

Austin J Minnich

List of Publications by Year in descending order

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Version: 2024-02-01

58
papers

8,649
citations

136885

32
h-index

128225

60
g-index

61
all docs

61
docs citations

61
times ranked

8730
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | High-Thermoelectric Performance of Nanostructured Bismuth Antimony Telluride Bulk Alloys. <i>Science</i> , 2008, 320, 634-638. | 6.0 | 4,843 |
| 2 | Coherent Phonon Heat Conduction in Superlattices. <i>Science</i> , 2012, 338, 936-939. | 6.0 | 489 |
| 3 | Daytime Radiative Cooling Using Near-Black Infrared Emitters. <i>ACS Photonics</i> , 2017, 4, 626-630. | 3.2 | 485 |
| 4 | Direct Measurement of Room-Temperature Nondiffusive Thermal Transport Over Micron Distances in a Silicon Membrane. <i>Physical Review Letters</i> , 2013, 110, 025901. | 2.9 | 330 |
| 5 | Determining eigenstates and thermal states on a quantum computer using quantum imaginary time evolution. <i>Nature Physics</i> , 2020, 16, 205-210. | 6.5 | 317 |
| 6 | Spectral mapping of thermal conductivity through nanoscale ballistic transport. <i>Nature Nanotechnology</i> , 2015, 10, 701-706. | 15.6 | 271 |
| 7 | Thermal conductance and phonon transmissivity of metal-graphite interfaces. <i>Journal of Applied Physics</i> , 2010, 107, . | 1.1 | 174 |
| 8 | Intrinsic localized mode and low thermal conductivity of PbSe. <i>Physical Review B</i> , 2017, 95, . | 1.1 | 84 |
| 9 | Coherent and incoherent thermal transport in nanomeshes. <i>Physical Review B</i> , 2014, 89, . | 1.1 | 83 |
| 10 | Experimental metrology to obtain thermal phonon transmission coefficients at solid interfaces. <i>Physical Review B</i> , 2017, 95, . | 1.1 | 82 |
| 11 | Transport regimes in quasiballistic heat conduction. <i>Physical Review B</i> , 2014, 89, . | 1.1 | 74 |
| 12 | Temperature-Dependent Mean Free Path Spectra of Thermal Phonons Along the c -Axis of Graphite. <i>Nano Letters</i> , 2016, 16, 1643-1649. | 4.5 | 73 |
| 13 | Active Radiative Thermal Switching with Graphene Plasmon Resonators. <i>ACS Nano</i> , 2018, 12, 2474-2481. | 7.3 | 70 |
| 14 | Quantum Computation of Finite-Temperature Static and Dynamical Properties of Spin Systems Using Quantum Imaginary Time Evolution. <i>PRX Quantum</i> , 2021, 2, . | 3.5 | 68 |
| 15 | Semi-analytical solution to the frequency-dependent Boltzmann transport equation for cross-plane heat conduction in thin films. <i>Journal of Applied Physics</i> , 2015, 117, 175306. | 1.1 | 67 |
| 16 | Thermal Transport in Disordered Materials. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2019, 23, 81-116. | 1.4 | 66 |
| 17 | Theoretical studies on the thermoelectric figure of merit of nanograined bulk silicon. <i>Applied Physics Letters</i> , 2010, 97, . | 1.5 | 57 |
| 18 | Importance of frequency-dependent grain boundary scattering in nanocrystalline silicon and silicon-germanium thermoelectrics. <i>Semiconductor Science and Technology</i> , 2014, 29, 124004. | 1.0 | 56 |

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|----|---|-----|-----------|
| 19 | Spatial-Temporal Imaging of Anisotropic Photocarrier Dynamics in Black Phosphorus. Nano Letters, 2017, 17, 3675-3680. | 4.5 | 56 |
| 20 | Length Dependent Thermal Conductivity Measurements Yield Phonon Mean Free Path Spectra in Nanostructures. Scientific Reports, 2015, 5, 9121. | 1.6 | 55 |
| 21 | Propagating elastic vibrations dominate thermal conduction in amorphous silicon. Physical Review B, 2018, 97, . | 1.1 | 55 |
| 22 | Ultralow Thermal Conductivity and Mechanical Resilience of Architected Nanolattices. Nano Letters, 2018, 18, 4755-4761. | 4.5 | 55 |
| 23 | Lattice Thermal Conductivity of Polyethylene Molecular Crystals from First-Principles Including Nuclear Quantum Effects. Physical Review Letters, 2017, 119, 185901. | 2.9 | 51 |
| 24 | Intrinsic anharmonic localization in thermoelectric PbSe. Nature Communications, 2019, 10, 1928. | 5.8 | 51 |
| 25 | Digital Quantum Simulation of Open Quantum Systems Using Quantum Imaginaryâ€“Time Evolution. PRX Quantum, 2022, 3, . | 3.5 | 48 |
| 26 | Thermal transport in nanocrystalline Si and SiGe by ab initio based Monte Carlo simulation. Scientific Reports, 2017, 7, 44254. | 1.6 | 41 |
| 27 | Semiconductor-based Multilayer Selective Solar Absorber for Unconcentrated Solar Thermal Energy Conversion. Scientific Reports, 2017, 7, 5362. | 1.6 | 38 |
| 28 | Ab initio study of mode-resolved phonon transmission at Si/Ge interfaces using atomistic Green's functions. Physical Review B, 2017, 96, . | 1.1 | 36 |
| 29 | Electronic Modulation of Near-Field Radiative Transfer in Graphene Field Effect Heterostructures. Nano Letters, 2019, 19, 3898-3904. | 4.5 | 36 |
| 30 | High frequency atomic tunneling yields ultralow and glass-like thermal conductivity in chalcogenide single crystals. Nature Communications, 2020, 11, 6039. | 5.8 | 36 |
| 31 | Analytical Green's function of the multidimensional frequency-dependent phonon Boltzmann equation. Physical Review B, 2014, 90, . | 1.1 | 35 |
| 32 | Phonon transmission at crystalline-amorphous interfaces studied using mode-resolved atomistic Green's functions. Physical Review B, 2018, 97, . | 1.1 | 33 |
| 33 | Electronic structure of bulk manganese oxide and nickel oxide from coupled cluster theory. Physical Review B, 2020, 101, . | 1.1 | 27 |
| 34 | Sub-amorphous thermal conductivity in amorphous heterogeneous nanocomposites. RSC Advances, 2016, 6, 105154-105160. | 1.7 | 24 |
| 35 | Ballistic thermal phonons traversing nanocrystalline domains in oriented polyethylene. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17163-17168. | 3.3 | 23 |
| 36 | Generalized Fourier's law for nondiffusive thermal transport: Theory and experiment. Physical Review B, 2019, 100, . | 1.1 | 22 |

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|----|---|-----|-----------|
| 37 | Heat dissipation in the quasiballistic regime studied using the Boltzmann equation in the spatial frequency domain. <i>Physical Review B</i> , 2018, 97, . | 1.1 | 21 |
| 38 | Spectrally Resolved Specular Reflections of Thermal Phonons from Atomically Rough Surfaces. <i>Physical Review X</i> , 2018, 8, . | 2.8 | 18 |
| 39 | Thermal acoustic excitations with atomic-scale wavelengths in amorphous silicon. <i>Physical Review Materials</i> , 2019, 3, . | 0.9 | 18 |
| 40 | Elastic and thermal properties of free-standing molybdenum disulfide membranes measured using ultrafast transient grating spectroscopy. <i>APL Materials</i> , 2017, 5, . | 2.2 | 17 |
| 41 | A coupled cluster framework for electrons and phonons. <i>Journal of Chemical Physics</i> , 2020, 153, 224112. | 1.2 | 17 |
| 42 | Coherent control of thermal phonon transport in van der Waals superlattices. <i>Nanoscale</i> , 2018, 10, 14432-14440. | 2.8 | 13 |
| 43 | Origin of micrometer-scale propagation lengths of heat-carrying acoustic excitations in amorphous silicon. <i>Physical Review Materials</i> , 2021, 5, . | 0.9 | 13 |
| 44 | Origin of high thermal conductivity in disentangled ultra-high molecular weight polyethylene films: ballistic phonons within enlarged crystals. <i>Nature Communications</i> , 2022, 13, 2452. | 5.8 | 13 |
| 45 | Heat conduction in multifunctional nanotrusses studied using Boltzmann transport equation. <i>Applied Physics Letters</i> , 2016, 108, . | 1.5 | 12 |
| 46 | Role of thermalizing and nonthermalizing walls in phonon heat conduction along thin films. <i>Physical Review B</i> , 2016, 93, . | 1.1 | 12 |
| 47 | Quasiballistic Thermal Transport from Nanoscale Heaters and the Role of the Spatial Frequency. <i>Physical Review Applied</i> , 2018, 10, . | 1.5 | 12 |
| 48 | Dynamic optical control of near-field radiative transfer. <i>Optics Express</i> , 2018, 26, A729. | 1.7 | 12 |
| 49 | Experimental Evidence of Non-Diffusive Thermal Transport in Si and GaAs. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1347, 1. | 0.1 | 11 |
| 50 | Thermal transport and phonon focusing in complex molecular crystals: <i>Ab initio</i> study of polythiophene. <i>Physical Review B</i> , 2019, 100, . | 1.1 | 8 |
| 51 | Electronic noise of warm electrons in semiconductors from first principles. <i>Physical Review Materials</i> , 2021, 5, . | 0.9 | 8 |
| 52 | Gold/ultra-high molecular weight polyethylene nanocomposites for electrical energy storage: Enhanced recovery efficiency upon uniaxial deformation. <i>Journal of Applied Polymer Science</i> , 2021, 138, 51232. | 1.3 | 6 |
| 53 | Characterization of self-heating in cryogenic high electron mobility transistors using Schottky thermometry. <i>Journal of Applied Physics</i> , 2021, 130, . | 1.1 | 5 |
| 54 | Theory of drain noise in high electron mobility transistors based on real-space transfer. <i>Journal of Applied Physics</i> , 2022, 131, . | 1.1 | 5 |

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|----|--|-----|-----------|
| 55 | Ab initio based investigation of thermal transport in superlattices using the Boltzmann equation: Assessing the role of phonon coherence. Journal of Applied Physics, 2019, 125, 055107. | 1.1 | 4 |
| 56 | Annealing-based manipulation of thermal phonon transport from light-emitting diodes to graphene. Journal of Applied Physics, 2021, 130, . | 1.1 | 3 |
| 57 | Quasiballistic electron transport in cryogenic SiGe HBTs studied using an exact, semi-analytic solution to the Boltzmann equation. Journal of Applied Physics, 2021, 130, 174504. | 1.1 | 1 |
| 58 | Enhancing anisotropy of thermal conductivity based on tandem acoustic Bragg reflectors. Journal of Applied Physics, 2022, 131, 075110. | 1.1 | 1 |