Asegun Henry

List of Publications by Year
in descending order

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51 papers	3,477 citations	185998 28 h-index	197535 49 g-index
52 all docs	52 docs citations	52 times ranked	3382 citing authors

#	Article	IF	Citations
1	Polyethylene nanofibres with very high thermal conductivities. Nature Nanotechnology, 2010, 5, 251-255.	15.6	718
2	High Thermal Conductivity of Single Polyethylene Chains Using Molecular Dynamics Simulations. Physical Review Letters, 2008, 101, 235502.	2.9	337
3	High thermal conductivity of chain-oriented amorphous polythiophene. Nature Nanotechnology, 2014, 9, 384-390.	15.6	327
4	Five thermal energy grand challenges for decarbonization. Nature Energy, 2020, 5, 635-637.	19.8	137
5	Anomalous heat conduction in polyethylene chains: Theory and molecular dynamics simulations. Physical Review B, 2009, 79, .	1.1	124
6	Nanoscale optomechanical actuators for controlling mechanotransduction in living cells. Nature Methods, 2016, 13, 143-146.	9.0	113
7	Direct calculation of modal contributions to thermal conductivity via Greenâ€“Kubo modal analysis. New Journal of Physics, 2016, 18, 013028.	1.2	112
8	Thermophotovoltaic efficiency of 40%. Nature, 2022, 604, 287-291.	13.7	108
9	1D-to-3D transition of phonon heat conduction in polyethylene using molecular dynamics simulations. Physical Review B, 2010, 82, .	1.1	101
10	THERMAL TRANSPORT IN POLYMERS. Annual Review of Heat Transfer, 2014, 17, 485-520.	0.3	100
11	Thermal energy grid storage using multi-junction photovoltaics. Energy and Environmental Science, 2019, 12, 334-343.	15.6	93
12	Molecular dynamics simulation of thermal energy transport in polydimethylsiloxane. Journal of Applied Physics, 2011, 109, .	1.1	87
13	Phonon Transport at Crystalline Si/Ge Interfaces: The Role of Interfacial Modes of Vibration. Scientific Reports, 2016, 6, 23139.	1.6	83
14	A method for distinguishing between propagons, diffusions, and locons. Journal of Applied Physics, 2016, 120, .	1.1	77
15	Rethinking phonons: The issue of disorder. Npj Computational Materials, 2017, 3, .	3.5	66
16	Thermal Transport in Disordered Materials. Nanoscale and Microscale Thermophysical Engineering, 2019, 23, 81-116.	1.4	66
17	A formalism for calculating the modal contributions to thermal interface conductance. New Journal of Physics, 2015, 17, 103002.	1.2	62
18	Thermophotovoltaics: a potential pathway to high efficiency concentrated solar power. Energy and Environmental Science, 2016, 9, 2654-2665.	15.6	60

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19	Phonon transport at interfaces: Determining the correct modes of vibration. Journal of Applied Physics, 2016, 119, .	1.1	59
20	Phonon transport at interfaces between different phases of silicon and germanium. Journal of Applied Physics, 2017, 121, .	1.1	55
21	Interfacial Defect Vibrations Enhance Thermal Transport in Amorphous Multilayers with Ultrahigh Thermal Boundary Conductance. Advanced Materials, 2018, 30, e1804097.	11.1	55
22	Thermal Boundary Conductance Across Heteroepitaxial ZnO/GaN Interfaces: Assessment of the Phonon Gas Model. Nano Letters, 2018, 18, 7469-7477.	4.5	53
23	Non-negligible Contributions to Thermal Conductivity From Localized Modes in Amorphous Silicon Dioxide. Scientific Reports, 2016, 6, 35720.	1.6	52
24	Examining the Validity of the Phonon Gas Model in Amorphous Materials. Scientific Reports, 2016, 6, 37675.	1.6	48
25	A deep neural network interatomic potential for studying thermal conductivity of Î² -Ga2O3. Applied Physics Letters, 2020, 117, .	1.5	43
26	The prospect of high temperature solid state energy conversion to reduce the cost of concentrated solar power. Energy and Environmental Science, 2014, 7, 1819-1828.	15.6	39
27	Empirical interatomic potentials optimized for phonon properties. Npj Computational Materials, 2017, 3, .	3.5	36
28	Phonon transport in amorphous carbon using Greenâ€“Kubo modal analysis. Applied Physics Letters, 2016, 108, .	1.5	28
29	Examining the Effects of Stiffness and Mass Difference on the Thermal Interface Conductance Between Lennard-Jones Solids. Scientific Reports, 2016, 5, 18361.	1.6	24
30	A new solar fuels reactor concept based on a liquid metal heat transfer fluid: Reactor design and efficiency estimation. Solar Energy, 2015, 122, 547-561.	2.9	23
31	Using Green-Kubo modal analysis (GKMA) and interface conductance modal analysis (ICMA) to study phonon transport with molecular dynamics. Journal of Applied Physics, 2019, 125, .	1.1	21
32	Ensemble averaging vs. time averaging in molecular dynamics simulations of thermal conductivity. Journal of Applied Physics, 2015, 117, .	1.1	19
33	Effect of light atoms on thermal transport across solidâ€“solid interfaces. Physical Chemistry Chemical Physics, 2019, 21, 17029-17035.	1.3	17
34	Estimating the cost of high temperature liquid metal based concentrated solar power. Journal of Renewable and Sustainable Energy, 2018, 10, .	0.8	16
35	Enhancement of ion diffusion by targeted phonon excitation. Cell Reports Physical Science, 2021, 2, 100431.	2.8	15
36	Explicit Treatment of Hydrogen Atoms in Thermal Simulations of Polyethylene. Nanoscale and Microscale Thermophysical Engineering, 2009, 13, 99-108.	1.4	13

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37	Understanding Divergent Thermal Conductivity in Single Polythiophene Chains Using Greenâ€“Kubo Modal Analysis and Sonification. Journal of Physical Chemistry A, 2017, 121, 5586-5596.	1.1	13
38	Interface conductance modal analysis of lattice matched InGaAs/InP. Applied Physics Letters, 2016, 108, .	1.5	12
39	Interface conductance modal analysis of a crystalline Si-amorphous SiO2 interface. Journal of Applied Physics, 2019, 125, .	1.1	11
40	Inverted metamorphic AlGaInAs/GaInAs tandem thermophotovoltaic cell designed for thermal energy grid storage application. Journal of Applied Physics, 2020, 128, .	1.1	10
41	Fast & accurate interatomic potentials for describing thermal vibrations. Computational Materials Science, 2020, 184, 109884.	1.4	7
42	Machine learned interatomic potentials for modeling interfacial heat transport in Ge/GaAs. Computational Materials Science, 2021, 200, 110836.	1.4	7
43	The Importance of Phonons with Negative Phase Quotient in Disordered Solids. Scientific Reports, 2018, 8, 2627.	1.6	6
44	Thermal energy grid storage: Liquid containment and pumping above 2000ÂÂ°C. Applied Energy, 2022, 308, 118081.	5.1	6
45	Phonon optimized interatomic potential for aluminum. AIP Advances, 2017, 7, 125022.	0.6	4
46	High-temperature Pumping of Silicon for Thermal Energy Grid Storage. Energy, 2021, 233, 121105.	4.5	3
47	Validation of the Porous Medium Approximation for Hydrodynamics Analysis in Compact Heat Exchangers. Journal of Fluids Engineering, Transactions of the ASME, 2022, 144, .	0.8	3
48	A Computational Framework for Modelling and Simulating Vibrational Mode Dynamics. Modelling and Simulation in Materials Science and Engineering, 0, , .	0.8	3
49	Ultrahigh temperature sensible heat storage and heat transfer fluids. , 2021, , 57-84.		2
50	Thermoelectric Energy Conversion in Nanostructures. , 2006, , .		1
51	Calculation of Modal Contributions to Heat Transfer across Si/Ge Interfaces. Materials Research Society Symposia Proceedings, 2015, 1779, 21-26.	0.1	1