

# Ioannis Deretzis

## List of Publications by Year in descending order

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119  
papers

2,579  
citations

201385

27  
h-index

223531

46  
g-index

120  
all docs

120  
docs citations

120  
times ranked

4121  
citing authors

#	ARTICLE	IF	CITATIONS
1	Stability of solution-processed MAPbI <sub>3</sub> and FAPbI <sub>3</sub> layers. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 13413-13422.	1.3	208
2	Temperature-Dependent Optical Band Gap in CsPbBr <sub>3</sub> , MAPbBr <sub>3</sub> , and FAPbBr <sub>3</sub> Single Crystals. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 2490-2496.	2.1	173
3	Atomistic origins of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> degradation to PbI <sub>2</sub> in vacuum. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	158
4	Pb clustering and PbI <sub>2</sub> nanofragmentation during methylammonium lead iodide perovskite degradation. <i>Nature Communications</i> , 2019, 10, 2196.	5.8	116
5	Stability and Degradation in Hybrid Perovskites: Is the Glass Half-Empty or Half-Full?. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 3000-3007.	2.1	102
6	Electronic transport at monolayer-bilayer junctions in epitaxial graphene on SiC. <i>Physical Review B</i> , 2012, 86, .	1.1	85
7	Ambipolar MoS <sub>2</sub> Transistors by Nanoscale Tailoring of Schottky Barrier Using Oxygen Plasma Functionalization. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 23164-23174.	4.0	81
8	Similar Structural Dynamics for the Degradation of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> in Air and in Vacuum. <i>ChemPhysChem</i> , 2015, 16, 3064-3071.	1.0	80
9	Delaminated Graphene at Silicon Carbide Facets: Atomic Scale Imaging and Spectroscopy. <i>ACS Nano</i> , 2013, 7, 3045-3052.	7.3	73
10	Effects due to backscattering and pseudogap features in graphene nanoribbons with single vacancies. <i>Physical Review B</i> , 2010, 81, .	1.1	54
11	First Evidence of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Optical Constants Improvement in a N <sub>2</sub> Environment in the Range 40–80 Å°C. <i>Journal of Physical Chemistry C</i> , 2017, 121, 7703-7710.	1.5	49
12	Role of covalent and metallic intercalation on the electronic properties of epitaxial graphene on SiC(0001). <i>Physical Review B</i> , 2011, 84, .	1.1	47
13	Nitrogen Soaking Promotes Lattice Recovery in Polycrystalline Hybrid Perovskites. <i>Advanced Energy Materials</i> , 2019, 9, 1803450.	10.2	46
14	Role of contact bonding on electronic transport in metal–carbon nanotube–metal systems. <i>Nanotechnology</i> , 2006, 17, 5063-5072.	1.3	44
15	Direct growth of quasi-free-standing epitaxial graphene on nonpolar SiC surfaces. <i>Physical Review B</i> , 2013, 88, .	1.1	43
16	Oxygen Functionalities Evolution in Thermally Treated Graphene Oxide Featured by EELS and DFT Calculations. <i>Journal of Physical Chemistry C</i> , 2017, 121, 5408-5414.	1.5	40
17	Conductance distribution in doped and defected graphene nanoribbons. <i>Physical Review B</i> , 2009, 80, .	1.1	37
18	Spontaneous bidirectional ordering of CH <sub>3</sub> NH <sub>3</sub> <sup>+</sup> in lead iodide perovskites at room temperature: The origins of the tetragonal phase. <i>Scientific Reports</i> , 2016, 6, 24443.	1.6	37

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19	Revealing a Discontinuity in the Degradation Behavior of CH <sub>3</sub> NH <sub>3</sub> Pb <sub>3</sub> during Thermal Operation. Journal of Physical Chemistry C, 2017, 121, 13577-13585.	1.5	37
20	Texture of MAPb <sub>3</sub> Layers Assisted by Chloride on Flat TiO <sub>2</sub> Substrates. Journal of Physical Chemistry C, 2015, 119, 19808-19816.	1.5	36
21	Electron energy-loss spectra of graphene oxide for the determination of oxygen functionalities. Carbon, 2015, 93, 1034-1041.	5.4	36
22	High-Performance Graphene/AlGaN/GaN Schottky Junctions for Hot Electron Transistors. ACS Applied Electronic Materials, 2019, 1, 2342-2354.	2.0	35
23	Genesis and evolution of extended defects: The role of evolving interface instabilities in cubic SiC. Applied Physics Reviews, 2020, 7, 021402.	5.5	35
24	New Approaches and Understandings in the Growth of Cubic Silicon Carbide. Materials, 2021, 14, 5348.	1.3	34
25	Electron backscattering from stacking faults in SiC by means of ab initio quantum transport calculations. Physical Review B, 2012, 85, .	1.1	31
26	Theoretical study of the laser annealing process in FinFET structures. Applied Surface Science, 2019, 467-468, 666-672.	3.1	31
27	Local Order and Rotational Dynamics in Mixed A-Cation Lead Iodide Perovskites. Journal of Physical Chemistry Letters, 2020, 11, 1068-1074.	2.1	31
28	Phonon Driven Nonlinear Electrical Behavior in Molecular Devices. Physical Review Letters, 2007, 99, 136404.	2.9	30
29	Phase field model of the nanoscale evolution during the explosive crystallization phenomenon. Journal of Applied Physics, 2018, 123, .	1.1	28
30	From Pb <sub>2</sub> to MAPb <sub>3</sub> through Layered Intermediates. Journal of Physical Chemistry C, 2016, 120, 19768-19777.	1.5	26
31	CsPbBr <sub>3</sub> , MAPbBr <sub>3</sub> , and FAPbBr <sub>3</sub> Bromide Perovskite Single Crystals: Interband Critical Points under Dry N <sub>2</sub> and Optical Degradation under Humid Air. Journal of Physical Chemistry C, 2021, 125, 4938-4945.	1.5	26
32	Ion beam induced defects in graphene: Raman spectroscopy and DFT calculations. Journal of Molecular Structure, 2011, 993, 506-509.	1.8	25
33	Impact of Stacking Faults and Domain Boundaries on the Electronic Transport in Cubic Silicon Carbide Probed by Conductive Atomic Force Microscopy. Advanced Electronic Materials, 2020, 6, 1901171.	2.6	25
34	Two-step MAPb <sub>3</sub> deposition by low-vacuum proximity-space-effusion for high-efficiency inverted semitransparent perovskite solar cells. Journal of Materials Chemistry A, 2021, 9, 16456-16469.	5.2	25
35	Absorption edges of black phosphorus: A comparative analysis. Physica Status Solidi (B): Basic Research, 2016, 253, 2509-2514.	0.7	24
36	Seed-Layer-Free Atomic Layer Deposition of Highly Uniform Al <sub>2</sub> O <sub>3</sub> Thin Films onto Monolayer Epitaxial Graphene on Silicon Carbide. Advanced Materials Interfaces, 2019, 6, 1900097.	1.9	24

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37	Wet Environment Effects for Ethanol and Water Adsorption on Anatase TiO <sub>2</sub> (101) Surfaces. <i>Journal of Physical Chemistry C</i> , 2020, 124, 2406-2419.	1.5	24
38	Coupled Monte Carlo-Poisson method for the simulation of particle-particle effects in dielectrophoretic devices. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	22
39	Exploring the orthorhombic-tetragonal phase transition in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : the role of atom kinetics. <i>Nanoscale</i> , 2017, 9, 5896-5903.	2.8	22
40	Electron trapping at SiO <sub>2</sub> /4H-SiC interface probed by transient capacitance measurements and atomic resolution chemical analysis. <i>Nanotechnology</i> , 2018, 29, 395702.	1.3	22
41	Interface disorder probed at the atomic scale for graphene grown on the C face of SiC. <i>Physical Review B</i> , 2015, 91, .	1.1	20
42	Interaction between hydrogen flux and carbon monolayer on SiC(0001): graphene formation kinetics. <i>Nanoscale</i> , 2013, 5, 671-680.	2.8	18
43	Anisotropic ultraviolet-plasmon dispersion in black phosphorus. <i>Nanoscale</i> , 2018, 10, 21918-21927.	2.8	18
44	Electronic transport in carbon nanotube based nano-devices. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2008, 40, 2333-2338.	1.3	17
45	Electronic structure of epitaxial graphene nanoribbons on SiC(0001). <i>Applied Physics Letters</i> , 2009, 95, 063111.	1.5	17
46	Role of basis sets on the unfolding of supercell band structures: From tight-binding to density functional theory. <i>Europhysics Letters</i> , 2014, 107, 27006.	0.7	17
47	Origin and impact of sublattice symmetry breaking in nitrogen-doped graphene. <i>Physical Review B</i> , 2014, 89, .	1.1	15
48	Bias-driven local density of states alterations and transport in ballistic molecular devices. <i>Journal of Chemical Physics</i> , 2008, 128, 164706.	1.2	14
49	Ab Initio Prediction of Boron Compounds Arising from Borozene: Structural and Electronic Properties. <i>Nanoscale Research Letters</i> , 2010, 5, 158-163.	3.1	14
50	Fabrication and Characterization of Graphene Heterostructures with Nitride Semiconductors for High Frequency Vertical Transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018, 215, 1700653.	0.8	14
51	TiO <sub>2</sub> Colloids Laser-Treated in Ethanol for Photocatalytic H <sub>2</sub> Production. <i>ACS Applied Nano Materials</i> , 2020, 3, 9127-9140.	2.4	14
52	Insulator-metal transition in biased finite polyynes systems. <i>European Physical Journal B</i> , 2009, 70, 311-316.	0.6	13
53	A multiscale study of electronic structure and quantum transport in C <sub>60</sub> -based graphene quantum dots. <i>Journal of Physics Condensed Matter</i> , 2010, 22, 095504.	0.7	13
54	Coherent electron transport in quasi one-dimensional carbon-based systems. <i>European Physical Journal B</i> , 2011, 81, 15-36.	0.6	13

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55	A density functional theory study of epitaxial graphene on the (3 $\sqrt{3}$ –3)-reconstructed C-face of SiC. Applied Physics Letters, 2013, 102, 093101.	1.5	13
56	Violation of the single-parameter scaling hypothesis in disordered graphene nanoribbons. Physical Review B, 2008, 78, .	1.1	12
57	Electronic properties of epitaxial graphene residing on SiC facets probed by conductive atomic force microscopy. Applied Surface Science, 2014, 291, 53-57.	3.1	12
58	Exploring the Structural Competition between the Black and the Yellow Phase of CsPbI <sub>3</sub> . Nanomaterials, 2021, 11, 1282.	1.9	12
59	High resolution study of structural and electronic properties of epitaxial graphene grown on off-axis 4H $\alpha$ -SiC (0001). Journal of Crystal Growth, 2014, 393, 150-155.	0.7	11
60	Ab Initio Study of Ge Intercalation in Epitaxial Graphene on SiC(0001). Applied Physics Express, 2011, 4, 125101.	1.1	10
61	Simulating structural transitions with kinetic Monte Carlo: The case of epitaxial graphene on SiC. Physical Review E, 2016, 93, 033304.	0.8	10
62	Multiscale modeling of ultrafast melting phenomena. Npj Computational Materials, 2022, 8, .	3.5	10
63	Atomistic quantum transport modeling of metal-graphene nanoribbon heterojunctions. Physical Review B, 2010, 82, .	1.1	9
64	Quantum transport modeling of defected graphene nanoribbons. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 981-984.	1.3	9
65	Out-of-Glovebox Integration of Recyclable Europium-Doped CsPbI <sub>3</sub> in Triple-Mesoscopic Carbon-Based Solar Cells Exceeding 9% Efficiency. Solar Rrl, 2022, 6, .	3.1	9
66	Theoretical study of the role of metallic contacts in probing transport features of pure and defected graphene nanoribbons. Nanoscale Research Letters, 2011, 6, 234.	3.1	8
67	Single-layer metallicity and interface magnetism of epitaxial graphene on SiC(0001 $\sqrt{3}$ ). Applied Physics Letters, 2011, 98, 023113.	1.5	8
68	Full Efficiency Recovery in Hole-Transporting Layer-Free Perovskite Solar Cells With Free-Standing Dry-Carbon Top-Contacts. Frontiers in Chemistry, 2020, 8, 200.	1.8	8
69	Formation of CsPbI <sub>3</sub> $\beta$ Phase at 80 $\alpha$ C by Europium-Assisted Snowplow Effect. Advanced Energy and Sustainability Research, 2021, 2, 2100091.	2.8	8
70	Black-Yellow Bandgap Trade-Off During Thermal Stability Tests in Low-Temperature Eu-Doped CsPbI <sub>3</sub> . Solar Rrl, 2022, 6, .	3.1	8
71	Kinetic Monte Carlo simulations of vacancy evolution in graphene. Materials Science in Semiconductor Processing, 2016, 42, 179-182.	1.9	7
72	Improved Electrical and Structural Stability in HTL-Free Perovskite Solar Cells by Vacuum Curing Treatment. Energies, 2020, 13, 3953.	1.6	7

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73	Nonequilibrium electron charging in carbon-nanotube-based molecular bridges. Applied Physics Letters, 2007, 91, 163111.	1.5	6
74	Structural and electronic inhomogeneity for graphene grown on the C-face of SiC: Insights from ab initio calculations. Applied Surface Science, 2014, 291, 69-73.	3.1	6
75	Simulation of the Growth Kinetics in Group IV Compound Semiconductors. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800597.	0.8	6
76	Optical behaviour of $\hat{I}^3$ -black CsPbI <sub>3</sub> phases formed by quenching from 80 Å°C and 325 Å°C. JPhys Materials, 2021, 4, 034011.	1.8	6
77	Simulations of the Ultra-Fast Kinetics in Ni-Si-C Ternary Systems under Laser Irradiation. Materials, 2021, 14, 4769.	1.3	6
78	Extensive Fermi-Level Engineering for Graphene through the Interaction with Aluminum Nitrides and Oxides. Physica Status Solidi - Rapid Research Letters, 2020, 14, 1900399.	1.2	5
79	Phononic transport and simulations of annealing processes in nanometric complex structures. Physical Review Materials, 2020, 4, .	0.9	5
80	A polaron model of the electronic transport in a nanotube quantum dot. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2289-2293.	1.3	4
81	Process simulation of hydrogen intercalation in epitaxial graphene on SiC(0001). Physica Status Solidi (B): Basic Research, 2013, 250, 1478-1482.	0.7	4
82	STEM and EELS Investigation on Black Phosphorus at Atomic Resolution. Microscopy and Microanalysis, 2015, 21, 427-428.	0.2	4
83	Role of H Distribution on Coherent Quantum Transport of Electrons in Hydrogenated Graphene. Condensed Matter, 2017, 2, 37.	0.8	4
84	Nanoscale electrical mapping of two-dimensional materials by conductive atomic force microscopy for transistors applications. AIP Conference Proceedings, 2018, , .	0.3	4
85	Electron transport properties of calix[4]arene based systems in a metal-molecule-metal junction. New Journal of Chemistry, 2007, 31, 756-761.	1.4	3
86	On the determination of diameter distribution in multi-wall carbon nanotubes by Raman spectroscopy: issues related to excitation laser energy. Journal of Raman Spectroscopy, 2012, 43, 1018-1023.	1.2	3
87	Electronic transport signatures of common defects in irradiated graphene-based systems. Nuclear Instruments & Methods in Physics Research B, 2012, 282, 108-111.	0.6	3
88	Ultra-shallow junction by laser annealing: Integration issues and modelling. Nuclear Instruments & Methods in Physics Research B, 2006, 253, 1-8.	0.6	2
89	Effects of interface bonding on the conductance of metal-carbon nanotube-metal systems. Materials Science and Engineering C, 2007, 27, 1102-1107.	3.8	2
90	Impact of Substrate Steps and of Monolayer-Bilayer Junctions on the Electronic Transport in Epitaxial Graphene on 4H-SiC (0001). Materials Science Forum, 2013, 740-742, 113-116.	0.3	2

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91	Atom by Atom Simulations of Nanomaterial Manipulation: The Plasma Etching Case. IEEE Nanotechnology Magazine, 2017, 16, 790-797.	1.1	2
92	Coupled molecular-dynamics and finite-element-method simulations for the kinetics of particles subjected to field-mediated forces. Physical Review E, 2019, 99, 063307.	0.8	2
93	Advanced simulations on laser annealing: explosive crystallization and phonon transport corrections. , 2020, , .		2
94	Nonequilibrium aspects of armchair graphene nanoribbon conduction. Materials Science in Semiconductor Processing, 2008, 11, 190-194.	1.9	1
95	Lack of universal conductance features in disordered graphene nanoribbons. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	1
96	Origin of the Current Transport Anisotropy in Epitaxial Graphene Grown on Vicinal 4H-SiC (0001) Surfaces. Materials Science Forum, 0, 806, 103-107.	0.3	1
97	MAPbI3 Deposition by LV-PSE on TiO2 for Photovoltaic Application. Frontiers in Electronics, 2021, 2, .	2.0	1
98	Molecular Dynamics Modeling of the Radial Heat Transfer from Silicon Nanowires. , 2020, , .		1
99	Molecular dynamics simulations supporting the development of a continuum model of heat transport in nanowires. , 2021, , .		1
100	An Experimental Evaluation of Resistive Defects and Different Testing Solutions in Low-Power Back-Biased SRAM Cells. Electronics (Switzerland), 2022, 11, 203.	1.8	1
101	Multiscale Simulations of Plasma Etching in Silicon Carbide Structures. Materials Science Forum, 0, 1062, 214-218.	0.3	1
102	Atomic-Scale Analysis of Chemical Bonding of Delaminated Graphene at Faceted SiC by Aberration-Corrected Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2013, 19, 1238-1239.	0.2	0
103	Micro-Raman characterization of graphene grown on SiC(000-1). , 2014, , .		0
104	Atomic Scale Imaging and Energy Loss Spectroscopy of Epitaxial Graphene. Materials Research Society Symposia Proceedings, 2014, 1714, 1.	0.1	0
105	Observation of layer by layer graphitization of 4H-SiC, through atomic-EELS at low energy. Microscopy and Microanalysis, 2014, 20, 560-561.	0.2	0
106	Atom by atom simulations of nano-materials processing. , 2016, , .		0
107	The Interaction between Graphene and the SiC Substrate: <i>Ab Initio</i> Calculations for Polar and Nonpolar Surfaces. Materials Science Forum, 2016, 858, 1125-1128.	0.3	0
108	Atomistic Simulations and Interfacial Morphology of Graphene Grown on SiC(0001) and SiC(000-1) Substrates. Materials Science Forum, 0, 858, 1121-1124.	0.3	0

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109	Interfacial Disorder of Graphene Grown at High Temperatures on 4H-SiC(000-1). Materials Science Forum, 0, 858, 1129-1132.	0.3	0
110	A Comparison Between Quantum Transport and Band Structure Unfolding in Defected Graphene Nanoribbons. , 2017, , 185-194.		0
111	Nonequilibrium Steady States and Electron Transport in Molecular Systems. , 2017, , 127-150.		0
112	Tailoring Active Defect Centers During the Growth of Group IV Crystals. Proceedings (mdpi), 2019, 12, 32.	0.2	0
113	Continuum modeling and TCAD simulations of laser-related phenomena in CMOS applications. , 2021, , 251-291.		0
114	ELECTRONIC TRANSPORT CALCULATION OF FINITE SINGLE-WALLED CARBON NANOTUBE SYSTEMS IN THE TWO-TERMINAL GEOMETRY. , 2007, , .		0
115	Interface Electronic Differences Between Epitaxial Graphene Systems Grown on the Si and the C Face of SiC. Carbon Nanostructures, 2012, , 51-56.	0.1	0
116	Electron Quantum Transport in Disordered Graphene. Mathematics in Industry, 2016, , 3-12.	0.1	0
117	Ab Initio Calculations and Kinetic Process Simulations of Nitrogen-Doped Graphene. Carbon Nanostructures, 2017, , 61-69.	0.1	0
118	10.1063/1.5132300.1. , 2020, , .		0
119	Computational Study of the Silicon Vacancy in 3C-SiC and Perspectives for Quantum Technologies. Materials Science Forum, 0, 1062, 309-314.	0.3	0