

Christopher L Hinkle

List of Publications by Citations

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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.

91
papers

4,280
citations

35
h-index

64
g-index

94
ext. papers

4,819
ext. citations

5.4
avg, IF

5.42
L-index

#	Paper	IF	Citations
91	Defect-dominated doping and contact resistance in MoS ₂ . <i>ACS Nano</i> , 2014 , 8, 2880-8	16.7	562
90	Covalent Nitrogen Doping and Compressive Strain in MoS ₂ by Remote N ₂ Plasma Exposure. <i>Nano Letters</i> , 2016 , 16, 5437-43	11.5	247
89	Detection of Ga suboxides and their impact on III-V passivation and Fermi-level pinning. <i>Applied Physics Letters</i> , 2009 , 94, 162101	3.4	236
88	Impurities and Electronic Property Variations of Natural MoS ₂ Crystal Surfaces. <i>ACS Nano</i> , 2015 , 9, 9124-33	16.7	207
87	HfO ₂ on MoS ₂ by atomic layer deposition: adsorption mechanisms and thickness scalability. <i>ACS Nano</i> , 2013 , 7, 10354-61	16.7	194
86	HfSe ₂ thin films: 2D transition metal dichalcogenides grown by molecular beam epitaxy. <i>ACS Nano</i> , 2015 , 9, 474-80	16.7	155
85	A roadmap for electronic grade 2D materials. <i>2D Materials</i> , 2019 , 6, 022001	5.9	133
84	Controlled crack propagation for atomic precision handling of wafer-scale two-dimensional materials. <i>Science</i> , 2018 , 362, 665-670	33.3	133
83	Half-cycle atomic layer deposition reaction studies of Al ₂ O ₃ on In _{0.2} Ga _{0.8} As (100) surfaces. <i>Applied Physics Letters</i> , 2008 , 93, 202902	3.4	131
82	Interfacial chemistry of oxides on In _x Ga _(1-x) As and implications for MOSFET applications. <i>Current Opinion in Solid State and Materials Science</i> , 2011 , 15, 188-207	12	109
81	van der Waals epitaxy: 2D materials and topological insulators. <i>Applied Materials Today</i> , 2017 , 9, 504-515	5.6	97
80	Progression of Solid Electrolyte Interphase Formation on Hydrogenated Amorphous Silicon Anodes for Lithium-Ion Batteries. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 9072-9077	3.8	93
79	Contact Metal/MoS ₂ Interfacial Reactions and Potential Implications on MoS ₂ -Based Device Performance. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 14719-14729	3.8	91
78	MoS ₂ -Titanium Contact Interface Reactions. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 8289-94	9.5	84
77	Frequency dispersion reduction and bond conversion on n-type GaAs by in situ surface oxide removal and passivation. <i>Applied Physics Letters</i> , 2007 , 91, 163512	3.4	81
76	Suppression of subcutaneous oxidation during the deposition of amorphous lanthanum aluminate on silicon. <i>Applied Physics Letters</i> , 2004 , 84, 4629-4631	3.4	81
75	Nucleation and growth of WSe ₂ : enabling large grain transition metal dichalcogenides. <i>2D Materials</i> , 2017 , 4, 045019	5.9	79

74	WSe 2 -contact metal interface chemistry and band alignment under high vacuum and ultra high vacuum deposition conditions. <i>2D Materials</i> , 2017 , 4, 025084	5.9	67
73	Optimisation of the ammonium sulphide (NH ₄) ₂ S passivation process on In _{0.53} Ga _{0.47} As. <i>Applied Surface Science</i> , 2011 , 257, 4082-4090	6.7	64
72	Is interfacial chemistry correlated to gap states for high-k/III-V interfaces?. <i>Microelectronic Engineering</i> , 2011 , 88, 1061-1065	2.5	59
71	Indium stability on InGaAs during atomic H surface cleaning. <i>Applied Physics Letters</i> , 2008 , 92, 171906	3.4	59
70	Comparison of n-type and p-type GaAs oxide growth and its effects on frequency dispersion characteristics. <i>Applied Physics Letters</i> , 2008 , 93, 113506	3.4	52
69	Nitrogen bonding, stability, and transport in ALON films on Si. <i>Applied Physics Letters</i> , 2004 , 84, 4992-4994	3.4	50
68	High-Mobility Helical Tellurium Field-Effect Transistors Enabled by Transfer-Free, Low-Temperature Direct Growth. <i>Advanced Materials</i> , 2018 , 30, e1803109	24	49
67	The significance of core-level electron binding energies on the proper analysis of InGaAs interfacial bonding. <i>Applied Physics Letters</i> , 2009 , 95, 151905	3.4	49
66	Effect of post deposition anneal on the characteristics of HfO ₂ /InP metal-oxide-semiconductor capacitors. <i>Applied Physics Letters</i> , 2011 , 99, 172901	3.4	49
65	Performance enhancement of n-channel inversion type In _x Ga _{1-x} As metal-oxide-semiconductor field effect transistor using ex situ deposited thin amorphous silicon layer. <i>Applied Physics Letters</i> , 2008 , 93, 122109	3.4	48
64	Interface Chemistry of Contact Metals and Ferromagnets on the Topological Insulator Bi ₂ Se ₃ . <i>Journal of Physical Chemistry C</i> , 2017 , 121, 23551-23563	3.8	44
63	Interfacial oxide re-growth in thin film metal oxide III-V semiconductor systems. <i>Applied Physics Letters</i> , 2012 , 100, 141606	3.4	44
62	W Te 2 thin films grown by beam-interrupted molecular beam epitaxy. <i>2D Materials</i> , 2017 , 4, 025044	5.9	41
61	A novel approach for determining the effective tunneling mass of electrons in HfO ₂ and other high-K alternative gate dielectrics for advanced CMOS devices. <i>Microelectronic Engineering</i> , 2004 , 72, 257-262	2.5	41
60	Transition metal dichalcogenide and hexagonal boron nitride heterostructures grown by molecular beam epitaxy. <i>Microelectronic Engineering</i> , 2015 , 147, 306-309	2.5	40
59	Evaluation of border traps and interface traps in HfO ₂ /MoS ₂ gate stacks by capacitance-voltage analysis. <i>2D Materials</i> , 2018 , 5, 031002	5.9	38
58	Surface passivation and implications on high mobility channel performance (Invited Paper). <i>Microelectronic Engineering</i> , 2009 , 86, 1544-1549	2.5	38
57	Electrical and chemical characteristics of Al ₂ O ₃ /InP metal-oxide-semiconductor capacitors. <i>Applied Physics Letters</i> , 2013 , 102, 132903	3.4	35

56	Impact of Semiconductor and Interface-State Capacitance on Metal/High-k/GaAs Capacitance/Voltage Characteristics. <i>IEEE Transactions on Electron Devices</i> , 2010 , 57, 2599-2606	2.9	35
55	Dual-gate MoS ₂ transistors with sub-10 nm top-gate high-k dielectrics. <i>Applied Physics Letters</i> , 2018 , 112, 253502	3.4	34
54	Extraction of the Effective Mobility of $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ MOSFETs. <i>IEEE Electron Device Letters</i> , 2009 , 30, 316-318	4.4	34
53	Probing Interface Defects in Top-Gated MoS Transistors with Impedance Spectroscopy. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 24348-24356	9.5	27
52	In situ surface pre-treatment study of GaAs and In _{0.53} Ga _{0.47} As. <i>Applied Physics Letters</i> , 2012 , 100, 151603	9.4	27
51	Interfacial oxygen and nitrogen induced dipole formation and vacancy passivation for increased effective work functions in TiN/HfO ₂ gate stacks. <i>Applied Physics Letters</i> , 2010 , 96, 103502	3.4	26
50	Contact Engineering for Dual-Gate MoS ₂ Transistors Using O ₂ Plasma Exposure. <i>ACS Applied Electronic Materials</i> , 2019 , 1, 210-219	4	24
49	Fermi Level Manipulation through Native Doping in the Topological Insulator BiSe. <i>ACS Nano</i> , 2018 , 12, 6310-6318	16.7	23
48	Remote phonon and surface roughness limited universal electron mobility of In _{0.53} Ga _{0.47} As surface channel MOSFETs. <i>Microelectronic Engineering</i> , 2011 , 88, 1083-1086	2.5	23
47	Effects of annealing on top-gated MoS ₂ transistors with HfO ₂ dielectric. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2017 , 35, 01A118	1.3	22
46	Two-dimensional electric-double-layer Esaki diode. <i>Npj 2D Materials and Applications</i> , 2019 , 3,	8.8	22
45	Surface Studies of III-V Materials: Oxidation Control and Device Implications. <i>ECS Transactions</i> , 2009 , 19, 387-403	1	22
44	Schottky Barrier Height of Pd/MoS Contact by Large Area Photoemission Spectroscopy. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 38977-38983	9.5	19
43	Tellurium as a successor of silicon for extremely scaled nanowires: a first-principles study. <i>Npj 2D Materials and Applications</i> , 2020 , 4,	8.8	19
42	Engineering the Palladium/Se ₂ Interface Chemistry for Field Effect Transistors with High-Performance Hole Contacts. <i>ACS Applied Nano Materials</i> , 2019 , 2, 75-88	5.6	18
41	Chemical and electrical characterization of the HfO ₂ /InAlAs interface. <i>Journal of Applied Physics</i> , 2013 , 114, 104103	2.5	17
40	Remote plasma-assisted nitridation (RPN): applications to Zr and Hf silicate alloys and Al ₂ O ₃ . <i>Applied Surface Science</i> , 2003 , 216, 124-132	6.7	17
39	Dislocation driven spiral and non-spiral growth in layered chalcogenides. <i>Nanoscale</i> , 2018 , 10, 15023-15034	3.4	16

38	In situ study of HfO ₂ atomic layer deposition on InP(100). <i>Applied Physics Letters</i> , 2013 , 102, 171602	3.4	16
37	Covalent nitrogen doping in molecular beam epitaxy-grown and bulk WSe ₂ . <i>APL Materials</i> , 2018 , 6, 026663	3.7	15
36	Electrical characterization of top-gated molybdenum disulfide metal-oxide-semiconductor capacitors with high-k dielectrics. <i>Microelectronic Engineering</i> , 2015 , 147, 151-154	2.5	14
35	Chemical bonding and defect states of LPCVD grown silicon-rich Si ₃ N ₄ for quantum dot applications. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014 , 32, 021507	2.9	14
34	Gate-last TiN/HfO ₂ band edge effective work functions using low-temperature anneals and selective cladding to control interface composition. <i>Applied Physics Letters</i> , 2012 , 100, 153501	3.4	13
33	In situ study of the role of substrate temperature during atomic layer deposition of HfO ₂ on InP. <i>Journal of Applied Physics</i> , 2013 , 114, 154105	2.5	13
32	Electron trapping in non-crystalline Ta- and Hf-Aluminates for gate dielectric applications in aggressively scaled silicon devices. <i>Solid-State Electronics</i> , 2002 , 46, 1799-1805	1.7	13
31	Origins of Fermi Level Pinning between Tungsten Dichalcogenides (WS ₂ , WTe ₂) and Bulk Metal Contacts: Interface Chemistry and Band Alignment. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 14550-14563	3.8	12
30	WSe (2x) Te x alloys grown by molecular beam epitaxy. <i>2D Materials</i> , 2019 , 6, 045027	5.9	12
29	Silicon interfacial passivation layer chemistry for high-k/InP interfaces. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 7340-5	9.5	12
28	In situ atomic layer deposition study of HfO ₂ growth on NH ₄ OH and atomic hydrogen treated Al _{0.25} Ga _{0.75} N. <i>Journal of Applied Physics</i> , 2013 , 113, 244102	2.5	11
27	Thermal stability of plasma-nitrided aluminum oxide films on Si. <i>Applied Physics Letters</i> , 2004 , 84, 97-99	3.4	11
26	Molecular Beam Epitaxy of Transition Metal Dichalcogenides 2018 , 515-531		10
25	Origins of Fermi-Level Pinning between Molybdenum Dichalcogenides (MoSe ₂ , MoTe ₂) and Bulk Metal Contacts: Interface Chemistry and Band Alignment. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 23919-23930	3.8	10
24	Engineering the interface chemistry for scandium electron contacts in WSe ₂ transistors and diodes. <i>2D Materials</i> , 2019 , 6, 045020	5.9	9
23	Understanding the Impact of Annealing on Interface and Border Traps in the Cr/HfO ₂ /Al ₂ O ₃ /MoS ₂ System. <i>ACS Applied Electronic Materials</i> , 2019 , 1, 1372-1377	4	9
22	Materials for interconnects. <i>MRS Bulletin</i> , 2021 , 46, 959	3.2	9
21	Oxide-related defects in quantum dot containing Si-rich silicon nitride films. <i>Thin Solid Films</i> , 2017 , 636, 267-272	2.2	8

20	In situ study of atomic layer deposition Al ₂ O ₃ on GaP (100). <i>Applied Physics Letters</i> , 2013 , 103, 121604	3.4	8
19	High-k Oxide Growth on III-V Surfaces: Chemical Bonding and MOSFET Performance. <i>ECS Transactions</i> , 2011 , 35, 403-413	1	6
18	A spectroscopic study distinguishing between chemical phase separation with different degrees of crystallinity in Hf(Zr) silicate alloys. <i>Applied Surface Science</i> , 2004 , 234, 429-433	6.7	6
17	Impact of Etch Processes on the Chemistry and Surface States of the Topological Insulator BiSe. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 32144-32150	9.5	4
16	Formation of pre-silicide layers below Ni _{1-x} Pt _x Si/Si interfaces. <i>Acta Materialia</i> , 2013 , 61, 2481-2488	8.4	4
15	PtSi dominated Schottky barrier heights of Ni(Pt)Si contacts due to Pt segregation. <i>Applied Physics Letters</i> , 2013 , 102, 123507	3.4	4
14	On the calculation of effective electric field in In _{0.53} Ga _{0.47} As surface channel metal-oxide-semiconductor field-effect-transistors. <i>Applied Physics Letters</i> , 2011 , 98, 193501	3.4	4
13	Chemical phase separation in Zr silicate alloys: a spectroscopic study distinguishing between chemical phase separation with different degree of micro- and nano-crystallinity. <i>Microelectronic Engineering</i> , 2004 , 72, 304-309	2.5	4
12	(Invited) Investigation of Critical Interfaces in Few-Layer MoS ₂ Field Effect Transistors with High-k Dielectrics. <i>ECS Transactions</i> , 2017 , 80, 219-225	1	3
11	Comprehensive Capacitance-Voltage Simulation and Extraction Tool Including Quantum Effects for High-k on SixGe _{1-x} and In _x Ga _{1-x} As: Part I Model Description and Validation. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3786-3793	2.9	3
10	(Invited) Band-Edge Effective Work Functions by Controlling HfO ₂ /TiN Interfacial Composition for Gate-Last CMOS. <i>ECS Transactions</i> , 2011 , 35, 285-295	1	3
9	Electric Double Layer Esaki Tunnel Junction in a 40-nm-Length, WSe ₂ Channel Grown by Molecular Beam Epitaxy on Al ₂ O ₃ 2018 ,		3
8	Comprehensive Capacitance-Voltage Simulation and Extraction Tool Including Quantum Effects for High- k on SixGe _{1-x} and In _x Ga _{1-x} As: Part II Fits and Extraction From Experimental Data. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3794-3801	2.9	2
7	(Invited) Electrical and Physical Properties of High-k Gate Dielectrics on In _x Ga _{1-x} As. <i>ECS Transactions</i> , 2010 , 28, 209-219	1	2
6	Enhanced tunneling in stacked gate dielectrics with ultra-thin HfO ₂ layers sandwiched between thicker SiO ₂ layers. <i>Applied Surface Science</i> , 2004 , 234, 240-245	6.7	2
5	Interfacial Chemistry of Oxides on III-V Compound Semiconductors 2010 , 131-172		2
4	Quantum Confinement and Interface States in ZnO Nanocrystalline Thin-Film Transistors. <i>IEEE Transactions on Electron Devices</i> , 2018 , 65, 1787-1795	2.9	1
3	Trigonal Tellurium Nanostructure Formation Energy and Band gap 2019 ,		1

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| 2 | Controlling the Pd Metal Contact Polarity to Trigonal Tellurium by Atomic Hydrogen-Removal of the Native Tellurium Oxide. <i>Advanced Materials Interfaces</i> , 2021 , 8, 2002050 | 4.6 | 1 |
| 1 | Substitutional and Interstitial Diffusion of Ni across the NiSi/Si interface. <i>Microscopy and Microanalysis</i> , 2012 , 18, 344-345 | 0.5 | |