Xiaodan Zhang

List of Publications by Year
in descending order

118 papers	4,320 citations	136950 32 h-index	133252 59 g-index
120 all docs	120 docs citations	120 times ranked	4301 citing authors

#	Article	IF	Citations
1	Insights into the Development of Monolithic Perovskite/Silicon Tandem Solar Cells. Advanced Energy Materials, 2022, 12, 2003628.	19.5	72
2	UV light absorbers executing synergistic effects of passivating defects and improving photostability for efficient perovskite photovoltaics. Journal of Energy Chemistry, 2022, 67, 138-146.	12.9	19
3	Reduced defects and enhanced Vbi in perovskite absorbers through synergetic passivating effect using 4-methoxyphenylacetic acid. Journal of Power Sources, 2022, 518, 230734.	7.8	11
4	Integrated and Unassisted Solar Waterâ€Splitting System by Monolithic Perovskite/Silicon Tandem Solar Cell. Solar Rrl, 2022, 6, 2100748.	5.8	8
5	2D perovskite or organic material matter? Targeted growth for efficient perovskite solar cells with efficiency exceeding 24%. Nano Energy, 2022, 94, 106914.	16.0	31
6	Perovskite-based tandem solar cells gallop ahead. Joule, 2022, 6, 509-511.	24.0	13
7	Towards bifacial silicon heterojunction solar cells with reduced TCO use. Progress in Photovoltaics: Research and Applications, 2022, 30, 750-762.	8.1	19
8	Controlling the Crystallographic Orientation of Sb₂Se₃ Film for Efficient Photoelectrochemical Water Splitting. Solar Rrl, 2022, 6, .	5.8	8
9	Suppressed recombination for monolithic inorganic perovskite/silicon tandem solar cells with an approximate efficiency of 23%. EScience, 2022, 2, 339-346.	41.6	78
10	Potassium chloride templated Î±-FAPbI3 perovskite crystal growth for efficient planar perovskite solar cells. Organic Electronics, 2022, 106, 106527.	2.6	5
11	CsPbCl₃â€Clusterâ€Widened Bandgap and Inhibited Phase Segregation in a Wideâ€Bandgap Perovskite and its Application to NiO<i>_x</i>â€Based Perovskite/Silicon Tandem Solar Cells. Advanced Materials, 2022, 34, e2201451.	21.0	29
12	Efficient and stable noble-metal-free catalyst for acidic water oxidation. Nature Communications, 2022, 13, 2294.	12.8	89
13	Tin dioxide buffer layer-assisted efficiency and stability of wide-bandgap inverted perovskite solar cells. Journal of Semiconductors, 2022, 43, 052201.	3.7	5
14	Effects of guanidinium cations on structural, optoelectronic and photovoltaic properties of perovskites. Journal of Energy Chemistry, 2021, 58, 48-54.	12.9	21
15	Encapsulation of perovskite solar cells for enhanced stability: Structures, materials and characterization. Journal of Power Sources, 2021, 485, 229313.	7.8	82
16	Insights into the effect of bromineâ€based organic salts on the efficiency and stability of wide bandgap perovskite. Nano Select, 2021, 2, 615-623.	3.7	0
17	Humidityâ€Resistant Flexible Perovskite Solar Cells with Over 20% Efficiency. Solar Rrl, 2021, 5, 2000795.	5.8	19
18	Spacer Engineering Using Aromatic Formamidinium in 2D/3D Hybrid Perovskites for Highly Efficient Solar Cells. ACS Nano, 2021, 15, 7811-7820.	14.6	99

#	ARTICLE	IF	CITATIONS
19	Cobalt Chloride Hexahydrate Assisted in Reducing Energy Loss in Perovskite Solar Cells with Record Open-Circuit Voltage of 1.20 V. ACS Energy Letters, 2021, 6, 2121-2128.	17.4	117
20	Water Stable Haloplumbate Modulation for Efficient and Stable Hybrid Perovskite Photovoltaics. Advanced Energy Materials, 2021, 11, 2101082.	19.5	21
21	A facile light managing strategy in inverted perovskite solar cells. JPhys Energy, 2021, 3, 035004.	5.3	3
22	High-Performance and Stable Perovskite-Based Photoanode Encapsulated by Blanket-Cover Method. ACS Applied Energy Materials, 2021, 4, 7526-7534.	5.1	11
23	Composite electron transport layer for efficient N-I-P type monolithic perovskite/silicon tandem solar cells with high open-circuit voltage. Journal of Energy Chemistry, 2021, 63, 461-467.	12.9	20
24	Modulated Crystallization and Reduced <i>V</i>_{OC} Deficit of Mixed Leadâ€"Tin Perovskite Solar Cells with Antioxidant Caffeic Acid. ACS Energy Letters, 2021, 6, 2907-2916.	17.4	68
25	Microâ€Electrode with Fast Mass Transport for Enhancing Selectivity of Carbonaceous Products in Electrochemical CO₂ Reduction. Advanced Functional Materials, 2021, 31, 2103966.	14.9	16
26	Manipulated Crystallization and Passivated Defects for Efficient Perovskite Solar Cells via Addition of Ammonium Iodide. ACS Applied Materials & Interfaces, 2021, 13, 34053-34063.	8.0	18
27	Low-Temperature Oxide/Metal/Oxide Multilayer Films as Highly Transparent Conductive Electrodes for Optoelectronic Devices. ACS Applied Energy Materials, 2021, 4, 6553-6561.	5.1	26
28	Stability of Perovskite Solar Cells: Degradation Mechanisms and Remedies. Frontiers in Electronics, 2021, 2, .	3.2	75
29	Control Perovskite Crystals Vertical Growth for Obtaining Highâ€Performance Monolithic Perovskite/Silicon Heterojunction Tandem Solar Cells with <i>V</i>_{OC} of 1.93â€‰V. Solar Rrl, 2021, 5, 2100357.	5.8	15
30	Multifunctional Molecule Engineered SnO₂ for Perovskite Solar Cells with High Efficiency and Reduced Lead Leakage. Solar Rrl, 2021, 5, 2100464.	5.8	26
31	Room-temperature sputtered tungsten-doped indium oxide for improved current in silicon heterojunction solar cells. Solar Energy Materials and Solar Cells, 2021, 227, 111082.	6.2	23
32	An over 20% solar-to-hydrogen efficiency system comprising a self-reconstructed NiCoFe-based hydroxide nanosheet electrocatalyst and monolithic perovskite/silicon tandem solar cell. Journal of Materials Chemistry A, 2021, 9, 14085-14092.	10.3	29
33	Silicon heterojunction-based tandem solar cells: past, status, and future prospects. Nanophotonics, 2021, 10, 2001-2022.	6.0	21
34	Wide Bandgap Interface Layer Induced Stabilized Perovskite/Silicon Tandem Solar Cells with Stability over Ten Thousand Hours. Advanced Energy Materials, 2021, 11, 2102046.	19.5	57
35	Broad-Spectrum Ultrathin-Metal-Based Oxide/Metal/Oxide Transparent Conductive Films for Optoelectronic Devices. ACS Applied Materials & Interfaces, 2021, 13, 58539-58551.	8.0	8
36	Light Management in Monolithic Perovskite/Silicon Tandem Solar Cells. Solar Rrl, 2020, 4, 1900206.	5.8	36

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37	Semitransparent Perovskite Solar Cells: From Materials and Devices to Applications. Advanced Materials, 2020, 32, e1806474.	21.0	148
38	Defects Healing in Two-Step Deposited Perovskite Solar Cells via Formamidinium Iodide Compensation. ACS Applied Energy Materials, 2020, 3, 3318-3327.	5.1	32
39	Gradient Energy Alignment Engineering for Planar Perovskite Solar Cells with Efficiency Over 23%. Advanced Materials, 2020, 32, e1905766.	21.0	172
40	NiO_{<i>x</i>}/Spiro Hole Transport Bilayers for Stable Perovskite Solar Cells with Efficiency Exceeding 21%. ACS Energy Letters, 2020, 5, 79-86.	17.4	104
41	Toward Efficient and Stable Perovskite Solar Cells: Choosing Appropriate Passivator to Specific Defects. Solar Rrl, 2020, 4, 2070104.	5.8	8
42	Selective electrochemical reduction of carbon dioxide to ethylene on a copper hydroxide nitrate nanostructure electrode. Nanoscale, 2020, 12, 17013-17019.	5.6	24
43	Toward Efficient and Stable Perovskite Solar Cells: Choosing Appropriate Passivator to Specific Defects. Solar Rrl, 2020, 4, 2000308.	5.8	31
44	Passivation of defects in perovskite solar cell: From a chemistry point of view. Nano Energy, 2020, 77, 105237.	16.0	92
45	Realizing the Potential of RF-Sputtered Hydrogenated Fluorine-Doped Indium Oxide as an Electrode Material for Ultrathin SiOx/Poly-Si Passivating Contacts. ACS Applied Energy Materials, 2020, 3, 8606-8618.	5.1	11
46	Performance Promotion through Dual-Interface Engineering of CuSCN Layers in Planar Perovskite Solar Cells. Journal of Physical Chemistry C, 2020, 124, 27977-27984.	3.1	12
47	Highly efficient bifacial semitransparent perovskite solar cells based on molecular doping of CuSCN hole transport layer*. Chinese Physics B, 2020, 29, 078801.	1.4	12
48	Phase Distribution and Carrier Dynamics in Multiple-Ring Aromatic Spacer-Based Two-Dimensional Ruddlesdenâ€“Popper Perovskite Solar Cells. ACS Nano, 2020, 14, 4871-4881.	14.6	126
49	Aryl Diammonium Iodide Passivation for Efficient and Stable Hybrid Organâ€Inorganic Perovskite Solar Cells. Advanced Functional Materials, 2020, 30, 2002366.	14.9	52
50	Inorganic material passivation of defects toward efficient perovskite solar cells. Science Bulletin, 2020, 65, 2022-2032.	9.0	36
51	A mixed hole transport material employing a highly planar conjugated molecule for efficient and stable perovskite solar cells. Journal of Materials Chemistry A, 2020, 8, 5163-5170.	10.3	40
52	Rational modulating electronegativity of substituents in amorphous metal-organic frameworks for water oxidation catalysis. International Journal of Hydrogen Energy, 2020, 45, 9723-9732.	7.1	18
53	Hydrationâ€Effectâ€Promoting Niâ€“Fe Oxyhydroxide Catalysts for Neutral Water Oxidation. Advanced Materials, 2020, 32, e1906806.	21.0	62
54	Innovative Wide-Spectrum Mg and Ga-Codoped ZnO Transparent Conductive Films Grown via Reactive Plasma Deposition for Si Heterojunction Solar Cells. ACS Applied Energy Materials, 2020, 3, 1574-1584.	5.1	11

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55	Ligandâ€Modulated Excess PbI₂ Nanosheets for Highly Efficient and Stable Perovskite Solar Cells. Advanced Materials, 2020, 32, e2000865.	21.0	136
56	I/P interface modification for stable and efficient perovskite solar cells. Journal of Semiconductors, 2020, 41, 052202.	3.7	5
57	Role of Moisture in the Preparation of Efficient Planar Perovskite Solar Cells. ACS Sustainable Chemistry and Engineering, 2019, 7, 17691-17696.	6.7	20
58	Scalable and efficient perovskite solar cells prepared by grooved roller coating. Journal of Materials Chemistry A, 2019, 7, 1870-1877.	10.3	9
59	Efficient and Stable Perovskite Solar Cell Achieved with Bifunctional Interfacial Layers. ACS Applied Materials & Interfaces, 2019, 11, 25218-25226.	8.0	23
60	Highly Efficient and Stable Solar Cells Based on Crystalline Oriented 2D/3D Hybrid Perovskite. Advanced Materials, 2019, 31, e1901242.	21.0	210
61	Room-temperature quantum interference in single perovskite quantum dot junctions. Nature Communications, 2019, 10, 5458.	12.8	20
62	Self-formed PbI2-DMSO adduct for highly efficient and stable perovskite solar cells. Applied Physics Letters, 2019, 115, .	3.3	9
63	High-Mobility Hydrogenated Fluorine-Doped Indium Oxide Film for Passivating Contacts c-Si Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 45586-45595.	8.0	21
64	Inverted pyramidally-textured PDMS antireflective foils for perovskite/silicon tandem solar cells with flat top cell. Nano Energy, 2019, 56, 234-240.	16.0	80
65	Monolithic Perovskite/Silicon-Heterojunction Tandem Solar Cells with Open-Circuit Voltage of over 1.8 V. ACS Applied Energy Materials, 2019, 2, 243-249.	5.1	44
66	SiH4 enhanced dissociation via argon plasma assistance for hydrogenated microcrystalline silicon thin-film deposition and application in tandem solar cells. Solar Energy Materials and Solar Cells, 2018, 180, 110-117.	6.2	10
67	Delayed Annealing Treatment for High-Quality CuSCN: Exploring Its Impact on Bifacial Semitransparent n-i-p Planar Perovskite Solar Cells. ACS Applied Energy Materials, 2018, 1, 1575-1584.	5.1	30
68	Direct Comparison of Electron Transport and Recombination Behaviors of Dye-Sensitized Solar Cells Prepared Using Different Sintering Processes. ACS Sustainable Chemistry and Engineering, 2018, 6, 7193-7198.	6.7	3
69	Management of light trapping capability of AZO film for Si thin film solar cells-via tailoring surface texture. Solar Energy Materials and Solar Cells, 2018, 179, 401-408.	6.2	15
70	Transparent electrode for monolithic perovskite/silicon-heterojunction two-terminal tandem solar cells. Nano Energy, 2018, 45, 280-286.	16.0	67
71	Realization of 16.9% Efficiency on Nanowires Heterojunction Solar Cells with Dopantâ€Free Contact for Bifacial Polarities. Advanced Functional Materials, 2018, 28, 1805001.	14.9	18
72	Polymeric Surface Modification of NiO_{<i>x</i>}-Based Inverted Planar Perovskite Solar Cells with Enhanced Performance. ACS Sustainable Chemistry and Engineering, 2018, 6, 16806-16812.	6.7	83

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73	Two-Dimensional Ruddlesdenâ€"Popper Perovskite with Nanorod-like Morphology for Solar Cells with Efficiency Exceeding 15%. Journal of the American Chemical Society, 2018, 140, 11639-11646.	13.7	397
74	Solvent Engineering to Balance Light Absorbance and Transmittance in Perovskite for Tandem Solar Cells. Solar Rrl, 2018, 2, 1800176.	5.8	42
75	Unraveling the Passivation Process of PbI₂ to Enhance the Efficiency of Planar Perovskite Solar Cells. Journal of Physical Chemistry C, 2018, 122, 21269-21276.	3.1	97
76	Acetate Anion Assisted Crystal Orientation Reconstruction in Organicâ€"Inorganic Lead Halide Perovskite. ACS Applied Energy Materials, 2018, 1, 2730-2739.	5.1	23
77	High near-infrared wavelength response planar silicon-heterojunction solar cells. Solar Energy Materials and Solar Cells, 2018, 185, 124-129.	6.2	14
78	Activity enhancement <i>via</i> borate incorporation into a NiFe (oxy)hydroxide catalyst for electrocatalytic oxygen evolution. Journal of Materials Chemistry A, 2018, 6, 16959-16964.	10.3	21
79	Controlling performance of a-Si:H solar cell with SnO2:F front electrode by introducing dual p-layers with p-a-SiO :H/p-nc-SiO :H nanostructure. Solar Energy, 2018, 171, 907-913.	6.1	9
80	Cesium Halides-Assisted Crystal Growth of Perovskite Films for Efficient Planar Heterojunction Solar Cells. Chemistry of Materials, 2018, 30, 5264-5271.	6.7	30
81	Compound Homojunction:Heterojunction Reduces Bulk and Interface Recombination in ZnO Photoanodes for Water Splitting. Small, 2017, 13, 1603527.	10.0	29
82	Origin of Photovoltage Enhancement via Interfacial Modification with Silver Nanoparticles Embedded in an a-SiC:H p-Type Layer in a-Si:H Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 11184-11192.	8.0	5
83	The correlation of material properties and deposition condition of ZnON thin films. AIP Advances, 2017, 7, .	1.3	10
84	High efficiency and high open-circuit voltage quadruple-junction silicon thin film solar cells for future electronic applications. Energy and Environmental Science, 2017, 10, 1134-1141.	30.8	45
85	Elucidating the role of chlorine in perovskite solar cells. Journal of Materials Chemistry A, 2017, 5, 7423-7432.	10.3	95
86	Perovskite/silicon-based heterojunction tandem solar cells with 14.8% conversion efficiency via adopting ultrathin Au contact. Journal of Semiconductors, 2017, 38, 014003.	3.7	8
87	Exploring the mechanism of a pure and amorphous black-blue TiO2:H thin film as a photoanode in water splitting. Nano Energy, 2017, 42, 151-156.	16.0	36
88	Substrate effect on ultra-thin hydrogenated amorphous silicon solar cells. Solar Energy Materials and Solar Cells, 2017, 171, 222-227.	6.2	5
89	Optical/Electrical Integrated Design of Coreâ€"Shell Aluminum-Based Plasmonic Nanostructures for Record-Breaking Efficiency Enhancements in Photovoltaic Devices. ACS Photonics, 2017, 4, 2102-2110.	6.6	18
90	High-efficiency micromorph solar cell with light management in tunnel recombination junction. Solar Energy Materials and Solar Cells, 2016, 155, 469-473.	6.2	10

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91	Novel insight into the function of PC61BM in efficient planar perovskite solar cells. Nano Energy, 2016, 27, 561-568.	16.0	14
92	Cost-effective hollow honeycomb textured back reflector for flexible thin film solar cells. Solar Energy Materials and Solar Cells, 2016, 155, 128-133.	6.2	6
93	Modify the Schottky contact between fluorine-doped tin oxide front electrode and p-a-SiC:H by carbon dioxide plasma treatment. Solar Energy, 2016, 134, 375-382.	6.1	9
94	Tuning of the open-circuit voltage by wide band-gap absorber and doped layers in thin film silicon solar cells. Physica Status Solidi - Rapid Research Letters, 2015, 9, 453-456.	2.4	3
95	Fill factor improvement in PIN type hydrogenated amorphous silicon germanium thin film solar cells: Omnipotent N type Î¼c-SiO :H layer. Solar Energy Materials and Solar Cells, 2015, 140, 450-456.	6.2	18
96	High-quality hydrogenated intrinsic amorphous silicon oxide layers treated by H2 plasma used as the p/i buffer layers in hydrogenated amorphous silicon solar cells. Solar Energy Materials and Solar Cells, 2015, 136, 172-176.	6.2	18
97	Silicon Solar Cells: Graphenized Carbon Nanofiber: A Novel Light-Trapping and Conductive Material to Achieve an Efficiency Breakthrough in Silicon Solar Cells (Adv. Mater. 5/2015). Advanced Materials, 2015, 27, 848-848.	21.0	1
98	A catalyst-free amorphous silicon-based tandem thin film photocathode with high photovoltage for solar water splitting. Journal of Materials Chemistry A, 2015, 3, 15583-15590.	10.3	14
99	Increasing efficiency of hierarchical nanostructured heterojunction solar cells to 16.3% via controlling interface recombination. Journal of Materials Chemistry A, 2015, 3, 22902-22907.	10.3	14
100	Theoretical insights into highly transparent multi-sized conducting films with high-haze and wide-angular scattering for thin film solar cells. Journal of Power Sources, 2015, 297, 68-74.	7.8	9
101	High efficiency triple junction thin film silicon solar cells with optimized electrical structure. Progress in Photovoltaics: Research and Applications, 2015, 23, 1313-1322.	8.1	21
102	Graphenized Carbon Nanofiber: A Novel Lightâ€Trapping and Conductive Material to Achieve an Efficiency Breakthrough in Silicon Solar Cells. Advanced Materials, 2015, 27, 849-855.	21.0	20
103	Investigation of H 2 /CH 4 mixed gas plasma post-etching process for ZnO:B front contacts grown by LP-MOCVD method in silicon-based thin-film solar cells. Applied Surface Science, 2014, 316, 508-514.	6.1	5
104	Optimal design of one-dimensional photonic crystal back reflectors for thin-film silicon solar cells. Journal of Applied Physics, 2014, 116, 064508.	2.5	10
105	In situ grown size-controlled silicon nanocrystals: A p type nanocrystalline-Si:H/a-SiCx:H superlattice (p-nc-Si:H/a-SiCx:H) approach. Solar Energy Materials and Solar Cells, 2014, 123, 228-232.	6.2	20
106	Periodically textured metal electrodes: large-area fabrication, characterization, simulation, and application as efficient back-reflective scattering contact-electrodes for thin-film solar cells. Journal of Materials Chemistry A, 2014, 2, 13259-13269.	10.3	10
107	Improvement in performance of hydrogenated amorphous silicon solar cells with hydrogenated intrinsic amorphous silicon oxide p/i buffer layers. Solar Energy Materials and Solar Cells, 2014, 128, 394-398.	6.2	17
108	High open-circuit voltage (1.04 V) nâ€"iâ€"p type thin film silicon solar cell by two-phase silicon carbide intrinsic material. Solar Energy Materials and Solar Cells, 2014, 130, 561-566.	6.2	13

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109	Boron doped nanocrystalline silicon/amorphous silicon hybrid emitter layers used to improve the performance of silicon heterojunction solar cells. Solar Energy, 2014, 108, 308-314.	6.1	18
110	Improved amorphous/crystalline silicon interface passivation for heterojunction solar cells by low-temperature chemical vapor deposition and post-annealing treatment. Physical Chemistry Chemical Physics, 2014, 16, 20202.	2.8	23
111	The influence of perpendicular transport behavior on the properties of n-i-p type amorphous silicon solar cells. Solar Energy Materials and Solar Cells, 2014, 120, 635-641.	6.2	9
112	Light management in hydrogenated amorphous silicon germanium solar cells. Solar Energy Materials and Solar Cells, 2014, 128, 1-10.	6.2	14
113	Improvement of solar cells performance by boron doped amorphous silicon carbide/nanocrystalline silicon hybrid window layers. Solar Energy Materials and Solar Cells, 2013, 114, 9-14.	6.2	31
114	High-efficiency a-Si:H/μc-Si:H solar cells by optimizing A-Si:H and μc-Si:H sub-cells. , 2013, , .		0
115	Research Progresses on High Efficiency Amorphous and Microcrystalline Silicon-Based Thin Film Solar Cells. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	0
116	A new type counter electrode for dye-sensitized solar cells. Science in China Series D: Earth Sciences, 2009, 52, 1923-1927.	0.9	7
117	Multifunctional Two-Dimensional Conjugated Materials for Dopant-Free Perovskite Solar Cells with Efficiency Exceeding 22%. ACS Energy Letters, 0, , 1521-1532.	17.4	103
118	Controllable Simultaneous Bifacial Cuâ€plating for High Efficiency Crystalline Silicon Solar Cells. Solar Rrl, 0, , .	5.8	6