Zhiliang Ku

List of Publications by Year
in descending order

90 papers	8,286 citations	126708 33 h-index	49773 87 g-index
92 all docs	92 docs citations	92 times ranked	9156 citing authors

#	Article	IF	Citations
1	A hole-conductorâ€“free, fully printable mesoscopic perovskite solar cell with high stability. Science, 2014, 345, 295-298.	6.0	2,685
2	Full Printable Processed Mesoscopic CH3NH3PbI3/TiO2 Heterojunction Solar Cells with Carbon Counter Electrode. Scientific Reports, 2013, 3, 3132.	1.6	697
3	Universal passivation strategy to slot-die printed SnO2 for hysteresis-free efficient flexible perovskite solar module. Nature Communications, 2018, 9, 4609.	5.8	596
4	A novel quadruple-cation absorber for universal hysteresis elimination for high efficiency and stable perovskite solar cells. Energy and Environmental Science, 2017, 10, 2509-2515.	15.6	437
5	Recent Advances in Improving the Stability of Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1501420.	10.2	303
6	Discerning the Surface and Bulk Recombination Kinetics of Organicâ€“Inorganic Halide Perovskite Single Crystals. Advanced Energy Materials, 2016, 6, 1600551.	10.2	271
7	Synergic Interface Optimization with Green Solvent Engineering in Mixed Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1700576.	10.2	240
8	Hole-Conductor-Free Mesoscopic TiO₂/CH₃NH₃PbI₃ Heterojunction Solar Cells Based on Anatase Nanosheets and Carbon Counter Electrodes. Journal of Physical Chemistry Letters, 2014, 5, 2160-2164.	2.1	224
9	Multifunctional Polymerâ€Regulated SnO₂ Nanocrystals Enhance Interface Contact for Efficient and Stable Planar Perovskite Solar Cells. Advanced Materials, 2020, 32, e2003990.	11.1	208
10	Giant photostriction in organicâ€“inorganic lead halide perovskites. Nature Communications, 2016, 7, 11193.	5.8	164
11	Perovskite solar cell powered electrochromic batteries for smart windows. Materials Horizons, 2016, 3, 588-595.	6.4	148
12	Aqueous Rechargeable Alkaline Co_{<i>x</i>}Ni_{2â€“<i>x</i>}S₂/TiO₂ Battery. ACS Nano, 2016, 10, 1007-1016.	7.3	123
13	Structural and Chemical Changes to CH₃NH₃PbI₃ Induced by Electron and Gallium Ion Beams. Advanced Materials, 2018, 30, e1800629.	11.1	120
14	Integrated Photoâ€Supercapacitor Based on PEDOT Modified Printable Perovskite Solar Cell. Advanced Materials Technologies, 2016, 1, 1600074.	3.0	110
15	Effect of the Microstructure of the Functional Layers on the Efficiency of Perovskite Solar Cells. Advanced Materials, 2017, 29, 1601715.	11.1	104
16	Highly ordered mesoporous carbon for mesoscopic CH3NH3PbI3/TiO2 heterojunction solar cell. Journal of Materials Chemistry A, 2014, 2, 8607.	5.2	88
17	A mesoscopic platinized graphite/carbon black counter electrode for a highly efficient monolithic dye-sensitized solar cell. Electrochimica Acta, 2012, 69, 334-339.	2.6	83
18	Low-Temperature Presynthesized Crystalline Tin Oxide for Efficient Flexible Perovskite Solar Cells and Modules. ACS Applied Materials & Interfaces, 2018, 10, 14922-14929.	4.0	81

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19	Large-area perovskite solar cells with Cs_xFA_{1âˆ’x}PbI_{3âˆ’y}Br_y thin films deposited by a vaporâ€“solid reaction method. Journal of Materials Chemistry A, 2018, 6, 21143-21148.	5.2	73
20	Highly efficient poly(3-hexylthiophene) based monolithic dye-sensitized solar cells with carbon counter electrode. Energy and Environmental Science, 2011, 4, 2025.	15.6	70
21	Transparent NiS counter electrodes for thiolate/disulfide mediated dye-sensitized solar cells. Journal of Materials Chemistry A, 2013, 1, 237-240.	5.2	68
22	Improvement in Solid-State Dye Sensitized Solar Cells by <i>p</i>-Type Doping with Lewis Acid SnCl₄. Journal of Physical Chemistry C, 2013, 117, 22492-22496.	1.5	64
23	A mesoporous nickel counter electrode for printable and reusable perovskite solar cells. Nanoscale, 2015, 7, 13363-13368.	2.8	64
24	Efficient and stable mixed perovskite solar cells using P3HT as a hole transporting layer. Journal of Materials Chemistry C, 2018, 6, 5733-5737.	2.7	61
25	Stacking n-type layers: Effective route towards stable, efficient and hysteresis-free planar perovskite solar cells. Nano Energy, 2018, 44, 34-42.	8.2	56
26	Printing strategies for scaling-up perovskite solar cells. National Science Review, 2021, 8, nwab075.	4.6	48
27	Efficient and Stable Inverted Planar Perovskite Solar Cells Using a Triphenylamine Holeâ€Transporting Material. ChemSusChem, 2018, 11, 1467-1473.	3.6	45
28	Moisture assisted CsPbBr3 film growth for high-efficiency, all-inorganic solar cells prepared by a multiple sequential vacuum deposition method. Materials Science in Semiconductor Processing, 2019, 98, 39-43.	1.9	42
29	Universal defects elimination for high performance thermally evaporated CsPbBr3 perovskite solar cells. Solar Energy Materials and Solar Cells, 2020, 206, 110317.	3.0	41
30	Carbon film electrode based square-centimeter scale planar perovskite solar cells exceeding 17% efficiency. Materials Science in Semiconductor Processing, 2020, 107, 104809.	1.9	39
31	An efficient thiolate/disulfide redox couple based dye-sensitized solar cell with a graphene modified mesoscopic carbon counter electrode. Carbon, 2013, 53, 11-18.	5.4	38
32	Scalable, efficient and flexible perovskite solar cells with carbon film based electrode. Solar Energy Materials and Solar Cells, 2021, 230, 111226.	3.0	36
33	Robust transparent superamphiphobic coatings on non-fabric flat substrates with inorganic adhesive titania bonded silica. Journal of Materials Chemistry A, 2017, 5, 8352-8359.	5.2	35
34	An efficient, flexible perovskite solar module exceeding 8% prepared with an ultrafast PbI2 deposition rate. Scientific Reports, 2018, 8, 442.	1.6	35
35	Design of an organic redox mediator and optimization of an organic counter electrode for efficient transparent bifacial dye-sensitized solar cells. Physical Chemistry Chemical Physics, 2012, 14, 14383.	1.3	34
36	Enhanced Crystallinity of Lowâ€Temperature Solutionâ€Processed SnO₂ for Highly Reproducible Planar Perovskite Solar Cells. ChemSusChem, 2018, 11, 2898-2903.	3.6	31

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37	Monolithic quasi-solid-state dye-sensitized solar cells based on iodine-free polymer gel electrolyte. Journal of Power Sources, 2013, 235, 243-250.	4.0	28
38	Organic/inorganic self-doping controlled crystallization and electronic properties of mixed perovskite solar cells. Journal of Materials Chemistry A, 2018, 6, 6319-6326.	5.2	28
39	Surface Rutilization of Anatase TiO2 for Efficient Electron Extraction and Stable Pmax Output of Perovskite Solar Cells. CheM, 2018, 4, 911-923.	5.8	28
40	Humidity controlled sol-gel Zr/TiO2 with optimized band alignment for efficient planar perovskite solar cells. Solar Energy, 2016, 139, 290-296.	2.9	27
41	Mesoporous nitrogen-doped TiO2 sphere applied for quasi-solid-state dye-sensitized solar cell. Nanoscale Research Letters, 2011, 6, 606.	3.1	26
42	Monolithic all-solid-state dye-sensitized solar module based on mesoscopic carbon counter electrodes. Solar Energy Materials and Solar Cells, 2012, 105, 148-152.	3.0	26
43	Efficient monolithic solid-state dye-sensitized solar cell with a low-cost mesoscopic carbon based screen printable counter electrode. Organic Electronics, 2013, 14, 628-634.	1.4	26
44	Influence of phase transition on stability of perovskite solar cells under thermal cycling conditions. Solar Energy, 2019, 188, 312-317.	2.9	23
45	Formamidinium-Based Perovskite Solar Cells with Enhanced Moisture Stability and Performance via Confined Pressure Annealing. Journal of Physical Chemistry C, 2020, 124, 12249-12258.	1.5	23
46	Room-temperature synthesized SnO₂ electron transport layers for efficient perovskite solar cells. RSC Advances, 2019, 9, 9946-9950.	1.7	21
47	Solvent engineering for fast growth of centimetric high-quality CH₃NH₃PbI₃ perovskite single crystals. New Journal of Chemistry, 2016, 40, 7261-7264.	1.4	20
48	Fabrication of Efficient and Stable Perovskite Solar Cells in Highâ€Humidity Environment through Traceâ€Doping of Largeâ€Sized Cations. ChemSusChem, 2019, 12, 2385-2392.	3.6	20
49	A pressure-assisted annealing method for high quality CsPbBr₃ film deposited by sequential thermal evaporation. RSC Advances, 2020, 10, 8905-8909.	1.7	20
50	Ink Engineering for Blade Coating FA-Dominated Perovskites in Ambient Air for Efficient Solar Cells and Modules. ACS Applied Materials & Interfaces, 2021, 13, 18724-18732.	4.0	20
51	Efficient monolithic quasi-solid-state dye-sensitized solar cells based on poly(ionic liquids) and carbon counter electrodes. RSC Advances, 2014, 4, 9271.	1.7	19
52	Alleviate the Jâ€"V hysteresis of carbon-based perovskite solar cells via introducing additional methylammonium chloride into MAPbI3 precursor. RSC Advances, 2018, 8, 35157-35161.	1.7	19
53	19.59% Efficiency from Rb0.04-Cs0.14FA0.86Pb(Br I1âˆ')3 perovskite solar cells made by vaporâ€"solid reaction technique. Science Bulletin, 2021, 66, 962-964.	4.3	19
54	Low-Cost Fullerene Derivative as an Efficient Electron Transport Layer for Planar Perovskite Solar Cells. Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 2019, 35, 401-407.	2.2	19

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55	Efficient Dyeâ€Sensitized Solar Cells with Potentialâ€Tunable Organic Sulfide Mediators and Grapheneâ€Modified Carbon Counter Electrodes. Advanced Functional Materials, 2013, 23, 3344-3352.	7.8	18
56	Unsymmetrical squaraine sensitizers containing auxiliary arylamine donor for NIR-harvesting on dye-sensitized solar cell. Dyes and Pigments, 2014, 106, 128-135.	2.0	18
57	Suppressed hysteresis and enhanced performance of triple cation perovskite solar cell with chlorine incorporation. Journal of Materials Chemistry C, 2018, 6, 13157-13161.	2.7	18
58	A class of carbon supported transition metalâ€“nitrogen complex catalysts for dye-sensitized solar cells. Journal of Materials Chemistry A, 2013, 1, 1475-1480.	5.2	17
59	Effect of photo-doping on performance for solid-state dye-sensitized solar cell based on 2,2â€²7,7â€²-tetrakis-(N,N-di-p-methoxyphenyl-amine)-9,9â€²-spirobifluorene and carbon counter electrode. Electrochimica Acta, 2013, 99, 238-241.	2.6	16
60	Improved efficiency of CdS quantum dot sensitized solar cell with an organic redox couple and a polymer counter electrode. Electrochimica Acta, 2014, 137, 700-704.	2.6	16
61	â€œCoffee ringâ€•controlment in spray prepared >19% efficiency Cs0.19FA0.81PbI2.5Br0.5 perovskite solar cells. Journal of Energy Chemistry, 2022, 67, 201-208.	7.1	14
62	Influence of Hot Spot Heating on Stability of Large Size Perovskite Solar Module with a Power Conversion Efficiency of âˆ¼14%. ACS Applied Energy Materials, 2018, 1, 3565-3570.	2.5	13
63	Enhancing the thermal stability of the carbon-based perovskite solar cells by using a CsxFA1âˆ’xPbBrxI3âˆ’x light absorber. RSC Advances, 2019, 9, 11877-11881.	1.7	13
64	Interface modification effect on the performance of CsxFA1âˆ’xPbIyBr3âˆ’y perovskite solar cells fabricated by evaporation/spray-coating method. Journal of Chemical Physics, 2020, 153, 014706.	1.2	13
65	Highâ€Performance Rbâ€“Cs_{0.14}FA_{0.86}Pb(Br_{<i>x</i>}I_{1âˆ’<i>x</i>})₃ Perovskite Solar Cells Achieved by Regulating the Halogen Exchange in Vaporâ€“Solid Reaction Process. Solar Rrl, 2021, 5, 2100102.	3.1	13
66	Enhancing the performance and stability of carbon-based perovskite solar cells by the cold isostatic pressing method. RSC Advances, 2017, 7, 48958-48961.	1.7	12
67	Improving the crystal growth of a Cs0.24FA0.76PbI3âˆ’xBrx perovskite in a vaporâ€“solid reaction process using strontium iodide. Sustainable Energy and Fuels, 2020, 4, 2491-2496.	2.5	12
68	Transparent bifacial dye-sensitized solar cells based on an electrochemically polymerized organic counter electrode and an iodine-free polymer gel electrolyte. Journal of Materials Science, 2015, 50, 3803-3811.	1.7	11
69	Defect Passivation and Fermi Level Modification for >10% Evaporated All-Inorganic CsPbBr₃ Perovskite Solar Cells. ACS Applied Energy Materials, 2022, 5, 8049-8056.	2.5	10
70	Improving the intrinsic thermal stability of the MAPbI₃ perovskite by incorporating cesium 5-aminovaleric acetate. RSC Advances, 2018, 8, 14991-14994.	1.7	9
71	Sub-sized monovalent alkaline cations enhanced electrical stability for over 17% hysteresis-free planar perovskite solar mini-module. Electrochimica Acta, 2019, 306, 635-642.	2.6	9
72	Room-temperature Sputtered NiOx for hysteresis-free and stable inverted Cs-FA mixed-cation perovskite solar cells. Materials Science in Semiconductor Processing, 2020, 115, 105129.	1.9	9

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73	Ultrafast Growth of High-Quality Cs_{0.14}FA_{0.86}Pb(Br_{<i>x</i>}I_{1â€“<i>x</i>})₃ Thin Films Achieved Using Super-Close-Space Sublimation. ACS Applied Energy Materials, 2022, 5, 5797-5803.	2.5	9
74	Improvement of Thiolate/Disulfide Mediated Dye-Sensitized Solar Cells through Supramolecular Lithium Cation Assembling of Crown Ether. Scientific Reports, 2013, 3, 2413.	1.6	8
75	Regulating the Ni3+/Ni2+ ratio of NiOx by plasma treatment for fully vacuum-deposited perovskite solar cells. Materials Science in Semiconductor Processing, 2022, 148, 106839.	1.9	8
76	All-vacuum deposited perovskite solar cells with glycine modified NiO_{<i>x</i>}hole-transport layers. RSC Advances, 2022, 12, 10863-10869.	1.7	7
77	Mitigating the Internal Ion Migration of Organicâ€“Inorganic Hybrid Perovskite by a Graphene Oxide Interlayer. ACS Applied Materials & Interfaces, 2022, 14, 22601-22606.	4.0	7
78	Ultrafast Terahertz Probes of Charge Transfer and Recombination Pathway of CH ₃ NH ₃ PbI ₃ Perovskites. Chinese Physics Letters, 2018, 35, 028401.	1.3	5
79	Bandgap adjustment assisted preparation of >18% Cs_yFA_{1âˆ’y}PbI_xBr_{3âˆ’x}-based perovskite solar cells using a hybrid spraying process. RSC Advances, 2021, 11, 17595-17602.	1.7	4
80	Efficient perovskite solar cells with pressing transferred top metal electrodes. Materials Letters, 2021, 301, 130244.	1.3	4
81	Vacuumâ€Assisted Laminating Preparation for Carbon Film Electrode in Perovskite Solar Cells. Energy Technology, 2022, 10, .	1.8	4
82	Perovskite Solar Cells: Effect of the Microstructure of the Functional Layers on the Efficiency of Perovskite Solar Cells (Adv. Mater. 20/2017). Advanced Materials, 2017, 29, .	11.1	3
83	Monolithic all-solid-state dye-sensitized solar cells. , 2013, , .		2
84	Printable materials for printed perovskite solar cells. Flexible and Printed Electronics, 2020, 5, 014002.	1.5	2
85	High efficiency monobasal solid-state dye-sensitized solar cell with mesoporous TiO2 beads as photoanode. Frontiers of Optoelectronics, 2013, 6, 413-417.	1.9	1
86	Aqueous Sn-S Complex Derived Electron Selective Layer for Perovskite Solar Cells. Journal Wuhan University of Technology, Materials Science Edition, 2020, 35, 272-279.	0.4	1
87	Accelerated Crystal Growth in >16% Printed MA_{<i>x</i>}FA_{<i>y</i>}Cs_{<i>z</i>}PbI₃ Perovskite Solar Cells from Aqueous Inks. ACS Sustainable Chemistry and Engineering, 2022, 10, 5225-5232.	3.2	1
88	Transparent bifacial dye-sensitized solar cells based on organic counter electrodes and iodine-free electrolyte. , 2013, , .		0
89	Monolithic quasi-solid-state dye-sensitized solar cells based on graphene modified mesoscopic carbon counter electrodes. , 2013, , .		0
90	Ultrafast THz probe of photoexcited free charge carriers in CH3NH3PbI3 and CH3NH3PbI3/Spiro-OMeTAD perovskites. , 2018, , .		0