Ziyang Hu

List of Publications by Year
in descending order

116 papers	3,580 citations	109321 35 h-index	161849 54 g-index
116 all docs	116 docs citations	116 times ranked	4913 citing authors

#	Article	IF	Citations
1	Electron transport layer-free planar perovskite solar cells: Further performance enhancement perspective from device simulation. Solar Energy Materials and Solar Cells, 2016, 157, 1038-1047.	6.2	169
2	n-Type Doping and Energy States Tuning in CH₃NH₃Pb_{1â€“<i>x</i>}Sb_{2<i>x</i>/3}I₃ Perovskite Solar Cells. ACS Energy Letters, 2016, 1, 535-541.	17.4	160
3	Pbâ€Reduced CsPb_{0.9}Zn_{0.1}I₂Br Thin Films for Efficient Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1900896.	19.5	150
4	Bifunctional alkyl chain barriers for efficient perovskite solar cells. Chemical Communications, 2015, 51, 7047-7050.	4.1	135
5	Towards high efficiency inverted Sb2Se3 thin film solar cells. Solar Energy Materials and Solar Cells, 2019, 200, 109945.	6.2	132
6	UV-Sintered Low-Temperature Solution-Processed SnO₂ as Robust Electron Transport Layer for Efficient Planar Heterojunction Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 21909-21920.	8.0	123
7	Multi-step slow annealing perovskite films for high performance planar perovskite solar cells. Solar Energy Materials and Solar Cells, 2015, 141, 377-382.	6.2	101
8	Performance characteristics of a direct carbon fuel cell/thermoelectric generator hybrid system. Energy Conversion and Management, 2015, 89, 683-689.	9.2	99
9	Influence of doped PEDOT:PSS on the performance of polymer solar cells. Solar Energy Materials and Solar Cells, 2011, 95, 2763-2767.	6.2	85
10	Low-temperature processed SnO2 compact layer by incorporating TiO2 layer toward efficient planar heterojunction perovskite solar cells. Solar Energy Materials and Solar Cells, 2017, 164, 87-92.	6.2	76
11	Efficient electron-transport layer-free planar perovskite solar cells via recycling the FTO/glass substrates from degraded devices. Solar Energy Materials and Solar Cells, 2016, 152, 118-124.	6.2	63
12	CH₃NH₃PbI_{3â^’x}Cl_x films with coverage approaching 100% and with highly oriented crystal domains for reproducible and efficient planar heterojunction perovskite solar cells. Physical Chemistry Chemical Physics, 2015, 17, 22015-22022.	2.8	61
13	Inorganic and Lead-Free AgBiI₄ Rudorffite for Stable Solar Cell Applications. ACS Applied Energy Materials, 2018, 1, 4485-4492.	5.1	58
14	Effects of solvent-treated PEDOT:PSS on organic photovoltaic devices. Renewable Energy, 2014, 62, 100-105.	8.9	57
15	Performance evaluation of an alkaline fuel cell/thermoelectric generator hybrid system. International Journal of Hydrogen Energy, 2014, 39, 11756-11762.	7.1	56
16	Copper iodide as a potential low-cost dopant for spiro-MeOTAD in perovskite solar cells. Journal of Materials Chemistry C, 2016, 4, 9003-9008.	5.5	56
17	Zinc ion as effective film morphology controller in perovskite solar cells. Sustainable Energy and Fuels, 2018, 2, 1093-1100.	4.9	55
18	Toward Revealing the Critical Role of Perovskite Coverage in Highly Efficient Electron-Transport Layer-Free Perovskite Solar Cells: An Energy Band and Equivalent Circuit Model Perspective. ACS Applied Materials & Interfaces, 2016, 8, 9811-9820.	8.0	54

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19	Efficient and stable planar perovskite solar cells with a non-hygroscopic small molecule oxidant doped hole transport layer. Electrochimica Acta, 2016, 196, 328-336.	5.2	54
20	Parametric study of a hybrid system integrating a phosphoric acid fuel cell with an absorption refrigerator for cooling purposes. International Journal of Hydrogen Energy, 2016, 41, 3579-3590.	7.1	49
21	Effective lewis base additive with S-donor for efficient and stable CsPbI2Br based perovskite solar cells. Chemical Engineering Journal, 2021, 420, 129931.	12.7	49
22	Influence of ZnO interlayer on the performance of inverted organic photovoltaic device. Solar Energy Materials and Solar Cells, 2011, 95, 2126-2130.	6.2	48
23	Multifunctional liquid additive strategy for highly efficient and stable CsPbI2Br all-inorganic perovskite solar cells. Chemical Engineering Journal, 2021, 422, 130572.	12.7	47
24	Amorphous polymer with Cî€O to improve the performance of perovskite solar cells. Journal of Materials Chemistry C, 2017, 5, 9037-9043.	5.5	45
25	Novel coreâ€"shell TiO₂microsphere scattering layer for dye-sensitized solar cells. Journal of Materials Chemistry A, 2014, 2, 1502-1508.	10.3	43
26	Zinc ion functional doping for all-inorganic planar CsPbIBr₂ perovskite solar cells with efficiency over 10.5%. Journal of Materials Chemistry C, 2021, 9, 2145-2155.	5.5	43
27	Highly efficient organic photovoltaic devices using F-doped SnO2 anodes. Applied Physics Letters, 2011, 98, .	3.3	42
28	W-doped TiO 2 photoanode for high performance perovskite solar cell. Electrochimica Acta, 2016, 195, 143-149.	5.2	42
29	In situ recycle of PbI₂ as a step towards sustainable perovskite solar cells. Progress in Photovoltaics: Research and Applications, 2017, 25, 1022-1033.	8.1	42
30	Efficient and hysteresis-less pseudo-planar heterojunction perovskite solar cells fabricated by a facile and solution-saving one-step dip-coating method. Organic Electronics, 2017, 40, 13-23.	2.6	41
31	Performance of polymer solar cells fabricated by dip coating process. Solar Energy Materials and Solar Cells, 2012, 99, 221-225.	6.2	40
32	Effective light trapping enhanced near-UV/blue light absorption in inverted polymer solar cells via solâ€"gel textured Al-doped ZnO buffer layer. Solar Energy Materials and Solar Cells, 2014, 121, 28-34.	6.2	39
33	New Films on Old Substrates: Toward Green and Sustainable Energy Production via Recycling of Functional Components from Degraded Perovskite Solar Cells. ACS Sustainable Chemistry and Engineering, 2017, 5, 3261-3269.	6.7	39
34	Efficient planar perovskite solar cells without a high temperature processed titanium dioxide electron transport layer. Solar Energy Materials and Solar Cells, 2016, 149, 1-8.	6.2	38
35	Highly transparent ultrathin metal sulfide films as efficient counter electrodes for bifacial dye-sensitized solar cells. Electrochimica Acta, 2015, 170, 39-47.	5.2	37
36	Inhibition of Zero Drift in Perovskite-Based Photodetector Devices via [6,6]-Phenyl-C61-butyric Acid Methyl Ester Doping. ACS Applied Materials & Interfaces, 2017, 9, 15638-15643.	8.0	34

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37	Effect of textured electrodes with light-trapping on performance of polymer solar cells. Journal of Applied Physics, 2012, 111, .	2.5	33
38	Pb and Li co-doped NiOx for efficient inverted planar perovskite solar cells. Journal of Colloid and Interface Science, 2020, 559, 29-38.	9.4	32
39	Low-temperature prepared carbon electrodes for hole-conductor-free mesoscopic perovskite solar cells. Electrochimica Acta, 2016, 218, 84-90.	5.2	31
40	Low-temperature processed ultrathin TiO2 for efficient planar heterojunction perovskite solar cells. Electrochimica Acta, 2017, 231, 77-84.	5.2	31
41	Self-powered behavior based on the light-induced self-poling effect in perovskite-based transport layer-free photodetectors. Journal of Materials Chemistry C, 2019, 7, 609-616.	5.5	29
42	Enhanced hole extraction by NiO nanoparticles in carbon-based perovskite solar cells. Electrochimica Acta, 2019, 312, 100-108.	5.2	29
43	Comprehensive understanding of TiCl4 treatment on the compact TiO2 layer in planar perovskite solar cells with efficiencies over 20%. Journal of Alloys and Compounds, 2019, 787, 1082-1088.	5.5	29
44	Heterojunction Engineering and Ideal Factor Optimization Toward Efficient MINP Perovskite Solar Cells. Advanced Energy Materials, 2021, 11, 2102724.	19.5	29
45	In situ growth of novel laminar-shaped Co₃S₄ as an efficient counter electrode for dye-sensitized solar cells. RSC Advances, 2014, 4, 42917-42923.	3.6	28
46	Carrier Transfer Behaviors at Perovskite/Contact Layer Heterojunctions in Perovskite Solar Cells. Advanced Materials Interfaces, 2019, 6, 1801253.	3.7	27
47	Polar molecules modify perovskite surface to reduce recombination in perovskite solar cells. RSC Advances, 2016, 6, 9090-9095.	3.6	25
48	An alkaline fuel cell/direct contact membrane distillation hybrid system for cogenerating electricity and freshwater. Energy, 2021, 225, 120303.	8.8	25
49	Effect of solâ€“gel derived ZnO annealing rate on light-trapping in inverted polymer solar cells. Materials Letters, 2013, 108, 50-53.	2.6	23
50	BiBr3 as an additive in CsPbBr3 for carbon-based all-inorganic perovskite solar cell. Journal of Alloys and Compounds, 2020, 835, 155283.	5.5	23
51	Energetic, exergetic and ecological evaluations of a hybrid system based on a phosphoric acid fuel cell and an organic Rankine cycle. Energy, 2021, 217, 119365.	8.8	23
52	A rapid annealing technique for efficient perovskite solar cells fabricated in air condition under high humidity. Organic Electronics, 2016, 34, 84-90.	2.6	20
53	Lewis Acidâ€“Base Interaction-Induced Porous PbI₂ Film for Efficient Planar Perovskite Solar Cells. ACS Applied Energy Materials, 2018, 1, 2114-2122.	5.1	20
54	Hydrogenated microcrystalline silicon germanium as bottom sub-cell absorber for triple junction solar cell. Solar Energy Materials and Solar Cells, 2013, 114, 161-164.	6.2	19

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55	Inverted polymer solar cells with a boron-doped zinc oxide layer deposited by metal organic chemical vapor deposition. Solar Energy Materials and Solar Cells, 2013, 117, 610-616.	6.2	19
56	Dip-coating of poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate) anodes for efficient polymer solar cells. Thin Solid Films, 2015, 578, 161-166.	1.8	19
57	Annealing-free, air-processed and high-efficiency polymer solar cells fabricated by a dip coating process. Organic Electronics, 2012, 13, 142-146.	2.6	18
58	Growth of monolithically grained CH3NH3PbI3 film by a uniform intermediate phase for high performance planar perovskite solar cells. Journal of Alloys and Compounds, 2019, 776, 250-258.	5.5	18
59	Elimination of Light-Soaking Effect in Hysteresis-Free Perovskite Solar Cells by Interfacial Modification. Journal of Physical Chemistry C, 2020, 124, 1851-1860.	3.1	18
60	Comprehensive Elucidation of Grain Boundary Behavior in Allâ€Inorganic Halide Perovskites by Scanning Probe Microscopy. Advanced Materials Interfaces, 2020, 7, 1901521.	3.7	18
61	Suppression of hysteresis in all-inorganic perovskite solar cells by the incorporation of PCBM. Applied Physics Letters, 2021, 118, .	3.3	18
62	All in One: A Versatile n-Perovskite/p-Spiro-MeOTAD pâ€“n Heterojunction Diode as a Photovoltaic Cell, Photodetector, and Memristive Photosynapse. Journal of Physical Chemistry Letters, 2021, 12, 12098-12106.	4.6	17
63	Natural drying effect on active layer for achieving high performance in polymer solar cells. Renewable Energy, 2015, 74, 11-17.	8.9	16
64	Planar Heterojunction Perovskite Solar Cells with TiO 2 Scaffold in Perovskite Film. Electrochimica Acta, 2017, 227, 180-184.	5.2	16
65	Performance of electron beam deposited tungsten doped indium oxide films as anodes in organic solar cells. Solar Energy Materials and Solar Cells, 2011, 95, 2173-2177.	6.2	15
66	Efficient polymer solar cells based on light-trapping transparent electrodes. Applied Physics Letters, 2012, 100, .	3.3	15
67	Carbon nanotubes hybrid carbon counter electrode for high efficiency dye-sensitized solar cells. Journal of Materials Science: Materials in Electronics, 2016, 27, 4736-4743.	2.2	15
68	Balancing transformation and dissolutionâ€“crystallization for pure phase CH3NH3PbI3 growth and its effect on photovoltaic performance in planar-structure perovskite solar cells. Solar Energy Materials and Solar Cells, 2018, 185, 464-470.	6.2	15
69	CoCl2 as film morphology controller for efficient planar CsPbIBr2 perovskite solar cells. Electrochimica Acta, 2020, 349, 136162.	5.2	15
70	A new combined system consisting of a molten hydroxide direct carbon fuel cell and an alkali metal thermal electric converter: Energy and exergy analyses. Applied Thermal Engineering, 2021, 185, 116417.	6.0	15
71	High efficiency quasi-solid state dye-sensitized solar cells based on a novel mixed-plasticizer modified polymer electrolyte. Electrochimica Acta, 2015, 153, 28-32.	5.2	14
72	Low-temperature photochemical activation of sol-gel titanium dioxide films for efficient planar heterojunction perovskite solar cells. Journal of Alloys and Compounds, 2018, 735, 224-233.	5.5	14

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73	Three-dimensional perovskite modulated by two-dimensional homologue as light-absorbing materials for efficient solar cells. Organic Electronics, 2019, 74, 126-134.	2.6	14
74	Organolead halide perovskite-based metal-oxide-semiconductor structure photodetectors achieving ultrahigh detectivity. Solar Energy, 2019, 183, 226-233.	6.1	14
75	Temperature-dependence studies of organolead halide perovskite-based metal/semiconductor/metal photodetectors. RSC Advances, 2017, 7, 20206-20211.	3.6	13
76	Improved perovskite morphology and crystallinity using porous PbI2 layers for efficient planar heterojunction solar cells. Applied Physics Letters, 2017, 111, .	3.3	13
77	Hysteresis effects on carrier transport and photoresponse characteristics in hybrid perovskites. Journal of Materials Chemistry C, 2020, 8, 1962-1971.	5.5	13
78	Low-Temperature Preparation of CsPbI₂Br for Efficient and Stable Perovskite Solar Cells. ACS Applied Energy Materials, 2020, 3, 1076-1081.	5.1	13
79	Efficiency enhancement of inverted organic photovoltaic devices with ZnO nanopillars fabricated on FTO glass substrates. Synthetic Metals, 2011, 161, 2174-2178.	3.9	12
80	Conformal coverage of TiO2 compact layers for high-efficient planar heterojunction perovskite solar cells. Organic Electronics, 2018, 59, 177-183.	2.6	12
81	High-performance and air-processed polymer solar cells by room-temperature drying of the active layer. Applied Physics Letters, 2013, 102, 043307.	3.3	11
82	Giant Zero-Drift Electronic Behaviors in Methylammonium Lead Halide Perovskite Diodes by Doping Iodine Ions. Materials, 2018, 11, 1606.	2.9	11
83	Charge Carrier Dynamics in Electron-Transport-Layer-Free Perovskite Solar Cells. ACS Applied Electronic Materials, 2019, 1, 2334-2341.	4.3	11
84	High-temperature induced iodide and bromide ions filling lattice for high efficient all-inorganic perovskite solar cells. Journal of Alloys and Compounds, 2020, 848, 156247.	5.5	11
85	An efficient hybrid system using a graphene-based cathode vacuum thermionic energy converter to harvest the waste heat from a molten hydroxide direct carbon fuel cell. Energy, 2021, 223, 120095.	8.8	11
86	From Macroscopic to Nanoscopic Current Hysteresis Suppressed by Fullerene in Perovskite Solar Cells. Solar Rrl, 2019, 3, 1900235.	5.8	10
87	Shortâ€Term Stability of Perovskite Solar Cells Affected by In Situ Interface Modification. Solar Rrl, 2019, 3, 1900089.	5.8	10
88	A dual promotion strategy of interface modification and ion doping for efficient and stable carbon-based planar CsPbBr3 perovskite solar cells. Journal of Materials Chemistry C, 2020, 8, 17211-17221.	5.5	10
89	Stability in Photoinduced Instability in Mixed-Halide Perovskite Materials and Solar Cells. Journal of Physical Chemistry C, 2021, 125, 21370-21380.	3.1	10
90	PCBM/Ag interface dipole management in inverted perovskite solar cells. Applied Physics Letters, 2021, 119, .	3.3	10

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91	Mitigating voltage loss in efficient CsPbI2Br all-inorganic perovskite solar cells via metal ion-doped ZnO electron transport layer. Applied Physics Letters, 2021, 119, .	3.3	10
92	The relationship of current transfer ratio and input light wavelengths in the organic photocoupler. Applied Physics Letters, 2009, 94, .	3.3	9
93	Indium-Doped Zinc Oxide Thin Films as Effective Anodes of Organic Photovoltaic Devices. International Journal of Photoenergy, 2011, 2011, 1-5.	2.5	9
94	Ionic behavior of organicâ€“inorganic metal halide perovskite based metal-oxide-semiconductor capacitors. Physical Chemistry Chemical Physics, 2017, 19, 13002-13009.	2.8	9
95	Direct formed tri-iodide ions stabilizing colloidal precursor solution and promoting the reproducibility of perovskite solar cells by solution process. Electrochimica Acta, 2019, 311, 132-140.	5.2	9
96	Dependence of the Heterogeneity of Grain Boundaries on Adjacent Grains in Perovskites and Its Impact on Photovoltage. Small, 2022, 18, e2105140.	10.0	9
97	Investigation of Spiro-OMeTAD Single Crystals toward Optoelectronic Applications. Crystal Growth and Design, 2019, 19, 3272-3278.	3.0	8
98	Pbâ€Site Doping of Lead Halide Perovskites for Efficient Solar Cells. Solar Rrl, 2020, 4, 1900227.	5.8	8
99	Heterogeneous photoresponse of individual grain in all-inorganic perovskite solar cells. Applied Physics Letters, 2020, 117, .	3.3	8
100	Aged sol-gel solution-processed texture tin oxide for high-efficient perovskite solar cells. Nanotechnology, 2020, 31, 315205.	2.6	8
101	2Dâ€MA₃Sb₂I₉ Back Surface Field for Efficient and Stable Perovskite Solar Cells. Small Methods, 2021, 5, e2001090.	8.6	8
102	Reconstruction of the (EMIm)<i>_x</i>MA_{1â€“<i>x</i>}Pb[(BF₄)<i>_x</i>I_{1â€“<i>x</i>}]<sub>3 Interlayer for Efficient and Stable Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2021, 13, 727-733.	8.0	8
103	Effects of Thickness and Si₃N₄ Coverage on the Phase Transition Characteristics of GeTe Thin Films. Crystal Growth and Design, 2022, 22, 1292-1298.	3.0	7
104	Performance improvement of perovskite solar cells via spiro-OMeTAD pre-crystallization. Journal of Materials Science, 2020, 55, 12264-12273.	3.7	5
105	Facile surface homojunction reconstruction in halide perovskite solar cells. Journal of Alloys and Compounds, 2022, 916, 165442.	5.5	4
106	In Situ Microscopic Observation of Humidity-Induced Degradation in All-Inorganic Perovskite Films. ACS Applied Energy Materials, 2022, 5, 8092-8102.	5.1	4
107	Enhancement in Photocurrent through Efficient Geometrical Light Trapping in Organic Photovoltaics. Energy Technology, 2016, 4, 314-318.	3.8	3
108	Origination of Anomalous Current Fluctuation in Perovskite Solar Cells. ACS Applied Energy Materials, 2019, 2, 8138-8144.	5.1	3

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109	Evolution of film morphology in polymer solar cells based on rough electrode substrates. Thin Solid Films, 2016, 616, 690-697.	1.8	2
110	Dip-Coated Active Layers for High-Efficiency Polymer Solar Cells at Room Temperature. Journal of Nanoelectronics and Optoelectronics, 2015, 10, 694-699.	0.5	2
111	Electronic and geometric stability of double titanium-doped silicon clusters. Materials Research Express, 2020, 7, 085006.	1.6	2
112	Formation mechanism of concentric and colorful ring perovskite films. Synthetic Metals, 2019, 255, 116107.	3.9	1
113	Towards Transparent Conductive Zinc Oxide Films as Effective Anodes in Organic Photovoltaics. Journal of Nanoelectronics and Optoelectronics, 2015, 10, 659-664.	0.5	1
114	Correlating carrier lifetime with device design and photovoltaic performance of perovskite solar cells. Applied Physics Letters, 2021, 119, .	3.3	1
115	Bifunctional Alkyl Chain Barriers for Efficient Perovskite Solar Cells. , 2015, , .		0
116	Carbon nanotubes hybrid carbon counter electrode for high efficiency dye-sensitized solar cells. , 2015, , .		0