

Alain C Diebold

List of Publications by Year in descending order

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42
papers

529
citations

623734

14
h-index

677142

22
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44
all docs

44
docs citations

44
times ranked

904
citing authors

#	ARTICLE	IF	CITATIONS
1	Optical second-harmonic generation induced by electric current in graphene on Si and SiC substrates. <i>Physical Review B</i> , 2014, 89, .	3.2	64
2	Surface oxidation of the topological insulator Bi ₂ Se ₃ . <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2016, 34, .	2.1	41
3	Fermi Level Manipulation through Native Doping in the Topological Insulator Bi ₂ Se ₃ . <i>ACS Nano</i> , 2018, 12, 6310-6318.	14.6	37
4	Comparison of methods to determine bandgaps of ultrathin HfO ₂ films using spectroscopic ellipsometry. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2011, 29, .	2.1	34
5	Perspective: Optical measurement of feature dimensions and shapes by scatterometry. <i>APL Materials</i> , 2018, 6, .	5.1	34
6	Optical and structural characterization of thermal oxidation effects of erbium thin films deposited by electron beam on silicon. <i>Journal of Applied Physics</i> , 2012, 111, .	2.5	24
7	Optical and structural characterization of epitaxial graphene on vicinal 6H-SiC(0001) by spectroscopic ellipsometry, Auger spectroscopy, and STM. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2012, 30, .	1.2	21
8	Fabrication of 5-20 nm thick $\text{In}^2\text{-W}$ films. <i>AIP Advances</i> , 2014, 4, .	1.3	21
9	Effects of stress on the dielectric function of strained pseudomorphic Si _{1-x} Ge _x alloys from 0 to 75% Ge grown on Si (001). <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	19
10	Atomic layer deposited ultrathin metal nitride barrier layers for ruthenium interconnect applications. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2017, 35, .	2.1	18
11	Formation of optical barriers with excellent thermal stability in single-crystal sapphire by hydrogen ion implantation and thermal annealing. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	17
12	Optical critical dimension metrology for directed self-assembly assisted contact hole shrink. <i>Journal of Micro/ Nanolithography, MEMS, and MOEMS</i> , 2016, 15, 014004.	0.9	17
13	Systematic study of the effect of La ₂ O ₃ incorporation on the flatband voltage and Si band bending in the TiN/HfO ₂ /SiO ₂ /p-Si stack. <i>Journal of Applied Physics</i> , 2010, 108, .	2.5	14
14	Multi-technique x-ray and optical characterization of crystalline phase, texture, and electronic structure of atomic layer deposited Hf _{1-x} Zr _x O ₂ gate dielectrics deposited by a cyclical deposition and annealing scheme. <i>Journal of Applied Physics</i> , 2013, 113, .	2.5	14
15	Quantifying non-centrosymmetric orthorhombic phase fraction in 10-nm ferroelectric Hf _{0.5} Zr _{0.5} O ₂ films. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	14
16	Texturing and Tetragonal Phase Stabilization of ALD Hf _x Zr _{1-x} O ₂ Using a Cyclical Deposition and Annealing Scheme. <i>ECS Transactions</i> , 2012, 45, 411-420.	0.5	13
17	Optical properties of pseudomorphic Ge _{1-x} Sn _x (x=0 to 0.11) alloys on Ge(001). <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2014, 32, .	1.2	13
18	Measurement of periodicity and strain in arrays of single crystal silicon and pseudomorphic Si _{1-x} Ge _x /Si fin structures using x-ray reciprocal space maps. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2014, 32, 021804.	1.2	12

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19	Role of Ge and Si substrates in higher-k tetragonal phase formation and interfacial properties in cyclical atomic layer deposition-anneal Hf _{1-x} Zr _x O ₂ /Al ₂ O ₃ thin film stacks. Journal of Applied Physics, 2016, 120, 125304.	2.5	11
20	Nondestructive characterization of nanoscale subsurface features fabricated by selective etching of multilayered nanowire test structures using Mueller matrix spectroscopic ellipsometry based scatterometry. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2020, 38, .	1.2	11
21	Enhancing one dimensional sensitivity with plasmonic coupling. Optics Express, 2014, 22, 26246.	3.4	10
22	Structural Correlation of Ferroelectric Behavior in Mixed Hafnia-Zirconia High-k Dielectrics for FeRAM and NCFET Applications. MRS Advances, 2019, 4, 545-551.	0.9	8
23	Advances in CD-Metrology (CD-SAXS, Mueller Matrix based Scatterometry, and SEM). AIP Conference Proceedings, 2011, , .	0.4	6
24	Modeling ellipsometric measurement of three-dimensional structures with rigorous coupled wave analysis and finite element method simulations. Journal of Micro/ Nanolithography, MEMS, and MOEMS, 2016, 15, 044003.	0.9	6
25	Optical second harmonic generation from silicon (100) crystals with process tailored surface and embedded silver nanostructures for silicon nonlinear nanophotonics. Journal of Applied Physics, 2020, 128, 165106.	2.5	6
26	Ferroelectric Phase Content in 7-nm Hf _{1-x} Zr _x O ₂ Thin Films Determined by X-Ray Based Methods. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100024.	1.8	6
27	A Path Toward Non-Destructive 3D Metrology for Through-Silicon Vias. International Symposium on Microelectronics, 2011, 2011, 000017-000024.	0.0	5
28	The ITRS metrology roadmap. , 2009, , .		4
29	Pulsed-N ₂ assisted growth of 5-20 nm thick HfO_2 films. AIP Advances, 2015, 5, .	1.3	4
30	Higher-k Tetragonal Phase Stabilization in Atomic Layer Deposited Hf _{1-x} Zr _x O ₂ (0<x<1) Thin Films on Al ₂ O ₃ Passivated Epitaxial-Ge. MRS Advances, 2016, 1, 269-274.	0.9	4
31	Photoreflectance Spectroscopic Characterization of Si with SiO ₂ and HfO ₂ Dielectric Layers. , 2009, , .		3
32	Effects of Hydrogen Ion Implantation and Thermal Annealing on Structural and Optical Properties of Single-crystal Sapphire.. Materials Research Society Symposia Proceedings, 2011, 1354, 97.	0.1	3
33	Mueller matrix optical scatterometry of Si fins patterned using directed self-assembly block copolymer line arrays. , 2014, , .		3
34	Thickness and Rotational Effects in Simulated HRTEM Images of Graphene on Hexagonal Boron Nitride. Microscopy and Microanalysis, 2014, 20, 1753-1763.	0.4	3
35	Rapid optical determination of topological insulator nanoplate thickness and oxidation. AIP Advances, 2017, 7, .	1.3	3
36	Semiconductor Manufacturing. , 2013, , 121-132.		2

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37	Graphene metrology and devices. International Journal of Materials Research, 2010, 101, 175-181.	0.3	1
38	Engineering crystallinity of atomic layer deposited gate stacks containing ultrathin HfO ₂ and a Ti-based metal gate: Effects of postmetal gate anneal and integration schemes. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2014, 32, 03D122.	1.2	1
39	Survey of characterization and metrology for nanoelectronics. , 2008, , .		0
40	Spectroscopic Ellipsometry Characterization of High-k films on SiO ₂ /Si. , 2009, , .		0
41	An Optimized 300mm BCB Wafer Bonding Process for 3D Integration. Materials Research Society Symposia Proceedings, 2010, 1249, 1.	0.1	0
42	Guest Editorial Process-Level Machine Learning Applications in Semiconductor Manufacturing. IEEE Transactions on Semiconductor Manufacturing, 2022, 35, 155-157.	1.7	0