Wei Zhang

List of Publications by Citations

93 papers	12,931 citations	47 h-index	98 g-index
98 ext. papers	14,843 ext. citations	15.6 avg, IF	6.68 L-index

#	Paper	IF	Citations
93	Anomalous Hysteresis in Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2014**, 5, 1511-5	6.4	1951
92	Enhanced photovoltage for inverted planar heterojunction perovskite solar cells. *Science*, **2018**, 360, 1442-1446	33.3	915
91	Ultrasmooth organic-inorganic perovskite thin-film formation and crystallization for efficient planar heterojunction solar cells. *Nature Communications*, **2015**, 6, 6142	17.4	695
90	Photo-induced halide redistribution in organic-inorganic perovskite films. *Nature Communications*, **2016**, 7, 11683	17.4	621
89	Metal halide perovskites for energy applications. *Nature Energy*, **2016**, 1,	62.3	528
88	Enhanced optoelectronic quality of perovskite thin films with hypophosphorous acid for planar heterojunction solar cells. *Nature Communications*, **2015**, 6, 10030	17.4	492
87	Enhanced UV-light stability of planar heterojunction perovskite solar cells with caesium bromide interface modification. *Energy and Environmental Science*, **2016**, 9, 490-498	35.4	450
86	Enhancement of perovskite-based solar cells employing core-shell metal nanoparticles. *Nano Letters*, **2013**, 13, 4505-10	11.5	447
85	Minimizing non-radiative recombination losses in perovskite solar cells. *Nature Reviews Materials*, **2020**, 5, 44-60	73.3	428
84	Charge selective contacts, mobile ions and anomalous hysteresis in organic□norganic perovskite solar cells. *Materials Horizons*, **2015**, 2, 315-322	14.4	338
83	Optical properties and limiting photocurrent of thin-film perovskite solar cells. *Energy and Environmental Science*, **2015**, 8, 602-609	35.4	335
82	Carrier trapping and recombination: the role of defect physics in enhancing the open circuit voltage of metal halide perovskite solar cells. *Energy and Environmental Science*, **2016**, 9, 3472-3481	35.4	317
81	Improving the Long-Term Stability of Perovskite Solar Cells with a Porous Al2O3 Buffer Layer. *Journal of Physical Chemistry Letters*, **2015**, 6, 432-7	6.4	301
80	Efficient perovskite solar cells by metal ion doping. *Energy and Environmental Science*, **2016**, 9, 2892-2901	35.4	301
79	Crystallization kinetics of organic-inorganic trihalide perovskites and the role of the lead anion in crystal growth. *Journal of the American Chemical Society*, **2015**, 137, 2350-8	16.4	266
78	Tailoring Organic Cation of 2D Air-Stable Organometal Halide Perovskites for Highly Efficient Planar Solar Cells. *Advanced Energy Materials*, **2017**, 7, 1700162	21.8	257
77	Highly efficient perovskite solar cells with tunable structural color. *Nano Letters*, **2015**, 15, 1698-702	11.5	240

76	Pinhole-free perovskite films for efficient solar modules. *Energy and Environmental Science*, **2016**, 9, 484-489	35.4	221
75	Influence of Thermal Processing Protocol upon the Crystallization and Photovoltaic Performance of Organic–Inorganic Lead Trihalide Perovskites. *Journal of Physical Chemistry C*, **2014**, 118, 17171-17177	3.8	214
74	Formation of thin films of organic-inorganic perovskites for high-efficiency solar cells. *Angewandte Chemie - International Edition*, **2015**, 54, 3240-8	16.4	214
73	Exciton Binding Energy and the Nature of Emissive States in Organometal Halide Perovskites. *Journal of Physical Chemistry Letters*, **2015**, 6, 2969-75	6.4	171
72	Charge-Carrier Balance for Highly Efficient Inverted Planar Heterojunction Perovskite Solar Cells. *Advanced Materials*, **2016**, 28, 10718-10724	24	170
71	Plasmonic-Induced Photon Recycling in Metal Halide Perovskite Solar Cells. *Advanced Functional Materials*, **2015**, 25, 5038-5046	15.6	167
70	Inorganic CsPbI2Br Perovskite Solar Cells: The Progress and Perspective. *Solar Rrl*, **2019**, 3, 1800239	7.1	160
69	High-Performance Inverted Planar Heterojunction Perovskite Solar Cells Based on Lead Acetate Precursor with Efficiency Exceeding 18%. *Advanced Functional Materials*, **2016**, 26, 3508-3514	15.6	159
68	In situ dynamic observations of perovskite crystallisation and microstructure evolution intermediated from [PbI] cage nanoparticles. *Nature Communications*, **2017**, 8, 15688	17.4	147
67	An efficient organic-dye-sensitized solar cell with in situ polymerized poly(3,4-ethylenedioxythiophene) as a hole-transporting material. *Advanced Materials*, **2010**, 22, E150-5	24	144
66	High efficiency quantum dot heterojunction solar cell using anatase (001) TiO2 nanosheets. *Advanced Materials*, **2012**, 24, 2202-6	24	138
65	Dual-Source Precursor Approach for Highly Efficient Inverted Planar Heterojunction Perovskite Solar Cells. *Advanced Materials*, **2017**, 29, 1604758	24	123
64	High-Performance Solid-State Organic Dye Sensitized Solar Cells with P3HT as Hole Transporter. *Journal of Physical Chemistry C*, **2011**, 115, 7038-7043	3.8	103
63	Low-toxic metal halide perovskites: opportunities and future challenges. *Journal of Materials Chemistry A*, **2017**, 5, 11436-11449	13	102
62	Anatase mesoporous TiO2 nanofibers with high surface area for solid-state dye-sensitized solar cells. *Small*, **2010**, 6, 2176-82	11	100
61	Templated microstructural growth of perovskite thin films via colloidal monolayer lithography. *Energy and Environmental Science*, **2015**, 8, 2041-2047	35.4	94
60	Solid-State Dye-Sensitized Solar Cells with Conjugated Polymers as Hole-Transporting Materials. *Macromolecular Chemistry and Physics*, **2011**, 212, 15-23	2.6	93
59	Perovskite Tandem Solar Cells: From Fundamentals to Commercial Deployment. *Chemical Reviews*, **2020**, 120, 9835-9950	68.1	93

58	Mechanisms of Lithium Intercalation and Conversion Processes in Organic□horganic Halide Perovskites. *ACS Energy Letters*, **2017**, 2, 1818-1824	20.1	83
57	Buried Interfaces in Halide Perovskite Photovoltaics. *Advanced Materials*, **2021**, 33, e2006435	24	83
56	Critical review of recent progress of flexible perovskite solar cells. *Materials Today*, **2020**, 39, 66-88	21.8	70
55	Facile construction of nanofibrous ZnO photoelectrode for dye-sensitized solar cell applications. *Applied Physics Letters*, **2009**, 95, 043304	3.4	65
54	Nanoimprinted distributed feedback lasers of solution processed hybrid perovskites. *Optics Express* , **2016**, 24, 23677-23684	3.3	63
53	Recent advances in the synthesis of hierarchically mesoporous TiO materials for energy and environmental applications. *National Science Review*, **2020**, 7, 1702-1725	10.8	61
52	Voltage enhancement in dye-sensitized solar cell using (001)-oriented anatase TiO2 nanosheets. *Journal of Solid State Electrochemistry*, **2012**, 16, 2993-3001	2.6	61
51	A Triphenylamine-Based Conjugated Polymer with Donor-□Acceptor Architecture as Organic Sensitizer for Dye-Sensitized Solar Cells. *Macromolecular Rapid Communications*, **2009**, 30, 1533-7	4.8	59
50	Electron injection and scaffold effects in perovskite solar cells. *Journal of Materials Chemistry C*, **2017**, 5, 634-644	7.1	52
49	Optical Description of Mesostructured Organic-Inorganic Halide Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2015**, 6, 48-53	6.4	51
48	Strain analysis and engineering in halide perovskite photovoltaics. *Nature Materials*, **2021**, 20, 1337-1346	27	51
47	Surface modification induced by perovskite quantum dots for triple-cation perovskite solar cells. *Nano Energy*, **2020**, 67, 104189	17.1	49
46	Organic Sensitizers with Bridged Triphenylamine Donor Units for Efficient Dye-Sensitized Solar Cells. *Advanced Energy Materials*, **2013**, 3, 200-205	21.8	46
45	Carbon Materials in Perovskite Solar Cells: Prospects and Future Challenges. *Energy and Environmental Materials*, **2019**, 2, 107-118	13	45
44	Monolithic Wide Band Gap Perovskite/Perovskite Tandem Solar Cells with Organic Recombination Layers. *Journal of Physical Chemistry C*, **2017**, 121, 27256-27262	3.8	35
43	Near-neutral-colored semitransparent perovskite films using a combination of colloidal self-assembly and plasma etching. *Solar Energy Materials and Solar Cells*, **2017**, 160, 193-202	6.4	35
42	Integrated and Binder-Free Air Cathodes of CoFe Nanoalloy and CoN Encapsulated in Nitrogen-Doped Carbon Foam with Superior Oxygen Reduction Activity in Flexible Aluminum-Air Batteries. *Advanced Science*, **2020**, 7, 2000747	13.6	34
41	Reproducible Planar Heterojunction Solar Cells Based on One-Step Solution-Processed Methylammonium Lead Halide Perovskites. *Chemistry of Materials*, **2017**, 29, 462-473	9.6	32

40	Space-confined synthesis of CoNi nanoalloy in N-doped porous carbon frameworks as efficient oxygen reduction catalyst for neutral and alkaline aluminum-air batteries. *Energy Storage Materials*, **2020**, 27, 96-108	19.4	32
39	High-performance hybrid solar cells employing metal-free organic dye modified TiO2 as photoelectrode. *Applied Energy*, **2012**, 90, 305-308	10.7	30
38	Defect Engineering toward Highly Efficient and Stable Perovskite Solar Cells. *Advanced Materials Interfaces*, **2018**, 5, 1800326	4.6	29
37	Reduced bilateral recombination by functional molecular interface engineering for efficient inverted perovskite solar cells. *Nano Energy*, **2020**, 78, 105249	17.1	27
36	Enhanced conversion efficiency of flexible dye-sensitized solar cells by optimization of the nanoparticle size with an electrophoretic deposition technique. *RSC Advances*, **2012**, 2, 7074	3.7	26
35	Organisch-anorganische Perowskit-Dünnfilme für hocheffiziente Solarzellen. *Angewandte Chemie*, **2015**, 127, 3288-3297	3.6	25
34	Interfacial Assembly and Applications of Functional Mesoporous Materials. *Chemical Reviews*, **2021**, 121, 14349-14429	68.1	24
33	Dielectric screening in perovskite photovoltaics. *Nature Communications*, **2021**, 12, 2479	17.4	22
32	Approaching the Shockley–Queisser limit for fill factors in lead–tin mixed perovskite photovoltaics. *Journal of Materials Chemistry A*, **2020**, 8, 693-705	13	21
31	POSS-Based Electrolyte for Efficient Solid-State Dye-Sensitized Solar Cells at Sub-Zero Temperatures. *ACS Applied Materials & Interfaces*, **2016**, 8, 5343-50	9.5	20
30	Emerging light-emitting diodes for next-generation data communications. *Nature Electronics*, **2021**, 4, 559-572	28.4	20
29	Highly efficient solid-state dye-sensitized solar cells based on hexylimidazolium iodide ionic polymer electrolyte prepared by in situ low-temperature polymerization. *Journal of Power Sources*, **2017**, 345, 131-136	8.9	17
28	Ultra-broadband optical amplification at telecommunication wavelengths achieved by bismuth-activated lead iodide perovskites. *Journal of Materials Chemistry C*, **2017**, 5, 2591-2596	7.1	16
27	Tailoring Perovskite Adjacent Interfaces by Conjugated Polyelectrolyte for Stable and Efficient Solar Cells. *Solar Rrl*, **2020**, 4, 2000060	7.1	14
26	Solvent Engineering as a Vehicle for High Quality Thin Films of Perovskites and Their Device Fabrication. *Small*, **2021**, 17, e2008145	11	14
25	Application of poly(3-hexylthiophene) functionalized with an anchoring group in dye-sensitized solar cells. *Macromolecular Rapid Communications*, **2011**, 32, 1190-4	4.8	12
24	Sputtered Ga-Doped SnO Electron Transport Layer for Large-Area All-Inorganic Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2020**, 12, 54904-54915	9.5	11
23	Device Architecture Engineering: Progress toward Next Generation Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2103121	15.6	11

22	High-Performance ITO-Free Perovskite Solar Cells Enabled by Single-Walled Carbon Nanotube Films. *Advanced Functional Materials*, **2021**, 31, 2104396	15.6	11
21	Improving the Stability and Optoelectronic Properties of All Inorganic Less-Pb Perovskites by B-Site Doping for High-Performance Inorganic Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 2000528	7.1	10
20	Low-Cost Fabrication of TiO2 Nanorod Photoelectrode for Dye-sensitized Solar Cell Application. *Australian Journal of Chemistry*, **2011**, 64, 1282	1.2	7
19	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	4.6	7
18	Energetic Barriers to Interfacial Charge Transfer and Ion Movement in Perovskite Solar Cells. *ChemPhysChem*, **2017**, 18, 3047-3055	3.2	6
17	Spectral Stable Blue-Light-Emitting Diodes via Asymmetric Organic Diamine Based Dion-Jacobson Perovskites. *Journal of the American Chemical Society*, **2021**, 143, 19711-19718	16.4	6
16	Mechanistic Insights from Functional Group Exchange Surface Passivation: A Combined Theoretical and Experimental Study. *ACS Applied Energy Materials*, **2019**, 2, 2723-2733	6.1	5
15	A synergistic Cs2CO3 ETL treatment to incorporate Cs cation into perovskite solar cells via two-step scalable fabrication. *Journal of Materials Chemistry C*, **2021**, 9, 4367-4377	7.1	5
14	A Multifaceted Ferrocene Interlayer for Highly Stable and Efficient Lithium Doped Spiro-OMeTAD-based Perovskite Solar Cells. *Advanced Energy Materials*,2200666	21.8	5
13	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	4.6	4
12	Influence of Halide Choice on Formation of Low-Dimensional Perovskite Interlayer in Efficient Perovskite Solar Cells. *Energy and Environmental Materials*,	13	4
11	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	6.1	3
10	CONJUGATED POLYMER-SENSITIZED SOLAR CELLS BASED ON ELECTROSPUN TiO2 NANOFIBER ELECTRODE. *International Journal of Nanoscience*, **2009**, 08, 227-230	0.6	3
9	Significant performance enhancement of all-inorganic CsPbBr3 perovskite solar cells enabled by Nb-doped SnO2 as effective electron transport layer. *Energy and Environmental Materials*, **2021**, 4, 671	13	3
8	Imaging Excited-State Dynamics in Two-Dimensional Semiconductors with Emerging Ultrafast Measurement Techniques. *Accounts of Materials Research*, **2021**, 2, 75-85	7.5	2
7	Pinning Bromide Ion with Ionic Liquid in Lead-Free Cs 2 AgBiBr 6 Double Perovskite Solar Cells. *Advanced Functional Materials*,2112991	15.6	2
6	Energy level matching between transparent conducting electrodes and the electronic transport layer to enhance performance of all-inorganic CsPbBr3 solar cells. *Vacuum*, **2022**, 200, 111028	3.7	2
5	Nanomaterials in Dye-Sensitized Solar Cells **2019**, 69-95		1

4	Laser-induced recoverable fluorescence quenching of perovskite films at a microscopic grain-scale. *Energy and Environmental Materials*,	13	1
3	Electron transport interface engineering with pyridine functionalized perylene diimide-based material for inverted perovskite solar cell. *Chemical Engineering Journal*, **2022**, 438, 135410	14.7	1
2	Atomic Level Insights into Metal Halide Perovskite Materials by Scanning Tunneling Microscopy and Spectroscopy. *Angewandte Chemie*, **2022**, 134, e202112352	3.6	
1	Nanocarbons for emerging photovoltaic applications **2021**, 49-80		