Min Hyuk Park

List of Publications by Citations

103 papers	5,644 citations	41 h-index	74 g-index
107 ext. papers	6,932 ext. citations	7.3 avg, IF	5.96 L-index

#	Paper	IF	Citations
103	Ferroelectricity and antiferroelectricity of doped thin HfO2-based films. *Advanced Materials*, **2015**, 27, 1811-31	24	554
102	Evolution of phases and ferroelectric properties of thin Hf0.5Zr0.5O2 films according to the thickness and annealing temperature. *Applied Physics Letters*, **2013**, 102, 242905	3.4	352
101	Thin HfxZr1-xO2 Films: A New Lead-Free System for Electrostatic Supercapacitors with Large Energy Storage Density and Robust Thermal Stability. *Advanced Energy Materials*, **2014**, 4, 1400610	21.8	221
100	Review and perspective on ferroelectric HfO2-based thin films for memory applications. *MRS Communications*, **2018**, 8, 795-808	2.7	209
99	The effects of crystallographic orientation and strain of thin Hf0.5Zr0.5O2 film on its ferroelectricity. *Applied Physics Letters*, **2014**, 104, 072901	3.4	191
98	A comprehensive study on the structural evolution of HfO2 thin films doped with various dopants. *Journal of Materials Chemistry C*, **2017**, 5, 4677-4690	7.1	174
97	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	7.7	162
96	Lanthanum-Doped Hafnium Oxide: A Robust Ferroelectric Material. *Inorganic Chemistry*, **2018**, 57, 2752-2765	5.1	161
95	A study on the wake-up effect of ferroelectric Hf0.5Zr0.5O2 films by pulse-switching measurement. *Nanoscale*, **2016**, 8, 1383-9	7.7	153
94	Toward a multifunctional monolithic device based on pyroelectricity and the electrocaloric effect of thin antiferroelectric Hf x Zr 1 O 2 films. *Nano Energy*, **2015**, 12, 131-140	17.1	144
93	Improved Ferroelectric Switching Endurance of La-Doped HfZrO Thin Films. *ACS Applied Materials & Interfaces*, **2018**, 10, 2701-2708	9.5	134
92	Ferroelectric hafnium oxide for ferroelectric random-access memories and ferroelectric field-effect transistors. *MRS Bulletin*, **2018**, 43, 340-346	3.2	134
91	Grain size engineering for ferroelectric Hf0.5Zr0.5O2 films by an insertion of Al2O3 interlayer. *Applied Physics Letters*, **2014**, 105, 192903	3.4	134
90	Effect of Zr Content on the Wake-Up Effect in Hf1-xZrxO2 Films. *ACS Applied Materials & Interfaces*, **2016**, 8, 15466-75	9.5	132
89	Temporary formation of highly conducting domain walls for non-destructive read-out of ferroelectric domain-wall resistance switching memories. *Nature Materials*, **2018**, 17, 49-56	27	131
88	Effect of forming gas annealing on the ferroelectric properties of Hf0.5Zr0.5O2 thin films with and without Pt electrodes. *Applied Physics Letters*, **2013**, 102, 112914	3.4	117
87	Ferroelectricity in undoped-HfO2 thin films induced by deposition temperature control during atomic layer deposition. *Journal of Materials Chemistry C*, **2016**, 4, 6864-6872	7.1	116

86	Si Doped Hafnium Oxide– A Fragile Ferroelectric System. *Advanced Electronic Materials*, **2017**, 3, 1700131	6.4	105
85	Understanding the formation of the metastable ferroelectric phase in hafnia-zirconia solid solution thin films. *Nanoscale*, **2018**, 10, 716-725	7.7	103
84	Ferroelectric properties and switching endurance of Hf0.5Zr0.5O2 films on TiN bottom and TiN or RuO2 top electrodes. *Physica Status Solidi - Rapid Research Letters*, **2014**, 8, 532-535	2.5	102
83	Study on the degradation mechanism of the ferroelectric properties of thin Hf0.5Zr0.5O2 films on TiN and Ir electrodes. *Applied Physics Letters*, **2014**, 105, 072902	3.4	99
82	Study on the size effect in Hf0.5Zr0.5O2 films thinner than 8 nm before and after wake-up field cycling. *Applied Physics Letters*, **2015**, 107, 192907	3.4	92
81	Giant Negative Electrocaloric Effects of Hf Zr O Thin Films. *Advanced Materials*, **2016**, 28, 7956-7961	24	91
80	Domain Pinning: Comparison of Hafnia and PZT Based Ferroelectrics. *Advanced Electronic Materials*, **2017**, 3, 1600505	6.4	76
79	Optimizing process conditions for improved Hf1 xZrxO2 ferroelectric capacitor performance. *Microelectronic Engineering*, **2017**, 178, 48-51	2.5	71
78	Thermodynamic and Kinetic Origins of Ferroelectricity in Fluorite Structure Oxides. *Advanced Electronic Materials*, **2019**, 5, 1800522	6.4	71
77	Origin of Ferroelectric Phase in Undoped HfO2 Films Deposited by Sputtering. *Advanced Materials Interfaces*, **2019**, 6, 1900042	4.6	68
76	Mitigating wakeup effect and improving endurance of ferroelectric HfO2-ZrO2 thin films by careful La-doping. *Journal of Applied Physics*, **2019**, 125, 034101	2.5	64
75	Study on the internal field and conduction mechanism of atomic layer deposited ferroelectric Hf0.5Zr0.5O2 thin films. *Journal of Materials Chemistry C*, **2015**, 3, 6291-6300	7.1	62
74	Scale-up and optimization of HfO2-ZrO2 solid solution thin films for the electrostatic supercapacitors. *Nano Energy*, **2017**, 39, 390-399	17.1	59
73	Time-Dependent Negative Capacitance Effects in Al2O3/BaTiO3 Bilayers. *Nano Letters*, **2016**, 16, 4375-81	11.5	59
72	Next generation ferroelectric materials for semiconductor process integration and their applications. *Journal of Applied Physics*, **2021**, 129, 100901	2.5	57
71	Effect of acceptor doping on phase transitions of HfO2 thin films for energy-related applications. *Nano Energy*, **2017**, 36, 381-389	17.1	50
70	Review of defect chemistry in fluorite-structure ferroelectrics for future electronic devices. *Journal of Materials Chemistry C*, **2020**, 8, 10526-10550	7.1	50
69	On the Origin of the Large Remanent Polarization in La:HfO2. *Advanced Electronic Materials*, **2019**, 5, 1900303	6.4	50

68	Ferroelectric properties of lightly doped La:HfO2 thin films grown by plasma-assisted atomic layer deposition. *Applied Physics Letters*, **2017**, 111, 132903	3.4	48
67	Preparation and characterization of ferroelectric HfZrO thin films grown by reactive sputtering. *Nanotechnology*, **2017**, 28, 305703	3.4	48
66	Effect of Annealing Ferroelectric HfO2 Thin Films: In Situ, High Temperature X-Ray Diffraction. *Advanced Electronic Materials*, **2018**, 4, 1800091	6.4	48
65	Origin of Temperature-Dependent Ferroelectricity in Si-Doped HfO2. *Advanced Electronic Materials*, **2018**, 4, 1700489	6.4	44
64	Voltage Drop in a Ferroelectric Single Layer Capacitor by Retarded Domain Nucleation. *Nano Letters*, **2017**, 17, 7796-7802	11.5	43
63	A comprehensive study on the mechanism of ferroelectric phase formation in hafnia-zirconia nanolaminates and superlattices. *Applied Physics Reviews*, **2019**, 6, 041403	17.3	41
62	Dispersion in Ferroelectric Switching Performance of Polycrystalline HfZrO Thin Films. *ACS Applied Materials & Interfaces*, **2018**, 10, 35374-35384	9.5	38
61	Frustration of Negative Capacitance in Al2O3/BaTiO3 Bilayer Structure. *Scientific Reports*, **2016**, 6, 19039	4.9	37
60	Morphotropic Phase Boundary of HfZr O Thin Films for Dynamic Random Access Memories. *ACS Applied Materials & Interfaces*, **2018**, 10, 42666-42673	9.5	37
59	Two-step polarization switching mediated by a nonpolar intermediate phase in Hf0.4Zr0.6O2 thin films. *Nanoscale*, **2016**, 8, 13898-907	7.7	36
58	Alternative interpretations for decreasing voltage with increasing charge in ferroelectric capacitors. *Scientific Reports*, **2016**, 6, 20825	4.9	36
57	Nucleation-Limited Ferroelectric Orthorhombic Phase Formation in Hf0.5Zr0.5O2 Thin Films. *Advanced Electronic Materials*, **2019**, 5, 1800436	6.4	36
56	Vortex head-to-head domain walls and their formation in onion-state ring elements. *Physical Review B*, **2006**, 73,	3.3	34
55	Fluorite-structure antiferroelectrics. *Reports on Progress in Physics*, **2019**, 82, 124502	14.4	33
54	Pyroelectricity of silicon-doped hafnium oxide thin films. *Applied Physics Letters*, **2018**, 112, 142901	3.4	32
53	Transient Negative Capacitance Effect in Atomic-Layer-Deposited Al2O3/Hf0.3Zr0.7O2 Bilayer Thin Film. *Advanced Functional Materials*, **2019**, 29, 1808228	15.6	31
52	Understanding ferroelectric phase formation in doped HfO thin films based on classical nucleation theory. *Nanoscale*, **2019**, 11, 19477-19487	7.7	29
51	La-doped Hf0.5Zr0.5O2 thin films for high-efficiency electrostatic supercapacitors. *Applied Physics Letters*, **2018**, 113, 123902	3.4	25

50	Interfacial charge-induced polarization switching in Al2O3/Pb(Zr,Ti)O3 bi-layer. *Journal of Applied Physics*, **2015**, 118, 224105	2.5	24
49	The fundamentals and applications of ferroelectric HfO2. *Nature Reviews Materials*,	73.3	22
48	A perspective on semiconductor devices based on fluorite-structured ferroelectrics from the materials–device integration perspective. *Journal of Applied Physics*, **2020**, 128, 240904	2.5	21
47	Interplay between oxygen defects and dopants: effect on structure and performance of HfO2-based ferroelectrics. *Inorganic Chemistry Frontiers*, **2021**, 8, 2650-2672	6.8	21
46	Improved ferroelectric property of very thin Mn-doped BiFeO3 films by an inlaid Al2O3 tunnel switch. *Journal of Applied Physics*, **2011**, 110, 074111	2.5	20
45	Tristate Memory Using Ferroelectric–Insulator–Semiconductor Heterojunctions for 50% Increased Data Storage. *Advanced Functional Materials*, **2011**, 21, 4305-4313	15.6	18
44	A Comparative Study on the Ferroelectric Performances in Atomic Layer Deposited HfZrO Thin Films Using Tetrakis(ethylmethylamino) and Tetrakis(dimethylamino) Precursors. *Nanoscale Research Letters*, **2020**, 15, 72	5	18
43	Domains and domain dynamics in fluorite-structured ferroelectrics. *Applied Physics Reviews*, **2021**, 8, 021312	17.3	18
42	Ex situ annealing method for c-axis oriented barium ferrite thick films. *Journal of Applied Physics*, **2003**, 93, 7507-7509	2.5	17
41	Effect of the annealing temperature of thin Hf0.3Zr0.7O2 films on their energy storage behavior. *Physica Status Solidi - Rapid Research Letters*, **2014**, 8, 857-861	2.5	16
40	Comparison of hafnia and PZT based ferroelectrics for future non-volatile FRAM applications **2016**,		15
39	Ultra-flexible and rollable 2D-MoS/Si heterojunction-based near-infrared photodetector direct synthesis. *Nanoscale*, **2021**, 13, 672-680	7.7	15
38	Polarization reversal behavior in the Pt/Pb(Zr,Ti)O3/Pt and Pt/Al2O3/Pb(Zr,Ti)O3/Pt capacitors for different reversal directions. *Applied Physics Letters*, **2010**, 96, 212902	3.4	14
37	Study of ferroelectric characteristics of Hf0.5Zr0.5O2 thin films grown on sputtered or atomic-layer-deposited TiN bottom electrodes. *Applied Physics Letters*, **2020**, 117, 022902	3.4	12
36	Ultra-thin ferroelectrics. *Materials Science and Engineering Reports*, **2021**, 145, 100622	30.9	12
35	Dopants in Atomic Layer Deposited HfO2 Thin Films **2019**, 49-74		11
34	Reversible transition between the polar and antipolar phases and its implications for wake-up and fatigue in HfO-based ferroelectric thin film.. *Nature Communications*, **2022**, 13, 645	17.4	11
33	Unusual Growth Behavior of Atomic Layer Deposited PbTiO3 Thin Films Using Water and Ozone As Oxygen Sources and Their Combination. *Journal of Physical Chemistry C*, **2010**, 114, 12736-12741	3.8	10

32	Field-Induced Ferroelectric Hf1-xZrxO2 Thin Films for High-k Dynamic Random Access Memory. *Advanced Electronic Materials*, **2020**, 6, 2000631	6.4	10
31	Strain evolution of each type of grains in poly-crystalline (Ba,Sr)TiO(3) thin films grown by sputtering. *Scientific Reports*, **2012**, 2, 939	4.9	8
30	Dry etching of NiFe□Co and NiFeAlO□Co multilayers in an inductively coupled plasma of Cl2□Ar mixture. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2004**, 22, 2388-2391	2.9	8
29	Enhanced Ferroelectric Properties in Hf0.5Zr0.5O2 Films Using a HfO0.61N0.72 Interfacial Layer. *Advanced Electronic Materials*,2100042	6.4	8
28	Broad Phase Transition of Fluorite-Structured Ferroelectrics for Large Electrocaloric Effect. *Physica Status Solidi - Rapid Research Letters*, **2019**, 13, 1900177	2.5	7
27	Giant Dielectric Permittivity in Ferroelectric Thin Films: Domain Wall Ping Pong. *Scientific Reports*, **2015**, 5, 14618	4.9	7
26	Research Update: Diode performance of the Pt/Al2O3/two-dimensional electron gas/SrTiO3 structure and its time-dependent resistance evolution. *APL Materials*, **2017**, 5, 042301	5.7	6
25	An analysis of imprinted hysteresis loops for a ferroelectric Pb(Zr,Ti)O3 thin film capacitor using the switching transient current measurements. *Journal of Applied Physics*, **2009**, 105, 044106	2.5	6
24	Magnetic switching depending on as-patterned magnetization state in Pac-man shaped Ni80Fe20 submicron elements. *Journal of Applied Physics*, **2004**, 96, 4362-4365	2.5	6
23	Polarization switching and discharging behaviors in serially connected ferroelectric Pt/Pb(Zr,Ti)O3/Pt and paraelectric capacitors. *Journal of Applied Physics*, **2011**, 109, 114113	2.5	5
22	Interfacial engineering of a Mo/HfZrO/Si capacitor using the direct scavenging effect of a thin Ti layer. *Chemical Communications*, **2021**, 57, 12452-12455	5.8	5
21	Physical Approach to Ferroelectric Impedance Spectroscopy: The Rayleigh Element. *Physical Review Applied*, **2018**, 10,	4.3	5
20	Effect of Surface/Interface Energy and Stress on the Ferroelectric Properties **2019**, 145-172		4
19	Impact of Zr Content in Atomic Layer Deposited Hf1 □xZrxO2 Thin Films **2019**, 75-101		3
18	Field Cycling Behavior of Ferroelectric HfO2-Based Capacitors **2019**, 381-398		3
17	Binary ferroelectric oxides for future computing paradigms. *MRS Bulletin*, **2021**, 46, 1071-1079	3.2	3
16	Effect of residual impurities on polarization switching kinetics in atomic-layer-deposited ferroelectric Hf0.5Zr0.5O2 thin films. *Acta Materialia*, **2021**, 222, 117405	8.4	3
15	Novel Applications of Antiferroelectrics and Relaxor Ferroelectrics: A Material□ Point of View. *Topics in Applied Physics*, **2016**, 295-310	0.5	3

14	Impact of Electrodes on the Ferroelectric Properties **2019**, 341-364		2
13	Structural Origin of Temperature-Dependent Ferroelectricity **2019**, 193-216		2
12	Pyroelectric and Electrocaloric Effects and Their Applications **2019**, 217-244		2
11	The Effects of Oxidants on the Growth Behavior of PbTiO3 Thin Film by Atomic Layer Deposition. *ECS Transactions*, **2009**, 19, 829-841	1	2
10	Modulating the Ferroelectricity of Hafnium Zirconium Oxide Ultrathin Films via Interface Engineering to Control the Oxygen Vacancy Distribution. *Advanced Materials Interfaces*,2101647	4.6	2
9	The Effect of Periodic Relaxation on the Growth Behavior and Electrical Properties of Atomic Layer Deposited PbTiO3 Thin Film. *ECS Transactions*, **2009**, 19, 815-828	1	1
8	Review of Electrical Characterization of Ceramic Thin Films for the Next Generation Semiconductor Devices. *Ceramist*, **2019**, 22, 332-349	0.3	1
7	Emerging Fluorite- and Wurtzite-Type Ferroelectrics: From (Hf,Zr)O2 to AlN and Related Materials. *Physica Status Solidi - Rapid Research Letters*, **2021**, 15, 2100201	2.5	1
6	Improved ferroelectricity in Hf0.5Zr0.5O2 by inserting an upper HfOxNy interfacial layer. *Applied Physics Letters*, **2021**, 119, 122902	3.4	1
5	Energy conversion and storage using artificially induced antiferroelectricity in HfO2/ZrO2 nanolaminates. *Composites Part B: Engineering*, **2022**, 236, 109824	10	1
4	Polymorphism of Hafnia-Based Ferroelectrics for Ferroelectric Field-Effect Transistors. *Topics in Applied Physics*, **2020**, 359-373	0.5	
3	Electrocaloric Effect in Emerging Fluorite-Structure Ferroelectrics. *Korean Journal of Materials Research*, **2020**, 30, 480-488	0.2	
2	A Brief Review on the Ferroelectric Fluorite-Structured Nanolaminate. *Journal of Korean Institute of Metals and Materials*, **2021**, 59, 849-856	1	
1	Novel Applications of Antiferroelectrics and Relaxor Ferroelectrics: A Material Point of View. *Topics in Applied Physics*, **2020**, 343-357	0.5	