David A Broido

List of Publications by Year
in descending order

32 papers	2,394 citations	361413 20 h-index	414414 32 g-index
33 all docs	33 docs citations	33 times ranked	2729 citing authors

#	Article	IF	Citations
1	Unusual high thermal conductivity in boron arsenide bulk crystals. Science, 2018, 361, 582-585.	12.6	300
2	Hydrodynamic phonon transport in suspended graphene. Nature Communications, 2015, 6, 6290.	12.8	254
3	Discovery of ZrCoBi based half Heuslers with high thermoelectric conversion efficiency. Nature Communications, 2018, 9, 2497.	12.8	243
4	Physically founded phonon dispersions of few-layer materials and the case of borophene. Materials Research Letters, 2016, 4, 204-211.	8.7	216
5	Achieving high power factor and output power density in p-type half-Heuslers Nb _{1-x} Ti _x FeSb. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13576-13581.	7.1	213
6	Ultrahigh thermal conductivity in isotope-enriched cubic boron nitride. Science, 2020, 367, 555-559.	12.6	177
7	Phonon thermal transport in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Te</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>from first principles. Physical Review B, 2014, 90, .	3.2	150
8	Unified first-principles theory of thermal properties of insulators. Physical Review B, 2018, 98, .	3.2	91
9	Thermal conductivity of GaN, <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>GaN</mml:mi><mml:mprescripts /><mml:none /><mml:mn>71</mml:mn></mml:mmultiscripts></mml:math> , and SiC from 150 K to 850 K. Physical Review Materials, 2019, 3, .	2.4	74
10	High Thermal Conductivity in Isotopically Enriched Cubic Boron Phosphide. Advanced Functional Materials, 2018, 28, 1805116.	14.9	73
11	Experimental study of the proposed super-thermal-conductor: BAs. Applied Physics Letters, 2015, 106, .	3.3	68
12	Ab initiostudy of the effect of vacancies on the thermal conductivity of boron arsenide. Physical Review B, 2016, 94, .	3.2	65
13	High thermoelectric performance of n-type PbTe1âˆ’S due to deep lying states induced by indium doping and spinodal decomposition. Nano Energy, 2016, 22, 572-582.	16.0	59
14	Fermi Surface Nesting and Phonon Frequency Gap Drive Anomalous Thermal Transport. Physical Review Letters, 2018, 121, 175901.	7.8	52
15	Thermodynamic Evidence of Proximity to a Kitaev Spin Liquid in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Ag</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub><mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>6</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>	7.8	50
16	Phonon thermal transport in 2H, 4H and 6H silicon carbide from first principles. Materials Today Physics, 2017, 1, 31-38.	6.0	48
17	Phonon-Phonon Interactions in Strongly Bonded Solids: Selection Rules and Higher-Order Processes. Physical Review X, 2020, 10, .	8.9	43
18	Non-monotonic pressure dependence of the thermal conductivity of boron arsenide. Nature Communications, 2019, 10, 827.	12.8	42

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19	Coupled transport of phonons and carriers in semiconductors: A case study of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -doped GaAs. Physical Review B, 2020, 101, .	3.2	27
20	Thermal Expansion Coefficient and Lattice Anharmonicity of Cubic Boron Arsenide. Physical Review Applied, 2019, 11, .	3.8	23
21	How dopants limit the ultrahigh thermal conductivity of boron arsenide: a first principles study. Npj Computational Materials, 2021, 7, .	8.7	21
22	Effects of Impurities on the Thermal and Electrical Transport Properties of Cubic Boron Arsenide. Chemistry of Materials, 2021, 33, 6974-6982.	6.7	19
23	The elphbolt ab initio solver for the coupled electron-phonon Boltzmann transport equations. Npj Computational Materials, 2022, 8, .	8.7	19
24	The effect of shallow vs. deep level doping on the performance of thermoelectric materials. Applied Physics Letters, 2016, 109, .	3.3	15
25	Crystal Chemistry and Phonon Heat Capacity in Quaternary Honeycomb Delafossites: Cu[Li_{1/3}Sn_{2/3}]O₂ and Cu[Na_{1/3}Sn_{2/3}]O₂. Inorganic Chemistry, 2018, 57, 12709-12717.	4.0	13
26	Exposing the hidden influence of selection rules on phononâ€“phonon scattering by pressure and temperature tuning. Nature Communications, 2021, 12, 3473.	12.8	10
27	Effect of thermal lattice and magnetic disorder on phonons in bcc Fe: A first-principles study. Physical Review B, 2019, 100, .	3.2	8
28	Improved Thermoelectric Performance of Tellurium by Alloying with a Small Concentration of Selenium to Decrease Lattice Thermal Conductivity. ACS Applied Materials & Interfaces, 2019, 11, 511-516.	8.0	8
29	Colossal phonon drag enhanced thermopower in lightly doped diamond. Materials Today Physics, 2022, 27, 100740.	6.0	5
30	Temperature-dependent renormalization of magnetic interactions by thermal, magnetic, and lattice disorder from first principles. Physical Review B, 2021, 103, .	3.2	3
31	A differential thin film resistance thermometry method for peak thermal conductivity measurements of high thermal conductivity crystals. Review of Scientific Instruments, 2021, 92, 094901.	1.3	3
32	Peak thermal conductivity measurements of boron arsenide crystals. Physical Review Materials, 2022, 6, .	2.4	2