

# Wei Zhang

## List of Publications by Year in descending order

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96  
papers

16,908  
citations

31949

53  
h-index

42364

92  
g-index

98  
all docs

98  
docs citations

98  
times ranked

15459  
citing authors

#	ARTICLE	IF	CITATIONS
1	Anomalous Hysteresis in Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 1511-1515.	2.1	2,190
2	Enhanced photovoltage for inverted planar heterojunction perovskite solar cells. <i>Science</i> , 2018, 360, 1442-1446.	6.0	1,221
3	Ultrasmooth organic-inorganic perovskite thin-film formation and crystallization for efficient planar heterojunction solar cells. <i>Nature Communications</i> , 2015, 6, 6142.	5.8	784
4	Photo-induced halide redistribution in organic-inorganic perovskite films. <i>Nature Communications</i> , 2016, 7, 11683.	5.8	778
5	Minimizing non-radiative recombination losses in perovskite solar cells. <i>Nature Reviews Materials</i> , 2020, 5, 44-60.	23.3	754
6	Metal halide perovskites for energy applications. <i>Nature Energy</i> , 2016, 1, .	19.8	726
7	Enhanced optoelectronic quality of perovskite thin films with hypophosphorous acid for planar heterojunction solar cells. <i>Nature Communications</i> , 2015, 6, 10030.	5.8	620
8	Enhanced UV-light stability of planar heterojunction perovskite solar cells with caesium bromide interface modification. <i>Energy and Environmental Science</i> , 2016, 9, 490-498.	15.6	535
9	Enhancement of Perovskite-Based Solar Cells Employing Core-Shell Metal Nanoparticles. <i>Nano Letters</i> , 2013, 13, 4505-4510.	4.5	505
10	Optical properties and limiting photocurrent of thin-film perovskite solar cells. <i>Energy and Environmental Science</i> , 2015, 8, 602-609.	15.6	417
11	Carrier trapping and recombination: the role of defect physics in enhancing the open circuit voltage of metal halide perovskite solar cells. <i>Energy and Environmental Science</i> , 2016, 9, 3472-3481.	15.6	409
12	Efficient perovskite solar cells by metal ion doping. <i>Energy and Environmental Science</i> , 2016, 9, 2892-2901.	15.6	372
13	Charge selective contacts, mobile ions and anomalous hysteresis in organic-inorganic perovskite solar cells. <i>Materials Horizons</i> , 2015, 2, 315-322.	6.4	366
14	Improving the Long-Term Stability of Perovskite Solar Cells with a Porous Al <sub>2</sub> O <sub>3</sub> Buffer Layer. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 432-437.	2.1	343
15	Crystallization Kinetics of Organic-Inorganic Trihalide Perovskites and the Role of the Lead Anion in Crystal Growth. <i>Journal of the American Chemical Society</i> , 2015, 137, 2350-2358.	6.6	326
16	Tailoring Organic Cation of 2D Air-Stable Organometal Halide Perovskites for Highly Efficient Planar Solar Cells. <i>Advanced Energy Materials</i> , 2017, 7, 1700162.	10.2	312
17	Highly Efficient Perovskite Solar Cells with Tunable Structural Color. <i>Nano Letters</i> , 2015, 15, 1698-1702.	4.5	289
18	Pinhole-free perovskite films for efficient solar modules. <i>Energy and Environmental Science</i> , 2016, 9, 484-489.	15.6	252

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19	Perovskite Tandem Solar Cells: From Fundamentals to Commercial Deployment. <i>Chemical Reviews</i> , 2020, 120, 9835-9950.	23.0	248
20	Formation of Thin Films of Organic-Inorganic Perovskites for High-Efficiency Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 3240-3248.	7.2	245
21	Influence of Thermal Processing Protocol upon the Crystallization and Photovoltaic Performance of Organic-Inorganic Lead Trihalide Perovskites. <i>Journal of Physical Chemistry C</i> , 2014, 118, 17171-17177.	1.5	225
22	Strain analysis and engineering in halide perovskite photovoltaics. <i>Nature Materials</i> , 2021, 20, 1337-1346.	13.3	220
23	Inorganic CsPb <sub>2</sub> Br Perovskite Solar Cells: The Progress and Perspective. <i>Solar Rrl</i> , 2019, 3, 1800239.	3.1	217
24	Charge-Carrier Balance for Highly Efficient Inverted Planar Heterojunction Perovskite Solar Cells. <i>Advanced Materials</i> , 2016, 28, 10718-10724.	11.1	214
25	Buried Interfaces in Halide Perovskite Photovoltaics. <i>Advanced Materials</i> , 2021, 33, e2006435.	11.1	214
26	Exciton Binding Energy and the Nature of Emissive States in Organometal Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 2969-2975.	2.1	211
27	Plasmonic-Induced Photon Recycling in Metal Halide Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2015, 25, 5038-5046.	7.8	198
28	In situ dynamic observations of perovskite crystallisation and microstructure evolution intermediated from [PbI <sub>6</sub> ] <sup>4-</sup> cage nanoparticles. <i>Nature Communications</i> , 2017, 8, 15688.	5.8	191
29	High-Performance Inverted Planar Heterojunction Perovskite Solar Cells Based on Lead Acetate Precursor with Efficiency Exceeding 18%. <i>Advanced Functional Materials</i> , 2016, 26, 3508-3514.	7.8	176
30	Critical review of recent progress of flexible perovskite solar cells. <i>Materials Today</i> , 2020, 39, 66-88.	8.3	169
31	Interfacial Assembly and Applications of Functional Mesoporous Materials. <i>Chemical Reviews</i> , 2021, 121, 14349-14429.	23.0	151
32	An Efficient Organic-Dye-Sensitized Solar Cell with in situ Polymerized Poly(3,4-ethylenedioxythiophene) as a Hole-Transporting Material. <i>Advanced Materials</i> , 2010, 22, E150-5.	11.1	150
33	High Efficiency Quantum Dot Heterojunction Solar Cell Using Anatase (001) TiO <sub>2</sub> Nanosheets. <i>Advanced Materials</i> , 2012, 24, 2202-2206.	11.1	150
34	Dual-Source Precursor Approach for Highly Efficient Inverted Planar Heterojunction Perovskite Solar Cells. <i>Advanced Materials</i> , 2017, 29, 1604758.	11.1	142
35	Recent advances in the synthesis of hierarchically mesoporous TiO <sub>2</sub> materials for energy and environmental applications. <i>National Science Review</i> , 2020, 7, 1702-1725.	4.6	139
36	Low-toxic metal halide perovskites: opportunities and future challenges. <i>Journal of Materials Chemistry A</i> , 2017, 5, 11436-11449.	5.2	123

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37	Templated microstructural growth of perovskite thin films via colloidal monolayer lithography. <i>Energy and Environmental Science</i> , 2015, 8, 2041-2047.	15.6	119
38	Mechanisms of Lithium Intercalation and Conversion Processes in Organic-Inorganic Halide Perovskites. <i>ACS Energy Letters</i> , 2017, 2, 1818-1824.	8.8	111
39	High-Performance Solid-State Organic Dye Sensitized Solar Cells with P3HT as Hole Transporter. <i>Journal of Physical Chemistry C</i> , 2011, 115, 7038-7043.	1.5	109
40	Anatase Mesoporous TiO <sub>2</sub> Nanofibers with High Surface Area for Solid-State Dye-Sensitized Solar Cells. <i>Small</i> , 2010, 6, 2176-2182.	5.2	108
41	Emerging light-emitting diodes for next-generation data communications. <i>Nature Electronics</i> , 2021, 4, 559-572.	13.1	102
42	Solid-State Dye-Sensitized Solar Cells with Conjugated Polymers as Hole-Transporting Materials. <i>Macromolecular Chemistry and Physics</i> , 2011, 212, 15-23.	1.1	98
43	Dielectric screening in perovskite photovoltaics. <i>Nature Communications</i> , 2021, 12, 2479.	5.8	88
44	Surface modification induced by perovskite quantum dots for triple-cation perovskite solar cells. <i>Nano Energy</i> , 2020, 67, 104189.	8.2	81
45	Nanoimprinted distributed feedback lasers of solution processed hybrid perovskites. <i>Optics Express</i> , 2016, 24, 23677.	1.7	80
46	Facile construction of nanofibrous ZnO photoelectrode for dye-sensitized solar cell applications. <i>Applied Physics Letters</i> , 2009, 95, 043304.	1.5	79
47	Carbon Materials in Perovskite Solar Cells: Prospects and Future Challenges. <i>Energy and Environmental Materials</i> , 2019, 2, 107-118.	7.3	72
48	Integrated and Binder-Free Air Cathodes of Co <sub>3</sub> Fe <sub>7</sub> Nanoalloy and Co <sub>5.47</sub> N Encapsulated in Nitrogen-Doped Carbon Foam with Superior Oxygen Reduction Activity in Flexible Aluminum-Air Batteries. <i>Advanced Science</i> , 2020, 7, 2000747.	5.6	67
49	Voltage enhancement in dye-sensitized solar cell using (001)-oriented anatase TiO <sub>2</sub> nanosheets. <i>Journal of Solid State Electrochemistry</i> , 2012, 16, 2993-3001.	1.2	64
50	Space-confined synthesis of CoNi nanoalloy in N-doped porous carbon frameworks as efficient oxygen reduction catalyst for neutral and alkaline aluminum-air batteries. <i>Energy Storage Materials</i> , 2020, 27, 96-108.	9.5	63
51	A Triphenylamine-Based Conjugated Polymer with Donor-Acceptor Architecture as Organic Sensitizer for Dye-Sensitized Solar Cells. <i>Macromolecular Rapid Communications</i> , 2009, 30, 1533-1537.	2.0	60
52	Optical Description of Mesoporous Organic-Inorganic Halide Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 48-53.	2.1	59
53	Electron injection and scaffold effects in perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2017, 5, 634-644.	2.7	58
54	Solvent Engineering as a Vehicle for High Quality Thin Films of Perovskites and Their Device Fabrication. <i>Small</i> , 2021, 17, e2008145.	5.2	53

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55	Organic Sensitizers with Bridged Triphenylamine Donor Units for Efficient Dye-Sensitized Solar Cells. <i>Advanced Energy Materials</i> , 2013, 3, 200-205.	10.2	49
56	Near-neutral-colored semitransparent perovskite films using a combination of colloidal self-assembly and plasma etching. <i>Solar Energy Materials and Solar Cells</i> , 2017, 160, 193-202.	3.0	47
57	Reduced bilateral recombination by functional molecular interface engineering for efficient inverted perovskite solar cells. <i>Nano Energy</i> , 2020, 78, 105249.	8.2	45
58	Device Architecture Engineering: Progress toward Next Generation Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2021, 31, 2103121.	7.8	41
59	Monolithic Wide Band Gap Perovskite/Perovskite Tandem Solar Cells with Organic Recombination Layers. <i>Journal of Physical Chemistry C</i> , 2017, 121, 27256-27262.	1.5	40
60	Defect Engineering toward Highly Efficient and Stable Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2018, 5, 1800326.	1.9	40
61	Pinning Bromide Ion with Ionic Liquid in Lead-Free Cs <sub>2</sub> AgBiBr <sub>6</sub> Double Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	37
62	Reproducible Planar Heterojunction Solar Cells Based on One-Step Solution-Processed Methylammonium Lead Halide Perovskites. <i>Chemistry of Materials</i> , 2017, 29, 462-473.	3.2	35
63	High-performance hybrid solar cells employing metal-free organic dye modified TiO <sub>2</sub> as photoelectrode. <i>Applied Energy</i> , 2012, 90, 305-308.	5.1	34
64	Approaching the Shockley-Queisser limit for fill factors in lead-tin mixed perovskite photovoltaics. <i>Journal of Materials Chemistry A</i> , 2020, 8, 693-705.	5.2	33
65	A Multifaceted Ferrocene Interlayer for Highly Stable and Efficient Lithium Doped Spiro-OMeTAD-based Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	32
66	Enhanced conversion efficiency of flexible dye-sensitized solar cells by optimization of the nanoparticle size with an electrophoretic deposition technique. <i>RSC Advances</i> , 2012, 2, 7074.	1.7	30
67	High-Performance ITO-Free Perovskite Solar Cells Enabled by Single-Walled Carbon Nanotube Films. <i>Advanced Functional Materials</i> , 2021, 31, 2104396.	7.8	30
68	Spectral Stable Blue-Light-Emitting Diodes via Asymmetric Organic Diamine Based Dion-Jacobson Perovskites. <i>Journal of the American Chemical Society</i> , 2021, 143, 19711-19718.	6.6	29
69	A Highly integrated flexible photo-rechargeable system based on stable ultrahigh-rate quasi-solid-state zinc-ion micro-batteries and perovskite solar cells. <i>Energy Storage Materials</i> , 2022, 51, 239-248.	9.5	29
70	Tailoring Perovskite Adjacent Interfaces by Conjugated Polyelectrolyte for Stable and Efficient Solar Cells. <i>Solar Rrl</i> , 2020, 4, 2000060.	3.1	23
71	POSS-Based Electrolyte for Efficient Solid-State Dye-Sensitized Solar Cells at Sub-Zero Temperatures. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 5343-5350.	4.0	22
72	Highly efficient solid-state dye-sensitized solar cells based on hexylimidazolium iodide ionic polymer electrolyte prepared by in situ low-temperature polymerization. <i>Journal of Power Sources</i> , 2017, 345, 131-136.	4.0	21

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73	Improving the Stability and Optoelectronic Properties of All Inorganic Lessâ€Pb Perovskites by Bâ€Site Doping for Highâ€Performance Inorganic Perovskite Solar Cells. Solar Rrl, 2020, 4, 2000528.	3.1	21
74	Electron transport interface engineering with pyridine functionalized perylene diimide-based material for inverted perovskite solar cell. Chemical Engineering Journal, 2022, 438, 135410.	6.6	21
75	Ultra-broadband optical amplification at telecommunication wavelengths achieved by bismuth-activated lead iodide perovskites. Journal of Materials Chemistry C, 2017, 5, 2591-2596.	2.7	19
76	Sputtered Ga-Doped SnO <sub>2</sub> Electron Transport Layer for Large-Area All-Inorganic Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 54904-54915.	4.0	18
77	A synergistic Cs <sub>2</sub> CO <sub>3</sub> ETL treatment to incorporate Cs cation into perovskite solar cells via two-step scalable fabrication. Journal of Materials Chemistry C, 2021, 9, 4367-4377.	2.7	17
78	Significant performance enhancement of allâ€inorganic CsPbBr <sub>3</sub> perovskite solar cells enabled by Nb-doped SnO <sub>2</sub> as effective electron transport layer. Energy and Environmental Materials, 2021, 4, 671-680.	7.3	14
79	Direct Growth of Vertically Aligned Carbon Nanotubes onto Transparent Conductive Oxide Glass for Enhanced Charge Extraction in Perovskite Solar Cells. Advanced Materials Interfaces, 2020, 7, 2001121.	1.9	13
80	Application of Poly(3â€hexylthiophene) Functionalized with an Anchoring Group in Dye-sensitized Solar Cells. Macromolecular Rapid Communications, 2011, 32, 1190-1194.	2.0	12
81	The Central Role of Ligand Conjugation for Properties of Coordination Complexes as Hole-Transport Materials in Perovskite Solar Cells. ACS Applied Energy Materials, 2019, 2, 6768-6779.	2.5	11
82	Mechanistic Insights from Functional Group Exchange Surface Passivation: A Combined Theoretical and Experimental Study. ACS Applied Energy Materials, 2019, 2, 2723-2733.	2.5	11
83	Energetic Barriers to Interfacial Charge Transfer and Ion Movement in Perovskite Solar Cells. ChemPhysChem, 2017, 18, 3047-3055.	1.0	10
84	Influence of Halide Choice on Formation of Lowâ€Dimensional Perovskite Interlayer in Efficient Perovskite Solar Cells. Energy and Environmental Materials, 2022, 5, 670-682.	7.3	9
85	Heater-Free and Substrate-Independent Growth of Vertically Standing Graphene Using A High-Flux Plasma-Enhanced Chemical Vapor Deposition. Advanced Materials Interfaces, 2020, 7, 2000854.	1.9	8
86	Low-Cost Fabrication of TiO <sub>2</sub> Nanorod Photoelectrode for Dye-sensitized Solar Cell Application. Australian Journal of Chemistry, 2011, 64, 1282.	0.5	7
87	Energy level matching between transparent conducting electrodes and the electronic transport layer to enhance performance of all-inorganic CsPbBr <sub>3</sub> solar cells. Vacuum, 2022, 200, 111028.	1.6	4
88	CONJUGATED POLYMER-SENSITIZED SOLAR CELLS BASED ON ELECTROSPUN TiO <sub>2</sub> NANOFIBER ELECTRODE. International Journal of Nanoscience, 2009, 08, 227-230.	0.4	3
89	Imaging Excited-State Dynamics in Two-Dimensional Semiconductors with Emerging Ultrafast Measurement Techniques. Accounts of Materials Research, 2021, 2, 75-85.	5.9	3
90	Atomic Level Insights into Metal Halide Perovskite Materials by Scanning Tunneling Microscopy and Spectroscopy. Angewandte Chemie - International Edition, 2022, 61, .	7.2	3

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91	Nanomaterials in Dye-Sensitized Solar Cells. , 2019, , 69-95.		2
92	Laser-induced recoverable fluorescence quenching of perovskite films at a microscopic grain scale. Energy and Environmental Materials, 0, , .	7.3	2
93	Surface modified NiOx as an efficient hole transport layer in inverted perovskite solar cells. Journal of Materials Science: Materials in Electronics, 2022, 33, 18522-18532.	1.1	2
94	Charge Carrier Balance for Highly Efficient Inverted Planar Heterojunction Perovskite Solar Cells Based on Interface Engineering. , 2016, , .		0
95	Nanocarbons for emerging photovoltaic applications. , 2021, , 49-80.		0
96	Atomic level insights into metal halide perovskite materials by scanning tunneling microscopy and spectroscopy. Angewandte Chemie, 2022, 134, e202112352.	1.6	0