Chuanxiao Xiao

List of Publications by Year
in descending order

67 papers	6,321 citations	117625 34 h-index	149698 56 g-index
69 all docs	69 docs citations	69 times ranked	7248 citing authors

#	Article	IF	Citations
1	Templated Growth and Passivation of Vertically Oriented Antimony Selenide Thin Films for Highâ€Efficiency Solar Cells in Substrate Configuration. Advanced Functional Materials, 2022, 32, 2110032.	14.9	40
2	Longâ€Term Degradation of Passivated Emitter and Rear Contact Silicon Solar Cell under Light and Heat. Solar Rrl, 2022, 6, 2100727.	5.8	1
3	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2022, 375, 71-76.	12.6	216
4	Light- and Elevated-Temperature-Induced Degradation-Affected Silicon Cells From a Utility-Scale Photovoltaic System Characterized by Deep-Level Transient Spectroscopy. IEEE Journal of Photovoltaics, 2022, 12, 703-710.	2.5	4
5	Area-Scalable Zn₂SnO₄ Electron Transport Layer for Highly Efficient and Stable Perovskite Solar Modules. ACS Applied Materials & Interfaces, 2022, 14, 23297-23306.	8.0	4
6	Lead-Free Flexible Perovskite Solar Cells with Interfacial Native Oxide Have >10% Efficiency and Simultaneously Enhanced Stability and Reliability. ACS Energy Letters, 2022, 7, 2256-2264.	17.4	19
7	Efficient and Stable Graded CsPbI3âˆ’xBrx Perovskite Solar Cells and Submodules by Orthogonal Processable Spray Coating. Joule, 2021, 5, 481-494.	24.0	81
8	SMART Perovskite Growth: Enabling a Larger Range of Process Conditions. ACS Energy Letters, 2021, 6, 650-658.	17.4	14
9	Chiral-induced spin selectivity enables a room-temperature spin light-emitting diode. Science, 2021, 371, 1129-1133.	12.6	340
10	Surface lattice engineering through three-dimensional lead iodide perovskitoid for high-performance perovskite solar cells. CheM, 2021, 7, 774-785.	11.7	37
11	LeTID-affected Cells from a Utility-scale Photovoltaic System Characterized by Deep Level Transient Spectroscopy. , 2021, , .		2
12	In-Operando Characterization of P-I-N Perovskite Solar Cells Under Reverse Bias. , 2021, , .		3
13	Linking Transient Voltage to Spatially-Resolved Luminescence Imaging to Understand Reliability of Perovskite Photovoltaics. , 2021, , .		2
14	Super Flexible Transparent Conducting Oxideâ€Free Organicâ€“Inorganic Hybrid Perovskite Solar Cells with 19.01% Efficiency (Active Areaâ€‰=â€‰1â€‰cm²). Solar Rrl, 2021, 5, 2100733.	5.8	10
15	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2021, , eabj2637.	12.6	2
16	Individual Electron and Hole Mobilities in Lead-Halide Perovskites Revealed by Noncontact Methods. ACS Energy Letters, 2020, 5, 47-55.	17.4	37
17	Inhomogeneous Doping of Perovskite Materials by Dopants from Hole-Transport Layer. Matter, 2020, 2, 261-272.	10.0	38
18	Low-bandgap mixed tinâ€“lead iodide perovskites with reduced methylammonium for simultaneous enhancement of solar cell efficiency and stability. Nature Energy, 2020, 5, 768-776.	39.5	165

#	Article	IF	Citations
19	Arylammonium-Assisted Reduction of the Open-Circuit Voltage Deficit in Wide-Bandgap Perovskite Solar Cells: The Role of Suppressed Ion Migration. ACS Energy Letters, 2020, 5, 2560-2568.	17.4	131
20	Nitride MXenes: Basal Plane Hydrogen Evolution Activity from Mixed Metal Nitride MXenes Measured by Scanning Electrochemical Microscopy (Adv. Funct. Mater. 47/2020). Advanced Functional Materials, 2020, 30, 2070313.	14.9	3
21	Direct Microscopy Imaging of Nonuniform Carrier Transport in Polycrystalline Cadmium Telluride. Cell Reports Physical Science, 2020, 1, 100230.	5.6	3
22	Perovskite quantum dot solar cells: Mapping interfacial energetics for improving charge separation. Nano Energy, 2020, 78, 105319.	16.0	31
23	Basal Plane Hydrogen Evolution Activity from Mixed Metal Nitride MXenes Measured by Scanning Electrochemical Microscopy. Advanced Functional Materials, 2020, 30, 2001136.	14.9	63
24	Emission Control from Transition Metal Dichalcogenide Monolayers by Aggregation-Induced Molecular Rotors. ACS Nano, 2020, 14, 7444-7453.	14.6	23
25	Nonpassivated Silicon Anode Surface. ACS Applied Materials & Interfaces, 2020, 12, 26593-26600.	8.0	45
26	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wideâ€Bandgap Perovskite Solar Cells Beyond 21%. Solar Rrl, 2020, 4, 2070065.	5.8	2
27	Failure analysis of fieldâ€failed bypass diodes. Progress in Photovoltaics: Research and Applications, 2020, 28, 909-918.	8.1	18
28	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. Science, 2020, 367, 1135-1140.	12.6	525
29	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wideâ€Bandgap Perovskite Solar Cells Beyond 21%. Solar Rrl, 2020, 4, 2000082.	5.8	79
30	Efficient, stable silicon tandem cells enabled by anion-engineered wide-bandgap perovskites. Science, 2020, 368, 155-160.	12.6	420
31	Highly Distorted Chiral Two-Dimensional Tin Iodide Perovskites for Spin Polarized Charge Transport. Journal of the American Chemical Society, 2020, 142, 13030-13040.	13.7	198
32	Carbazole-Based Hole-Transport Materials for High-Efficiency and Stable Perovskite Solar Cells. ACS Applied Energy Materials, 2020, 3, 4492-4498.	5.1	47
33	Local Resistance Measurement for Degradation of c-Si Heterojunction with Intrinsic Thin Layer (HIT) Solar Modules. , 2020, , .		2
34	High efficiency perovskite quantum dot solar cells with charge separating heterostructure. Nature Communications, 2019, 10, 2842.	12.8	308
35	Carrier-Transport Study of Gallium Arsenide Hillock Defects. Microscopy and Microanalysis, 2019, 25, 1160-1166.	0.4	4
36	Nanoscale mapping of hydrogen evolution on metallic and semiconducting MoS₂ nanosheets. Nanoscale Horizons, 2019, 4, 619-624.	8.0	46

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37	Enhanced Charge Transport by Incorporating Formamidinium and Cesium Cations into Twoâ€Dimensional Perovskite Solar Cells. Angewandte Chemie - International Edition, 2019, 58, 11737-11741.	13.8	67
38	Enhanced Charge Transport by Incorporating Formamidinium and Cesium Cations into Twoâ€Dimensional Perovskite Solar Cells. Angewandte Chemie, 2019, 131, 11863-11867.	2.0	22
39	Achieving a high open-circuit voltage in inverted wide-bandgap perovskite solar cells with a graded perovskite homojunction. Nano Energy, 2019, 61, 141-147.	16.0	152
40	Self-Seeding Growth for Perovskite Solar Cells with Enhanced Stability. Joule, 2019, 3, 1452-1463.	24.0	120
41	Enhanced Charge Transport in 2D Perovskites via Fluorination of Organic Cation. Journal of the American Chemical Society, 2019, 141, 5972-5979.	13.7	274
42	Improving Charge Transport via Intermediateâ€Controlled Crystal Growth in 2D Perovskite Solar Cells. Advanced Functional Materials, 2019, 29, 1901652.	14.9	103
43	Electrochemically induced fractures in crystalline silicon anodes. Journal of Power Sources, 2019, 425, 44-49.	7.8	14
44	Unbiased solar H₂ production with current density up to 23 mA cm^{â^’2} by Swiss-cheese black Si coupled with wastewater bioanode. Energy and Environmental Science, 2019, 12, 1088-1099.	30.8	48
45	In-situ Microscopy Characterization of Cu(In,Ga)Se₂ Potential-Induced Degradation. , 2019, , .		3
46	Spin-dependent charge transport through 2D chiral hybrid lead-iodide perovskites. Science Advances, 2019, 5, eaay0571.	10.3	275
47	Reducing Saturationâ€Current Density to Realize Highâ€Efficiency Lowâ€Bandgap Mixed Tinâ€“Lead Halide Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1803135.	19.5	255
48	Largeâ€Area Material and Junction Damage in câ€“Si Solar Cells by Potentialâ€Induced Degradation. Solar Rrl, 2019, 3, 1800303.	5.8	7
49	Effect of Window-Layer Materials on p-n Junction Location in Cu(In,Ga)Se₂ Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 308-312.	2.5	9
50	Imaging, microscopic analysis, and modeling of a CdTe module degraded by heat and light. Solar Energy Materials and Solar Cells, 2018, 178, 46-51.	6.2	14
51	Large-Area Material and Junction Damage in c-Si Solar Cells by Potential-Induced Degradation. , 2018, , .		0
52	Suppressing defects through the synergistic effect of a Lewis base and a Lewis acid for highly efficient and stable perovskite solar cells. Energy and Environmental Science, 2018, 11, 3480-3490.	30.8	274
53	Carrier-Transport Imaging of Cadmium Telluride Intra- and Inter-Grains. , 2018, , .		0
54	A graded catalyticâ€“protective layer for an efficient and stable water-splitting photocathode. Nature Energy, 2017, 2, .	39.5	135

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55	Extrinsic ion migration in perovskite solar cells. Energy and Environmental Science, 2017, 10, 1234-1242.	30.8	458
56	Understanding and Eliminating Hysteresis for Highly Efficient Planar Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1700414.	19.5	190
57	Near-field transport imaging applied to photovoltaic materials. Solar Energy, 2017, 153, 134-141.	6.1	9
58	Junction Quality of SnO₂-Based Perovskite Solar Cells Investigated by Nanometer-Scale Electrical Potential Profiling. ACS Applied Materials & Interfaces, 2017, 9, 38373-38380.	8.0	56
59	Development of in-situ high-voltage and high-temperature stressing capability on atomic force microscopy platform. Solar Energy, 2017, 158, 746-752.	6.1	7
60	Locating the electrical junctions in Cu(In,Ga)Se₂ and Cu₂ZnSnSe₄ solar cells by scanning capacitance spectroscopy. Progress in Photovoltaics: Research and Applications, 2017, 25, 33-40.	8.1	10
61	Determination of the electrical junction in Cu(In, Ga)Se<inf>2</inf> and Cu<inf>2</inf>ZnSnSe<inf>4</inf> solar cells with 20-nm spatial resolution. , 2016, , .		0
62	Module degradation mechanisms studied by a multi-scale approach. , 2016, , .		7
63	Nanometer-scale electrical potential profiling across perovskite solar cells. , 2016, , .		3
64	Cooperative tin oxide fullerene electron selective layers for high-performance planar perovskite solar cells. Journal of Materials Chemistry A, 2016, 4, 14276-14283.	10.3	204
65	Employing Lead Thiocyanate Additive to Reduce the Hysteresis and Boost the Fill Factor of Planar Perovskite Solar Cells. Advanced Materials, 2016, 28, 5214-5221.	21.0	487
66	Development of scanning capacitance spectroscopy of CIGS solar cells. , 2015, , .		2
67	Mechanisms of Electron-Beam-Induced Damage in Perovskite Thin Films Revealed by Cathodoluminescence Spectroscopy. Journal of Physical Chemistry C, 2015, 119, 26904-26911.	3.1	153