

Koushik Pal

List of Publications by Year in descending order

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papers

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citations

257357

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times ranked

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citing authors

#	ARTICLE	IF	CITATIONS
1	Intrinsic Rattler-Induced Low Thermal Conductivity in Zintl Type TlInTe_2 . Journal of the American Chemical Society, 2017, 139, 4350-4353.	6.6	177
2	The Origin of Ultralow Thermal Conductivity in InTe: Lone Pair-Induced Anharmonic Rattling. Angewandte Chemie - International Edition, 2016, 55, 7792-7796.	7.2	145
3	Localized Vibrations of Bi Bilayer Leading to Ultralow Lattice Thermal Conductivity and High Thermoelectric Performance in Weak Topological Insulator Bi_2Se_3 Type BiSe . Journal of the American Chemical Society, 2018, 140, 5866-5872.	6.6	137
4	Particlelike Phonon Propagation Dominates Ultralow Lattice Thermal Conductivity in Crystalline TI_3 . Physical Review Letters, 2020, 124, 065901.	2.9	122
5	Sharp Raman Anomalies and Broken Adiabaticity at a Pressure Induced Transition from Band to Topological Insulator in Sb_2Se_3 . Physical Review Letters, 2013, 110, 107401.	2.9	100
6	Intrinsically Ultralow Thermal Conductivity in Ruddlesden-Popper 2D Perovskite Cs_2PbCl_2 : Localized Anharmonic Vibrations and Dynamic Octahedral Distortions. Journal of the American Chemical Society, 2020, 142, 15595-15603.	6.6	82
7	Bonding heterogeneity and lone pair induced anharmonicity resulted in ultralow thermal conductivity and promising thermoelectric properties in n-type AgPbBiSe_3 . Chemical Science, 2019, 10, 4905-4913.	3.7	74
8	Thermoelectric properties of materials with nontrivial electronic topology. Journal of Materials Chemistry C, 2015, 3, 12130-12139.	2.7	69
9	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
10	Photochemical Water Splitting by Bismuth Chalcogenide Topological Insulators. ChemPhysChem, 2017, 18, 2322-2327.	1.0	54
11	Contrasting SnTe - NaSbTe_2 and SnTe - NaBiTe_2 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
12	Intrinsically Low Thermal Conductivity and High Carrier Mobility in Dual Topological Quantum Material, n-Type BiTe . Angewandte Chemie - International Edition, 2020, 59, 4822-4829.	7.2	45
13	Emergence of a weak topological insulator from the Bi_2Se_3 family. Applied Physics Letters, 2017, 110, .	1.5	38
14	Emphasis in Cubic $(\text{SnSe})_{0.5}(\text{AgSbSe})_{2.5}$: 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
15	Strain induced Z_2 topological insulating state of $\hat{\Gamma}^2\text{-As}_2\text{Te}_3$. Applied Physics Letters, 2014, 105, 062105.	1.5	36
16	Accelerated Discovery and Design of Ultralow Lattice Thermal Conductivity Materials Using Chemical Bonding Principles. Advanced Functional Materials, 2022, 32, .	7.8	34
17	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
18	Accelerated discovery of a large family of quaternary chalcogenides with very low lattice thermal conductivity. Npj Computational Materials, 2021, 7, .	3.5	32

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19	Intrinsically Low Thermal Conductivity in the n-Type Vacancy-Ordered Double Perovskite Cs ₂ Sn ₆ : Octahedral Rotation and Anharmonic Rattling. Chemistry of Materials, 2022, 34, 3301-3310.	3.2	32
20	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
21	High thermoelectric performance in BaAgYTe_3 via low lattice thermal conductivity induced by bonding heterogeneity. Physical Review Materials, 2019, 3, .	0.9	30
22	Bonding Hierarchy Gives Rise to High Thermoelectric Performance in Layered Zintl Compound BaAu ₂ P ₄ . Chemistry of Materials, 2018, 30, 7760-7768.	3.2	28
23	Intrinsically Low Lattice Thermal Conductivity Derived from Rattler Cations in an AM ₂ Q ₃ Family of Chalcogenides. Chemistry of Materials, 2019, 31, 8734-8741.	3.2	26
24	A New Three-Dimensional Subsulfide Ir ₂ In ₈ S with Dirac Semimetal Behavior. Journal of the American Chemical Society, 2019, 141, 19130-19137.	6.6	26
25	Microscopic mechanism of unusual lattice thermal transport in TlInTe ₂ . Npj Computational Materials, 2021, 7, .	3.5	26
26	An electron-poor di-molybdenum triple-decker with a puckered [B ₄ Ru ₂] bridging ring is an oblate-closo cluster. Chemical Communications, 2015, 51, 3828-3831.	2.2	23
27	Unraveling the Structure-Valence-Property Relationships in AM ₂ Q ₃ Chalcogenides with Promising Thermoelectric Performance. ACS Applied Energy Materials, 2020, 3, 2110-2119.	2.5	23
28	Intrinsically Low Thermal Conductivity and High Carrier Mobility in Dual Topological Quantum Material, n-type BiTe. Angewandte Chemie, 2020, 132, 4852-4859.	1.6	19
29	Weak-Bonding Elements Lead to High Thermoelectric Performance in BaSnS ₃ and SrSnS ₃ : A First-Principles Study. Chemistry of Materials, 2022, 34, 1289-1301.	3.2	19
30	Pressure-induced phase transition in Bi ₂ Se ₃ at 3 GPa: electronic topological transition or not?. Journal of Physics Condensed Matter, 2016, 28, 105401.	0.7	18
31	Scale-invariant machine-learning model accelerates the discovery of quaternary chalcogenides with ultralow lattice thermal conductivity. Npj Computational Materials, 2022, 8, .	3.5	18
32	Pressure-induced structural changes and insulator-metal transition in layered bismuth triiodide, BiI ₃ : a combined experimental and theoretical study. Journal of Physics Condensed Matter, 2014, 26, 275502.	0.7	16
33	Pressure-induced Lifshitz and structural transitions in NbAs and TaAs: experiments and theory. Journal of Physics Condensed Matter, 2018, 30, 185401.	0.7	8
34	Origin of the thermal expansion anomaly in layered Bi_2X_3 topological insulators: Ultrafast time-resolved pump-probe experiments and theory. Physical Review B, 2017, 96, .	1.1	5
35	Pressure-induced Lifshitz transition in NbP: Raman, x-ray diffraction, electrical transport, and density functional theory. Physical Review B, 2018, 97, .	1.1	5
36	Identification of high-dielectric constant compounds from statistical design. Npj Computational Materials, 2022, 8, .	3.5	4

#	ARTICLE	IF	CITATIONS
37	Anomalous temperature dependence of optical and acoustic phonons in Bi ₂ Se ₃ arising from stacking faults. Physica Scripta, 2019, 94, 115706.	1.2	3