

Thomas E Beechem

List of Publications by Year in descending order

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Version: 2024-02-01

94
papers

3,664
citations

109264

35
h-index

133188

59
g-index

95
all docs

95
docs citations

95
times ranked

5234
citing authors

#	ARTICLE	IF	CITATIONS
1	Emergent interface vibrational structure of oxide superlattices. <i>Nature</i> , 2022, 601, 556-561.	13.7	40
2	Spectral and polarization based imaging in deep-ultraviolet excited photoelectron microscopy. <i>Review of Scientific Instruments</i> , 2022, 93, .	0.6	1
3	Thermal Conductivity of Aluminum Scandium Nitride for 5G Mobile Applications and Beyond. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 19031-19041.	4.0	51
4	Phonon engineering of boron nitride via isotopic enrichment. <i>Journal of Materials Research</i> , 2021, 36, 4394-4403.	1.2	8
5	Effects of strain, disorder, and Coulomb screening on free-carrier mobility in doped cadmium oxide. <i>Journal of Applied Physics</i> , 2021, 130, 195105.	1.1	1
6	Influence of Oxygen Dopants on the HER Catalytic Activity of Electrodeposited MoO _x S _y Electrocatalysts. <i>ACS Applied Energy Materials</i> , 2021, 4, 13676-13683.	2.5	4
7	Complexion dictated thermal resistance with interface density in reactive metal multilayers. <i>Physical Review B</i> , 2020, 101, .	1.1	8
8	Photophysics and Electronic Structure of Lateral Graphene/MoS ₂ and Metal/MoS ₂ Junctions. <i>ACS Nano</i> , 2020, 14, 16663-16671.	7.3	11
9	Thermal conductivity of (Ge ₂ Sb ₂ Te ₅) _{1-x} C _x phase change films. <i>Journal of Applied Physics</i> , 2020, 128, 155106.	1.1	4
10	Enhancing Graphene Plasmonic Device Performance via its Dielectric Environment. <i>Physical Review Applied</i> , 2020, 14, .	1.5	3
11	Monolithically fabricated tunable long-wave infrared detectors based on dynamic graphene metasurfaces. <i>Applied Physics Letters</i> , 2020, 116, 191102.	1.5	4
12	Interdependence of Electronic and Thermal Transport in Al _x Ga _{1-x} N Channel HEMTs. <i>IEEE Electron Device Letters</i> , 2020, 41, 461-464.	2.2	15
13	Nanoscale electro-thermal interactions in AlGaIn/GaN high electron mobility transistors. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	60
14	K-means-driven Gaussian Process data collection for angle-resolved photoemission spectroscopy. <i>Machine Learning: Science and Technology</i> , 2020, 1, 045015.	2.4	7
15	Vibrational EELS of CaTiO ₃ -SrTiO ₃ Superlattices versus Layer Thickness. <i>Microscopy and Microanalysis</i> , 2020, 26, 948-949.	0.2	0
16	Thermal Conductivity and Phonon Scattering Processes of ALD Grown PbTe/PbSe Thermoelectric Thin Films. <i>Advanced Functional Materials</i> , 2019, 29, 1904073.	7.8	23
17	Multidimensional thermal analysis of an ultrawide bandgap AlGaIn channel high electron mobility transistor. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	30
18	Interface Defect Engineering for Improved Graphene-Oxide-Semiconductor Junction Photodetectors. <i>ACS Applied Nano Materials</i> , 2019, 2, 6162-6168.	2.4	13

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19	Uncertainty in linewidth quantification of overlapping Raman bands. <i>Review of Scientific Instruments</i> , 2019, 90, 013111.	0.6	7
20	Imaging Atomically Thin Semiconductors Beneath Dielectrics via Deep Ultraviolet Photoemission Electron Microscopy. <i>Physical Review Applied</i> , 2019, 12, .	1.5	4
21	Influence of spatial dispersion on spectral tuning of phonon-polaritons. <i>Physical Review B</i> , 2019, 100, .	1.1	5
22	Nanoscale Carbon Modified MnO_2 Nanowires: Highly Active and Stable Oxygen Reduction Electrocatalysts with Low Carbon Content. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 2040-2050.	4.0	38
23	Polysulfide Speciation in the Bulk Electrolyte of a Lithium Sulfur Battery. <i>Journal of the Electrochemical Society</i> , 2018, 165, A876-A881.	1.3	27
24	Effects of deposition temperature and ammonia flow on metal-organic chemical vapor deposition of hexagonal boron nitride. <i>Journal of Crystal Growth</i> , 2018, 485, 90-95.	0.7	23
25	Semiconductor Hyperbolic Metamaterials at the Quantum Limit. <i>Scientific Reports</i> , 2018, 8, 16694.	1.6	8
26	Tunable Infrared Devices via Ferroelectrics: Tunable Infrared Devices via Ferroelectric Domain Reconfiguration (<i>Advanced Optical Materials</i> 24/2018). <i>Advanced Optical Materials</i> , 2018, 6, 1870094.	3.6	2
27	Tunable Infrared Devices via Ferroelectric Domain Reconfiguration. <i>Advanced Optical Materials</i> , 2018, 6, 1800862.	3.6	10
28	Unraveling Chemical Interactions between Titanium and Graphene for Electrical Contact Applications. <i>ACS Applied Nano Materials</i> , 2018, 1, 4828-4835.	2.4	6
29	Tunable dual-band graphene-based infrared reflectance filter. <i>Optics Express</i> , 2018, 26, 8532.	1.7	18
30	Dynamic Wavelength-Tunable Photodetector Using Subwavelength Graphene Field-Effect Transistors. <i>Scientific Reports</i> , 2017, 7, 45873.	1.6	10
31	Photoemission Electron Microscopy as a New Tool to Study the Electronic Properties of 2D Crystals and Inhomogeneous Semiconductors. <i>Microscopy and Microanalysis</i> , 2017, 23, 1504-1505.	0.2	0
32	Experimental Determination of the Ionization Energies of MoSe_2 , WS_2 , and MoS_2 on SiO_2 Using Photoemission Electron Microscopy. <i>ACS Nano</i> , 2017, 11, 8223-8230.	7.3	69
33	Graphene-Insulator-Semiconductor Junction for Hybrid Photodetection Modalities. <i>Scientific Reports</i> , 2017, 7, 14651.	1.6	20
34	Designing graphene absorption in a multispectral plasmon-enhanced infrared detector. <i>Optics Express</i> , 2017, 25, 12400.	1.7	18
35	Visibility of dielectrically passivated graphene films. <i>Optics Letters</i> , 2017, 42, 2850.	1.7	1
36	Measuring Li^+ Inventory Losses in LiCoO_2 /Graphite Cells Using Raman Microscopy. <i>Journal of the Electrochemical Society</i> , 2016, 163, A1036-A1041.	1.3	16

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37	Self-Heating and Failure in Scalable Graphene Devices. Scientific Reports, 2016, 6, 26457.	1.6	18
38	Thermal Conductivity of Turbostratic Carbon Nanofiber Networks. Journal of Heat Transfer, 2016, 138, .	1.2	5
39	Size dictated thermal conductivity of GaN. Journal of Applied Physics, 2016, 120, .	1.1	77
40	Size effects on the thermal conductivity of amorphous silicon thin films. Physical Review B, 2016, 93, .	1.1	95
41	Thermal Design and Characterization of Heterogeneously Integrated InGaP/GaAs HBTs. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2016, 6, 740-748.	1.4	27
42	Molecular beam epitaxy growth of SrO buffer layers on graphite and graphene for the integration of complex oxides. Journal of Crystal Growth, 2016, 447, 5-12.	0.7	6
43	Oxidation of ultrathin GaSe. Applied Physics Letters, 2015, 107, .	1.5	59
44	Invited Review Article: Error and uncertainty in Raman thermal conductivity measurements. Review of Scientific Instruments, 2015, 86, 041101.	0.6	41
45	Electrodeposited Ni _x Co ₃ O ₄ nanostructured films as bifunctional oxygen electrocatalysts. Chemical Communications, 2015, 51, 9511-9514.	2.2	107
46	Thermal flux limited electron Kapitza conductance in copper-niobium multilayers. Applied Physics Letters, 2015, 106, .	1.5	21
47	Thermal transport in tantalum oxide films for memristive applications. Applied Physics Letters, 2015, 107, .	1.5	25
48	Planarized arrays of aligned, untangled multiwall carbon nanotubes with Ohmic back contacts. Journal of Materials Research, 2015, 30, 315-322.	1.2	5
49	Ion irradiation of the native oxide/silicon surface increases the thermal boundary conductance across aluminum/silicon interfaces. Physical Review B, 2014, 90, .	1.1	53
50	Rotational Disorder in Twisted Bilayer Graphene. ACS Nano, 2014, 8, 1655-1663.	7.3	37
51	Thermal boundary conductance between Al films and GaN nanowires investigated with molecular dynamics. Physical Chemistry Chemical Physics, 2014, 16, 9403-9410.	1.3	11
52	Lithographically defined porous Ni-carbon nanocomposite supercapacitors. Nanoscale, 2014, 6, 2629-2633.	2.8	10
53	Single element Raman thermometry. Review of Scientific Instruments, 2013, 84, 064903.	0.6	19
54	Design of Robust On-Chip Drain Modulators for Monolithic Pulsed Power Amplifiers. IEEE Microwave and Wireless Components Letters, 2013, 23, 267-269.	2.0	2

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55	Electronic Hybridization of Large-Area Stacked Graphene Films. ACS Nano, 2013, 7, 637-644.	7.3	85
56	Electrochemically Driven Covalent Functionalization of Graphene from Fluorinated Aryl Iodonium Salts. Journal of Physical Chemistry C, 2013, 117, 12038-12044.	1.5	57
57	Assessing thermal damage in silicon PN-junctions using Raman thermometry. Journal of Applied Physics, 2013, 113, 123106.	1.1	5
58	Addendum: "Reduction in thermal boundary conductance due to proton implantation in silicon and sapphire" [Appl. Phys. Lett. 98, 231901 (2011)]. Applied Physics Letters, 2012, 101, 099903.	1.5	6
59	Bidirectionally tuning Kapitza conductance through the inclusion of substitutional impurities. Journal of Applied Physics, 2012, 112, 073519.	1.1	19
60	Strategies for tuning phonon transport in multilayered structures using a mismatch-based particle model. Journal of Applied Physics, 2012, 111, .	1.1	14
61	Evidence for Interlayer Coupling and Moiré Periodic Potentials in Twisted Bilayer Graphene. Physical Review Letters, 2012, 109, 186807.	2.9	179
62	Lithographically Defined Three-Dimensional Graphene Structures. ACS Nano, 2012, 6, 3573-3579.	7.3	152
63	Long-range atomic ordering and variable interlayer interactions in two overlapping graphene lattices with stacking misorientations. Physical Review B, 2012, 85, .	1.1	30
64	Experimental Investigation of Size Effects on the Thermal Conductivity of Silicon-Germanium Alloy Thin Films. Physical Review Letters, 2012, 109, 195901.	2.9	138
65	Three dimensional nickel-graphene core-shell electrodes. Journal of Materials Chemistry, 2012, 22, 23749.	6.7	45
66	Manipulating Thermal Conductance at Metal-Graphene Contacts via Chemical Functionalization. Nano Letters, 2012, 12, 590-595.	4.5	240
67	Lithographically-defined 3D porous networks as active substrates for surface enhanced Raman scattering. Chemical Communications, 2011, 47, 9858.	2.2	25
68	Hyperspectral Raman and Fluorescence Microscopy of Individual Algal Cells for Biochemical Analysis. Biophysical Journal, 2011, 100, 618a-619a.	0.2	0
69	Strain and charge carrier coupling in epitaxial graphene. Physical Review B, 2011, 84, .	1.1	54
70	Influence of anisotropy on thermal boundary conductance at solid interfaces. Physical Review B, 2011, 84, .	1.1	53
71	Reduction in thermal boundary conductance due to proton implantation in silicon and sapphire. Applied Physics Letters, 2011, 98, 231901.	1.5	25
72	Carotenoid Distribution in Living Cells of Haematococcus pluvialis (Chlorophyceae). PLoS ONE, 2011, 6, e24302.	1.1	124

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73	Effects of subconduction band excitations on thermal conductance at metal-metal interfaces. Applied Physics Letters, 2010, 96, .	1.5	14
74	Inelastic phonon interactions at solid-graphite interfaces. Superlattices and Microstructures, 2010, 47, 550-555.	1.4	46
75	Phonon Scattering and Velocity Considerations in the Minimum Phonon Thermal Conductivity of Layered Solids above the Plateau. Nanoscale and Microscale Thermophysical Engineering, 2010, 14, 51-61.	1.4	13
76	Role of dispersion on phononic thermal boundary conductance. Journal of Applied Physics, 2010, 108, .	1.1	76
77	Ultrafast thermoelectric properties of gold under conditions of strong electron-phonon nonequilibrium. Journal of Applied Physics, 2010, 108, .	1.1	4
78	Contribution of optical phonons to thermal boundary conductance. Applied Physics Letters, 2010, 97, .	1.5	34
79	Electrostatic transfer of patterned epitaxial graphene from SiC(0001) to glass. New Journal of Physics, 2010, 12, 125016.	1.2	9
80	Effects of surface roughness and oxide layer on the thermal boundary conductance at aluminum/silicon interfaces. Physical Review B, 2010, 82, .	1.1	154
81	Predictions of thermal boundary conductance for systems of disordered solids and interfaces. Journal of Applied Physics, 2009, 106, .	1.1	42
82	Assessment of stress contributions in GaN high electron mobility transistors of differing substrates using Raman spectroscopy. Journal of Applied Physics, 2009, 106, .	1.1	30
83	Temperature and doping dependence of phonon lifetimes and decay pathways in GaN. Journal of Applied Physics, 2008, 103, .	1.1	57
84	Temperature Measurement of Microdevices using Thermoreflectance and Raman Thermometry. , 2008, , 153-174.		2
85	Influence of Interfacial Mixing on Thermal Boundary Conductance Across a Chromium/Silicon Interface. Journal of Heat Transfer, 2008, 130, .	1.2	116
86	Micro-Raman thermometry in the presence of complex stresses in GaN devices. Journal of Applied Physics, 2008, 103, .	1.1	66
87	Stress relaxation in GaN by transfer bonding on Si substrates. Applied Physics Letters, 2007, 91, 251114.	1.5	38
88	Role of interface disorder on thermal boundary conductance using a virtual crystal approach. Applied Physics Letters, 2007, 90, 054104.	1.5	84
89	Invited Article: Simultaneous mapping of temperature and stress in microdevices using micro-Raman spectroscopy. Review of Scientific Instruments, 2007, 78, 061301.	0.6	139
90	Electrical, Thermal, and Mechanical Characterization of Silicon Microcantilever Heaters. Journal of Microelectromechanical Systems, 2006, 15, 1644-1655.	1.7	187

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91	Estimating the Effects of Interface Disorder on the Thermal Boundary Resistance Using a Virtual Crystal Approximation. , 2006, , 171.		4
92	Novel high strength graphitic foams. Carbon, 2006, 44, 1548-1559.	5.4	45
93	Bubble growth mechanism in carbon foams. Carbon, 2005, 43, 1055-1064.	5.4	45
94	Study of the growth and motion of graphitic foam bubbles. Carbon, 2005, 43, 3075-3087.	5.4	23