transactions on Device and Materials Reliability</i> , 2013 , 13, 93-97 | 1.6 | 133 |
| 155 | Effect of Zr Content on the Wake-Up Effect in Hf _{1-x} Zr _x O ₂ Films. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 15466-75 | 9.5 | 132 |
| 154 | Electric field cycling behavior of ferroelectric hafnium oxide. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 19744-51 | 9.5 | 128 |
| 153 | Nonvolatile Random Access Memory and Energy Storage Based on Antiferroelectric Like Hysteresis in ZrO ₂ . <i>Advanced Functional Materials</i> , 2016 , 26, 7486-7494 | 15.6 | 126 |
| 152 | About the deformation of ferroelectric hystereses. <i>Applied Physics Reviews</i> , 2014 , 1, 041103 | 17.3 | 114 |
| 151 | The Past, the Present, and the Future of Ferroelectric Memories. <i>IEEE Transactions on Electron Devices</i> , 2020 , 67, 1434-1443 | 2.9 | 109 |
| 150 | Si Doped Hafnium Oxide: A Fragile Ferroelectric System. <i>Advanced Electronic Materials</i> , 2017 , 3, 1700131 | 6.4 | 105 |
| 149 | Ten-Nanometer Ferroelectric Si:HfO_2 Films for Next-Generation FRAM Capacitors. <i>IEEE Electron Device Letters</i> , 2012 , 33, 1300-1302 | 4.4 | 105 |
| 148 | Understanding the formation of the metastable ferroelectric phase in hafnia-zirconia solid solution thin films. <i>Nanoscale</i> , 2018 , 10, 716-725 | 7.7 | 103 |
| 147 | Ferroelectric and piezoelectric properties of Hf _{1-x} Zr _x O ₂ and pure ZrO ₂ films. <i>Applied Physics Letters</i> , 2017 , 110, 182905 | 3.4 | 102 |
| 146 | Impact of Scaling on the Performance of HfO ₂ -Based Ferroelectric Field Effect Transistors. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 3699-3706 | 2.9 | 96 |
| 145 | Hafnium Oxide Based CMOS Compatible Ferroelectric Materials. <i>ECS Journal of Solid State Science and Technology</i> , 2013 , 2, N69-N72 | 2 | 80 |

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| 144 | Atomic Structure of Domain and Interphase Boundaries in Ferroelectric HfO ₂ . <i>Advanced Materials Interfaces</i> , 2018 , 5, 1701258 | 4.6 | 78 |
| 143 | Domain Pinning: Comparison of Hafnia and PZT Based Ferroelectrics. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600505 | 6.4 | 76 |
| 142 | On the stabilization of ferroelectric negative capacitance in nanoscale devices. <i>Nanoscale</i> , 2018 , 10, 10891-10899 | | |
| 141 | Optimizing process conditions for improved Hf _{1-x} Zr _x O ₂ ferroelectric capacitor performance. <i>Microelectronic Engineering</i> , 2017 , 178, 48-51 | 2.5 | 71 |
| 140 | Thermodynamic and Kinetic Origins of Ferroelectricity in Fluorite Structure Oxides. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800522 | 6.4 | 71 |
| 139 | Origin of Ferroelectric Phase in Undoped HfO ₂ Films Deposited by Sputtering. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1900042 | 4.6 | 68 |
| 138 | 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, 252910 | 3.4 | 68 |
| 137 | Silicon-doped hafnium oxide anti-ferroelectric thin films for energy storage. <i>Journal of Applied Physics</i> , 2017 , 122, 144105 | 2.5 | 64 |
| 136 | Strontium doped hafnium oxide thin films: Wide process window for ferroelectric memories 2013 , | | 61 |
| 135 | Electric field and temperature scaling of polarization reversal in silicon doped hafnium oxide ferroelectric thin films. <i>Acta Materialia</i> , 2015 , 99, 240-246 | 8.4 | 59 |
| 134 | Physical chemistry of the TiN/Hf _{0.5} Zr _{0.5} O ₂ interface. <i>Journal of Applied Physics</i> , 2020 , 127, 064105 | 2.5 | 57 |
| 133 | Physical characterization of thin ALD Al ₂ O ₃ films. <i>Applied Surface Science</i> , 2003 , 211, 352-359 | 6.7 | 57 |
| 132 | Next generation ferroelectric materials for semiconductor process integration and their applications. <i>Journal of Applied Physics</i> , 2021 , 129, 100901 | 2.5 | 57 |
| 131 | Nanoscopic studies of domain structure dynamics in ferroelectric La:HfO ₂ capacitors. <i>Applied Physics Letters</i> , 2018 , 112, 222901 | 3.4 | 56 |
| 130 | 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, 204101 | 2.5 | 55 |
| 129 | Thickness dependent barrier performance of permeation barriers made from atomic layer deposited alumina for organic devices. <i>Organic Electronics</i> , 2015 , 17, 138-143 | 3.5 | 54 |
| 128 | Effect of acceptor doping on phase transitions of HfO ₂ thin films for energy-related applications. <i>Nano Energy</i> , 2017 , 36, 381-389 | 17.1 | 50 |
| 127 | Review of defect chemistry in fluorite-structure ferroelectrics for future electronic devices. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 10526-10550 | 7.1 | 50 |

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| 126 | On the Origin of the Large Remanent Polarization in La:HfO ₂ . <i>Advanced Electronic Materials</i> , 2019 , 5, 1900303 | 6.4 | 50 |
| 125 | Ferroelectric negative capacitance domain dynamics. <i>Journal of Applied Physics</i> , 2018 , 123, 184101 | 2.5 | 50 |
| 124 | Ferroelectric properties of lightly doped La:HfO ₂ thin films grown by plasma-assisted atomic layer deposition. <i>Applied Physics Letters</i> , 2017 , 111, 132903 | 3.4 | 48 |
| 123 | Effect of Annealing Ferroelectric HfO ₂ Thin Films: In Situ, High Temperature X-Ray Diffraction. <i>Advanced Electronic Materials</i> , 2018 , 4, 1800091 | 6.4 | 48 |
| 122 | Bulk Depolarization Fields as a Major Contributor to the Ferroelectric Reliability Performance in Lanthanum Doped Hf _{0.5} Zr _{0.5} O ₂ Capacitors. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1901180 | 4.6 | 47 |
| 121 | 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 | 8.4 | 46 |
| 120 | Origin of Temperature-Dependent Ferroelectricity in Si-Doped HfO ₂ . <i>Advanced Electronic Materials</i> , 2018 , 4, 1700489 | 6.4 | 44 |
| 119 | Depolarization as Driving Force in Antiferroelectric Hafnia and Ferroelectric Wake-Up. <i>ACS Applied Electronic Materials</i> , 2020 , 2, 1583-1595 | 4 | 43 |
| 118 | Breakdown and Protection of ALD Moisture Barrier Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 22121-7 | 9.5 | 42 |
| 117 | Comparative Study of Reliability of Ferroelectric and Anti-Ferroelectric Memories. <i>IEEE Transactions on Device and Materials Reliability</i> , 2018 , 18, 154-162 | 1.6 | 42 |
| 116 | Fluid Imprint and Inertial Switching in Ferroelectric La:HfO Capacitors. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 35115-35121 | 9.5 | 40 |
| 115 | Analysis of Performance Instabilities of Hafnia-Based Ferroelectrics Using Modulus Spectroscopy and Thermally Stimulated Depolarization Currents. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700547 | 6.4 | 40 |
| 114 | Recent progress for obtaining the ferroelectric phase in hafnium oxide based films: impact of oxygen and zirconium. <i>Japanese Journal of Applied Physics</i> , 2019 , 58, SL0801 | 1.4 | 40 |
| 113 | Influence of Al ₂ O 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 | 2.9 | 35 |
| 112 | Memory technology-a primer for material scientists. <i>Reports on Progress in Physics</i> , 2020 , 83, 086501 | 14.4 | 32 |
| 111 | Pyroelectricity of silicon-doped hafnium oxide thin films. <i>Applied Physics Letters</i> , 2018 , 112, 142901 | 3.4 | 32 |
| 110 | Conduction barrier offset engineering for DRAM capacitor scaling. <i>Solid-State Electronics</i> , 2016 , 115, 133-139 | 1.7 | 31 |
| 109 | Negative Capacitance for Electrostatic Supercapacitors. <i>Advanced Energy Materials</i> , 2019 , 9, 1901154 | 21.8 | 31 |

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| 108 | Reliability of Al ₂ O ₃ -doped ZrO ₂ high-k dielectrics in three-dimensional stacked metal-insulator-metal capacitors. <i>Journal of Applied Physics</i> , 2010 , 108, 124104 | 2.5 | 30 |
| 107 | Involvement of Unsaturated Switching in the Endurance Cycling of Si-doped HfO ₂ Ferroelectric Thin Films. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000264 | 6.4 | 30 |
| 106 | Influence of Oxygen Content on the Structure and Reliability of Ferroelectric Hf _x Zr _{1-x} O ₂ Layers. <i>ACS Applied Electronic Materials</i> , 2020 , 2, 3618-3626 | 4 | 30 |
| 105 | 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 | 2.3 | 29 |
| 104 | New Materials in Memory Development Sub 50 nm: Trends in Flash and DRAM. <i>Advanced Engineering Materials</i> , 2009 , 11, 241-248 | 3.5 | 29 |
| 103 | How to make DRAM non-volatile? Anti-ferroelectrics: A new paradigm for universal memories 2016 , | | 28 |
| 102 | Genuinely Ferroelectric Sub-1-Volt-Switchable Nanodomains in Hf ZrO Ultrathin Capacitors. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 30514-30521 | 9.5 | 27 |
| 101 | Origin of the endurance degradation in the novel HfO ₂ -based 1T ferroelectric non-volatile memories 2014 , | | 24 |
| 100 | 2019 , | | 24 |
| 99 | Interface chemistry of pristine TiN/La: Hf 0.5 Zr 0.5 O ₂ capacitors. <i>Applied Physics Letters</i> , 2020 , 116, 252903 | 3.4 | 23 |
| 98 | Conduction Mechanisms and Breakdown Characteristics of Al ₂ O ₃ -Doped ZrO ₂ High-k Dielectrics for Three-Dimensional Stacked Metal/Insulator/Metal Capacitors. <i>IEEE Transactions on Device and Materials Reliability</i> , 2014 , 14, 154-160 | 1.6 | 23 |
| 97 | Demonstration of High-speed Hysteresis-free Negative Capacitance in Ferroelectric Hf _{0.5} Zr _{0.5} O ₂ 2018 , | | 22 |
| 96 | The fundamentals and applications of ferroelectric HfO ₂ . <i>Nature Reviews Materials</i> , | 7.3 | 22 |
| 95 | Polarization switching in thin doped HfO ₂ ferroelectric layers. <i>Applied Physics Letters</i> , 2020 , 117, 262904 | 3.4 | 21 |
| 94 | SoC Compatible 1T1C FeRAM Memory Array Based on Ferroelectric Hf _{0.5} Zr _{0.5} O ₂ 2020 , | | 21 |
| 93 | Impact of charge trapping on the ferroelectric switching behavior of doped HfO ₂ . <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016 , 213, 270-273 | 1.6 | 21 |
| 92 | Interplay between oxygen defects and dopants: effect on structure and performance of HfO ₂ -based ferroelectrics. <i>Inorganic Chemistry Frontiers</i> , 2021 , 8, 2650-2672 | 6.8 | 21 |
| 91 | Low Temperature Compatible Hafnium Oxide Based Ferroelectrics. <i>Ferroelectrics</i> , 2015 , 480, 16-23 | 0.6 | 20 |

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| 90 | A computational study of hafnia-based ferroelectric memories: from ab initio via physical modeling to circuit models of ferroelectric device. <i>Journal of Computational Electronics</i> , 2017 , 16, 1236-1256 | 1.8 | 20 |
| 89 | Insights into antiferroelectrics from first-order reversal curves. <i>Applied Physics Letters</i> , 2017 , 111, 182903 | 3.4 | 20 |
| 88 | OLED compatible water-based nanolaminate encapsulation systems using ozone based starting layer. <i>Organic Electronics</i> , 2014 , 15, 2587-2592 | 3.5 | 19 |
| 87 | Low leakage ZrO ₂ based capacitors for sub 20 nm dynamic random access memory technology nodes. <i>Journal of Applied Physics</i> , 2016 , 119, 064101 | 2.5 | 19 |
| 86 | Material perspectives of HfO ₂ -based ferroelectric films for device applications 2019 , | | 19 |
| 85 | Reliability of $\text{SrRuO}_3/\text{SrTiO}_3/\text{SrRuO}_3$ Stacks for DRAM Applications. <i>IEEE Electron Device Letters</i> , 2012 , 33, 1699-1701 | 4.4 | 18 |
| 84 | Physical properties of ALD-Al ₂ O ₃ in a DRAM-capacitor equivalent structure comparing interfaces and oxygen precursors. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2004 , 107, 251-254 | 3.1 | 18 |
| 83 | Enhanced Ferroelectric Polarization in TiN/HfO ₂ /TiN Capacitors by Interface Design. <i>ACS Applied Electronic Materials</i> , 2020 , 2, 3152-3159 | 4 | 18 |
| 82 | Domains and domain dynamics in fluorite-structured ferroelectrics. <i>Applied Physics Reviews</i> , 2021 , 8, 021312 | 17.3 | 18 |
| 81 | Impact of vacancies and impurities on ferroelectricity in PVD- and ALD-grown HfO ₂ films. <i>Applied Physics Letters</i> , 2021 , 118, 032903 | 3.4 | 18 |
| 80 | Influence of Frequency Dependent Time to Breakdown on High-K/Metal Gate Reliability. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 2368-2371 | 2.9 | 17 |
| 79 | Influence of oxygen source on the ferroelectric properties of ALD grown Hf _{1-x} Zr _x O ₂ films. <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 035102 | 3 | 16 |
| 78 | Stabilizing the ferroelectric phase in HfO ₂ -based films sputtered from ceramic targets under ambient oxygen. <i>Nanoscale</i> , 2021 , 13, 912-921 | 7.7 | 16 |
| 77 | Hf _x Zr _{1-x} O ₂ thin films for semiconductor applications: An Hf- and Zr-ALD precursor comparison. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020 , 38, 022402 | 2.9 | 15 |
| 76 | Comparison of hafnia and PZT based ferroelectrics for future non-volatile FRAM applications 2016 , | | 15 |
| 75 | Modeling and design considerations for negative capacitance field-effect transistors 2017 , | | 15 |
| 74 | Impact of Oxygen Vacancy Content in Ferroelectric HZO films on the Device Performance 2020 , | | 15 |
| 73 | Impact of Iridium Oxide Electrodes on the Ferroelectric Phase of Thin Hf _{0.5} Zr _{0.5} O ₂ Films. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021 , 15, 2100012 | 2.5 | 15 |

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| 72 | Ferroelectric Hf _{1-x} Zr _x O ₂ memories: device reliability and depolarization fields 2019 , | | 15 |
| 71 | Ultra-thin ZrO ₂ /SrO/ZrO ₂ insulating stacks for future dynamic random access memory capacitor applications. <i>Journal of Applied Physics</i> , 2015 , 117, 224102 | 2.5 | 14 |
| 70 | Film properties of low temperature HfO ₂ grown with H ₂ O, O ₃ , or remote O ₂ -plasma. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014 , 32, 01A117 | 2.9 | 13 |
| 69 | Time dependent dielectric breakdown of amorphous ZrAl _x O _y high-k dielectric used in dynamic random access memory metal-insulator-metal capacitor. <i>Journal of Applied Physics</i> , 2009 , 106, 044104 | 2.5 | 13 |
| 68 | Next Generation Ferroelectric Memories enabled by Hafnium Oxide 2019 , | | 13 |
| 67 | Integration of molecular-layer-deposited aluminum alkoxide interlayers into inorganic nanolaminate barriers for encapsulation of organic electronics with improved stress resistance. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2015 , 33, 01A119 | 2.9 | 12 |
| 66 | Dopants in Atomic Layer Deposited HfO ₂ Thin Films 2019 , 49-74 | | 11 |
| 65 | Embedding hafnium oxide based FeFETs in the memory landscape 2018 , | | 11 |
| 64 | First Insight Into the Lifetime Acceleration Model of High- k $\text{HfO}_2/\text{SiO}_2/\text{HfO}_2$ Stacks for Advanced DRAM Technology Nodes. <i>IEEE Electron Device Letters</i> , 2009 , 30, 340-342 | 4.4 | 11 |
| 63 | Reliability aspects of Hf-based capacitors: Breakdown and trapping effects. <i>Microelectronics Reliability</i> , 2007 , 47, 497-500 | 1.2 | 11 |
| 62 | Many routes to ferroelectric HfO ₂ : A review of current deposition methods. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2022 , 40, 010803 | 2.9 | 11 |
| 61 | Universal Curie constant and pyroelectricity in doped ferroelectric HfO ₂ thin films. <i>Nano Energy</i> , 2020 , 74, 104733 | 17.1 | 10 |
| 60 | Root cause of degradation in novel HfO ₂ -based ferroelectric memories 2016 , | | 10 |
| 59 | Recent Developments in ALD Technology for 50 nm Trench DRAM Applications. <i>ECS Transactions</i> , 2006 , 1, 125-132 | 1 | 10 |
| 58 | Wake-Up Mechanisms in Ferroelectric Lanthanum-Doped Hf _{0.5} Zr _{0.5} O ₂ Thin Films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 2000281 | 1.6 | 10 |
| 57 | Ferroelectricity in bulk hafnia. <i>Nature Materials</i> , 2021 , 20, 718-719 | 27 | 10 |
| 56 | Anti-ferroelectric ZrO ₂ , an enabler for low power non-volatile 1T-1C and 1T random access memories 2017 , | | 9 |
| 55 | Detailed Correlation of Electrical and Breakdown Characteristics to the Structural Properties of ALD Grown HfO ₂ - and ZrO ₂ -based Capacitor Dielectrics. <i>ECS Transactions</i> , 2009 , 25, 357-366 | 1 | 9 |

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| 54 | 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. <i>Applied Physics Letters</i> , 2021 , 118, 062904 | 3.4 | 9 |
| 53 | Local structural investigation of hafnia-zirconia polymorphs in powders and thin films by X-ray absorption spectroscopy. <i>Acta Materialia</i> , 2019 , 180, 158-169 | 8.4 | 8 |
| 52 | High-Quality Al ₂ O ₃ /Pr ₂ O ₃ /Al ₂ O ₃ MIM Capacitors for RF Applications. <i>IEEE Transactions on Electron Devices</i> , 2006 , 53, 1937-1939 | 2.9 | 8 |
| 51 | Temperature-Dependent Subcycling Behavior of Si-Doped HfO ₂ Ferroelectric Thin Films. <i>ACS Applied Electronic Materials</i> , 2021 , 3, 2415-2422 | 4 | 8 |
| 50 | Broad Phase Transition of Fluorite-Structured Ferroelectrics for Large Electrocaloric Effect. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019 , 13, 1900177 | 2.5 | 7 |
| 49 | Dynamic leakage current compensation revisited. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2015 , 62, 596-9 | 3.2 | 7 |
| 48 | Atomic layer deposited TiO _x /AlO _x nanolaminates as moisture barriers for organic devices. <i>Organic Electronics</i> , 2016 , 38, 84-88 | 3.5 | 7 |
| 47 | Subthreshold Behavior of Floating-Gate MOSFETs With Ferroelectric Capacitors. <i>IEEE Transactions on Electron Devices</i> , 2018 , 65, 4641-4645 | 2.9 | 7 |
| 46 | A Gibbs energy view of double hysteresis in ZrO ₂ and Si-doped HfO ₂ . <i>Applied Physics Letters</i> , 2020 , 117, 142904 | 3.4 | 7 |
| 45 | Lanthanum doping induced structural changes and their implications on ferroelectric properties of Hf _{1-x} Zr _x O ₂ thin film. <i>Applied Physics Letters</i> , 2020 , 117, 092902 | 3.4 | 7 |
| 44 | The Rayleigh law in silicon doped hafnium oxide ferroelectric thin films. <i>Physica Status Solidi - Rapid Research Letters</i> , 2015 , 9, 589-593 | 2.5 | 6 |
| 43 | 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. <i>Applied Physics Letters</i> , 2022 , 120, 202902 | 3.4 | 6 |
| 42 | Reliability Comparison of ZrO ₂ -Based DRAM High-k Dielectrics Under DC and AC Stress. <i>IEEE Transactions on Device and Materials Reliability</i> , 2017 , 17, 324-330 | 1.6 | 5 |
| 41 | Impact of field cycling on HfO ₂ based non-volatile memory devices 2016 , | | 5 |
| 40 | Intrinsic or nucleation-driven switching: An insight from nanoscopic analysis of negative capacitance Hf _{1-x} Zr _x O ₂ -based structures. <i>Applied Physics Letters</i> , 2020 , 117, 172902 | 3.4 | 5 |
| 39 | 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. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021 , 15, 2100027 | 2.5 | 5 |
| 38 | Physical Approach to Ferroelectric Impedance Spectroscopy: The Rayleigh Element. <i>Physical Review Applied</i> , 2018 , 10, | 4.3 | 5 |
| 37 | Effect of Surface/Interface Energy and Stress on the Ferroelectric Properties 2019 , 145-172 | | 4 |

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| 36 | Piezoelectricity in hafnia.. <i>Nature Communications</i> , 2021 , 12, 7301 | 17.4 | 4 |
| 35 | 1T1C FeRAM memory array based on ferroelectric HZO with capacitor under bitline. <i>IEEE Journal of the Electron Devices Society</i> , 2021 , 1-1 | 2.3 | 4 |
| 34 | Nonvolatile Field-Effect Transistors Using Ferroelectric Doped HfO2 Films. <i>Topics in Applied Physics</i> , 2016 , 57-72 | 0.5 | 4 |
| 33 | Field Cycling Behavior of Ferroelectric HfO2-Based Capacitors 2019 , 381-398 | | 3 |
| 32 | Ferroelectric One Transistor/One Capacitor Memory Cell 2019 , 413-424 | | 3 |
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| 30 | (Invited) Hafnium Oxide Based CMOS Compatible Ferroelectric Materials. <i>ECS Transactions</i> , 2013 , 50, 15-20 | 1 | 3 |
| 29 | Raman Spectroscopy as a Key Method to Distinguish the Ferroelectric Orthorhombic Phase in Thin ZrO 2 -Based Films. <i>Physica Status Solidi - Rapid Research Letters</i> ,2100589 | 2.5 | 3 |
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