Hao Zhang

List of Publications by Year in Descending Order

69 papers	4,399 citations	23 h-index	66 g-index
75 ext. papers	5,197 ext. citations	6.9 avg, IF	5.45 L-index

#	Paper	IF	Citations
69	Towards high-temperature electron-hole condensate phases in monolayer tetrels metal halides: Ultra-long excitonic lifetimes, phase diagram and exciton dynamics. *Materials Today Physics*, **2022**, 22, 100604	8	0
68	Coexistence of topological edge states and skin effects in the non-Hermitian Su-Schrieffer-Heeger model with long-range nonreciprocal hopping in topoelectric realizations. *Physical Review B*, **2021**, 103,	3.3	4
67	Dichroic Photoelasticity in Black Phosphorus Revealed by Ultrafast Coherent Phonon Dynamics. *Journal of Physical Chemistry Letters*, **2021**, 12, 5871-5878	6.4	0
66	Renormalized thermoelectric figure of merit in a band-convergent Sb2Te2Se monolayer: full electron□phonon interactions and selection rules. *Journal of Materials Chemistry A*, **2021**, 9, 16108-16118	13	1
65	Thermoelectric performance of 2D materials: the band-convergence strategy and strong intervalley scatterings. *Materials Horizons*, **2021**, 8, 1253-1263	14.4	9
64	Strong electron□phonon coupling influences carrier transport and thermoelectric performances in group-IV/V elemental monolayers. *Npj Computational Materials*, **2021**, 7,	10.9	2
63	Discovery of Lead-Free Perovskites for High-Performance Solar Cells via Machine Learning: Ultrabroadband Absorption, Low Radiative Combination, and Enhanced Thermal Conductivities.. *Advanced Science*, **2021**, e2103648	13.6	8
62	P-type □Ga2O3 metal-semiconductor-metal solar-blind photodetectors with extremely high responsivity and gain-bandwidth product. *Materials Today Physics*, **2020**, 14, 100226	8	30
61	Sub-picosecond photo-induced displacive phase transition in two-dimensional MoTe2. *Npj 2D Materials and Applications*, **2020**, 4,	8.8	18
60	Room Temperature Bound Excitons and Strain-Tunable Carrier Mobilities in Janus Monolayer Transition-Metal Dichalcogenides. *Journal of Physical Chemistry Letters*, **2020**, 11, 3116-3128	6.4	18
59	Ultrahigh-Sensitive Finlike Double-Sided E-Skin for Force Direction Detection. *ACS Applied Materials & Interfaces*, **2020**, 12, 14136-14144	9.5	23
58	Probing quantum confinement effects on the excitonic property and electronic band structures of MoS2. *Applied Surface Science*, **2020**, 519, 146262	6.7	7
57	Monolayer C7N6: Room-temperature excitons with large binding energies and high thermal conductivities. *Physical Review Materials*, **2020**, 4,	3.2	3
56	A skin-like sensor for intelligent Braille recognition. *Nano Energy*, **2020**, 68, 104346	17.1	40
55	New group V graphyne: two-dimensional direct semiconductors with remarkable carrier mobilities, thermoelectric performance, and thermal stability. *Materials Today Physics*, **2020**, 12, 100164	8	7
54	Ta Doping Effect on Structural and Optical Properties of InTe Thin Films. *Nanomaterials*, **2020**, 10,	5.4	6
53	Effects of dielectric screening on the excitonic and critical points properties of WS/MoS heterostructures. *Nanoscale*, **2020**, 12, 23732-23739	7.7	6

52	Novel two-dimensional GeSe and SnSe semiconductors: anisotropic high carrier mobility and excellent photocatalytic water splitting. *Journal of Materials Chemistry A*, **2020**, 8, 19612-19622	13	18
51	Two-Dimensional Direct Semiconductor Boron Monochalcogenide BTe: Room-Temperature Single-Bound Exciton and Novel Donor Material in Excitonic Solar Cells. *ACS Applied Materials & Interfaces*, **2020**, 12, 58349-58359	9.5	2
50	Monolayer BiSeTe: novel two-dimensional semiconductors with excellent stability and high electron mobility. *Physical Chemistry Chemical Physics*, **2020**, 22, 9685-9692	3.6	4
49	New SbTeSe Monolayers with High Electron Mobilities and Wide Absorption Range. *ACS Applied Materials & Interfaces*, **2019**, 11, 37216-37228	9.5	7
48	Nanostructure and Optical Property Investigations of SrTiOFilms Deposited by Magnetron Sputtering. *Materials*, **2019**, 12,	3.5	6
47	Contrastive investigation on linear optical properties and nonlinear absorption behaviors between Sb2Se3 and Sb2Te3 thin films. *Materials Research Express*, **2019**, 6, 086446	1.7	3
46	Tunable nonlinear optical absorption in amorphous and crystalline Sb2Se3 thin films. *Journal of Alloys and Compounds*, **2019**, 791, 753-760	5.7	10
45	A study on optical properties of Sb2Se3 thin films and resistive switching behavior in Ag/Sb2Se3/W heterojunctions. *Results in Physics*, **2019**, 13, 102228	3.7	10
44	High thermoelectric efficiency in monolayer PbI2 from 300 K to 900 K. *Inorganic Chemistry Frontiers*, **2019**, 6, 920-928	6.8	19
43	First-Principles Calculations of Angular and Strain Dependence on Effective Masses of Two-Dimensional Phosphorene Analogues (Monolayer -Phase Group-IV Monochalcogenides). *Molecules*, **2019**, 24,	4.8	8
42	Ultrahigh carrier mobilities and high thermoelectric performance at room temperature optimized by strain-engineering to two-dimensional aw-antimonene. *Nano Energy*, **2019**, 63, 103870	17.1	24
41	Investigation of Band Alignment for Hybrid 2D-MoS/3D-GaO Heterojunctions with Nitridation. *Nanoscale Research Letters*, **2019**, 14, 360	5	3
40	Ultrahigh electron mobility induced by strain engineering in direct semiconductor monolayer BiTeSe. *Nanoscale*, **2019**, 11, 20620-20629	7.7	13
39	In-Plane Anisotropic Thermal Conductivity of Few-Layered Transition Metal Dichalcogenide Td-WTe. *Advanced Materials*, **2019**, 31, e1804979	24	29
38	Structural and Optical Properties of Ti-Doped InTe Thin Films. *Journal of Physical Chemistry C*, **2018**, 122, 6267-6272	3.8	4
37	Investigation of the optical and electrical properties of ZnO/Cu/ZnO multilayers grown by atomic layer deposition. *Journal of Alloys and Compounds*, **2018**, 744, 381-385	5.7	18
36	First-Principles Study of Manipulating the Phonon Transport of Molybdenum Disulfide by Sodium Intercalating. *Journal of Physical Chemistry C*, **2018**, 122, 2632-2640	3.8	3
35	1D SbSeI, SbSI, and SbSBr With High Stability and Novel Properties for Microelectronic, Optoelectronic, and Thermoelectric Applications. *Advanced Theory and Simulations*, **2018**, 1, 1700005	3.5	41

34	Characterization of interfacial barrier charging as a resistive switching mechanism in Ag/SbTe/Ag heterojunctions. *Physical Chemistry Chemical Physics*, **2018**, 20, 18200-18206	3.6	5
33	Thermoelectric properties of two-dimensional selenene and tellurene from group-VI elements. *Physical Chemistry Chemical Physics*, **2018**, 20, 24250-24256	3.6	45
32	Chemical intuition for high thermoelectric performance in monolayer black phosphorus, □arsenene and aW-antimonene. *Journal of Materials Chemistry A*, **2018**, 6, 2018-2033	13	56
31	The role of Anderson□s rule in determining electronic, optical and transport properties of transition metal dichalcogenide heterostructures. *Physical Chemistry Chemical Physics*, **2018**, 20, 30351-30364	3.6	28
30	Predicting Dirac semimetals based on sodium ternary compounds. *Npj Computational Materials*, **2018**, 4,	10.9	9
29	Tuning Thermal Transport in C3N Monolayers by Adding and Removing Carbon Atoms. *Physical Review Applied*, **2018**, 10,	4.3	16
28	Room-Temperature Bound Exciton with Long Lifetime in Monolayer GaN. *ACS Photonics*, **2018**, 5, 4081-4088	6.8	18
27	First-principle calculations of optical properties of monolayer arsenene and antimonene allotropes. *Annalen Der Physik*, **2017**, 529, 1600152	2.6	101
26	The conflicting role of buckled structure in phonon transport of 2D group-IV and group-V materials. *Nanoscale*, **2017**, 9, 7397-7407	7.7	96
25	Dielectric functions and critical points of crystalline WS ultrathin films with tunable thickness. *Physical Chemistry Chemical Physics*, **2017**, 19, 12022-12031	3.6	14
24	Light transmission properties in inhomogeneously-disordered random media. *Annalen Der Physik*, **2017**, 529, 1600225	2.6	6
23	Stability and strength of atomically thin borophene from first principles calculations. *Materials Research Letters*, **2017**, 5, 399-407	7.4	109
22	Light transport in quasi-one-dimensional disordered waveguides composed of locally two-dimensional random square lattices. *Journal of Modern Optics*, **2017**, 64, 1215-1221	1.1	3
21	Memristive behavior in In2Se3 asymmetrical hetero-structures. *RSC Advances*, **2017**, 7, 46431-46435	3.7	11
20	Anisotropic ultrahigh hole mobility in two-dimensional penta-SiC2 by strain-engineering: electronic structure and chemical bonding analysis. *RSC Advances*, **2017**, 7, 45705-45713	3.7	17
19	Optical properties of thickness-controlled MoS2 thin films studied by spectroscopic ellipsometry. *Applied Surface Science*, **2017**, 421, 884-890	6.7	41
18	First-principles study on the electronic, optical, and transport properties of monolayer □and □GeSe. *Physical Review B*, **2017**, 96,	3.3	61
17	First-Principles Prediction of Ultralow Lattice Thermal Conductivity of Dumbbell Silicene: A Comparison with Low-Buckled Silicene. *ACS Applied Materials & Interfaces*, **2016**, 8, 20977-85	9.5	51

16	Thermal conductivity of monolayer MoS2, MoSe2, and WS2: interplay of mass effect, interatomic bonding and anharmonicity. *RSC Advances*, **2016**, 6, 5767-5773	3.7	202
15	Towards intrinsic phonon transport in single-layer MoS2. *Annalen Der Physik*, **2016**, 528, 504-511	2.6	53
14	Low lattice thermal conductivity of stanene. *Scientific Reports*, **2016**, 6, 20225	4.9	132
13	Beyond Perturbation: Role of Vacancy-Induced Localized Phonon States in Thermal Transport of Monolayer MoS2. *Journal of Physical Chemistry C*, **2016**, 120, 29324-29331	3.8	26
12	Phonon transport properties of two-dimensional group-IV materials from ab initio calculations. *Physical Review B*, **2016**, 94,	3.3	114
11	The electronic, optical, and thermodynamic properties of borophene from first-principles calculations. *Journal of Materials Chemistry C*, **2016**, 4, 3592-3598	7.1	250
10	High thermoelectric performance of Weyl semimetal TaAs. *Nano Energy*, **2016**, 30, 225-234	17.1	24
9	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. *ACS Nano*, **2015**, 9, 11362-70	16.7	199
8	Representation and focusing properties of higher-order radially polarized Laguerre–Gaussian beams. *Journal of Modern Optics*, **2015**, 62, 626-632	1.1	0
7	Transport properties of random media composed of core-shell spheres. *Applied Physics A: Materials Science and Processing*, **2014**, 114, 1223-1231	2.6	
6	Defect-rich MoS2 ultrathin nanosheets with additional active edge sites for enhanced electrocatalytic hydrogen evolution. *Advanced Materials*, **2013**, 25, 5807-13	24	2285
5	Effective medium theory for two-dimensional random media composed of core–shell cylinders. *Optics Communications*, **2013**, 306, 9-16	2	8
4	Effective medium theory for random media composed of two-layered spheres. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2011**, 28, 2292-7	1.8	4
3	Transport properties of light in a disordered medium composed of two-layered dispersive spheres. *Optics Express*, **2011**, 19, 2928-40	3.3	4
2	Modelling the optical properties of lossless multilayered spheres. *Journal of Optics (United Kingdom)*, **2011**, 13, 095704	1.7	
1	Effects of interlayer coupling on the excitons and electronic structures of WS2/hBN/MoS2 van der Waals heterostructures. *Nano Research*,1	10	4