Koushik Pal

List of Publications by Year
in descending order

37 papers	1,680 citations	257357 24 h-index	330025 37 g-index
37 all docs	37 docs citations	37 times ranked	1949 citing authors

#	Article	IF	Citations
1	Weak-Bonding Elements Lead to High Thermoelectric Performance in BaSnS₃ and SrSnS₃: A First-Principles Study. Chemistry of Materials, 2022, 34, 1289-1301.	3.2	19
2	Scale-invariant machine-learning model accelerates the discovery of quaternary chalcogenides with ultralow lattice thermal conductivity. Npj Computational Materials, 2022, 8, .	3.5	18
3	Intrinsically Low Thermal Conductivity in the n-Type Vacancy-Ordered Double Perovskite Cs₂SnI₆: Octahedral Rotation and Anharmonic Rattling. Chemistry of Materials, 2022, 34, 3301-3310.	3.2	32
4	Accelerated Discovery and Design of Ultralow Lattice Thermal Conductivity Materials Using Chemical Bonding Principles. Advanced Functional Materials, 2022, 32, .	7.8	34
5	Identification of high-dielectric constant compounds from statistical design. Npj Computational Materials, 2022, 8, .	3.5	4
6	Microscopic mechanism of unusual lattice thermal transport in TlInTe2. Npj Computational Materials, 2021, 7, .	3.5	26
7	Accelerated discovery of a large family of quaternary chalcogenides with very low lattice thermal conductivity. Npj Computational Materials, 2021, 7, .	3.5	32
8	Emphanisis in Cubic (SnSe)_{0.5}(AgSbSe₂)_{0.5}: Dynamical Off-Centering of Anion Leads to Low Thermal Conductivity and High Thermoelectric Performance. Journal of the American Chemical Society, 2021, 143, 16839-16848.	6.6	37
9	Unraveling the Structure-Valence-Property Relationships in AMMâ€²Q₃ Chalcogenides with Promising Thermoelectric Performance. ACS Applied Energy Materials, 2020, 3, 2110-2119.	2.5	23
10	Intrinsically Ultralow Thermal Conductivity in Ruddlesdenâ€“Popper 2D Perovskite Cs₂PbI₂Cl₂: Localized Anharmonic Vibrations and Dynamic Octahedral Distortions. Journal of the American Chemical Society, 2020, 142, 15595-15603.	6.6	82
11	High-Throughput Study of Lattice Thermal Conductivity in Binary Rocksalt and Zinc Blende Compounds Including Higher-Order Anharmonicity. Physical Review X, 2020, 10, .	2.8	55
12	Contrasting SnTeâ€“NaSbTe₂ and SnTeâ€“NaBiTe₂ Thermoelectric Alloys: High Performance Facilitated by Increased Cation Vacancies and Lattice Softening. Journal of the American Chemical Society, 2020, 142, 12524-12535.	6.6	51
13	Particlelike Phonon Propagation Dominates Ultralow Lattice Thermal Conductivity in Crystalline <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Tl</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>. Physical Review Letters, 2020, 124, 065901.	2.9	122
14	Intrinsically Low Thermal Conductivity and High Carrier Mobility in Dual Topological Quantum Material, nâ€Type BiTe. Angewandte Chemie, 2020, 132, 4852-4859.	1.6	19
15	Intrinsically Low Thermal Conductivity and High Carrier Mobility in Dual Topological Quantum Material, nâ€Type BiTe. Angewandte Chemie - International Edition, 2020, 59, 4822-4829.	7.2	45
16	Anomalous temperature dependence of optical and acoustic phonons in Bi₂Se₃ arising from stacking faults. Physica Scripta, 2019, 94, 115706.	1.2	3
17	Intrinsically Low Lattice Thermal Conductivity Derived from Rattler Cations in an AMMâ€²Q3 Family of Chalcogenides. Chemistry of Materials, 2019, 31, 8734-8741.	3.2	26
18	A New Three-Dimensional Subsulfide Ir₂In₈S with Dirac Semimetal Behavior. Journal of the American Chemical Society, 2019, 141, 19130-19137.	6.6	26

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19	Bonding heterogeneity and lone pair induced anharmonicity resulted in ultralow thermal conductivity and promising thermoelectric properties in n-type AgPbBiSe₃. Chemical Science, 2019, 10, 4905-4913.	3.7	74
20	High thermoelectric performance in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>BaAgYTe</mml:mi><mml:mn>3</mml:mn></mml:msub>< via low lattice thermal conductivity induced by bonding heterogeneity. Physical Review Materials, 2019, 3, .	0.9	30
21	Localized Vibrations of Bi Bilayer Leading to Ultralow Lattice Thermal Conductivity and High Thermoelectric Performance in Weak Topological Insulator n-Type BiSe. Journal of the American Chemical Society, 2018, 140, 5866-5872.	6.6	137
22	Pressure-induced Lifshitz transition in NbP: Raman, x-ray diffraction, electrical transport, and density functional theory. Physical Review B, 2018, 97, .	1.1	5
23	Pressure induced band inversion, electronic and structural phase transitions in InTe: A combined experimental and theoretical study. Physical Review B, 2018, 97, .	1.1	31
24	Pressure-induced Lifshitz and structural transitions in NbAs and TaAs: experiments and theory. Journal of Physics Condensed Matter, 2018, 30, 185401.	0.7	8
25	Bonding Hierarchy Gives Rise to High Thermoelectric Performance in Layered Zintl Compound BaAu2P4. Chemistry of Materials, 2018, 30, 7760-7768.	3.2	28
26	Intrinsic Rattler-Induced Low Thermal Conductivity in Zintl Type TlInTe₂. Journal of the American Chemical Society, 2017, 139, 4350-4353.	6.6	177
27	Emergence of a weak topological insulator from the BixSey family. Applied Physics Letters, 2017, 110, .	1.5	38
28	Raman anomalies as signatures of pressure induced electronic topological and structural transitions in black phosphorus: Experiments and theory. Physical Review B, 2017, 96, .	1.1	32
29	Photochemical Water Splitting by Bismuth Chalcogenide Topological Insulators. ChemPhysChem, 2017, 18, 2322-2327.	1.0	54
30	Origin of the thermal expansion anomaly in layered <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:m mathvariant="normal">X</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> topological insulators: Ultrafast time-resolved pump-probe experiments and theory. Physical Review B, 2017, 96, .	1.1	5
31	The Origin of Ultralow Thermal Conductivity in InTe: Loneâ€Pairâ€Induced Anharmonic Rattling. Angewandte Chemie - International Edition, 2016, 55, 7792-7796.	7.2	145
32	Pressure-induced phase transition in Bi₂Se₃at 3 GPa: electronic topological transition or not?. Journal of Physics Condensed Matter, 2016, 28, 105401.	0.7	18
33	Thermoelectric properties of materials with nontrivial electronic topology. Journal of Materials Chemistry C, 2015, 3, 12130-12139.	2.7	69
34	An electron-poor di-molybdenum triple-decker with a puckered [B₄Ru₂] bridging ring is an oblato-closo cluster. Chemical Communications, 2015, 51, 3828-3831.	2.2	23
35	Strain induced Z2 topological insulating state of Î²-As2Te3. Applied Physics Letters, 2014, 105, 062105.	1.5	36
36	Pressure-induced structural changes and insulator-metal transition in layered bismuth triiodide, BiI₃: a combined experimental and theoretical study. Journal of Physics Condensed Matter, 2014, 26, 275502.	0.7	16

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37	Sharp Raman Anomalies and Broken Adiabaticity at a Pressure Induced Transition from Band to Topological Insulator in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Sb</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Se</mml:mi><mml:mn> Physical Review Letters, 2013, 110, 107401.	2.9	100