# Ioannis Deretzis

## List of Publications by Year in descending order

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Version: 2024-02-01

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|---|---|---|---|
| 119 papers | 2,579 citations | 201674 27 h-index | 223800 46 g-index |
| 120 all docs | 120 docs citations | 120 times ranked | 4121 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | An Experimental Evaluation of Resistive Defects and Different Testing Solutions in Low-Power Back-Biased SRAM Cells. Electronics (Switzerland), 2022, 11, 203. | 3.1 | 1 |
| 2 | Multiscale modeling of ultrafast melting phenomena. Npj Computational Materials, 2022, 8, . | 8.7 | 10 |
| 3 | Blackâ€Yellow Bandgap Tradeâ€Off During Thermal Stability Tests in Lowâ€Temperature Euâ€Doped CsPbI<sub>3</sub>. Solar Rrl, 2022, 6, . | 5.8 | 8 |
| 4 | Outâ€ofâ€Glovebox Integration of Recyclable Europiumâ€Doped CsPbI<sub>3</sub> in Tripleâ€Mesoscopic Carbonâ€Based Solar Cells Exceeding 9% Efficiency. Solar Rrl, 2022, 6, . | 5.8 | 9 |
| 5 | Two-step MAPbI<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. | 10.3 | 25 |
| 6 | Continuum modeling and TCAD simulations of laser-related phenomena in CMOS applications. , 2021, , 251-291. | | 0 |
| 7 | 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. | 3.1 | 26 |
| 8 | Optical behaviour of Î³-black CsPbI<sub>3</sub> phases formed by quenching from 80 Â°C and 325 Â°C. JPhys Materials, 2021, 4, 034011. | 4.2 | 6 |
| 9 | Formation of CsPbI<sub>3</sub> Î³â€Phase at 80â€‰Â°C by Europiumâ€Assisted Snowplow Effect. Advanced Energy and Sustainability Research, 2021, 2, 2100091. | 5.8 | 8 |
| 10 | Exploring the Structural Competition between the Black and the Yellow Phase of CsPbI3. Nanomaterials, 2021, 11, 1282. | 4.1 | 12 |
| 11 | Simulations of the Ultra-Fast Kinetics in Ni-Si-C Ternary Systems under Laser Irradiation. Materials, 2021, 14, 4769. | 2.9 | 6 |
| 12 | MAPbI3 Deposition by LV-PSE on TiO2 for Photovoltaic Application. Frontiers in Electronics, 2021, 2, . | 3.2 | 1 |
| 13 | New Approaches and Understandings in the Growth of Cubic Silicon Carbide. Materials, 2021, 14, 5348. | 2.9 | 34 |
| 14 | Molecular dynamics simulations supporting the development of a continuum model of heat transport in nanowires. , 2021, , . | | 1 |
| 15 | Extensive Fermiâ€Level Engineering for Graphene through the Interaction with Aluminum Nitrides and Oxides. Physica Status Solidi - Rapid Research Letters, 2020, 14, 1900399. | 2.4 | 5 |
| 16 | Wet Environment Effects for Ethanol and Water Adsorption on Anatase TiO<sub>2</sub> (101) Surfaces. Journal of Physical Chemistry C, 2020, 124, 2406-2419. | 3.1 | 24 |
| 17 | TiO<sub>2</sub> Colloids Laser-Treated in Ethanol for Photocatalytic H<sub>2</sub> Production. ACS Applied Nano Materials, 2020, 3, 9127-9140. | 5.0 | 14 |
| 18 | Improved Electrical and Structural Stability in HTL-Free Perovskite Solar Cells by Vacuum Curing Treatment. Energies, 2020, 13, 3953. | 3.1 | 7 |

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|---|---|---|---|
| 19 | Temperature-Dependent Optical Band Gap in CsPbBr<sub>3</sub>, MAPbBr<sub>3</sub>, and FAPbBr<sub>3</sub> Single Crystals. Journal of Physical Chemistry Letters, 2020, 11, 2490-2496. | 4.6 | 173 |
| 20 | 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. | 5.1 | 25 |
| 21 | Local Order and Rotational Dynamics in Mixed A-Cation Lead Iodide Perovskites. Journal of Physical Chemistry Letters, 2020, 11, 1068-1074. | 4.6 | 31 |
| 22 | Genesis and evolution of extended defects: The role of evolving interface instabilities in cubic SiC. Applied Physics Reviews, 2020, 7, 021402. | 11.3 | 35 |
| 23 | Full Efficiency Recovery in Hole-Transporting Layer-Free Perovskite Solar Cells With Free-Standing Dry-Carbon Top-Contacts. Frontiers in Chemistry, 2020, 8, 200. | 3.6 | 8 |
| 24 | Phononic transport and simulations of annealing processes in nanometric complex structures. Physical Review Materials, 2020, 4, . | 2.4 | 5 |
| 25 | 10.1063/1.5132300.1. , 2020, , . | | 0 |
| 26 | Molecular Dynamics Modeling of the Radial Heat Transfer from Silicon Nanowires. , 2020, , . | | 1 |
| 27 | Advanced simulations on laser annealing: explosive crystallization and phonon transport corrections. , 2020, , . | | 2 |
| 28 | High-Performance Graphene/AlGaN/GaN Schottky Junctions for Hot Electron Transistors. ACS Applied Electronic Materials, 2019, 1, 2342-2354. | 4.3 | 35 |
| 29 | Coupled molecular-dynamics and finite-element-method simulations for the kinetics of particles subjected to field-mediated forces. Physical Review E, 2019, 99, 063307. | 2.1 | 2 |
| 30 | Pb clustering and PbI2 nanofragmentation during methylammonium lead iodide perovskite degradation. Nature Communications, 2019, 10, 2196. | 12.8 | 116 |
| 31 | Seedâ€Łayerâ€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. | 3.7 | 24 |
| 32 | Nitrogen Soaking Promotes Lattice Recovery inÂPolycrystalline Hybrid Perovskites. Advanced Energy Materials, 2019, 9, 1803450. | 19.5 | 46 |
| 33 | Tailoring Active Defect Centers During the Growth of Group IV Crystals. Proceedings (mdpi), 2019, 12, 32. | 0.2 | 0 |
| 34 | Simulation of the Growth Kinetics in Group IV Compound Semiconductors. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800597. | 1.8 | 6 |
| 35 | Theoretical study of the laser annealing process in FinFET structures. Applied Surface Science, 2019, 467-468, 666-672. | 6.1 | 31 |
| 36 | Phase field model of the nanoscale evolution during the explosive crystallization phenomenon. Journal of Applied Physics, 2018, 123, . | 2.5 | 28 |

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| 37 | Fabrication and Characterization of Graphene Heterostructures with Nitride Semiconductors for High Frequency Vertical Transistors. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700653. | 1.8 | 14 |
| 38 | Anisotropic ultraviolet-plasmon dispersion in black phosphorus. Nanoscale, 2018, 10, 21918-21927. | 5.6 | 18 |
| 39 | Stability and Degradation in Hybrid Perovskites: Is the Glass Half-Empty or Half-Full?. Journal of Physical Chemistry Letters, 2018, 9, 3000-3007. | 4.6 | 102 |
| 40 | Nanoscale electrical mapping of two-dimensional materials by conductive atomic force microscopy for transistors applications. AIP Conference Proceedings, 2018, , . | 0.4 | 4 |
| 41 | Electron trapping at SiO<sub>2</sub>/4H-SiC interface probed by transient capacitance measurements and atomic resolution chemical analysis. Nanotechnology, 2018, 29, 395702. | 2.6 | 22 |
| 42 | Oxygen Functionalities Evolution in Thermally Treated Graphene Oxide Featured by EELS and DFT Calculations. Journal of Physical Chemistry C, 2017, 121, 5408-5414. | 3.1 | 40 |
| 43 | A Comparison Between Quantum Transport and Band Structure Unfolding in Defected Graphene Nanoribbons. , 2017, , 185-194. | | 0 |
| 44 | Nonequilibrium Steady States and Electron Transport in Molecular Systems. , 2017, , 127-150. | | 0 |
| 45 | Exploring the orthorhombicâ€“tetragonal phase transition in CH3NH3PbI3: the role of atom kinetics. Nanoscale, 2017, 9, 5896-5903. | 5.6 | 22 |
| 46 | Revealing a Discontinuity in the Degradation Behavior of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> during Thermal Operation. Journal of Physical Chemistry C, 2017, 121, 13577-13585. | 3.1 | 37 |
| 47 | Ambipolar MoS<sub>2</sub> Transistors by Nanoscale Tailoring of Schottky Barrier Using Oxygen Plasma Functionalization. ACS Applied Materials & Interfaces, 2017, 9, 23164-23174. | 8.0 | 81 |
| 48 | 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 40â€“80 Â°C. Journal of Physical Chemistry C, 2017, 121, 7703-7710. | 3.1 | 49 |
| 49 | Atom by Atom Simulations of Nanomaterial Manipulation: The Plasma Etching Case. IEEE Nanotechnology Magazine, 2017, 16, 790-797. | 2.0 | 2 |
| 50 | Role of H Distribution on Coherent Quantum Transport of Electrons in Hydrogenated Graphene. Condensed Matter, 2017, 2, 37. | 1.8 | 4 |
| 51 | Ab Initio Calculations and Kinetic Process Simulations of Nitrogen-Doped Graphene. Carbon Nanostructures, 2017, , 61-69. | 0.1 | 0 |
| 52 | Atom by atom simulations of nano-materials processing. , 2016, , . | | 0 |
| 53 | Absorption edges of black phosphorus: A comparative analysis. Physica Status Solidi (B): Basic Research, 2016, 253, 2509-2514. | 1.5 | 24 |
| 54 | The Interaction between Graphene and the SiC Substrate: Ab Initio Calculations for Polar and Nonpolar Surfaces. Materials Science Forum, 2016, 858, 1125-1128. | 0.3 | 0 |

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| 55 | Spontaneous bidirectional ordering of CH3NH3+ in lead iodide perovskites at room temperature: The origins of the tetragonal phase. Scientific Reports, 2016, 6, 24443. | 3.3 | 37 |
| 56 | Stability of solution-processed MAPbI<sub>3</sub> and FAPbI<sub>3</sub> layers. Physical Chemistry Chemical Physics, 2016, 18, 13413-13422. | 2.8 | 208 |
| 57 | From PbI<sub>2</sub> to MAPbI<sub>3</sub> through Layered Intermediates. Journal of Physical Chemistry C, 2016, 120, 19768-19777. | 3.1 | 26 |
| 58 | Simulating structural transitions with kinetic Monte Carlo: The case of epitaxial graphene on SiC. Physical Review E, 2016, 93, 033304. | 2.1 | 10 |
| 59 | Kinetic Monte Carlo simulations of vacancy evolution in graphene. Materials Science in Semiconductor Processing, 2016, 42, 179-182. | 4.0 | 7 |
| 60 | Electron Quantum Transport in Disordered Graphene. Mathematics in Industry, 2016, , 3-12. | 0.3 | 0 |
| 61 | STEM and EELS Investigation on Black Phosphorus at Atomic Resolution. Microscopy and Microanalysis, 2015, 21, 427-428. | 0.4 | 4 |
| 62 | Interface disorder probed at the atomic scale for graphene grown on the C face of SiC. Physical Review B, 2015, 91, . | 3.2 | 20 |
| 63 | Similar Structural Dynamics for the Degradation of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> in Air and in Vacuum. ChemPhysChem, 2015, 16, 3064-3071. | 2.1 | 80 |
| 64 | Atomistic origins of CH3NH3PbI3 degradation to PbI2 in vacuum. Applied Physics Letters, 2015, 106, . | 3.3 | 158 |
| 65 | Texture of MAPbI<sub>3</sub> Layers Assisted by Chloride on Flat TiO<sub>2</sub> Substrates. Journal of Physical Chemistry C, 2015, 119, 19808-19816. | 3.1 | 36 |
| 66 | Electron energy-loss spectra of graphene oxide for the determination of oxygen functionalities. Carbon, 2015, 93, 1034-1041. | 10.3 | 36 |
| 67 | Micro-Raman characterization of graphene grown on SiC(000-1). , 2014, , . | | 0 |
| 68 | Atomic Scale Imaging and Energy Loss Spectroscopy of Epitaxial Graphene. Materials Research Society Symposia Proceedings, 2014, 1714, 1. | 0.1 | 0 |
| 69 | 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. | 6.1 | 6 |
| 70 | Electronic properties of epitaxial graphene residing on SiC facets probed by conductive atomic force microscopy. Applied Surface Science, 2014, 291, 53-57. | 6.1 | 12 |
| 71 | Origin and impact of sublattice symmetry breaking in nitrogen-doped graphene. Physical Review B, 2014, 89, . | 3.2 | 15 |
| 72 | Role of basis sets on the unfolding of supercell band structures: From tight-binding to density functional theory. Europhysics Letters, 2014, 107, 27006. | 2.0 | 17 |

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| 73 | High resolution study of structural and electronic properties of epitaxial graphene grown on off-axis 4Hâ€“SiC (0001). Journal of Crystal Growth, 2014, 393, 150-155. | 1.5 | 11 |
| 74 | Observation of layer by layer graphitization of 4H-SiC, through atomic-EELS at low energy. Microscopy and Microanalysis, 2014, 20, 560-561. | 0.4 | 0 |
| 75 | Direct growth of quasi-free-standing epitaxial graphene on nonpolar SiC surfaces. Physical Review B, 2013, 88, . | 3.2 | 43 |
| 76 | Interaction between hydrogen flux and carbon monolayer on SiC(0001): graphene formation kinetics. Nanoscale, 2013, 5, 671-680. | 5.6 | 18 |
| 77 | Delaminated Graphene at Silicon Carbide Facets: Atomic Scale Imaging and Spectroscopy. ACS Nano, 2013, 7, 3045-3052. | 14.6 | 73 |
| 78 | 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 |
| 79 | A density functional theory study of epitaxial graphene on the (3Ã—3)-reconstructed C-face of SiC. Applied Physics Letters, 2013, 102, 093101. | 3.3 | 13 |
| 80 | Process simulation of hydrogen intercalation in epitaxial graphene on SiC(0001). Physica Status Solidi (B): Basic Research, 2013, 250, 1478-1482. | 1.5 | 4 |
| 81 | 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. | 0.4 | 0 |
| 82 | Coupled Monte Carlo-Poisson method for the simulation of particle-particle effects in dielectrophoretic devices. Applied Physics Letters, 2012, 100, . | 3.3 | 22 |
| 83 | Electron backscattering from stacking faults in SiC by means ofab initioquantum transport calculations. Physical Review B, 2012, 85, . | 3.2 | 31 |
| 84 | Electronic transport at monolayer-bilayer junctions in epitaxial graphene on SiC. Physical Review B, 2012, 86, . | 3.2 | 85 |
| 85 | On the determination of diameter distribution in multiâ€wall carbon nanotubes by Raman spectroscopy: issues related to excitation laser energy. Journal of Raman Spectroscopy, 2012, 43, 1018-1023. | 2.5 | 3 |
| 86 | Electronic transport signatures of common defects in irradiated graphene-based systems. Nuclear Instruments & Methods in Physics Research B, 2012, 282, 108-111. | 1.4 | 3 |
| 87 | Quantum transport modeling of defected graphene nanoribbons. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 981-984. | 2.7 | 9 |
| 88 | 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 |
| 89 | Coherent electron transport in quasi one-dimensional carbon-based systems. European Physical Journal B, 2011, 81, 15-36. | 1.5 | 13 |
| 90 | Ion beam induced defects in graphene: Raman spectroscopy and DFT calculations. Journal of Molecular Structure, 2011, 993, 506-509. | 3.6 | 25 |

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| 91 | Theoretical study of the role of metallic contacts in probing transport features of pure and defected graphene nanoribbons. Nanoscale Research Letters, 2011, 6, 234. | 5.7 | 8 |
| 92 | Role of covalent and metallic intercalation on the electronic properties of epitaxial graphene on SiC(0001). Physical Review B, 2011, 84, . | 3.2 | 47 |
| 93 | Single-layer metallicity and interface magnetism of epitaxial graphene on SiC(0001Â¯). Applied Physics Letters, 2011, 98, 023113. | 3.3 | 8 |
| 94 | Ab InitioStudy of Ge Intercalation in Epitaxial Graphene on SiC(0001). Applied Physics Express, 2011, 4, 125101. | 2.4 | 10 |
| 95 | Ab Initio Prediction of Boron Compounds Arising from Borozene: Structural and Electronic Properties. Nanoscale Research Letters, 2010, 5, 158-163. | 5.7 | 14 |
| 96 | 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 |
| 97 | A multiscale study of electronic structure and quantum transport in C<sub>6n<sup>2</sup></sub>H<sub>6n</sub>-based graphene quantum dots. Journal of Physics Condensed Matter, 2010, 22, 095504. | 1.8 | 13 |
| 98 | Atomistic quantum transport modeling of metal-graphene nanoribbon heterojunctions. Physical Review B, 2010, 82, . | 3.2 | 9 |
| 99 | Effects due to backscattering and pseudogap features in graphene nanoribbons with single vacancies. Physical Review B, 2010, 81, . | 3.2 | 54 |
| 100 | Insulator-metal transition in biased finite polyyne systems. European Physical Journal B, 2009, 70, 311-316. | 1.5 | 13 |
| 101 | Electronic structure of epitaxial graphene nanoribbons on SiC(0001). Applied Physics Letters, 2009, 95, 063111. | 3.3 | 17 |
| 102 | Conductance distribution in doped and defected graphene nanoribbons. Physical Review B, 2009, 80, . | 3.2 | 37 |
| 103 | Electronic transport in carbon nanotube based nano-devices. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2333-2338. | 2.7 | 17 |
| 104 | A polaron model of the electronic transport in a nanotube quantum dot. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2289-2293. | 2.7 | 4 |
| 105 | Nonequilibrium aspects of armchair graphene nanoribbon conduction. Materials Science in Semiconductor Processing, 2008, 11, 190-194. | 4.0 | 1 |
| 106 | Bias-driven local density of states alterations and transport in ballistic molecular devices. Journal of Chemical Physics, 2008, 128, 164706. | 3.0 | 14 |
| 107 | Violation of the single-parameter scaling hypothesis in disordered graphene nanoribbons. Physical Review B, 2008, 78, . | 3.2 | 12 |
| 108 | Phonon Driven Nonlinear Electrical Behavior in Molecular Devices. Physical Review Letters, 2007, 99, 136404. | 7.8 | 30 |

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| 109 | Nonequilibrium electron charging in carbon-nanotube-based molecular bridges. Applied Physics Letters, 2007, 91, 163111. | 3.3 | 6 |
| 110 | Electron transport properties of calix[4]arene based systems in a metalâ€“moleculeâ€“metal junction. New Journal of Chemistry, 2007, 31, 756-761. | 2.8 | 3 |
| 111 | Effects of interface bonding on the conductance of metalâ€“carbon nanotubeâ€“metal systems. Materials Science and Engineering C, 2007, 27, 1102-1107. | 7.3 | 2 |
| 112 | ELECTRONIC TRANSPORT CALCULATION OF FINITE SINGLE-WALLED CARBON NANOTUBE SYSTEMS IN THE TWO-TERMINAL GEOMETRY. , 2007, , . | | 0 |
| 113 | Role of contact bonding on electronic transport in metalâ€“carbon nanotubeâ€“metal systems. Nanotechnology, 2006, 17, 5063-5072. | 2.6 | 44 |
| 114 | Ultra-shallow junction by laser annealing: Integration issues and modelling. Nuclear Instruments & Methods in Physics Research B, 2006, 253, 1-8. | 1.4 | 2 |
| 115 | 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 |
| 116 | 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 |
| 117 | Interfacial Disorder of Graphene Grown at High Temperatures on 4H-SiC(000-1). Materials Science Forum, 0, 858, 1129-1132. | 0.3 | 0 |
| 118 | Multiscale Simulations of Plasma Etching in Silicon Carbide Structures. Materials Science Forum, 0, 1062, 214-218. | 0.3 | 1 |
| 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 |