Wei Chen

List of Publications by Year
in descending order

81 papers	10,446 citations	57758 44 h-index	60623 81 g-index
81 all docs	81 docs citations	81 times ranked	10795 citing authors

#	Article	IF	Citations
1	Efficient and stable large-area perovskite solar cells with inorganic charge extraction layers. Science, 2015, 350, 944-948.	12.6	2,007
2	A dopant-free hole-transporting material for efficient and stable perovskite solar cells. Energy and Environmental Science, 2014, 7, 2963-2967.	30.8	668
3	Black Phosphorus Quantum Dots. Angewandte Chemie - International Edition, 2015, 54, 3653-3657.	13.8	594
4	Perovskite solar cells with 18.21% efficiency andÂarea over 1â€‰cm2 fabricated by heterojunctionÂengineering. Nature Energy, 2016, 1, .	39.5	555
5	Morphology characterization in organic and hybrid solar cells. Energy and Environmental Science, 2012, 5, 8045.	30.8	379
6	Cesium Doped NiO<i>_x</i> as an Efficient Hole Extraction Layer for Inverted Planar Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1700722.	19.5	353
7	Moleculeâ€Doped Nickel Oxide: Verified Charge Transfer and Planar Inverted Mixed Cation Perovskite Solar Cell. Advanced Materials, 2018, 30, e1800515.	21.0	287
8	Understanding the Doping Effect on NiO: Toward Highâ€Performance Inverted Perovskite Solar Cells. Advanced Energy Materials, 2018, 8, 1703519.	19.5	286
9	Hybrid interfacial layer leads to solid performance improvement of inverted perovskite solar cells. Energy and Environmental Science, 2015, 8, 629-640.	30.8	285
10	Dopantâ€Free Smallâ€Molecule Holeâ€Transporting Material for Inverted Perovskite Solar Cells with Efficiency Exceeding 21%. Advanced Materials, 2019, 31, e1902781.	21.0	268
11	Sequential Deposition of CH₃NH₃PbI₃ on Planar NiO Film for Efficient Planar Perovskite Solar Cells. ACS Photonics, 2014, 1, 547-553.	6.6	245
12	Alkali Chlorides for the Suppression of the Interfacial Recombination in Inverted Planar Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1803872.	19.5	236
13	A chemically inert bismuth interlayer enhances long-term stability of inverted perovskite solar cells. Nature Communications, 2019, 10, 1161.	12.8	225
14	High Electron Affinity Enables Fast Hole Extraction for Efficient Flexible Inverted Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 1903487.	19.5	210
15	Black Phosphorus Quantum Dots for Hole Extraction of Typical Planar Hybrid Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2017, 8, 591-598.	4.6	191
16	Metal Acetylacetonate Series in Interface Engineering for Full Lowâ€Temperatureâ€Processed, Highâ€Performance, and Stable Planar Perovskite Solar Cells with Conversion Efficiency over 16% on 1 cm² Scale. Advanced Materials, 2017, 29, 1603923.	21.0	190
17	Overcoming the Interface Losses in Planar Heterojunction Perovskiteâ€Based Solar Cells. Advanced Materials, 2016, 28, 5112-5120.	21.0	188
18	Novel Molecular Doping Mechanism for nâ€Doping of SnO₂ via Triphenylphosphine Oxide and Its Effect on Perovskite Solar Cells. Advanced Materials, 2019, 31, e1805944.	21.0	152

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19	Inverted Planar Perovskite Solar Cells with a High Fill Factor and Negligible Hysteresis by the Dual Effect of NaCl-Doped PEDOT:PSS. ACS Applied Materials & Interfaces, 2017, 9, 43902-43909.	8.0	149
20	Highâ€Quality Mixedâ€Organicâ€Cation Perovskites from a Phaseâ€Pure Nonâ€stoichiometric Intermediate (FAI)_{1âˆ’}<i>_x</i>â€PbI₂ for Solar Cells. Advanced Materials, 2015, 27, 4918-4923.	21.0	140
21	Monolithic perovskite/organic tandem solar cells with 23.6% efficiency enabled by reduced voltage losses and optimized interconnecting layer. Nature Energy, 2022, 7, 229-237.	39.5	137
22	SrCl₂ Derived Perovskite Facilitating a High Efficiency of 16% in Holeâ€Conductorâ€Free Fully Printable Mesoscopic Perovskite Solar Cells. Advanced Materials, 2017, 29, 1606608.	21.0	135
23	Conjugated Polymerâ€“Assisted Grain Boundary Passivation for Efficient Inverted Planar Perovskite Solar Cells. Advanced Functional Materials, 2019, 29, 1808855.	14.9	133
24	Perovskite solar cells - An overview of critical issues. Progress in Quantum Electronics, 2017, 53, 1-37.	7.0	132
25	Solvent engineering for efficient inverted perovskite solar cells based on inorganic CsPbI2Br light absorber. Materials Today Energy, 2018, 8, 125-133.	4.7	121
26	A Review on Encapsulation Technology from Organic Light Emitting Diodes to Organic and Perovskite Solar Cells. Advanced Functional Materials, 2021, 31, 2100151.	14.9	114
27	Efficient and Stable FASnI₃ Perovskite Solar Cells with Effective Interface Modulation by Lowâ€Dimensional Perovskite Layer. ChemSusChem, 2019, 12, 5007-5014.	6.8	111
28	Improving Efficiency and Stability of Perovskite Solar Cells Enabled by A Near-Infrared-Absorbing Moisture Barrier. Joule, 2020, 4, 1575-1593.	24.0	88
29	Alloy-induced phase transition and enhanced photovoltaic performance: the case of Cs₃Bi₂I_{9âˆ’x}Br_x perovskite solar cells. Journal of Materials Chemistry A, 2019, 7, 8818-8825.	10.3	87
30	Inverted, Environmentally Stable Perovskite Solar Cell with a Novel Lowâ€Cost and Waterâ€Free PEDOT Holeâ€Extraction Layer. Advanced Energy Materials, 2015, 5, 1500543.	19.5	81
31	Research progress on large-area perovskite thin films and solar modules. Journal of Materiomics, 2017, 3, 231-244.	5.7	75
32	Hydrothermally Treated SnO₂ as the Electron Transport Layer in Highâ€Efficiency Flexible Perovskite Solar Cells with a Certificated Efficiency of 17.3%. Advanced Functional Materials, 2019, 29, 1807604.	14.9	72
33	Lowâ€Temperature and Hysteresisâ€Free Electronâ€Transporting Layers for Efficient, Regular, and Planar Structure Perovskite Solar Cells. Advanced Energy Materials, 2015, 5, 1501056.	19.5	69
34	A New Wide Bandgap Donor Polymer for Efficient Nonfullerene Organic Solar Cells with a Large Openâ€Circuit Voltage. Advanced Science, 2019, 6, 1901773.	11.2	61
35	A Series of Pyreneâ€Substituted Silicon Phthalocyanines as Nearâ€IR Sensitizers in Organic Ternary Solar Cells. Advanced Energy Materials, 2016, 6, 1502355.	19.5	59
36	N-type conjugated polymer as efficient electron transport layer for planar inverted perovskite solar cells with power conversion efficiency of 20.86%. Nano Energy, 2020, 68, 104363.	16.0	58

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37	Engineering of dendritic dopant-free hole transport molecules: enabling ultrahigh fill factor in perovskite solar cells with optimized dendron construction. Science China Chemistry, 2021, 64, 41-51.	8.2	55
38	Unraveling the Crystallization Kinetics of 2D Perovskites with Sandwichâ€Type Structure for Highâ€Performance Photovoltaics. Advanced Materials, 2020, 32, e2002784.	21.0	52
39	Boosting the Photocurrent Density of p-Type Solar Cells Based on Organometal Halide Perovskite-Sensitized Mesoporous NiO Photocathodes. ACS Applied Materials & Interfaces, 2014, 6, 12609-12617.	8.0	50
40	Side-Chain Engineering of Donorâ€“Acceptor Conjugated Small Molecules As Dopant-Free Hole-Transport Materials for Efficient Normal Planar Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 48556-48563.	8.0	49
41	Rear Electrode Materials for Perovskite Solar Cells. Advanced Functional Materials, 2022, 32, .	14.9	49
42	Formamidiniumâ€Based Lead Halide Perovskites: Structure, Properties, and Fabrication Methodologies. Small Methods, 2018, 2, 1700387.	8.6	48
43	High Short-Circuit Current Density via Integrating the Perovskite and Ternary Organic Bulk Heterojunction. ACS Energy Letters, 2019, 4, 2535-2536.	17.4	47
44	Low Cost and Solution Processed Interfacial Layer Based on Poly(2-ethyl-2-oxazoline) Nanodots for Inverted Perovskite Solar Cells. Chemistry of Materials, 2016, 28, 4879-4883.	6.7	45
45	Synergy Effect of Both 2,2,2â€Trifluoroethylamine Hydrochloride and SnF₂ for Highly Stable FASnI_{3âˆ’x}Cl_x Perovskite Solar Cells. Solar Rrl, 2019, 3, 1800290.	5.8	45
46	Interfacial stabilization for inverted perovskite solar cells with long-term stability. Science Bulletin, 2021, 66, 991-1002.	9.0	45
47	Bifunctional Molecular Modification Improving Efficiency and Stability of Inverted Perovskite Solar Cells. Advanced Materials Interfaces, 2018, 5, 1800645.	3.7	43
48	A low-temperature-annealed and UV-ozone-enhanced combustion derived nickel oxide hole injection layer for flexible quantum dot light-emitting diodes. Nanoscale, 2019, 11, 1021-1028.	5.6	42
49	Mixed Spacer Cation Stabilization of Blueâ€Emitting <i>n</i> = 2 Ruddlesdenâ€“Popper Organicâ€“Inorganic Halide Perovskite Films. Advanced Optical Materials, 2020, 8, 1901679.	7.3	41
50	Encapsulation and Stability Testing of Perovskite Solar Cells for Real Life Applications. ACS Materials Au, 2022, 2, 215-236.	6.0	41
51	Stabilizing n-type hetero-junctions for NiO_x based inverted planar perovskite solar cells with an efficiency of 21.6%. Journal of Materials Chemistry A, 2020, 8, 1865-1874.	10.3	40
52	Ordered microstructure induced by orientation behavior of liquid-crystal polythiophene for performance improvement of hybrid solar cells. Solar Energy Materials and Solar Cells, 2012, 96, 266-275.	6.2	33
53	A general strategy to prepare high-quality inorganic charge-transporting layers for efficient and stable all-layer-inorganic perovskite solar cells. Journal of Materials Chemistry A, 2019, 7, 18603-18611.	10.3	31
54	Low temperature processed, high-performance and stable NiOx based inverted planar perovskite solar cells via a poly(2-ethyl-2-oxazoline) nanodots cathode electron-extraction layer. Materials Today Energy, 2016, 1-2, 1-10.	4.7	30

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55	The Impact of Hybrid Compositional Film/Structure on Organicâ€“Inorganic Perovskite Solar Cells. Nanomaterials, 2018, 8, 356.	4.1	30
56	A Tailored Nickel Oxide Holeâ€Transporting Layer to Improve the Longâ€Term Thermal Stability of Inorganic Perovskite Solar Cells. Solar Rrl, 2019, 3, 1900346.	5.8	30
57	Overcoming Electrodeâ€Induced Losses in Organic Solar Cells by Tailoring a Quasiâ€Ohmic Contact to Fullerenes via Solutionâ€Processed Alkali Hydroxide Layers. Advanced Energy Materials, 2016, 6, 1502195.	19.5	29
58	Eliminating J-V hysteresis in perovskite solar cells via defect controlling. Organic Electronics, 2018, 58, 283-289.	2.6	29
59	Charge-transfer induced multifunctional BCP:Ag complexes for semi-transparent perovskite solar cells with a record fill factor of 80.1%. Journal of Materials Chemistry A, 2021, 9, 12009-12018.	10.3	29
60	Low-Temperature Solution-Processed Kesterite Solar Cell Based on in Situ Deposition of Ultrathin Absorber Layer. ACS Applied Materials & Interfaces, 2015, 7, 21100-21106.	8.0	28
61	Imide-functionalized acceptorâ€“acceptor copolymers as efficient electron transport layers for high-performance perovskite solar cells. Journal of Materials Chemistry A, 2020, 8, 13754-13762.	10.3	28
62	Evaporated potassium chloride for double-sided interfacial passivation in inverted planar perovskite solar cells. Journal of Energy Chemistry, 2021, 54, 493-500.	12.9	28
63	Promising ITO-free perovskite solar cells with WO₃â€“Agâ€“SnO₂as transparent conductive oxide. Journal of Materials Chemistry A, 2018, 6, 19330-19337.	10.3	27
64	Mesogen induced self-assembly for hybrid bulk heterojunction solar cells based on a liquid crystal Dâ€“A copolymer and ZnO nanocrystals. Journal of Materials Chemistry, 2012, 22, 6259.	6.7	25
65	Photovoltaic performance enhancement in P3HT/ZnO hybrid bulk-heterojunction solar cells induced by semiconducting liquid crystal ligands. Organic Electronics, 2012, 13, 2757-2762.	2.6	24
66	Dopantâ€Free Hole Transporting Molecules for Highly Efficient Perovskite Photovoltaic with Strong Interfacial Interaction. Solar Rrl, 2019, 3, 1900319.	5.8	20
67	The Nonâ€Innocent Role of Holeâ€Transporting Materials in Perovskite Solar Cells. Solar Rrl, 2021, 5, 2100514.	5.8	18
68	Methylammonium and Bromideâ€Free Tinâ€Based Low Bandgap Perovskite Solar Cells. Advanced Energy Materials, 2022, 12, .	19.5	18
69	Ruthenium acetylacetonate in interface engineering for high performance planar hybrid perovskite solar cells. Optics Express, 2017, 25, A253.	3.4	16
70	Enhancement of the ultraviolet emission of ZnO nanorods by terphenyl liquid-crystalline ligands modification. Applied Surface Science, 2011, 257, 8788-8793.	6.1	15
71	Inverted planar organic-inorganic hybrid perovskite solar cells with NiO x hole-transport layers as light-in window. Applied Surface Science, 2018, 451, 325-332.	6.1	15
72	General Method To Define the Type of Carrier Transport Materials for Perovskite Solar Cells via Kelvin Probes Microscopy. ACS Applied Energy Materials, 2018, 1, 3984-3991.	5.1	15

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73	Efficient Perovskite Solar Cells with a Novel Aggregationâ€Induced Emission Molecule as Holeâ€Transport Material. Solar Rrl, 2020, 4, 1900189.	5.8	14
74	Sub-bandgap photon harvesting for organic solar cells via integrating up-conversion nanophosphors. Organic Electronics, 2015, 19, 113-119.	2.6	13
75	Synthesis of Lead-Free Perovskite Films by Combinatorial Evaporation: Fast Processes for Screening Different Precursor Combinations. Chemistry of Materials, 2017, 29, 9946-9953.	6.7	13
76	Supersmooth Ta₂O₅/Ag/Polyetherimide Film as the Rear Transparent Electrode for High Performance Semitransparent Perovskite Solar Cells. Advanced Optical Materials, 2019, 7, 1801409.	7.3	13
77	Multifunctional atomic force probes for Mn2+ doped perovskite solar cells. Journal of Power Sources, 2019, 425, 130-137.	7.8	11
78	Investigation on the role of amines in the liquefaction and recrystallization process of MAPbI₃ perovskite. Journal of Materials Chemistry A, 2020, 8, 13585-13593.	10.3	11
79	Metal oxide charge transport layers in perovskite solar cellsâ€”optimising low temperature processing and improving the interfaces towards low temperature processed, efficient and stable devices. JPhys Energy, 2021, 3, 012004.	5.3	11
80	Enhanced Light Emission Performance of Mixed Cation Perovskite Filmsâ€”The Effect of Solution Stoichiometry on Crystallization. Advanced Optical Materials, 2021, 9, 2100393.	7.3	6
81	Spontaneous Formation of Nanocrystals in Amorphous Matrix: Alternative Pathway to Bright Emission in Quasiâ€2D Perovskites. Advanced Optical Materials, 2019, 7, 1900269.	7.3	3