

Wenchao Huang

List of Publications by Citations

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69
papers

5,854
citations

34
h-index

73
g-index

73
ext. papers

6,791
ext. citations

13.7
avg. IF

5.82
L-index

#	Paper	IF	Citations
69	A fast deposition-crystallization procedure for highly efficient lead iodide perovskite thin-film solar cells. <i>Angewandte Chemie - International Edition</i> , 2014 , 53, 9898-903	16.4	1104
68	A Fast Deposition-Crystallization Procedure for Highly Efficient Lead Iodide Perovskite Thin-Film Solar Cells. <i>Angewandte Chemie</i> , 2014 , 126, 10056-10061	3.6	630
67	Gas-assisted preparation of lead iodide perovskite films consisting of a monolayer of single crystalline grains for high efficiency planar solar cells. <i>Nano Energy</i> , 2014 , 10, 10-18	17.1	461
66	Understanding charge transport in lead iodide perovskite thin-film field-effect transistors. <i>Science Advances</i> , 2017 , 3, e1601935	14.3	284
65	Enabling low voltage losses and high photocurrent in fullerene-free organic photovoltaics. <i>Nature Communications</i> , 2019 , 10, 570	17.4	260
64	Carbon Quantum Dots/TiO Electron Transport Layer Boosts Efficiency of Planar Heterojunction Perovskite Solar Cells to 19. <i>Nano Letters</i> , 2017 , 17, 2328-2335	11.5	166
63	Tailored Phase Conversion under Conjugated Polymer Enables Thermally Stable Perovskite Solar Cells with Efficiency Exceeding 21. <i>Journal of the American Chemical Society</i> , 2018 , 140, 17255-17262	16.4	162
62	Efficient Planar Perovskite Solar Cells with Improved Fill Factor via Interface Engineering with Graphene. <i>Nano Letters</i> , 2018 , 18, 2442-2449	11.5	154
61	High-Performance Organic Bulk-Heterojunction Solar Cells Based on Multiple-Donor or Multiple-Acceptor Components. <i>Advanced Materials</i> , 2018 , 30, 1705706	24	124
60	Amorphous hole-transporting layer in slot-die coated perovskite solar cells. <i>Nano Energy</i> , 2017 , 31, 210-217	17.1	121
59	Lead halide-templated crystallization of methylamine-free perovskite for efficient photovoltaic modules. <i>Science</i> , 2021 , 372, 1327-1332	33.3	113
58	Unique Energy Alignments of a Ternary Material System toward High-Performance Organic Photovoltaics. <i>Advanced Materials</i> , 2018 , 30, e1801501	24	110
57	Rational Tuning of Molecular Interaction and Energy Level Alignment Enables High-Performance Organic Photovoltaics. <i>Advanced Materials</i> , 2019 , 31, e1904215	24	108
56	Highly Efficient All-Small-Molecule Organic Solar Cells with Appropriate Active Layer Morphology by Side Chain Engineering of Donor Molecules and Thermal Annealing. <i>Advanced Materials</i> , 2020 , 32, e1908373	24	100
55	17% efficient printable mesoscopic PIN metal oxide framework perovskite solar cells using cesium-containing triple cation perovskite. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 22952-22958	13	95
54	Unraveling the Morphology of High Efficiency Polymer Solar Cells Based on the Donor Polymer PBDDTT-EFT. <i>Advanced Energy Materials</i> , 2015 , 5, 1401259	21.8	93
53	Ternary System with Controlled Structure: A New Strategy toward Efficient Organic Photovoltaics. <i>Advanced Materials</i> , 2018 , 30, 1705243	24	91

52	Efficient planar perovskite solar cells using halide Sr-substituted Pb perovskite. <i>Nano Energy</i> , 2017 , 36, 213-222	17.1	83
51	Promoting charge separation resulting in ternary organic solar cells efficiency over 17.5%. <i>Nano Energy</i> , 2020 , 78, 105272	17.1	80
50	Enhancing the Optoelectronic Performance of Perovskite Solar Cells via a Textured CH ₃ NH ₃ PbI ₃ Morphology. <i>Advanced Functional Materials</i> , 2016 , 26, 1278-1285	15.6	76
49	Synthesis, characterization and properties of biocompatible poly(glycerol sebacate) pre-polymer and gel. <i>Polymer International</i> , 2013 , 62, 534-547	3.3	72
48	A Quinoxaline-Based D-A Copolymer Donor Achieving 17.62% Efficiency of Organic Solar Cells. <i>Advanced Materials</i> , 2021 , 33, e2100474	24	70
47	Reconfiguring the band-edge states of photovoltaic perovskites by conjugated organic cations. <i>Science</i> , 2021 , 371, 636-640	33.3	69
46	Stable high efficiency dye-sensitized solar cells based on a cobalt polymer gel electrolyte. <i>Chemical Communications</i> , 2013 , 49, 8997-9	5.8	68
45	Atomically thin lateral p-n junction photodetector with large effective detection area. <i>2D Materials</i> , 2016 , 3, 041001	5.9	64
44	Efficient and Mechanically Robust Ultraflexible Organic Solar Cells Based on Mixed Acceptors. <i>Joule</i> , 2020 , 4, 128-141	27.8	58
43	Recent progress on stability issues of organic-inorganic hybrid lead perovskite-based solar cells. <i>RSC Advances</i> , 2016 , 6, 89356-89366	3.7	57
42	Controlling interfacial recombination in aqueous dye-sensitized solar cells by octadecyltrichlorosilane surface treatment. <i>Angewandte Chemie - International Edition</i> , 2014 , 53, 6933-7	16.4	53
41	Probing Molecular and Crystalline Orientation in Solution-Processed Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2015 , 25, 5529-5536	15.6	51
40	20% Efficient Perovskite Solar Cells with 2D Electron Transporting Layer. <i>Advanced Functional Materials</i> , 2019 , 29, 1805168	15.6	49
39	Achieving ordered and stable binary metal perovskite via strain engineering. <i>Nano Energy</i> , 2018 , 48, 117-127	17.7	48
38	A Nontoxic Bifunctional (Anti)Solvent as Digestive-Ripening Agent for High-Performance Perovskite Solar Cells. <i>Advanced Materials</i> , 2020 , 32, e1907123	24	47
37	A facile approach to alleviate photochemical degradation in high efficiency polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 16313-16319	13	36
36	Surface modification via self-assembling large cations for improved performance and modulated hysteresis of perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 6793-6800	13	35
35	Influence of Fullerene Acceptor on the Performance, Microstructure, and Photophysics of Low Bandgap Polymer Solar Cells. <i>Advanced Energy Materials</i> , 2017 , 7, 1602197	21.8	34

34	Fatigue stability of CH ₃ NH ₃ PbI ₃ based perovskite solar cells in day/night cycling. <i>Nano Energy</i> , 2019 , 58, 687-694	17.1	33
33	In-Depth Understanding of the Morphology-Performance Relationship in Polymer Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 14026-34	9.5	33
32	Titania nanobundle networks as dye-sensitized solar cell photoanodes. <i>Nanoscale</i> , 2014 , 6, 3704-11	7.7	33
31	Highly efficient organic photovoltaics with enhanced stability through the formation of doping-induced stable interfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 6391-6397	11.5	30
30	Dynamic Antisolvent Engineering for Spin Coating of 10 × 10 cm ² Perovskite Solar Module Approaching 18%. <i>Solar Rrl</i> , 2020 , 4, 1900263	7.1	30
29	Tuning Rheological Performance of Silica Concentrated Shear Thickening Fluid by Using Graphene Oxide. <i>Advances in Condensed Matter Physics</i> , 2015 , 2015, 1-5	1	29
28	A comparative study on poly(xylitol sebacate) and poly(glycerol sebacate): mechanical properties, biodegradation and cytocompatibility. <i>Biomedical Materials (Bristol)</i> , 2013 , 8, 035006	3.5	29
27	Isolating and quantifying the impact of domain purity on the performance of bulk heterojunction solar cells. <i>Energy and Environmental Science</i> , 2017 , 10, 1843-1853	35.4	27
26	Advances in design engineering and merits of electron transporting layers in perovskite solar cells. <i>Materials Horizons</i> , 2020 , 7, 2276-2291	14.4	26
25	High Efficiency Non-fullerene Organic Tandem Photovoltaics Based on Ternary Blend Subcells. <i>Nano Letters</i> , 2018 , 18, 7977-7984	11.5	25
24	Modulation of J-Aggregation of Nonfullerene Acceptors toward Near-Infrared Absorption and Enhanced Efficiency. <i>Macromolecules</i> , 2020 , 53, 3747-3755	5.5	24
23	Impact of Fullerene Mixing Behavior on the Microstructure, Photophysics, and Device Performance of Polymer/Fullerene Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 29608-29618	9.5	23
22	High Mobility Indium Oxide Electron Transport Layer for an Efficient Charge Extraction and Optimized Nanomorphology in Organic Photovoltaics. <i>Nano Letters</i> , 2018 , 18, 5805-5811	11.5	22
21	Stabilizing High Efficiency Perovskite Solar Cells with 3D-2D Heterostructures. <i>Joule</i> , 2020 , 4, 975-979	27.8	21
20	Durable Ultraflexible Organic Photovoltaics with Novel Metal-Oxide-Free Cathode. <i>Advanced Functional Materials</i> , 2019 , 29, 1808378	15.6	21
19	Oriented Attachment as the Mechanism for Microstructure Evolution in Chloride-Derived Hybrid Perovskite Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 39930-39939	9.5	20
18	Structure engineering of hierarchical layered perovskite interface for efficient and stable wide bandgap photovoltaics. <i>Nano Energy</i> , 2020 , 75, 104917	17.1	19
17	Suppressed hysteresis and enhanced performance of triple cation perovskite solar cell with chlorine incorporation. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 13157-13161	7.1	17

16	Non-Halogenated-Solvent Processed and Additive-Free Tandem Organic Solar Cell with Efficiency Reaching 16.67%. <i>Advanced Functional Materials</i> , 2021 , 31, 2102361	15.6	16
15	Rapid Microwave-Annealing Process of Hybrid Perovskites to Eliminate Miscellaneous Phase for High Performance Photovoltaics. <i>Advanced Science</i> , 2020 , 7, 2000480	13.6	15
14	High-Efficiency Organic Tandem Solar Cells With Effective Transition Metal Chelates Interconnecting Layer. <i>Solar Rrl</i> , 2017 , 1, 1700139	7.1	15
13	Heating induced aggregation in non-fullerene organic solar cells towards high performance. <i>Journal of Energy Chemistry</i> , 2021 , 54, 131-137	12	14
12	Metal Evaporation-Induced Degradation of Fullerene Acceptors in Polymer/Fullerene Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 2247-54	9.5	12
11	Multiple Roles of Cobalt Pyrazol-Pyridine Complexes in High-Performing Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 4675-4682	6.4	12
10	High efficiency solid-state dye-sensitized solar cells using a cobalt(II/III) redox mediator. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 4875-4883	7.1	10
9	Sub-sized monovalent alkaline cations enhanced electrical stability for over 17% hysteresis-free planar perovskite solar mini-module. <i>Electrochimica Acta</i> , 2019 , 306, 635-642	6.7	9
8	Controlling Interfacial Recombination in Aqueous Dye-Sensitized Solar Cells by Octadecyltrichlorosilane Surface Treatment. <i>Angewandte Chemie</i> , 2014 , 126, 7053-7057	3.6	9
7	An alternative flexible electrode for dye-sensitized solar cells. <i>Journal of Nanoparticle Research</i> , 2012 , 14, 1	2.3	9
6	Design of a Rigid Scaffold Structure toward Efficient and Stable Organic Photovoltaics. <i>Matter</i> , 2019 , 1, 402-411	12.7	8
5	Detection of Halomethanes Using Cesium Lead Halide Perovskite Nanocrystals. <i>ACS Nano</i> , 2021 , 15, 145461-14648	14.6	14
4	Non-equivalent D-A copolymerization strategy towards highly efficient polymer donor for polymer solar cells. <i>Science China Chemistry</i> , 2021 , 64, 1031-1038	7.9	7
3	Stable perovskite solar cells with efficiency of 22.6% via quinoxaline-based polymeric hole transport material. <i>Science China Chemistry</i> , 2021 , 64, 2035	7.9	3
2	Correlation of Nanomorphology with Structural and Spectroscopic Studies in Organic Solar Cells. <i>ACS Applied Nano Materials</i> , 2020 , 3, 11080-11089	5.6	3
1	Effects of Carbon Nanofiber on Dielectric Properties of PMN/CNFs/EP Composites. <i>Polymer-Plastics Technology and Engineering</i> , 2011 , 50, 1590-1593		2