

Min Hyuk Park

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Reversible transition between the polar and antipolar phases and its implications for wake-up and fatigue in HfO-based ferroelectric thin film.. <i>Nature Communications</i> , 2022 , 13, 645	17.4	11
102	Energy conversion and storage using artificially induced antiferroelectricity in HfO ₂ /ZrO ₂ nanolaminates. <i>Composites Part B: Engineering</i> , 2022 , 236, 109824	10	1
101	Binary ferroelectric oxides for future computing paradigms. <i>MRS Bulletin</i> , 2021 , 46, 1071-1079	3.2	3
100	A Brief Review on the Ferroelectric Fluorite-Structured Nanolaminate. <i>Journal of Korean Institute of Metals and Materials</i> , 2021 , 59, 849-856	1	
99	Interfacial engineering of a Mo/HfZrO/Si capacitor using the direct scavenging effect of a thin Ti layer. <i>Chemical Communications</i> , 2021 , 57, 12452-12455	5.8	5
98	Effect of residual impurities on polarization switching kinetics in atomic-layer-deposited ferroelectric Hf _{0.5} Zr _{0.5} O ₂ thin films. <i>Acta Materialia</i> , 2021 , 222, 117405	8.4	3
97	Next generation ferroelectric materials for semiconductor process integration and their applications. <i>Journal of Applied Physics</i> , 2021 , 129, 100901	2.5	57
96	Emerging Fluorite- and Wurtzite-Type Ferroelectrics: From (Hf,Zr)O ₂ to AlN and Related Materials. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021 , 15, 2100201	2.5	1
95	Domains and domain dynamics in fluorite-structured ferroelectrics. <i>Applied Physics Reviews</i> , 2021 , 8, 021312	17.3	18
94	Ultra-flexible and rollable 2D-MoS/Si heterojunction-based near-infrared photodetector direct synthesis. <i>Nanoscale</i> , 2021 , 13, 672-680	7.7	15
93	Ultra-thin ferroelectrics. <i>Materials Science and Engineering Reports</i> , 2021 , 145, 100622	30.9	12
92	Improved ferroelectricity in Hf _{0.5} Zr _{0.5} O ₂ by inserting an upper HfO _x N _y interfacial layer. <i>Applied Physics Letters</i> , 2021 , 119, 122902	3.4	1
91	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
90	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
89	A Comparative Study on the Ferroelectric Performances in Atomic Layer Deposited HfZrO Thin Films Using Tetrakis(ethylmethylamino) and Tetrakis(dimethylamino) Precursors. <i>Nanoscale Research Letters</i> , 2020 , 15, 72	5	18
88	Polymorphism of Hafnia-Based Ferroelectrics for Ferroelectric Field-Effect Transistors. <i>Topics in Applied Physics</i> , 2020 , 359-373	0.5	
87	Electrocaloric Effect in Emerging Fluorite-Structure Ferroelectrics. <i>Korean Journal of Materials Research</i> , 2020 , 30, 480-488	0.2	

86	Novel Applications of Antiferroelectrics and Relaxor Ferroelectrics: A Material Point of View. <i>Topics in Applied Physics</i> , 2020 , 343-357	0.5	
85	A perspective on semiconductor devices based on fluorite-structured ferroelectrics from the materials-device integration perspective. <i>Journal of Applied Physics</i> , 2020 , 128, 240904	2.5	21
84	Field-Induced Ferroelectric Hf _{1-x} Zr _x O ₂ Thin Films for High-k Dynamic Random Access Memory. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000631	6.4	10
83	Study of ferroelectric characteristics of Hf _{0.5} Zr _{0.5} O ₂ thin films grown on sputtered or atomic-layer-deposited TiN bottom electrodes. <i>Applied Physics Letters</i> , 2020 , 117, 022902	3.4	12
82	Understanding ferroelectric phase formation in doped HfO thin films based on classical nucleation theory. <i>Nanoscale</i> , 2019 , 11, 19477-19487	7.7	29
81	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
80	Origin of Ferroelectric Phase in Undoped HfO ₂ Films Deposited by Sputtering. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1900042	4.6	68
79	Transient Negative Capacitance Effect in Atomic-Layer-Deposited Al ₂ O ₃ /Hf _{0.3} Zr _{0.7} O ₂ Bilayer Thin Film. <i>Advanced Functional Materials</i> , 2019 , 29, 1808228	15.6	31
78	Dopants in Atomic Layer Deposited HfO ₂ Thin Films 2019 , 49-74		11
77	Impact of Zr Content in Atomic Layer Deposited Hf _{1-x} Zr _x O ₂ Thin Films 2019 , 75-101		3
76	Impact of Electrodes on the Ferroelectric Properties 2019 , 341-364		2
75	Effect of Surface/Interface Energy and Stress on the Ferroelectric Properties 2019 , 145-172		4
74	Structural Origin of Temperature-Dependent Ferroelectricity 2019 , 193-216		2
73	Pyroelectric and Electrocaloric Effects and Their Applications 2019 , 217-244		2
72	Field Cycling Behavior of Ferroelectric HfO ₂ -Based Capacitors 2019 , 381-398		3
71	Fluorite-structure antiferroelectrics. <i>Reports on Progress in Physics</i> , 2019 , 82, 124502	14.4	33
70	On the Origin of the Large Remanent Polarization in La:HfO ₂ . <i>Advanced Electronic Materials</i> , 2019 , 5, 1900303	6.4	50
69	A comprehensive study on the mechanism of ferroelectric phase formation in hafnia-zirconia nanolaminates and superlattices. <i>Applied Physics Reviews</i> , 2019 , 6, 041403	17.3	41

68	Review of Electrical Characterization of Ceramic Thin Films for the Next Generation Semiconductor Devices. <i>Ceramist</i> , 2019 , 22, 332-349	0.3	1
67	Nucleation-Limited Ferroelectric Orthorhombic Phase Formation in Hf _{0.5} Zr _{0.5} O ₂ Thin Films. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800436	6.4	36
66	Thermodynamic and Kinetic Origins of Ferroelectricity in Fluorite Structure Oxides. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800522	6.4	71
65	Mitigating wakeup effect and improving endurance of ferroelectric HfO ₂ -ZrO ₂ thin films by careful La-doping. <i>Journal of Applied Physics</i> , 2019 , 125, 034101	2.5	64
64	Pyroelectricity of silicon-doped hafnium oxide thin films. <i>Applied Physics Letters</i> , 2018 , 112, 142901	3.4	32
63	Origin of Temperature-Dependent Ferroelectricity in Si-Doped HfO ₂ . <i>Advanced Electronic Materials</i> , 2018 , 4, 1700489	6.4	44
62	Lanthanum-Doped Hafnium Oxide: A Robust Ferroelectric Material. <i>Inorganic Chemistry</i> , 2018 , 57, 2752-2765	3.7	161
61	Improved Ferroelectric Switching Endurance of La-Doped HfZrO Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 2701-2708	9.5	134
60	Ferroelectric hafnium oxide for ferroelectric random-access memories and ferroelectric field-effect transistors. <i>MRS Bulletin</i> , 2018 , 43, 340-346	3.2	134
59	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
58	Temporary formation of highly conducting domain walls for non-destructive read-out of ferroelectric domain-wall resistance switching memories. <i>Nature Materials</i> , 2018 , 17, 49-56	27	131
57	Morphotropic Phase Boundary of HfZr O Thin Films for Dynamic Random Access Memories. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 42666-42673	9.5	37
56	Physical Approach to Ferroelectric Impedance Spectroscopy: The Rayleigh Element. <i>Physical Review Applied</i> , 2018 , 10,	4.3	5
55	Dispersion in Ferroelectric Switching Performance of Polycrystalline HfZrO Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 35374-35384	9.5	38
54	La-doped Hf _{0.5} Zr _{0.5} O ₂ thin films for high-efficiency electrostatic supercapacitors. <i>Applied Physics Letters</i> , 2018 , 113, 123902	3.4	25
53	Review and perspective on ferroelectric HfO ₂ -based thin films for memory applications. <i>MRS Communications</i> , 2018 , 8, 795-808	2.7	209
52	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
51	Domain Pinning: Comparison of Hafnia and PZT Based Ferroelectrics. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600505	6.4	76

50	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
49	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
48	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
47	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
46	Research Update: Diode performance of the Pt/Al ₂ O ₃ /two-dimensional electron gas/SrTiO ₃ structure and its time-dependent resistance evolution. <i>APL Materials</i> , 2017 , 5, 042301	5.7	6
45	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
44	Si Doped Hafnium Oxide: A Fragile Ferroelectric System. <i>Advanced Electronic Materials</i> , 2017 , 3, 1700131	6.4	105
43	Scale-up and optimization of HfO ₂ -ZrO ₂ solid solution thin films for the electrostatic supercapacitors. <i>Nano Energy</i> , 2017 , 39, 390-399	17.1	59
42	Voltage Drop in a Ferroelectric Single Layer Capacitor by Retarded Domain Nucleation. <i>Nano Letters</i> , 2017 , 17, 7796-7802	11.5	43
41	Preparation and characterization of ferroelectric HfZrO thin films grown by reactive sputtering. <i>Nanotechnology</i> , 2017 , 28, 305703	3.4	48
40	A study on the wake-up effect of ferroelectric Hf _{0.5} Zr _{0.5} O ₂ films by pulse-switching measurement. <i>Nanoscale</i> , 2016 , 8, 1383-9	7.7	153
39	Ferroelectricity in undoped-HfO ₂ thin films induced by deposition temperature control during atomic layer deposition. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 6864-6872	7.1	116
38	Frustration of Negative Capacitance in Al ₂ O ₃ /BaTiO ₃ Bilayer Structure. <i>Scientific Reports</i> , 2016 , 6, 19039	4.9	37
37	Comparison of hafnia and PZT based ferroelectrics for future non-volatile FRAM applications 2016 ,		15
36	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
35	Two-step polarization switching mediated by a nonpolar intermediate phase in Hf _{0.4} Zr _{0.6} O ₂ thin films. <i>Nanoscale</i> , 2016 , 8, 13898-907	7.7	36
34	Alternative interpretations for decreasing voltage with increasing charge in ferroelectric capacitors. <i>Scientific Reports</i> , 2016 , 6, 20825	4.9	36
33	Time-Dependent Negative Capacitance Effects in Al ₂ O ₃ /BaTiO ₃ Bilayers. <i>Nano Letters</i> , 2016 , 16, 4375-81	11.5	59

32	Novel Applications of Antiferroelectrics and Relaxor Ferroelectrics: A Material Point of View. <i>Topics in Applied Physics</i> , 2016 , 295-310	0.5	3
31	Giant Negative Electrocaloric Effects of Hf Zr O Thin Films. <i>Advanced Materials</i> , 2016 , 28, 7956-7961	24	91
30	Ferroelectricity and antiferroelectricity of doped thin HfO ₂ -based films. <i>Advanced Materials</i> , 2015 , 27, 1811-31	24	554
29	Interfacial charge-induced polarization switching in Al ₂ O ₃ /Pb(Zr,Ti)O ₃ bi-layer. <i>Journal of Applied Physics</i> , 2015 , 118, 224105	2.5	24
28	Study on the size effect in Hf _{0.5} Zr _{0.5} O ₂ films thinner than 8 nm before and after wake-up field cycling. <i>Applied Physics Letters</i> , 2015 , 107, 192907	3.4	92
27	Giant Dielectric Permittivity in Ferroelectric Thin Films: Domain Wall Ping Pong. <i>Scientific Reports</i> , 2015 , 5, 14618	4.9	7
26	Study on the internal field and conduction mechanism of atomic layer deposited ferroelectric Hf _{0.5} Zr _{0.5} O ₂ thin films. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 6291-6300	7.1	62
25	Toward a multifunctional monolithic device based on pyroelectricity and the electrocaloric effect of thin antiferroelectric Hf x Zr 1x O 2 films. <i>Nano Energy</i> , 2015 , 12, 131-140	17.1	144
24	Effect of the annealing temperature of thin Hf _{0.3} Zr _{0.7} O ₂ films on their energy storage behavior. <i>Physica Status Solidi - Rapid Research Letters</i> , 2014 , 8, 857-861	2.5	16
23	Grain size engineering for ferroelectric Hf _{0.5} Zr _{0.5} O ₂ films by an insertion of Al ₂ O ₃ interlayer. <i>Applied Physics Letters</i> , 2014 , 105, 192903	3.4	134
22	The effects of crystallographic orientation and strain of thin Hf _{0.5} Zr _{0.5} O ₂ film on its ferroelectricity. <i>Applied Physics Letters</i> , 2014 , 104, 072901	3.4	191
21	Ferroelectric properties and switching endurance of Hf _{0.5} Zr _{0.5} O ₂ films on TiN bottom and TiN or RuO ₂ top electrodes. <i>Physica Status Solidi - Rapid Research Letters</i> , 2014 , 8, 532-535	2.5	102
20	Study on the degradation mechanism of the ferroelectric properties of thin Hf _{0.5} Zr _{0.5} O ₂ films on TiN and Ir electrodes. <i>Applied Physics Letters</i> , 2014 , 105, 072902	3.4	99
19	Thin HfxZr1-xO ₂ Films: A New Lead-Free System for Electrostatic Supercapacitors with Large Energy Storage Density and Robust Thermal Stability. <i>Advanced Energy Materials</i> , 2014 , 4, 1400610	21.8	221
18	Effect of forming gas annealing on the ferroelectric properties of Hf _{0.5} Zr _{0.5} O ₂ thin films with and without Pt electrodes. <i>Applied Physics Letters</i> , 2013 , 102, 112914	3.4	117
17	Evolution of phases and ferroelectric properties of thin Hf _{0.5} Zr _{0.5} O ₂ films according to the thickness and annealing temperature. <i>Applied Physics Letters</i> , 2013 , 102, 242905	3.4	352
16	Strain evolution of each type of grains in poly-crystalline (Ba,Sr)TiO ₃ thin films grown by sputtering. <i>Scientific Reports</i> , 2012 , 2, 939	4.9	8
15	Tristate Memory Using Ferroelectric/Insulator/Semiconductor Heterojunctions for 50% Increased Data Storage. <i>Advanced Functional Materials</i> , 2011 , 21, 4305-4313	15.6	18

14	Polarization switching and discharging behaviors in serially connected ferroelectric Pt/Pb(Zr,Ti)O ₃ /Pt and paraelectric capacitors. <i>Journal of Applied Physics</i> , 2011 , 109, 114113	2.5	5
13	Improved ferroelectric property of very thin Mn-doped BiFeO ₃ films by an inlaid Al ₂ O ₃ tunnel switch. <i>Journal of Applied Physics</i> , 2011 , 110, 074111	2.5	20
12	Polarization reversal behavior in the Pt/Pb(Zr,Ti)O ₃ /Pt and Pt/Al ₂ O ₃ /Pb(Zr,Ti)O ₃ /Pt capacitors for different reversal directions. <i>Applied Physics Letters</i> , 2010 , 96, 212902	3.4	14
11	Unusual Growth Behavior of Atomic Layer Deposited PbTiO ₃ Thin Films Using Water and Ozone As Oxygen Sources and Their Combination. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 12736-12741	3.8	10
10	An analysis of imprinted hysteresis loops for a ferroelectric Pb(Zr,Ti)O ₃ thin film capacitor using the switching transient current measurements. <i>Journal of Applied Physics</i> , 2009 , 105, 044106	2.5	6
9	The Effect of Periodic Relaxation on the Growth Behavior and Electrical Properties of Atomic Layer Deposited PbTiO ₃ Thin Film. <i>ECS Transactions</i> , 2009 , 19, 815-828	1	1
8	The Effects of Oxidants on the Growth Behavior of PbTiO ₃ Thin Film by Atomic Layer Deposition. <i>ECS Transactions</i> , 2009 , 19, 829-841	1	2
7	Vortex head-to-head domain walls and their formation in onion-state ring elements. <i>Physical Review B</i> , 2006 , 73,	3.3	34
6	Dry etching of NiFe _{1-x} Al _x O and NiFe _{1-x} Al _x O multilayers in an inductively coupled plasma of Cl ₂ /Ar mixture. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2004 , 22, 2388-2391	2.9	8
5	Magnetic switching depending on as-patterned magnetization state in Pac-man shaped Ni ₈₀ Fe ₂₀ submicron elements. <i>Journal of Applied Physics</i> , 2004 , 96, 4362-4365	2.5	6
4	Ex situ annealing method for c-axis oriented barium ferrite thick films. <i>Journal of Applied Physics</i> , 2003 , 93, 7507-7509	2.5	17
3	Modulating the Ferroelectricity of Hafnium Zirconium Oxide Ultrathin Films via Interface Engineering to Control the Oxygen Vacancy Distribution. <i>Advanced Materials Interfaces</i> , 2016 , 2101647	4.6	2
2	Enhanced Ferroelectric Properties in Hf _{0.5} Zr _{0.5} O ₂ Films Using a Hf _{0.61} N _{0.72} Interfacial Layer. <i>Advanced Electronic Materials</i> , 2010 , 042	6.4	8
1	The fundamentals and applications of ferroelectric HfO ₂ . <i>Nature Reviews Materials</i> ,	73.3	22