

Wenge Yang

List of Publications by Year in descending order

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69
papers

3,275
citations

159358

30
h-index

149479

56
g-index

74
all docs

74
docs citations

74
times ranked

4343
citing authors

#	ARTICLE	IF	CITATIONS
1	Pressure-Induced Phase Transformation, Reversible Amorphization, and Anomalous Visible Light Response in Organolead Bromide Perovskite. <i>Journal of the American Chemical Society</i> , 2015, 137, 11144-11149.	6.6	303
2	Simultaneous band-gap narrowing and carrier-lifetime prolongation of organic-inorganic trihalide perovskites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 8910-8915.	3.3	269
3	High-Pressure Band-Gap Engineering in Lead-Free Cs ₂ AgBiBr ₆ Double Perovskite. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 15969-15973.	7.2	200
4	Long-Range Topological Order in Metallic Glass. <i>Science</i> , 2011, 332, 1404-1406.	6.0	177
5	Enhanced Structural Stability and Photo Responsiveness of CH ₃ NH ₃ SnI ₃ Perovskite via Pressure-Induced Amorphization and Recrystallization. <i>Advanced Materials</i> , 2016, 28, 8663-8668.	11.1	176
6	Pressure-induced superconductivity in a three-dimensional topological material ZrTe ₅ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 2904-2909.	3.3	124
7	Emergent superconductivity in an iron-based honeycomb lattice initiated by pressure-driven spin-crossover. <i>Nature Communications</i> , 2018, 9, 1914.	5.8	119
8	Reaching 90% Photoluminescence Quantum Yield in One-Dimensional Metal Halide C ₄ N ₂ H ₁₄ PbBr ₄ by Pressure-Suppressed Nonradiative Loss. <i>Journal of the American Chemical Society</i> , 2020, 142, 16001-16006.	6.6	109
9	Recent advances in high-pressure science and technology. <i>Matter and Radiation at Extremes</i> , 2016, 1, 59-75.	1.5	98
10	Pressure-Driven Cooperative Spin-Crossover, Large-Volume Collapse, and Semiconductor-to-Metal Transition in Manganese(II) Honeycomb Lattices. <i>Journal of the American Chemical Society</i> , 2016, 138, 15751-15757.	6.6	91
11	Coherent diffraction imaging of nanoscale strain evolution in a single crystal under high pressure. <i>Nature Communications</i> , 2013, 4, 1680.	5.8	88
12	Diamond anvil cell behavior up to 4 Mbar. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 1713-1717.	3.3	85
13	Pressure engineering of photovoltaic perovskites. <i>Materials Today</i> , 2019, 27, 91-106.	8.3	79
14	Enhanced Photocurrent of All-Inorganic Two-Dimensional Perovskite Cs ₂ PbI ₂ Cl ₂ via Pressure-Regulated Excitonic Features. <i>Journal of the American Chemical Society</i> , 2021, 143, 2545-2551.	6.6	79
15	Ultrahigh-pressure isostructural electronic transitions in hydrogen. <i>Nature</i> , 2019, 573, 558-562.	13.7	78
16	Pressure-induced dramatic changes in organic-inorganic halide perovskites. <i>Chemical Science</i> , 2017, 8, 6764-6776.	3.7	74
17	Disproportionation of (Mg,Fe)SiO ₃ perovskite in Earth's deep lower mantle. <i>Science</i> , 2014, 344, 877-882.	6.0	72
18	Pressure-Suppressed Carrier Trapping Leads to Enhanced Emission in Two-Dimensional Perovskite (HA) ₂ (GA)Pb ₂ I ₇ . <i>Angewandte Chemie - International Edition</i> , 2020, 59, 17533-17539.	7.2	71

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19	Regulating off-centering distortion maximizes photoluminescence in halide perovskites. National Science Review, 2021, 8, nwaa288.	4.6	70
20	Pressure-Induced New Topological Weyl Semimetal Phase in TaAs. Physical Review Letters, 2016, 117, 146402.	2.9	66
21	Regulating Exciton-Phonon Coupling to Achieve a Near-Unity Photoluminescence Quantum Yield in One-Dimensional Hybrid Metal Halides. Advanced Science, 2021, 8, e2100786.	5.6	61
22	Pressure responses of halide perovskites with various compositions, dimensionalities, and morphologies. Matter and Radiation at Extremes, 2020, 5, .	1.5	58
23	Pressure-Regulated Dynamic Stereochemical Role of Lone-Pair Electrons in Layered $\text{Bi}_2\text{O}_2\text{S}$. Journal of Physical Chemistry Letters, 2020, 11, 9702-9707.	2.1	37
24	Pressure-Driven Reversible Switching between <i>n</i> - and <i>p</i> -Type Conduction in Chalcopyrite CuFeS_2 . Journal of the American Chemical Society, 2019, 141, 505-510.	6.6	36
25	Giant enhancements in electronic transport and photoelectric properties of bismuth oxysulfide by pressure-driven 2D-3D structural reconstruction. Journal of Materials Chemistry A, 2019, 7, 4019-4025.	5.2	35
26	Highly tunable properties in pressure-treated two-dimensional Dion-Jacobson perovskites. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 16121-16126.	3.3	35
27	Single-crystal structure determination of $(\text{Mg,Fe})\text{SiO}_3$ postperovskite. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 6292-6295.	3.3	34
28	Enhanced Ferroelectric and Visible-Light Photoelectric Properties in Multiferroic KBiFe_2O_5 via Pressure-Induced Phase Transition. Advanced Electronic Materials, 2017, 3, 1600498.	2.6	34
29	Nanoprobe measurements of materials at megabar pressures. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 6140-6145.	3.3	32
30	Giant Pressure-Driven Lattice Collapse Coupled with Intermetallic Bonding and Spin-State Transition in Manganese Chalcogenides. Angewandte Chemie - International Edition, 2016, 55, 10350-10353.	7.2	32
31	Abnormal Pressure-Induced Photoluminescence Enhancement and Phase Decomposition in Pyrochlore $\text{La}_2\text{Sn}_2\text{O}_7$. Advanced Materials, 2017, 29, 1701513.	11.1	31
32	High-Pressure Band-Gap Engineering in Lead-Free $\text{Cs}_2\text{AgBiBr}_6$ Double Perovskite. Angewandte Chemie, 2017, 129, 16185-16189.	1.6	28
33	Pressure-induced superconductivity and topological phase transitions in the topological nodal-line semimetal SrAs_3 . Npj Quantum Materials, 2020, 5, .	1.8	27
34	Pressure-enhanced Insulating State and Trigonal Distortion Relaxation in Geometrically Frustrated Pyrochlore $\text{Eu}_2\text{Sn}_2\text{O}_7$. Journal of Physical Chemistry C, 2016, 120, 9436-9442.	1.5	25
35	Water's No Man's Land: Structural Transformations of Solid H_2O under Rapid Compression and Suppressed Lattice Disorder for Large Emission Enhancement and Structural Robustness in Hybrid Lead Iodide Perovskite Discovered by High-Pressure Isotope Effect. Advanced Functional Materials, 2021, 31, 2009131.	2.9	21
36	Suppressed Lattice Disorder for Large Emission Enhancement and Structural Robustness in Hybrid Lead Iodide Perovskite Discovered by High-Pressure Isotope Effect. Advanced Functional Materials, 2021, 31, 2009131.	7.8	20

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37	Five-dimensional visualization of phase transition in BiNiO ₃ under high pressure. Applied Physics Letters, 2014, 104, 043108.	1.5	18
38	Temperature- and Rate-Dependent Pathways in Formation of Metastable Silicon Phases under Rapid Decompression. Physical Review Letters, 2020, 125, 155702.	2.9	18
39	Pressure-Induced Structural and Electronic Transition in Sr ₂ ZnWO ₆ Double Perovskite. Inorganic Chemistry, 2016, 55, 6770-6775.	1.9	17
40	Ultrastable Amorphous Sb ₂ Se ₃ Film. Journal of Physical Chemistry B, 2017, 121, 8188-8194.	1.2	17
41	Anomalous compression behavior of germanium during phase transformation. Applied Physics Letters, 2015, 106, .	1.5	16
42	Pressure Impact on the Crystal Structure, Optical, and Transport Properties in Layered Oxychalcogenides BiCuCh ₂ O (Ch = S, Se). Journal of Physical Chemistry C, 2018, 122, 15929-15936.	1.5	15
43	Crystallography of low Z material at ultrahigh pressure: Case study on solid hydrogen. Matter and Radiation at Extremes, 2020, 5, .	1.5	15
44	Phase transition induced strain in ZnO under high pressure. Scientific Reports, 2016, 6, 24958.	1.6	13
45	Superconducting Phase Induced by a Local Structure Transition in Amorphous Sb_2 under High Pressure. Physical Review Letters, 2021, 127, 127002.	2.9	13
46	Pressure-induced robust emission in a zero-dimensional hybrid metal halide (C ₉ NH ₂₀) ₆ Pb ₃ Br ₁₂ . Matter and Radiation at Extremes, 2021, 6, .	1.5	13
47	up to 23.6ÅK and robust superconductivity in the transition metal Ti_2 phase at megabar pressure. Physical Review B, 2022, 105, .	1.1	13
48	Structural Phase Transition, Optical and Electrical Property Evolutions of Thiospinel AgIn ₅ S ₈ under High Pressure. Inorganic Chemistry, 2019, 58, 12628-12634.	1.9	12
49	Pressure-driven chemical lock-in structure and optical properties in Sillen compounds PbBiO ₂ X (X = Cl, Br, and I). Journal of Materials Chemistry A, 2020, 8, 13610-13618.	5.2	12
50	Pressure-induced abnormal insulating state in triangular layered cobaltite Li _x CoO ₂ (x = 0.9). Journal of Materials Chemistry A, 2017, 5, 19390-19397.	5.2	9
51	Pressure-enhanced interplay between lattice, spin, and charge in the mixed perovskite La ₂ FeMnO ₆ . Physical Review B, 2019, 99, .	1.1	9
52	Machine learning the metastable phase diagram of covalently bonded carbon. Nature Communications, 2022, 13, .	5.8	9
53	Tricolor Ho_3 Photoluminescence Enhancement from Site Symmetry Breakdown in Pyrochlore Ho_2 . Physical Review Letters, 2020, 125, 245701.	2.9	8
54	2020"Transformative science in the pressure dimension. Matter and Radiation at Extremes, 2021, 6, .	1.5	8

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55	Probing the Electronic Band Gap of Solid Hydrogen by Inelastic X-Ray Scattering up to 90ÅGPa. Physical Review Letters, 2021, 126, 036402.	2.9	6
56	Folded network and structural transition in molten tin. Nature Communications, 2022, 13, 126.	5.8	6
57	Pressure-Induced Superconductivity in HgTe Single-Crystal Film. Advanced Science, 2022, 9, e2200590.	5.6	6
58	Pressure-Enhanced Photocurrent in One-Dimensional SbSI via Lone-Pair Electron Reconfiguration. Materials, 2022, 15, 3845.	1.3	6
59	Site-Specific Pressure-Driven Spin-Crossover in Lu _{1-x} Sc _x FeO ₃ . Journal of Physical Chemistry Letters, 2020, 11, 8549-8553.	2.1	5
60	Tuning to more compressible phase in TiZrHfNb high entropy alloy by pressure. Applied Physics Letters, 2020, 116, 031901.	1.5	5
61	Perspective on the pressure-driven evolution of the lattice and electronic structure in perovskite and double perovskite. Applied Physics Letters, 2020, 117, .	1.5	4
62	Laser-shocked calcium difluoride (CaF ₂) as a warm dense matter. Physics of Plasmas, 2020, 27, .	0.7	4
63	Multiple phase transitions in Sc doped Sb ₂ Te ₃ amorphous nanocomposites under high pressure. Applied Physics Letters, 2020, 116, .	1.5	4
64	Pressure-tuning structural and electronic transitions in semimetal CoSb. Physical Review B, 2021, 104, .	1.1	4
65	Polarization-Enhanced Photovoltaic Effects in a High-Temperature Molecular Ferroelectric [C ₆ N ₂ H ₁₈][Sb ₅]-Based Solar Device. ACS Applied Energy Materials, 2022, 5, 2738-2746.	2.5	4
66	Bridge-bond formation in aluminum and its alloys under high pressure. Physical Review Materials, 2022, 6, .	0.9	3
67	A large enhancement of ionic conductivity in SrCoO _{2.5} controlled by isostructural phase transition and negative linear compressibility. Applied Physics Letters, 2021, 119, .	1.5	2
68	Pressure-stimulus-responsive behaviors of core-shell InP/ZnSe nanocrystals: remarkable piezochromic luminescence and structural assembly. Nanoscale, 2022, 14, 7530-7537.	2.8	2
69	Strength coupling in mixed phases under high pressure. Physical Review B, 2016, 94, .	1.1	1