Shijing Sun

List of Publications by Year
in descending order

60 papers	5,588 citations	126907 33 h-index	149698 56 g-index
66 all docs	66 docs citations	66 times ranked	7340 citing authors

#	Article	IF	Citations
1	Solid-state principles applied to organicâ€“inorganic perovskites: new tricks for an old dog. Chemical Science, 2014, 5, 4712-4715.	7.4	788
2	An extended Tolerance Factor approach for organicâ€“inorganic perovskites. Chemical Science, 2015, 6, 3430-3433.	7.4	587
3	Synthesis and Properties of a Lead-Free Hybrid Double Perovskite: (CH₃NH₃)₂AgBiBr₆. Chemistry of Materials, 2017, 29, 1089-1094.	6.7	290
4	The synthesis, structure and electronic properties of a lead-free hybrid inorganicâ€“organic double perovskite (MA)₂KBiCl₆ (MA = methylammonium). Materials Horizons, 2016, 3, 328-332.	12.2	284
5	Porous Organic Cage Thin Films and Molecularâ€Sieving Membranes. Advanced Materials, 2016, 28, 2629-2637.	21.0	275
6	Homogenized halides and alkali cation segregation in alloyed organic-inorganic perovskites. Science, 2019, 363, 627-631.	12.6	258
7	Exploring the properties of lead-free hybrid double perovskites using a combined computational-experimental approach. Journal of Materials Chemistry A, 2016, 4, 12025-12029.	10.3	250
8	Cobalt oxide and N-doped carbon nanosheets derived from a single two-dimensional metalâ€“organic framework precursor and their application in flexible asymmetric supercapacitors. Nanoscale Horizons, 2017, 2, 99-105.	8.0	227
9	Mechanical properties of organicâ€“inorganic halide perovskites, CH₃NH₃PbX₃(X = I, Br and Cl), by nanoindentation. Journal of Materials Chemistry A, 2015, 3, 18450-18455.	10.3	197
10	Accelerated Development of Perovskite-Inspired Materials via High-Throughput Synthesis and Machine-Learning Diagnosis. Joule, 2019, 3, 1437-1451.	24.0	187
11	Fast and interpretable classification of small X-ray diffraction datasets using data augmentation and deep neural networks. Npj Computational Materials, 2019, 5, .	8.7	177
12	Fundamental Carrier Lifetime Exceeding 1 Âµs in Cs₂AgBiBr₆ Double Perovskite. Advanced Materials Interfaces, 2018, 5, 1800464.	3.7	173
13	<i>A</i>-Site Cation in Inorganic <i>A</i>₃Sb₂I₉ Perovskite Influences Structural Dimensionality, Exciton Binding Energy, and Solar Cell Performance. Chemistry of Materials, 2018, 30, 3734-3742.	6.7	134
14	Enhanced visible light absorption for lead-free double perovskite Cs₂AgSbBr₆. Chemical Communications, 2019, 55, 3721-3724.	4.1	117
15	Synthesis, crystal structure, and properties of a perovskite-related bismuth phase, (NH4)3Bi2I9. APL Materials, 2016, 4, .	5.1	106
16	Elastic properties and thermal expansion of lead-free halide double perovskite Cs2AgBiBr6. Computational Materials Science, 2018, 141, 49-58.	3.0	87
17	Selfâ€Powered Sensors Enabled by Wideâ€Bandgap Perovskite Indoor Photovoltaic Cells. Advanced Functional Materials, 2019, 29, 1904072.	14.9	83
18	Factors Influencing the Mechanical Properties of Formamidinium Lead Halides and Related Hybrid Perovskites. ChemSusChem, 2017, 10, 3740-3745.	6.8	80

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19	Mechanical properties of hybrid organic-inorganic perovskites. Coordination Chemistry Reviews, 2019, 391, 15-29.	18.8	80
20	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. Nature Communications, 2021, 12, 2191.	12.8	77
21	How machine learning can help select capping layers to suppress perovskite degradation. Nature Communications, 2020, 11, 4172.	12.8	75
22	A data fusion approach to optimize compositional stability of halide perovskites. Matter, 2021, 4, 1305-1322.	10.0	75
23	Synthesis and Characterization of the Rare-Earth Hybrid Double Perovskites: (CH₃NH₃)₂KGdCl₆ and (CH₃NH₃)₂KYCl₆. Journal of Physical Chemistry Letters, 2017, 8, 5015-5020.	4.6	68
24	Role of entropic effects in controlling the polymorphism in formate ABX₃ metalâ€“organic frameworks. Chemical Communications, 2015, 51, 15538-15541.	4.1	66
25	Precursor Concentration Affects Grain Size, Crystal Orientation, and Local Performance in Mixed-Ion Lead Perovskite Solar Cells. ACS Applied Energy Materials, 2018, 1, 6801-6808.	5.1	65
26	Benchmarking the performance of Bayesian optimization across multiple experimental materials science domains. Npj Computational Materials, 2021, 7, .	8.7	62
27	Functional conductive nanomaterials via polymerisation in nano-channels: PEDOT in a MOF. Materials Horizons, 2017, 4, 64-71.	12.2	60
28	How far does the defect tolerance of lead-halide perovskites range? The example of Bi impurities introducing efficient recombination centers. Journal of Materials Chemistry A, 2019, 7, 23838-23853.	10.3	57
29	Role of Amineâ€“Cavity Interactions in Determining the Structure and Mechanical Properties of the Ferroelectric Hybrid Perovskite [NH₃NH₂]Zn(HCOO)₃. Chemistry of Materials, 2016, 28, 312-317.	6.7	55
30	Perovskite PV-Powered RFID: Enabling Low-Cost Self-Powered IoT Sensors. IEEE Sensors Journal, 2020, 20, 471-478.	4.7	46
31	Variable temperature and high-pressure crystal chemistry of perovskite formamidinium lead iodide: a single crystal X-ray diffraction and computational study. Chemical Communications, 2017, 53, 7537-7540.	4.1	43
32	Stateâ€ofâ€theâ€Art Electronâ€Selective Contacts in Perovskite Solar Cells. Advanced Materials Interfaces, 2018, 5, 1800408.	3.7	38
33	The effect of structural dimensionality on carrier mobility in lead-halide perovskites. Journal of Materials Chemistry A, 2019, 7, 23949-23957.	10.3	38
34	Tuneable mechanical and dynamical properties in the ferroelectric perovskite solid solution [NH₃NH₂]_{1â^'x}[NH₃OH]_xZn(HCOO)₃. Chemical Science, 2016, 7, 5108-5112.	7.4	33
35	Oriented Twoâ€Dimensional Porous Organic Cage Crystals. Angewandte Chemie - International Edition, 2017, 56, 9391-9395.	13.8	33
36	Moisture-Induced Crystallographic Reorientations and Effects on Charge Carrier Extraction in Metal Halide Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 3526-3534.	17.4	30

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37	Unraveling the Interfacial Structureâ€“Performance Correlation of Flexible Metalâ€“Organic Framework Membranes on Polymeric Substrates. ACS Applied Materials & Interfaces, 2019, 11, 5570-5577.	8.0	29
38	Halide Heterogeneity Affects Local Charge Carrier Dynamics in Mixed-Ion Lead Perovskite Thin Films. Chemistry of Materials, 2019, 31, 3712-3721.	6.7	27
39	Machine Learning Guided Dopant Selection for Metal Oxideâ€Based Photoelectrochemical Water Splitting: The Case Study of Fe₂O₃and CuO. Advanced Materials, 2022, 34, e2106776.	21.0	26
40	Synthesis, crystal structure, magnetic and electronic properties of the caesium-based transition metal halide Cs₃Fe₂Br₉. Journal of Materials Chemistry C, 2018, 6, 3573-3577.	5.5	25
41	Octahedral connectivity and its role in determining the phase stabilities and electronic structures of low-dimensional, perovskite-related iodoplumbates. APL Materials, 2018, 6, .	5.1	23
42	Phosphonic Acid Modification of the Electron Selective Contact: Interfacial Effects in Perovskite Solar Cells. ACS Applied Energy Materials, 2019, 2, 2402-2408.	5.1	23
43	Embedding physics domain knowledge into a Bayesian network enables layer-by-layer process innovation for photovoltaics. Npj Computational Materials, 2020, 6, .	8.7	18
44	Predicting Antimicrobial Activity of Conjugated Oligoelectrolyte Molecules via Machine Learning. Journal of the American Chemical Society, 2021, 143, 18917-18931.	13.7	17
45	Toward autonomous materials research: Recent progress and future challenges. Applied Physics Reviews, 2022, 9, .	11.3	17
46	Mechanical Properties of a Calcium Dietary Supplement, Calcium Fumarate Trihydrate. Inorganic Chemistry, 2015, 54, 11186-11192.	4.0	14
47	Oriented Twoâ€Dimensional Porous Organic Cage Crystals. Angewandte Chemie, 2017, 129, 9519-9523.	2.0	13
48	Using automated serendipity to discover how trace water promotes and inhibits lead halide perovskite crystal formation. Applied Physics Letters, 2021, 119, .	3.3	12
49	Physics-guided characterization and optimization of solar cells using surrogate machine learning model. , 2019, , .		8
50	Opportunities for machine learning to accelerate halide-perovskite commercialization and scale-up. Matter, 2022, 5, 1353-1366.	10.0	8
51	Discovering equations that govern experimental materials stability under environmental stress using scientific machine learning. Npj Computational Materials, 2022, 8, .	8.7	6
52	An Open Combinatorial Diffraction Dataset Including Consensus Human and Machine Learning Labels with Quantified Uncertainty for Training New Machine Learning Models. Integrating Materials and Manufacturing Innovation, 2021, 10, 311-318.	2.6	5
53	Tailoring capping-layer composition for improved stability of mixed-halide perovskites. Journal of Materials Chemistry A, 2022, 10, 2957-2965.	10.3	5
54	Interplay of Grain Size, Crystal Orientation, and Performance in Mixedion Lead Halide Perovskite Films. , 2018, , .		4

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55	Molecular Sieves: Porous Organic Cage Thin Films and Moleculara€Sieving Membranes (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Overlo	21.0	1
56	Understanding the interplay between the crystal structure and charge transport in alloyed lead-free perovskites. Sustainable Energy and Fuels, 2021, 5, 5454-5460.	4.9	1
57	Factors Influencing the Mechanical Properties of Formamidinium Lead Halides and Related Hybrid Perovskites. ChemSusChem, 2017, 10, 3683-3683.	6.8	0
58	Influence of organic cations on the structural anisotropy in cubic lead halide perovskites. , 2018, , .		0
59	The Effect of Tert-butylammonium Addition in Methylammonium Lead Iodide Perovskite Solar Cells. , 2019, , .		0
60	Investigating the influence of halide distribution on charge carrier dynamics in mixed-ion perovskite films. , 2019, , .		0