

Jia-wang Hong

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104
papers

3,808
citations

30
h-index

60
g-index

116
ext. papers

4,867
ext. citations

8.8
avg, IF

5.64
L-index

#	Paper	IF	Citations
104	Cation and anion immobilization through chemical bonding enhancement with fluorides for stable halide perovskite solar cells. <i>Nature Energy</i> , 2019 , 4, 408-415	62.3	511
103	Orbitally driven giant phonon anharmonicity in SnSe. <i>Nature Physics</i> , 2015 , 11, 1063-1069	16.2	409
102	Anomalously low electronic thermal conductivity in metallic vanadium dioxide. <i>Science</i> , 2017 , 355, 371-374	37.3	208
101	Metallization of vanadium dioxide driven by large phonon entropy. <i>Nature</i> , 2014 , 515, 535-9	50.4	192
100	Analysis of nonlinear vibration for embedded carbon nanotubes. <i>Journal of Sound and Vibration</i> , 2006 , 296, 746-756	3.9	168
99	First-principles theory and calculation of flexoelectricity. <i>Physical Review B</i> , 2013 , 88,	3.3	136
98	Manipulation of facet orientation in hybrid perovskite polycrystalline films by cation cascade. <i>Nature Communications</i> , 2018 , 9, 2793	17.4	127
97	Spin-phonon coupling effects in transition-metal perovskites: A DFT + U and hybrid-functional study. <i>Physical Review B</i> , 2012 , 85,	3.3	126
96	First-principles theory of frozen-ion flexoelectricity. <i>Physical Review B</i> , 2011 , 84,	3.3	109
95	The flexoelectricity of barium and strontium titanates from first principles. <i>Journal of Physics Condensed Matter</i> , 2010 , 22, 112201	1.8	107
94	Size-dependent ferroelectric behaviors of BaTiO ₃ nanowires. <i>Applied Physics Letters</i> , 2008 , 92, 012906	3.4	97
93	Strain effect on ferroelectric behaviors of BaTiO ₃ nanowires: a molecular dynamics study. <i>Nanotechnology</i> , 2010 , 21, 015701	3.4	75
92	Large Flexoelectric Anisotropy in Paraelectric Barium Titanate. <i>Physical Review Letters</i> , 2015 , 115, 037601	7.4	72
91	Transport Properties and High Thermopower of SnSe ₂ : A Full Ab-Initio Investigation. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 225-236	3.8	68
90	An in situ cross-linked 1D/3D perovskite heterostructure improves the stability of hybrid perovskite solar cells for over 3000 h operation. <i>Energy and Environmental Science</i> , 2020 , 13, 4344-4352	35.4	68
89	Phonon anharmonicity and negative thermal expansion in SnSe. <i>Physical Review B</i> , 2016 , 94,	3.3	68
88	Elastic and electrical anomalies at low-temperature phase transitions in BiFeO ₃ . <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 452205	1.8	67

87	A Thermodynamically Favored Crystal Orientation in Mixed Formamidinium/Methylammonium Perovskite for Efficient Solar Cells. <i>Advanced Materials</i> , 2019 , 31, e1900390	24	62
86	Liquid medium annealing for fabricating durable perovskite solar cells with improved reproducibility. <i>Science</i> , 2021 , 373, 561-567	33.3	60
85	Topology of the polarization field in ferroelectric nanowires from first principles. <i>Physical Review B</i> , 2010 , 81,	3.3	59
84	Layered Halide Double Perovskites CsM(II)SbX (M = Sn, Ge) for Photovoltaic Applications. <i>Journal of Physical Chemistry Letters</i> , 2018 , 9, 43-48	6.4	59
83	The Spacer Cations Interplay for Efficient and Stable Layered 2D Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020 , 10, 1901566	21.8	57
82	Ferroelectric domain wall memory with embedded selector realized in LiNbO single crystals integrated on Si wafers. <i>Nature Materials</i> , 2020 , 19, 1188-1194	27	42
81	Modulating the Electrical Transport in the Two-Dimensional Electron Gas at LaAlO ₃ /SrTiO ₃ Heterostructures by Interfacial Flexoelectricity. <i>Physical Review Letters</i> , 2019 , 122, 257601	7.4	40
80	Revealing the role of thiocyanate anion in layered hybrid halide perovskite (CHNH)Pb(SCN)I. <i>Journal of Chemical Physics</i> , 2017 , 146, 224702	3.9	38
79	X-Ray Detector Based on All-Inorganic Lead-Free Cs ₂ AgBiBr ₆ Perovskite Single Crystal. <i>IEEE Transactions on Electron Devices</i> , 2019 , 66, 2224-2229	2.9	38
78	Fracture patterns and the energy release rate of phosphorene. <i>Nanoscale</i> , 2016 , 8, 5728-36	7.7	36
77	Molecular dynamics investigations on the size-dependent ferroelectric behavior of BaTiO ₃ nanowires. <i>Nanotechnology</i> , 2009 , 20, 405703	3.4	35
76	Systematic study of the ferroelectric properties of Pb(Zr _{0.5} Ti _{0.5})O ₃ nanowires. <i>Journal of Applied Physics</i> , 2008 , 104, 064118	2.5	30
75	Charge transfer drives anomalous phase transition in ceria. <i>Nature Communications</i> , 2018 , 9, 5063	17.4	30
74	Structural, spectroscopic, magnetic and electrical characterization of Ca-doped polycrystalline bismuth ferrite, Bi(1-x)Ca(x)FeO(3-x/2) (x ∈ [0,1]). <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 045905	1.8	29
73	Phase transition and anharmonicity in SnSe. <i>Materials Today Physics</i> , 2019 , 10, 100093	8	27
72	Flexoelectricity induced increase of critical thickness in epitaxial ferroelectric thin films. <i>Physica B: Condensed Matter</i> , 2012 , 407, 3377-3381	2.8	24
71	Mapping the energy surface of PbTiO ₃ in multidimensional electric-displacement space. <i>Physical Review B</i> , 2011 , 84,	3.3	23
70	Half-metallicity in two-dimensional Co ₂ Se ₃ monolayer with superior mechanical flexibility. <i>2D Materials</i> , 2018 , 5, 045026	5.9	22

69	Thickness-Dependent In-Plane Polarization and Structural Phase Transition in van der Waals Ferroelectric CuInP_2S_6 . <i>Small</i> , 2020 , 16, e1904529	11	22
68	Twin Crystal Induced near Zero Thermal Expansion in SnO Nanowires. <i>Journal of the American Chemical Society</i> , 2018 , 140, 7403-7406	16.4	21
67	Enhanced piezo-response in copper halide perovskites based PVDF composite films. <i>Science Bulletin</i> , 2018 , 63, 1254-1259	10.6	20
66	New cryogenic phase transitions in SrSnO_3 . <i>Journal of Physics Condensed Matter</i> , 2010 , 22, 095901	1.8	20
65	Abnormality in fracture strength of polycrystalline silicene. <i>2D Materials</i> , 2016 , 3, 035008	5.9	19
64	Mechanical Properties of Formamidinium Halide Perovskites FABX_3 ($\text{FA}=\text{CH}(\text{NH}_2)_2$; $\text{B}=\text{Pb}, \text{Sn}$; $\text{X}=\text{Br}, \text{I}$) by First-Principles Calculations*. <i>Chinese Physics Letters</i> , 2019 , 36, 056201	1.8	18
63	Sandwiched electrode buffer for efficient and stable perovskite solar cells with dual back surface fields. <i>Joule</i> , 2021 , 5, 2148-2163	27.8	18
62	Band-Edge Orbital Engineering of Perovskite Semiconductors for Optoelectronic Applications. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 4227-4239	6.4	16
61	Encapsulated X-Ray Detector Enabled by All-Inorganic Lead-Free Perovskite Film With High Sensitivity and Low Detection Limit. <i>IEEE Transactions on Electron Devices</i> , 2020 , 67, 3191-3198	2.9	15
60	Electrically driven octahedral rotations in SrTiO_3 and PbTiO_3 . <i>Physical Review B</i> , 2013 , 87,	3.3	15
59	Designing Two-Dimensional Properties in Three-Dimensional Halide Perovskites via Orbital Engineering. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 6688-6694	6.4	14
58	Synergistically Optimizing Carrier Concentration and Decreasing Sound Velocity in n-type AgInSe_2 Thermoelectrics. <i>Chemistry of Materials</i> , 2019 , 31, 8182-8190	9.6	13
57	Local stress enhanced photocurrent of visible light photo-detection in $\text{Cs}_2\text{AgBiBr}_6$ single crystal. <i>Applied Physics Letters</i> , 2019 , 115, 131103	3.4	13
56	Improper molecular ferroelectrics with simultaneous ultrahigh pyroelectricity and figures of merit. <i>Science Advances</i> , 2021 , 7,	14.3	13
55	Analytical method to determine flexoelectric coupling coefficient at nanoscale. <i>Applied Physics Letters</i> , 2016 , 108, 101908	3.4	12
54	Built-In Electric Field Hindering Photogenerated Carrier Recombination in Polar Bilayer SnO/BiOX ($\text{X} = \text{Cl}, \text{Br}, \text{I}$) for Water Splitting. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 9696-9702	3.8	12
53	Advances in Developing Electromechanically Coupled Computational Methods for Piezoelectrics/Ferroelectrics at Multiscale. <i>Applied Mechanics Reviews</i> , 2013 , 65,	8.6	11
52	Structural stability and optoelectronic properties of tetragonal MAPbI_3 under strain. <i>Nanotechnology</i> , 2020 , 31, 225204	3.4	10

51	Anomalously Suppressed Thermal Conduction by Electron-Phonon Coupling in Charge-Density-Wave Tantalum Disulfide. <i>Advanced Science</i> , 2020 , 7, 1902071	13.6	10
50	Physical insights on the low lattice thermal conductivity of AgInSe ₂ . <i>Materials Today Physics</i> , 2021 , 19, 100428	8	9
49	Fracture mechanisms in multilayer phosphorene assemblies: from brittle to ductile. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 13083-13092	3.6	8
48	Low-temperature anharmonicity and the thermal conductivity of cesium iodide. <i>Physical Review B</i> , 2019 , 99,	3.3	8
47	Extreme In-Plane Thermal Conductivity Anisotropy in Titanium Trisulfide Caused by Heat-Carrying Optical Phonons. <i>Nano Letters</i> , 2020 , 20, 5221-5227	11.5	8
46	External uniform electric field removing the flexoelectric effect in epitaxial ferroelectric thin films. <i>Europhysics Letters</i> , 2012 , 99, 47003	1.6	8
45	A surface-layer model of ferroelectric nanowire. <i>Journal of Applied Physics</i> , 2010 , 108, 124109	2.5	8
44	Mechanically Tunable Near-Field Radiative Heat Transfer between Monolayer Black Phosphorus Sheets. <i>Langmuir</i> , 2020 , 36, 12038-12044	4	8
43	Direct tuning of the band gap via electronically-active organic cations and large piezoelectric response in one-dimensional hybrid halides from first-principles. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 7671-7676	7.1	8
42	Anomalous lattice thermal conductivity in layered MNCl (M = Zr, Hf) materials driven by lanthanide contraction. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 3128-3134	13	7
41	Frustrated Magnetism in Mott Insulating (V _{1-x} Cr _x) ₂ O ₃ . <i>Physical Review X</i> , 2019 , 9,	9.1	7
40	Pressure effect on Kohn anomaly and electronic topological transition in single-crystal tantalum. <i>Physical Review B</i> , 2019 , 100,	3.3	6
39	Non-monotonic thickness dependence of Curie temperature and ferroelectricity in two-dimensional SnTe film. <i>Applied Physics Letters</i> , 2018 , 113, 082905	3.4	6
38	Atomically Resolved Edge States on a Layered Ferroelectric Oxide. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 4150-4154	9.5	6
37	Data-driven computational prediction and experimental realization of exotic perovskite-related polar magnets. <i>Npj Quantum Materials</i> , 2020 , 5,	5	6
36	Phonon instability and pressure-induced isostructural semiconductor-semimetal transition of monoclinic VO ₂ . <i>Physical Review B</i> , 2016 , 94,	3.3	6
35	Origin of unexpected lattice expansion and ferromagnetism in epitaxial EuTiO ₃ thin films. <i>Ceramics International</i> , 2020 , 46, 19990-19995	5.1	5
34	Strong influence of strain gradient on lithium diffusion: flexo-diffusion effect. <i>Nanoscale</i> , 2020 , 12, 15175-15184	7.7	5

33	Domain evolution in bended freestanding BaTiO ₃ ultrathin films: A phase-field simulation. <i>Applied Physics Letters</i> , 2020 , 116, 152903	3.4	5
32	Coexistence of Magnetism and Ferroelectricity in 3d Transition-Metal-Doped SnTe Monolayer. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 28919-28924	3.8	5
31	Lithium intercalation drives mechanical properties deterioration in bulk and single-layered black phosphorus: a first-principles study. <i>2D Materials</i> , 2020 , 7, 025028	5.9	5
30	Atomically Asymmetric Inversion Scales up to Mesoscopic Single-Crystal Monolayer Flakes. <i>ACS Nano</i> , 2020 , 14, 13834-13840	16.7	5
29	The direct observation of ferromagnetic domain of single crystal CrSiTe ₃ . <i>AIP Advances</i> , 2018 , 8, 055016	1.5	5
28	Strain Modulation for Light-Stable n-i-p Perovskite/Silicon Tandem Solar Cells.. <i>Advanced Materials</i> , 2022 , e2201315	24	5
27	Atomic-scale simulations for lithium dendrite growth driven by strain gradient. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020 , 41, 533-542	3.2	4
26	Manipulation of current rectification in van der Waals ferroionic CuInPS ₂ . <i>Nature Communications</i> , 2022 , 13, 574	17.4	4
25	First-principles study of the structural, electronic, magnetic, and ferroelectric properties of a charge-ordered iron(ii)-iron(iii) formate framework. <i>Journal of Chemical Physics</i> , 2019 , 151, 124704	3.9	3
24	Screening piezoelectricity in determination of flexoelectric coefficient at nanoscale. <i>Mechanics of Materials</i> , 2020 , 150, 103591	3.3	3
23	Size Effect of Elastic and Electromechanical Properties of BaTiO ₃ Films from First-Principles Method. <i>Integrated Ferroelectrics</i> , 2011 , 124, 79-86	0.8	3
22	Phonon anharmonicity: a pertinent review of recent progress and perspective. <i>Science China: Physics, Mechanics and Astronomy</i> , 2021 , 64, 1	3.6	3
21	Van der Waals direction transformation induced by shear strain in layered PdSe ₂ . <i>Extreme Mechanics Letters</i> , 2021 , 44, 101231	3.9	3
20	Emergent multiferroism with magnetodielectric coupling in EuTiO ₃ created by a negative pressure control of strong spin-phonon coupling.. <i>Nature Communications</i> , 2022 , 13, 2364	17.4	3
19	Orbital energy splitting in Ruddlesden-Popper layered halide perovskites for tunable optoelectronic properties. <i>Journal of Power Sources</i> , 2021 , 514, 230546	8.9	2
18	Elastic Properties of Photovoltaic Single Crystal Cs ₂ AgBiBr ₆ . <i>Experimental Mechanics</i> , 2021 , 61, 1000001	2.6	2
17	Ultralow contents of AgNbO ₃ fibers induced high energy storage density in ferroelectric polymer nanocomposites. <i>Applied Physics Letters</i> , 2022 , 120, 223904	3.4	2
16	Elastic properties of type-I clathrate K ₈ Zn ₄ Sn ₄₂ determined by inelastic X-ray scattering. <i>Europhysics Letters</i> , 2016 , 113, 16001	1.6	1

15	Self-assembled Epitaxial Ferroelectric Oxide Nano-spring with Super-scalability.. <i>Advanced Materials</i> , 2022 , e2108419	24	1
14	Giant anisotropic in-plane thermal conduction induced by Anomalous phonons in pentagonal PdSe ₂ . <i>Materials Today Physics</i> , 2022 , 22, 100599	8	1
13	Non-Traditional Positively-Biased Narrow-Band Perovskite Single-Crystal Photodetectors Enabled by Interfacial Engineering. <i>Advanced Optical Materials</i> , 2102225	8.1	1
12	Methodological Approach to the High-Pressure Synthesis of Nonmagnetic Li ₂ B ₄ +B ₇ +O ₆ Oxides. <i>Chemistry of Materials</i> , 2022 , 34, 186-196	9.6	1
11	Enhanced domain wall conductivity in photosensitive ferroelectrics Sn ₂ P ₂ S ₆ with full-visible-spectrum absorption. <i>Science China Materials</i> , 1	7.1	1
10	Visualization of large-scale charged domain Walls in hexagonal manganites. <i>Applied Physics Letters</i> , 2021 , 118, 072901	3.4	1
9	Polarization-switching pathway determined electrical transport behaviors in rhombohedral BiFeO thin films. <i>Nanoscale</i> , 2021 , 13, 17746-17753	7.7	1
8	Unraveling the Factors Affecting the Mechanical Properties of Halide Perovskites from First-Principles Calculations. <i>Journal of Physical Chemistry C</i> , 2022 , 126, 4715-4725	3.8	1
7	Atomic reconfiguration among tri-state transition at ferroelectric/antiferroelectric phase boundaries in Pb(Zr,Ti)O ₂ .. <i>Nature Communications</i> , 2022 , 13, 1390	17.4	1
6	Asymmetric Mechanical Properties in Ferroelectrics Driven by Flexo-deformation Effect. <i>Journal of the Mechanics and Physics of Solids</i> , 2022 , 104891	5	1
5	Significant phase-space-driven thermal transport suppression in BC8 silicon. <i>Materials Today Physics</i> , 2021 , 21, 100566	8	0
4	Absence of phonon gap driven ultralow lattice thermal conductivity in half-Heusler LuNiBi. <i>Journal of Materials Chemistry C</i> , 2021 , 9, 12420-12425	7.1	0
3	Anomalous suppressed thermal conductivity in CuInTe ₂ under pressure. <i>Applied Physics Letters</i> , 2021 , 119, 243901	3.4	0
2	Self-Assembled Epitaxial Ferroelectric Oxide Nanospring with Super-Scalability (Adv. Mater. 13/2022). <i>Advanced Materials</i> , 2022 , 34, 2270103	24	
1	Near-zero Poisson's ratio and suppressed mechanical anisotropy in strained black phosphorene/SnSe van der Waals heterostructure: a first-principles study. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2022 , 43, 627-636	3.2	