Robert Clark

List of Publications by Year
in descending order

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55	1,649	471061 17	288905 40
papers	citations	h-index	g-index

57	57	57	1702
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Efficiency of Ferroelectric Field-Effect Transistors: An Experimental Study. IEEE Transactions on Electron Devices, 2022, 69, 1568-1574.	1.6	5
2	Antiferroelectric negative capacitance from a structural phase transition in zirconia. Nature Communications, 2022, 13, 1228.	5.8	22
3	Ferroelectric Phase Content in 7â€‰nm Hf_(1â^'x)Zr_xO₂ Thin Films Determined by Xâ€Rayâ€Based Methods. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100024.	0.8	6
4	(Invited) Electrical Performance Improvement in 300mm Ge-Based Devices. ECS Meeting Abstracts, 2021, MA2021-01, 1081-1081.	0.0	0
5	Process-Induced ReRAM Performance Improvement of Atomic Layer Deposited HfO2 for Analog In-Memory Computing Applications. ECS Meeting Abstracts, 2021, MA2021-01, 994-994.	0.0	0
6	Process-Induced ReRAM Performance Improvement of Atomic Layer Deposited HfO2 for Analog In-Memory Computing Applications. ECS Transactions, 2021, 102, 19-28.	0.3	0
7	Resistive Memory Process Optimization for High Resistance Switching Toward Scalable Analog Compute Technology for Deep Learning. IEEE Electron Device Letters, 2021, 42, 759-762.	2.2	7
8	The Impacts of Ferroelectric and Interfacial Layer Thicknesses on Ferroelectric FET Design. IEEE Electron Device Letters, 2021, 42, 1156-1159.	2.2	19
9	RRAM Devices with Plasma Treated HfO₂ with Ru as Top Electrode for In-Memory Computing Hardware. ECS Transactions, 2021, 104, 35-44.	0.3	1
10	RRAM Devices with Plasma Treated HfO2 with Ru as Top Electrode for In-Memory Computing Hardware. ECS Meeting Abstracts, 2021, MA2021-02, 615-615.	0.0	0
11	Area-Selective Deposition: Fundamentals, Applications, and Future Outlook. Chemistry of Materials, 2020, 32, 4920-4953.	3.2	179
12	Dielectrics and Metal Stack Engineering for Multilevel Resistive Random-Access Memory. ECS Journal of Solid State Science and Technology, 2020, 9, 053004.	0.9	3
13	Quantifying non-centrosymmetric orthorhombic phase fraction in 10â€‰nm ferroelectric Hf0.5Zr0.5O2 films. Applied Physics Letters, 2020, 117, .	1.5	14
14	Atomic-Scale Imaging of Polarization Switching in an (Anti-)Ferroelectric Memory Material: Zirconia (ZrO2). , 2020, , .		10
15	Structural Correlation of Ferroelectric Behavior in Mixed Hafnia-Zirconia High-k Dielectrics for FeRAM and NCFET Applications. MRS Advances, 2019, 4, 545-551.	0.5	8
16	Critical Role of Interlayer in Hf_{0.5}Zr_{0.5}O₂ Ferroelectric FET Nonvolatile Memory Performance. IEEE Transactions on Electron Devices, 2018, 65, 2461-2469.	1.6	284
17	Perspective: New process technologies required for future devices and scaling. APL Materials, 2018, 6, .	2.2	123
18	Interface state density engineering in Hf1-xZrxO2/SiON/Si gate stack. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, 011207.	0.6	1

#	Article	IF	Citations
19	Role of Ge and Si substrates in higher-k tetragonal phase formation and interfacial properties in cyclical atomic layer deposition-anneal Hf1â^'xZrxO2/Al2O3 thin film stacks. Journal of Applied Physics, 2016, 120, 125304.	1.1	11
20	Higher-k Tetragonal Phase Stabilization in Atomic Layer Deposited Hf1-xZrxO2 (0<x<1) Thin Films on Al2O3 Passivated Epitaxial-Ge. MRS Advances, 2016, 1, 269-274.	0.5	4
21	Comparison of B2O3 and BN deposited by atomic layer deposition for forming ultrashallow dopant regions by solid state diffusion. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	21
22	Emerging Applications for High K Materials in VLSI Technology. Materials, 2014, 7, 2913-2944.	1.3	121
23	Multi-technique x-ray and optical characterization of crystalline phase, texture, and electronic structure of atomic layer deposited Hf1â^'xZrxO2 gate dielectrics deposited by a cyclical deposition and annealing scheme. Journal of Applied Physics, 2013, 113, .	1.1	14
24	HfxZr1â^'xO2 compositional control using co-injection atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, .	0.9	9
25	Evaluation of high thermal stability cyclopentadienyl Hf precursors with H2O as a co-reactant for advanced gate logic applications. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	0.9	14
26	Texturing and Tetragonal Phase Stabilization of ALD Hf_xZr_{1-x}O₂ Using a Cyclical Deposition and Annealing Scheme. ECS Transactions, 2012, 45, 411-420.	0.3	13
27	Comparison of methods to determine bandgaps of ultrathin HfO2 films using spectroscopic ellipsometry. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	0.9	34
28	Spectroscopic ellipsometry characterization of high-k gate stacks with Vt shift layers. Thin Solid Films, 2011, 519, 2889-2893.	0.8	1
29	Extension of Far UV spectroscopic ellipsometry studies of High-Î¤ dielectric films to 130 nm. Thin Solid Films, 2011, 519, 2894-2898.	0.8	8
30	Structural Characteristics of Electrically Scaled ALD HfO2 from Cyclical Deposition and Annealing Scheme. ECS Transactions, 2011, 41, 89-108.	0.3	5
31	Physical and Electrical Effects of the Dep-Anneal-Dep-Anneal (DADA) Process for HfO₂ in High K/Metal Gate Stacks. ECS Transactions, 2011, 35, 815-834.	0.3	15
32	Optimizing ALD HfO₂ for Advanced Gate Stacks with Interspersed UV and Thermal Treatments- DADA and MDMA Variations, Combinations, and Optimization. ECS Transactions, 2011, 41, 79-88.	0.3	4
33	EOT Scaling and Flatband Voltage Shift with Al Addition into TiN. ECS Transactions, 2011, 41, 317-323.	0.3	0
34	Optimizing Band-Edge High-Î¤/Metal Gate n-MOSFETs with ALD Lanthanum Oxide Cap Layers: Oxidant and Positioning Effects. ECS Transactions, 2010, 33, 75-81.	0.3	1
35	Systematic study of the effect of La2O3 incorporation on the flatband voltage and Si band bending in the TiN/HfO2/SiO2/p-Si stack. Journal of Applied Physics, 2010, 108, .	1.1	14
36	Methodology of ALD HfO₂ High-Î¤ Gate Dielectric Optimization by Cyclic Depositions and Anneals. ECS Transactions, 2010, 33, 157-164.	0.3	8

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37	Physical and Electrical Properties of MOCVD Grown HfZrO₄ High-k Thin Films Deposited in a Production-Worthy 300 mm Deposition System. ECS Transactions, 2010, 28, 125-135.	0.3	2
38	Spectroscopic Ellipsometry Characterization of High-k films on SiO[sub 2]âˆ•Si. , 2009, , .		0
39	Photoreflectance Spectroscopic Characterization of Si with SiO[sub 2] and HfO[sub 2] Dielectric Layers. , 2009, , .		3
40	Engineering Band-Edge High-Î¦/Metal Gate n-MOSFETs with Cap Layers Containing Group IIA and IIIB Elements by Atomic Layer Deposition. ECS Transactions, 2009, 19, 253-261.	0.3	8
41	Process Characteristics and Physical Properties of MO-ALD ZrO2 Thin Films Deposited in a 300 mm Deposition System. ECS Transactions, 2008, 13, 89-99.	0.3	7
42	High-K Gate Dielectric Structures by Atomic Layer Deposition for the 32nm and Beyond Nodes. ECS Transactions, 2008, 16, 291-305.	0.3	13
43	Process and Electrical Characteristics of MO-ALD HfO2 Films for High-k Gate Applications Grown in a Production Worthy 300 mm Deposition System. ECS Transactions, 2007, 11, 55-69.	0.3	11
44	A Chemists View of Precursors and Processes for the Production of Hf-Based High K Dielectrics. ECS Transactions, 2006, 1, 201-209.	0.3	4
45	Synthesis and Comparative Î·1-Alkyl and Sterically Induced Reduction Reactivity of (C5Me5)3Ln Complexes of La, Ce, Pr, Nd, and Sm. Organometallics, 2005, 24, 3916-3931.	1.1	124
46	MOS characteristics of ultrathin CVD HfAlO gate dielectrics. IEEE Electron Device Letters, 2003, 24, 556-558.	2.2	70
47	Characterization and reliability of dual high-k gate dielectric stack (poly-Si-HfO2-SiO2) prepared by in situ RTCVD process for system-on-chip applications. IEEE Electron Device Letters, 2003, 24, 105-107.	2.2	28
48	Electrical properties and thermal stability of CVD HfOxNy gate dielectric with poly-Si gate electrode. IEEE Electron Device Letters, 2003, 24, 215-217.	2.2	74
49	Hafnium oxide gate stack prepared by in situ rapid thermal chemical vapor deposition process for advanced gate dielectrics. Journal of Applied Physics, 2002, 92, 2807-2809.	1.1	35
50	Heteroleptic and heterometallic divalent lanthanide bis(trimethylsilyl)amide complexes: mixed ligand, inverse sandwich, and alkali metal derivatives. Polyhedron, 2001, 20, 2483-2490.	1.0	66
51	Variability of (ring centroid)â€“Lnâ€“(ring centroid) angles in the mixed ligand C5Me5/C8H8 complexes (C5Me5)Ln(C8H8) and [(C5Me5)Yb(THF)](Î¼-Î·8âˆ¶Î·8-C8H8)[Yb(C5Me5)]. Dalton Transactions RSC, 2000, , 1609-1612.	2.3	37
52	The Trivalent Neodymium Complex [(C5Me5)3Nd] Is a One-Electron Reductant!. Angewandte Chemie - International Edition, 1999, 38, 1801-1803.	7.2	49
53	Synthesis and Characterization of Polyalkylated Pb(C5Me4R)2 Plumbocenes, Including the X-ray Crystal Structure of Pb(C5Me4H)2. Organometallics, 1999, 18, 2401-2402.	1.1	9
54	Bent vs Linear Metallocenes Involving C5Me5vs C8H8Ligands:Â Synthesis, Structure, and Reactivity of the Triple-Decked (C5Me5)(THF)xSm(C8H8)Sm(THF)x(C5Me5) (x= 0, 1) Complexes Including a Formal Two-Electron Oxidative Addition to a Single Lanthanide Metal Center1. Journal of the American Chemical Society, 1998, 120, 9555-9563.	6.6	85

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55	Thermally stable CVD HfO/sub x/N/sub y/ advanced gate dielectrics with poly-Si gate electrode. , 0, , .		38