Yuanyuan Zhou

List of Publications by Year
in descending order

121 papers	10,562 citations	34076 52 h-index	31818 101 g-index
127 all docs	127 docs citations	127 times ranked	10198 citing authors

#	Article	IF	Citations
1	Leveraging Hierarchical Chirality in Perovskite(â€Inspired) Halides for Transformative Device Applications. Advanced Energy Materials, 2023, 13, .	10.2	9
2	Layered 2D Halide Perovskites beyond the Ruddlesdenâ€"Popper Phase: Tailored Interlayer Chemistries for Highâ€Performance Solar Cells. Angewandte Chemie, 2022, 134, e202112022.	1.6	6
3	Layered 2D Halide Perovskites beyond the Ruddlesdenâ€"Popper Phase: Tailored Interlayer Chemistries for Highâ€Performance Solar Cells. Angewandte Chemie - International Edition, 2022, 61, .	7.2	60
4	Atomically Resolved Electrically Active Intragrain Interfaces in Perovskite Semiconductors. Journal of the American Chemical Society, 2022, 144, 1910-1920.	6.6	37
5	Chemo-thermal surface dedoping for high-performance tin perovskite solar cells. Matter, 2022, 5, 683-693.	5.0	97
6	Harnessing chemical functions of ionic liquids for perovskite solar cells. Journal of Energy Chemistry, 2022, 68, 797-810.	7.1	17
7	Critical Role of Organoamines in the Irreversible Degradation of a Metal Halide Perovskite Precursor Colloid: Mechanism and Inhibiting Strategy. ACS Energy Letters, 2022, 7, 481-489.	8.8	26
8	Bridging the Interfacial Contact for Improved Stability and Efficiency of Inverted Perovskite Solar Cells. Small, 2022, 18, e2201694.	5.2	16
9	Antioxidative solution processing yields exceptional Sn(II) stability for sub-1.4 eV bandgap inorganic perovskite solar cells. Journal of Energy Chemistry, 2022, , .	7.1	8
10	Wafer-Scale Photolithography-Pixeled Pb-Free Perovskite X-ray Detectors. ACS Nano, 2022, 16, 10199-10208.	7.3	25
11	Correlations between Electrochemical Ion Migration and Anomalous Device Behaviors in Perovskite Solar Cells. ACS Energy Letters, 2021, 6, 1003-1014.	8.8	39
12	Tin Halide Perovskite Solar Cells: An Emerging Thin-Film Photovoltaic Technology. Accounts of Materials Research, 2021, 2, 210-219.	5.9	147
13	3D structureâ€"property correlations of electronic and energy materials by tomographic atomic force microscopy. Applied Physics Letters, 2021, 118, .	1.5	11
14	Interpenetrating interfaces for efficient perovskite solar cells with high operational stability and mechanical robustness. Nature Communications, 2021, 12, 973.	5.8	189
15	In-situ observation of trapped carriers in organic metal halide perovskite films with ultra-fast temporal and ultra-high energetic resolutions. Nature Communications, 2021, 12, 1636.	5.8	11
16	A patterned titania nanorod array enables high fill factor in perovskite solar cells. Journal of Energy Chemistry, 2021, 63, 391-392.	7.1	2
17	High-performance methylammonium-free ideal-band-gap perovskite solar cells. Matter, 2021, 4, 1365-1376.	5.0	51
18	Tailoring quasi-2D perovskite thin films via nanocrystals mediation for enhanced electroluminescence. Chemical Engineering Journal, 2021, 411, 128511.	6.6	12

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19	Advances in cesium lead iodide perovskite solar cells: Processing science matters. Materials Today, 2021, 47, 156-169.	8.3	25
20	Zooming In on Metal Halide Perovskites: New Energy Frontiers Emerge. ACS Energy Letters, 2021, 6, 2750-2754.	8.8	9
21	Machine learning for high-throughput experimental exploration of metal halide perovskites. Joule, 2021, 5, 2797-2822.	11.7	44
22	Perovskite: An inspiring piece of matter. Matter, 2021, 4, 3802-3803.	5.0	0
23	AgBiS₂ as a low-cost and eco-friendly all-inorganic photovoltaic material: nanoscale morphologyâ€"property relationship. Nanoscale Advances, 2020, 2, 770-776.	2.2	15
24	<i>In situ</i> transfer of CH₃NH₃PbI₃ single crystals in mesoporous scaffolds for efficient perovskite solar cells. Chemical Science, 2020, 11, 474-481.	3.7	19
25	Sub-1.4eV bandgap inorganic perovskite solar cells with long-term stability. Nature Communications, 2020, 11, 151.	5.8	92
26	Hybrid organicâ€"inorganic halide perovskites. Journal of Applied Physics, 2020, 128, .	1.1	11
27	Visualizing the Invisible in Perovskites. Joule, 2020, 4, 2545-2548.	11.7	7
28	Perovskite Solar Cells with Enhanced Fill Factors Using Polymer-Capped Solvent Annealing. ACS Applied Energy Materials, 2020, 3, 7231-7238.	2.5	19
29	pâ€"p orbital interaction <i>via</i> magnesium isovalent doping enhances optoelectronic properties of halide perovskites. Chemical Communications, 2020, 56, 15639-15642.	2.2	3
30	Mechanisms of exceptional grain growth and stability in formamidinium lead triiodide thin films for perovskite solar cells. Acta Materialia, 2020, 193, 10-18.	3.8	27
31	Electron-beam-induced cracking in organic-inorganic halide perovskite thin films. Scripta Materialia, 2020, 187, 88-92.	2.6	16
32	Encapsulated X-Ray Detector Enabled by All-Inorganic Lead-Free Perovskite Film With High Sensitivity and Low Detection Limit. IEEE Transactions on Electron Devices, 2020, 67, 3191-3198.	1.6	40
33	Decisive Structural and Functional Characterization of Halide Perovskites with Synchrotron. Matter, 2020, 2, 360-377.	5.0	35
34	Anomalous 3D nanoscale photoconduction in hybrid perovskite semiconductors revealed by tomographic atomic force microscopy. Nature Communications, 2020, 11, 3308.	5.8	53
35	The Synergism of DMSO and Diethyl Ether for Highly Reproducible and Efficient MA_{0.5}FA_{0.5}PbI₃ Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 2001300.	10.2	33
36	Towards the Next Decade for Perovskite Solar Cells. Solar Rrl, 2020, 4, 1900563.	3.1	6

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37	Facile healing of cracks in organicâ€“inorganic halide perovskite thin films. Acta Materialia, 2020, 187, 112-121.	3.8	51
38	Effect of Grain Size on the Fracture Behavior of Organic-Inorganic Halide Perovskite Thin Films for Solar Cells. Scripta Materialia, 2020, 185, 47-50.	2.6	32
39	Enhanced Thermoelectric Performance in Lead-Free Inorganic CsSn_{1<i>â€“x</i>}Ge_{<i>x</i>}I₃ Perovskite Semiconductors. Journal of Physical Chemistry C, 2020, 124, 11749-11753.	1.5	45
40	Enhancing Chemical Stability and Suppressing Ion Migration in CH₃NH₃PbI₃ Perovskite Solar Cells <i>via</i> Direct Backbone Attachment of Polyesters on Grain Boundaries. Chemistry of Materials, 2020, 32, 5104-5117.	3.2	64
41	Understanding and Engineering Grain Boundaries for High-Performance Halide Perovskite Photovoltaics. , 2020, , .		3
42	A polar-hydrophobic ionic liquid induces grain growth and stabilization in halide perovskites. Chemical Communications, 2019, 55, 11059-11062.	2.2	35
43	Two-Stage Melt Processing of Phase-Pure Selenium for Printable Triple-Mesoscopic Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 33879-33885.	4.0	14
44	Quantum-Dot-Induced Cesium-Rich Surface Imparts Enhanced Stability to Formamidinium Lead Iodide Perovskite Solar Cells. ACS Energy Letters, 2019, 4, 1970-1975.	8.8	82
45	Welcoming the First Decade of Perovskite Solar Cells. Solar Rrl, 2019, 3, 1900325.	3.1	1
46	Direct Characterization of Carrier Diffusion in Halide-Perovskite Thin Films Using Transient Photoluminescence Imaging. ACS Photonics, 2019, 6, 2375-2380.	3.2	19
47	Carrier lifetime enhancement in halide perovskite via remote epitaxy. Nature Communications, 2019, 10, 4145.	5.8	93
48	Comprehensive Elucidation of Ion Transport and Its Relation to Hysteresis in Methylammonium Lead Iodide Perovskite Thin Films. Journal of Physical Chemistry C, 2019, 123, 4029-4034.	1.5	16
49	Lead-free low-dimensional tin halide perovskites with functional organic spacers: breaking the charge-transport bottleneck. Journal of Materials Chemistry A, 2019, 7, 16742-16747.	5.2	24
50	Improved SnO₂ Electron Transport Layers Solutionâ€Deposited at Near Room Temperature for Rigid or Flexible Perovskite Solar Cells with High Efficiencies. Advanced Energy Materials, 2019, 9, 1900834.	10.2	100
51	Fusing Nanowires into Thin Films: Fabrication of Gradedâ€Heterojunction Perovskite Solar Cells with Enhanced Performance. Advanced Energy Materials, 2019, 9, 1900243.	10.2	45
52	The Bloom of Perovskite Optoelectronics: Fundamental Science Matters. ACS Energy Letters, 2019, 4, 861-865.	8.8	24
53	Chemical stability and instability of inorganic halide perovskites. Energy and Environmental Science, 2019, 12, 1495-1511.	15.6	510
54	Effect of Grain Boundaries on Charge Transport in Methylammonium Lead Iodide Perovskite Thin Films. Journal of Physical Chemistry C, 2019, 123, 5321-5325.	1.5	28

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55	Highly stable and efficient all-inorganic lead-free perovskite solar cells with native-oxide passivation. Nature Communications, 2019, 10, 16.	5.8	430
56	Transmission Electron Microscopy of Halide Perovskite Materials and Devices. Joule, 2019, 3, 641-661.	11.7	94
57	Synthetic Approaches for Halide Perovskite Thin Films. Chemical Reviews, 2019, 119, 3193-3295.	23.0	454
58	Lead-Free Dionâ€"Jacobson Tin Halide Perovskites for Photovoltaics. ACS Energy Letters, 2019, 4, 276-277.	8.8	101
59	Frontispiece: Bandgap Optimization of Perovskite Semiconductors for Photovoltaic Applications. Chemistry - A European Journal, 2018, 24, .	1.7	1
60	Continuous Grain-Boundary Functionalization for High-Efficiency Perovskite Solar Cells with Exceptional Stability. CheM, 2018, 4, 1404-1415.	5.8	165
61	Cesium Titanium(IV) Bromide Thin Films Based Stable Lead-free Perovskite Solar Cells. Joule, 2018, 2, 558-570.	11.7	403
62	Earth-Abundant Nontoxic Titanium(IV)-based Vacancy-Ordered Double Perovskite Halides with Tunable 1.0 to 1.8 eV Bandgaps for Photovoltaic Applications. ACS Energy Letters, 2018, 3, 297-304.	8.8	314
63	Thermo-mechanical behavior of organic-inorganic halide perovskites for solar cells. Scripta Materialia, 2018, 150, 36-41.	2.6	100
64	Exceptional Grain Growth in Formamidinium Lead Iodide Perovskite Thin Films Induced by the Î´-to-Î± Phase Transformation. ACS Energy Letters, 2018, 3, 63-64.	8.8	33
65	Bandgap Optimization of Perovskite Semiconductors for Photovoltaic Applications. Chemistry - A European Journal, 2018, 24, 2305-2316.	1.7	103
66	Subgrain Special Boundaries in Halide Perovskite Thin Films Restrict Carrier Diffusion. ACS Energy Letters, 2018, 3, 2669-2670.	8.8	68
67	Building bridges between halide perovskite nanocrystals and thin-film solar cells. Sustainable Energy and Fuels, 2018, 2, 2381-2397.	2.5	37
68	Stable Formamidiniumâ€Based Perovskite Solar Cells via In Situ Grain Encapsulation. Advanced Energy Materials, 2018, 8, 1800232.	10.2	78
69	Perovskite Solar Cells: Stable Formamidinium-Based Perovskite Solar Cells via In Situ Grain Encapsulation (Adv. Energy Mater. 22/2018). Advanced Energy Materials, 2018, 8, 1870101.	10.2	1
70	Lewisâ€Adduct Mediated Grainâ€Boundary Functionalization for Efficient Idealâ€Bandgap Perovskite Solar Cells with Superior Stability. Advanced Energy Materials, 2018, 8, 1800997.	10.2	93
71	Zero-Dimensional Organicâ€"Inorganic Perovskite Variant: Transition between Molecular and Solid Crystal. Journal of the American Chemical Society, 2018, 140, 10456-10463.	6.6	79
72	Toward Eco-friendly and Stable Perovskite Materials for Photovoltaics. Joule, 2018, 2, 1231-1241.	11.7	224

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73	Integration of a functionalized graphene nano-network into a planar perovskite absorber for high-efficiency large-area solar cells. Materials Horizons, 2018, 5, 868-873.	6.4	25
74	Methylammoniumâ€Mediated Evolution of Mixedâ€Organicâ€Cation Perovskite Thin Films: A Dynamic Compositionâ€Tuning Process. Angewandte Chemie, 2017, 129, 7782-7786.	1.6	12
75	Methylammoniumâ€Mediated Evolution of Mixedâ€Organicâ€Cation Perovskite Thin Films: A Dynamic Compositionâ€Tuning Process. Angewandte Chemie - International Edition, 2017, 56, 7674-7678.	7.2	59
76	Fabrication of compact and stable perovskite films with optimized precursor composition in the fast-growing procedure. Science China Materials, 2017, 60, 608-616.	3.5	12
77	Ions Matter: Description of the Anomalous Electronic Behavior in Methylammonium Lead Halide Perovskite Devices. Advanced Functional Materials, 2017, 27, 1606584.	7.8	65
78	High-Performance Formamidinium-Based Perovskite Solar Cells via Microstructure-Mediated Î´-to-Î± Phase Transformation. Chemistry of Materials, 2017, 29, 3246-3250.	3.2	99
79	Long Minorityâ€Carrier Diffusion Length and Low Surfaceâ€Recombination Velocity in Inorganic Leadâ€Free CsSnI₃ Perovskite Crystal for Solar Cells. Advanced Functional Materials, 2017, 27, 1604818.	7.8	164
80	Gas-Induced Formation/Transformation of Organicâ€“Inorganic Halide Perovskites. ACS Energy Letters, 2017, 2, 2166-2176.	8.8	51
81	RÃ¼cktitelbild: Homogenous Alloys of Formamidinium Lead Triiodide and Cesium Tin Triiodide for Efficient Idealâ€Bandgap Perovskite Solar Cells (Angew. Chem. 41/2017). Angewandte Chemie, 2017, 129, 12966-12966.	1.6	0
82	Homogenous Alloys of Formamidinium Lead Triiodide and Cesium Tin Triiodide for Efficient Idealâ€Bandgap Perovskite Solar Cells. Angewandte Chemie - International Edition, 2017, 56, 12658-12662.	7.2	69
83	Homogenous Alloys of Formamidinium Lead Triiodide and Cesium Tin Triiodide for Efficient Idealâ€Bandgap Perovskite Solar Cells. Angewandte Chemie, 2017, 129, 12832-12836.	1.6	3
84	Simultaneous Evolution of Uniaxially Oriented Grains and Ultralow-Density Grain-Boundary Network in CH₃NH₃PbI₃ Perovskite Thin Films Mediated by Precursor Phase Metastability. ACS Energy Letters, 2017, 2, 2727-2733.	8.8	82
85	Direct Synthesis of Carbon Sheathed Tungsten Oxide Nanoparticles via Self-Assembly Route for High Performance Electrochemical Charge Storage Electrode. Journal of Nanoscience and Nanotechnology, 2017, 17, 389-397.	0.9	3
86	Exceptional Morphology-Preserving Evolution of Formamidinium Lead Triiodide Perovskite Thin Films via Organic-Cation Displacement. Journal of the American Chemical Society, 2016, 138, 5535-5538.	6.6	178
87	Observation of phase-retention behavior of the HC(NH₂)₂PbI₃ black perovskite polymorph upon mesoporous TiO₂ scaffolds. Chemical Communications, 2016, 52, 7273-7275.	2.2	50
88	Mapping the Photoresponse of CH₃NH₃PbI₃ Hybrid Perovskite Thin Films at the Nanoscale. Nano Letters, 2016, 16, 3434-3441.	4.5	120
89	Perovskite Solar Cells Shine in the â€œValley of the Sunâ€ ACS Energy Letters, 2016, 1, 64-67.	8.8	101
90	Heterojunctionâ€Depleted Leadâ€Free Perovskite Solar Cells with Coarseâ€Grained Bâ€Î³â€CsSnI₃ Thin Films. Advanced Energy Materials, 2016, 6, 1601130.	10.2	247

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91	Doping and alloying for improved perovskite solar cells. Journal of Materials Chemistry A, 2016, 4, 17623-17635.	5.2	157
92	Thinâ€Film Transformation of NH₄PbI₃ to CH₃NH₃PbI₃ Perovskite: A Methylamineâ€Induced Conversionâ€"Healing Process. Angewandte Chemie - International Edition, 2016, 55, 14723-14727.	7.2	83
93	Thinâ€Film Transformation of NH₄PbI₃ to CH₃NH₃PbI₃ Perovskite: A Methylamineâ€Induced Conversionâ€"Healing Process. Angewandte Chemie, 2016, 128, 14943-14947.	1.6	17
94	Challenges in the ambient Raman spectroscopy characterization of methylammonium lead triiodide perovskite thin films. Frontiers of Optoelectronics, 2016, 9, 81-86.	1.9	27
95	Transformative Evolution of Organolead Triiodide Perovskite Thin Films from Strong Room-Temperature Solidâ€"Gas Interaction between HPbI₃-CH₃NH₂ Precursor Pair. Journal of the American Chemical Society, 2016, 138, 750-753.	6.6	156
96	Hybrid Perovskite Quantum Nanostructures Synthesized by Electrospray Antisolventâ€"Solvent Extraction and Intercalation. ACS Applied Materials & Interfaces, 2016, 8, 854-861.	4.0	49
97	Manipulating Crystallization of Organolead Mixed-Halide Thin Films in Antisolvent Baths for Wide-Bandgap Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 2232-2237.	4.0	91
98	Intercalation crystallization of phase-pure Î±-HC(NH₂)₂PbI₃upon microstructurally engineered PbI₂thin films for planar perovskite solar cells. Nanoscale, 2016, 8, 6265-6270.	2.8	41
99	Squareâ€Centimeter Solutionâ€Processed Planar CH₃NH₃PbI₃ Perovskite Solar Cells with Efficiency Exceeding 15%. Advanced Materials, 2015, 27, 6363-6370.	11.1	311
100	Methylamineâ€Gasâ€Induced Defectâ€Healing Behavior of CH₃NH₃PbI₃ Thin Films for Perovskite Solar Cells. Angewandte Chemie - International Edition, 2015, 54, 9705-9709.	7.2	377
101	Crystal Morphologies of Organolead Trihalide in Mesoscopic/Planar Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 2292-2297.	2.1	93
102	Ligand-Hole in [SnI6] Unit and Origin of Band Gap in Photovoltaic Perovskite Variant Cs2SnI6. Bulletin of the Chemical Society of Japan, 2015, 88, 1250-1255.	2.0	130
103	Microstructures of Organometal Trihalide Perovskites for Solar Cells: Their Evolution from Solutions and Characterization. Journal of Physical Chemistry Letters, 2015, 6, 4827-4839.	2.1	344
104	Growth control of compact CH₃NH₃PbI₃ thin films via enhanced solid-state precursor reaction for efficient planar perovskite solar cells. Journal of Materials Chemistry A, 2015, 3, 9249-9256.	5.2	128
105	Room-temperature crystallization of hybrid-perovskite thin films via solventâ€"solvent extraction for high-performance solar cells. Journal of Materials Chemistry A, 2015, 3, 8178-8184.	5.2	385
106	Intrinsic defects in a photovoltaic perovskite variant Cs₂SnI₆. Physical Chemistry Chemical Physics, 2015, 17, 18900-18903.	1.3	191
107	Carrier separation and transport in perovskite solar cells studied by nanometre-scale profiling of electrical potential. Nature Communications, 2015, 6, 8397.	5.8	205
108	Additive-Modulated Evolution of HC(NH₂)₂PbI₃ Black Polymorph for Mesoscopic Perovskite Solar Cells. Chemistry of Materials, 2015, 27, 7149-7155.	3.2	197

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109	Reproducible One-Step Fabrication of Compact MAPbI_{3â€“<i>x</i>}Cl_{<i>x</i>} Thin Films Derived from Mixed-Lead-Halide Precursors. Chemistry of Materials, 2014, 26, 7145-7150.	3.2	81
110	Interconnected carbon-decorated Tio2 nanocrystals with enhanced lithium storage performance. Electrochemistry Communications, 2014, 40, 54-57.	2.3	7
111	Direct Observation of Ferroelectric Domains in Solution-Processed CH₃NH₃PbI₃ Perovskite Thin Films. Journal of Physical Chemistry Letters, 2014, 5, 3335-3339.	2.1	411
112	One-step, solution-processed formamidinium lead trihalide (FAPbI_(3âˆ’x)Cl_x) for mesoscopic perovskiteâ€“polymer solar cells. Physical Chemistry Chemical Physics, 2014, 16, 19206-19211.	1.3	130
113	Vapour-based processing of hole-conductor-free CH₃NH₃PbI₃ perovskite/C₆₀ fullerene planar solar cells. RSC Advances, 2014, 4, 28964-28967.	1.7	127
114	Ordered Mesoporous Carbon-MoO2Nanocomposite as High Performance Anode Material in Lithium Ion Batteries. Bulletin of the Korean Chemical Society, 2014, 35, 257-260.	1.0	9
115	Room temperature â€œone-potâ€• solution synthesis of nanoscale CsSnI3 orthorhombic perovskite thin films and particles. Materials Letters, 2013, 110, 127-129.	1.3	58
116	Enhanced charge storage by optimization of pore structure in nanocomposite between ordered mesoporous carbon and nanosized WO3âˆ’. Journal of Power Sources, 2013, 244, 777-782.	4.0	42
117	Ordered Mesoporous Carbon/MoO2 Nanocomposites as Stable Supercapacitor Electrodes. ECS Electrochemistry Letters, 2012, 1, A17-A20.	1.9	21
118	Crystallinityâ€Controlled Titanium Oxideâ€“Carbon Nanocomposites with Enhanced Lithium Storage Performance. ChemSusChem, 2012, 5, 2376-2382.	3.6	18
119	Development of novel mesoporous Câ€“TiO2â€“SnO2 nanocomposites and their application to anode materials in lithium ion secondary batteries. Microporous and Mesoporous Materials, 2012, 151, 172-179.	2.2	27
120	A novel mesoporous carbonâ€“silicaâ€“titania nanocomposite as a high performance anode material in lithium ion batteries. Chemical Communications, 2011, 47, 4944.	2.2	45
121	Development of an Ordered Mesoporous Carbon/MoO2 Nanocomposite for High Performance Supercapacitor Electrode. Electrochemical and Solid-State Letters, 2011, 14, A157.	2.2	24