Ligang Wang

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/9201814/publications.pdf

Version: 2024-02-01

93 papers	19,687 citations	46918 47 h-index	45213 90 g-index
93 all docs	93 docs citations	93 times ranked	16343 citing authors

#	Article	IF	Citations
1	Interface engineering of highly efficient perovskite solar cells. Science, 2014, 345, 542-546.	6.0	5,936
2	Improved air stability of perovskite solar cells via solution-processed metal oxide transport layers. Nature Nanotechnology, 2016, 11, 75-81.	15.6	1,890
3	Controllable Self-Induced Passivation of Hybrid Lead Iodide Perovskites toward High Performance Solar Cells. Nano Letters, 2014, 14, 4158-4163.	4.5	1,343
4	Under the spotlight: The organicâ€“inorganic hybrid halide perovskite for optoelectronic applications. Nano Today, 2015, 10, 355-396.	6.2	891
5	Cation and anion immobilization through chemical bonding enhancement with fluorides for stable halide perovskite solar cells. Nature Energy, 2019, 4, 408-415.	19.8	831
6	A Eu ³⁺ -Eu ²⁺ ion redox shuttle imparts operational durability to Pb-I perovskite solar cells. Science, 2019, 363, 265-270.	6.0	793
7	Strain engineering in perovskite solar cells and its impacts on carrier dynamics. Nature Communications, 2019, 10, 815.	5.8	528
8	Guanidinium: A Route to Enhanced Carrier Lifetime and Open-Circuit Voltage in Hybrid Perovskite Solar Cells. Nano Letters, 2016, 16, 1009-1016.	4.5	479
9	Interfacial Degradation of Planar Lead Halide Perovskite Solar Cells. ACS Nano, 2016, 10, 218-224.	7.3	427
10	The optoelectronic role of chlorine in CH3NH3PbI3(Cl)-based perovskite solar cells. Nature Communications, 2015, 6, 7269.	5.8	404
11	Towards commercialization: the operational stability of perovskite solar cells. Chemical Society Reviews, 2020, 49, 8235-8286.	18.7	371
12	The identification and characterization of defect states in hybrid organicâ€“inorganic perovskite photovoltaics. Physical Chemistry Chemical Physics, 2015, 17, 112-116.	1.3	335
13	Exploration of Crystallization Kinetics in Quasi Two-Dimensional Perovskite and High Performance Solar Cells. Journal of the American Chemical Society, 2018, 140, 459-465.	6.6	327
14	Chemical Reduction of Intrinsic Defects in Thicker Heterojunction Planar Perovskite Solar Cells. Advanced Materials, 2017, 29, 1606774.	11.1	318
15	The Additive Coordination Effect on Hybrids Perovskite Crystallization and Highâ€Performance Solar Cell. Advanced Materials, 2016, 28, 9862-9868.	11.1	270
16	Liquid medium annealing for fabricating durable perovskite solar cells with improved reproducibility. Science, 2021, 373, 561-567.	6.0	227
17	Manipulation of facet orientation in hybrid perovskite polycrystalline films by cation cascade. Nature Communications, 2018, 9, 2793.	5.8	189
18	Impacts of alkaline on the defects property and crystallization kinetics in perovskite solar cells. Nature Communications, 2019, 10, 1112.	5.8	185

#	Article	IF	Citations
19	Atomically Dispersed Mo Supported on Metallic Co₉S₈ Nanoflakes as an Advanced Nobleâ€Metalâ€Free Bifunctional Water Splitting Catalyst Working in Universal pH Conditions. Advanced Energy Materials, 2020, 10, 1903137.	10.2	162
20	Multilayer Transparent Top Electrode for Solution Processed Perovskite/Cu(In,Ga)(Se,S)₂ Four Terminal Tandem Solar Cells. ACS Nano, 2015, 9, 7714-7721.	7.3	157
21	Microscopic Degradation in Formamidinium-Cesium Lead Iodide Perovskite Solar Cells under Operational Stressors. Joule, 2020, 4, 1743-1758.	11.7	156
22	The intrinsic properties of FA_(1â^'x)MA_xPbI₃ perovskite single crystals. Journal of Materials Chemistry A, 2017, 5, 8537-8544.	5.2	152
23	Self-Elimination of Intrinsic Defects Improves the Low-Temperature Performance of Perovskite Photovoltaics. Joule, 2020, 4, 1961-1976.	11.7	152
24	Perovskite/polymer monolithic hybrid tandem solar cells utilizing a low-temperature, full solution process. Materials Horizons, 2015, 2, 203-211.	6.4	148
25	An in situ cross-linked 1D/3D perovskite heterostructure improves the stability of hybrid perovskite solar cells for over 3000 h operation. Energy and Environmental Science, 2020, 13, 4344-4352.	15.6	142
26	The Progress of Interface Design in Perovskiteâ€Based Solar Cells. Advanced Energy Materials, 2016, 6, 1600460.	10.2	139
27	Facile Water-Based Strategy for Synthesizing MoO_{3â€“x} Nanosheets: Efficient Visible Light Photocatalysts for Dye Degradation. ACS Omega, 2018, 3, 2193-2201.	1.6	135
28	CsI Preâ€Intercalation in the Inorganic Framework for Efficient and Stable FA_{1â^'}_x Cs_xPbI₃(Cl) Perovskite Solar Cells. Small, 2017, 13, 1700484.	5.2	121
29	Effect of High Dipole Moment Cation on Layered 2D Organicâ€“Inorganic Halide Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1803024.	10.2	117
30	Improving the TiO₂ electron transport layer in perovskite solar cells using acetylacetonate-based additives. Journal of Materials Chemistry A, 2015, 3, 9108-9115.	5.2	104
31	Synergistic Effects of Euâ€MOF on Perovskite Solar Cells with Improved Stability. Advanced Materials, 2021, 33, e2102947.	11.1	104
32	A Thermodynamically Favored Crystal Orientation in Mixed Formamidinium/Methylammonium Perovskite for Efficient Solar Cells. Advanced Materials, 2019, 31, e1900390.	11.1	101
33	Low-Temperature TiO_x Compact Layer for Planar Heterojunction Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 11076-11083.	4.0	100
34	Working Mechanism for Flexible Perovskite Solar Cells with Simplified Architecture. Nano Letters, 2015, 15, 6514-6520.	4.5	91
35	Defects chemistry in high-efficiency and stable perovskite solar cells. Journal of Applied Physics, 2020, 128, .	1.1	91
36	The Spacer Cations Interplay for Efficient and Stable Layered 2D Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 1901566.	10.2	89

#	Article	IF	Citations
37	Promoting Energy Transfer via Manipulation of Crystallization Kinetics of Quasiâ€2D Perovskites for Efficient Green Lightâ€Emitting Diodes. Advanced Materials, 2021, 33, e2102246.	11.1	88
38	Achieving Highly Efficient Catalysts for Hydrogen Evolution Reaction by Electronic State Modification of Platinum on Versatile Ti₃C₂T_x (MXene). ACS Sustainable Chemistry and Engineering, 2019, 7, 4266-4273.	3.2	79
39	Ion migration in halide perovskite solar cells: Mechanism, characterization, impact and suppression. Journal of Energy Chemistry, 2021, 63, 528-549.	7.1	76
40	Recent Advances in Improving Phase Stability of Perovskite Solar Cells. Small Methods, 2020, 4, 1900877.	4.6	74
41	Reducing Energy Disorder in Perovskite Solar Cells by Chelation. Journal of the American Chemical Society, 2022, 144, 5400-5410.	6.6	72
42	High-Performance Fused Ring Electron Acceptorâ€“Perovskite Hybrid. Journal of the American Chemical Society, 2018, 140, 14938-14944.	6.6	71
43	Tailored Au@TiO2 nanostructures for the plasmonic effect in planar perovskite solar cells. Journal of Materials Chemistry A, 2017, 5, 12034-12042.	5.2	64
44	To probe the performance of perovskite memory devices: defects property and hysteresis. Journal of Materials Chemistry C, 2017, 5, 5810-5817.	2.7	63
45	Sandwiched electrode buffer for efficient and stable perovskite solar cells with dual back surface fields. Joule, 2021, 5, 2148-2163.	11.7	63
46	Molybdenum Oxide Nanosheets with Tunable Plasmonic Resonance: Aqueous Exfoliation Synthesis and Charge Storage Applications. Advanced Functional Materials, 2019, 29, 1806699.	7.8	55
47	Unraveling the Growth of Hierarchical Quasi-2D/3D Perovskite and Carrier Dynamics. Journal of Physical Chemistry Letters, 2018, 9, 1124-1132.	2.1	52
48	Molecular Hinges Stabilize Formamidiniumâ€Based Perovskite Solar Cells with Compressive Strain. Advanced Functional Materials, 2022, 32, .	7.8	50
49	Precise Composition Tailoring of Mixed-Cation Hybrid Perovskites for Efficient Solar Cells by Mixture Design Methods. ACS Nano, 2017, 11, 8804-8813.	7.3	48
50	A low temperature processed fused-ring electron transport material for efficient planar perovskite solar cells. Journal of Materials Chemistry A, 2017, 5, 24820-24825.	5.2	46
51	Ligand engineering on CdTe quantum dots in perovskite solar cells for suppressed hysteresis. Nano Energy, 2018, 46, 45-53.	8.2	46
52	One-step, low-temperature deposited perovskite solar cell utilizing small molecule additive. Journal of Photonics for Energy, 2015, 5, 057405.	0.8	45
53	Strain Modulation for Lightâ€Stable nâ€“iâ€“p Perovskite/Silicon Tandem Solar Cells. Advanced Materials, 2022, 34, e2201315.	11.1	45
54	Understanding the Defect Properties of Quasi-2D Halide Perovskites for Photovoltaic Applications. Journal of Physical Chemistry Letters, 2020, 11, 3521-3528.	2.1	43

#	Article	IF	Citations
55	Temporal and spatial pinhole constraints in small-molecule hole transport layers for stable and efficient perovskite photovoltaics. Journal of Materials Chemistry A, 2019, 7, 7338-7346.	5.2	41
56	Probing Phase Distribution in 2D Perovskites for Efficient Device Design. ACS Applied Materials & Interfaces, 2020, 12, 3127-3133.	4.0	39
57	Electronic Tunability and Mobility Anisotropy of Quasi-2D Perovskite Single Crystals with Varied Spacer Cations. Journal of Physical Chemistry Letters, 2020, 11, 7610-7616.	2.1	35
58	An overview of rare earth coupled lead halide perovskite and its application in photovoltaics and light emitting devices. Progress in Materials Science, 2021, 120, 100737.	16.0	35
59	Cation Diffusion Guides Hybrid Halide Perovskite Crystallization during the Gel Stage. Angewandte Chemie - International Edition, 2020, 59, 5979-5987.	7.2	29
60	Energyâ€Level Modulation in Diboronâ€Modified SnO₂ for Highâ€Efficiency Perovskite Solar Cells. Solar Rrl, 2020, 4, 1900217.	3.1	28
61	The Role of Surface Termination in Halide Perovskites for Efficient Photocatalytic Synthesis. Angewandte Chemie - International Edition, 2020, 59, 12931-12937.	7.2	27
62	Thermal Management Enables More Efficient and Stable Perovskite Solar Cells. ACS Energy Letters, 2021, 6, 3029-3036.	8.8	26
63	Spacer Organic Cation Engineering for Quasiâ€2D Metal Halide Perovskites and the Optoelectronic Application. Small Structures, 2022, 3, .	6.9	26
64	Photon management for efficient hybrid perovskite solar cells via synergetic localized grating and enhanced fluorescence effect. Nano Energy, 2017, 40, 540-549.	8.2	22
65	Defect suppression and passivation for perovskite solar cells: from the birth to the lifetime operation. EnergyChem, 2020, 2, 100032.	10.1	22
66	Cation Diffusion Guides Hybrid Halide Perovskite Crystallization during the Gel Stage. Angewandte Chemie, 2020, 132, 6035-6043.	1.6	22
67	Avoiding Structural Collapse to Reduce Lead Leakage in Perovskite Photovoltaics. Angewandte Chemie - International Edition, 2022, 61, .	7.2	21
68	Mobile Media Promotes Orientation of 2D/3D Hybrid Lead Halide Perovskite for Efficient Solar Cells. ACS Nano, 2021, 15, 8350-8362.	7.3	20
69	Balancing Energy-Level Difference for Efficient n-i-p Perovskite Solar Cells with Cu Electrode. Energy Material Advances, 2022, 2022, .	4.7	19
70	Carrier transport composites with suppressed glass-transition for stable planar perovskite solar cells. Journal of Materials Chemistry A, 2020, 8, 14106-14113.	5.2	18
71	Interfacial-engineering enhanced performance and stability of ZnO nanowire-based perovskite solar cells. Nanotechnology, 2021, 32, 475204.	1.3	18
72	Cobalt diselenide (001) surface with short-range Co-Co interaction triggering high-performance electrocatalytic oxygen evolution. Nano Research, 2021, 14, 4848-4856.	5.8	17

#	Article	IF	Citations
73	Progress in flexible perovskite solar cells with improved efficiency. Journal of Semiconductors, 2021, 42, 101605.	2.0	16
74	A-Site Cation Effect on Growth Thermodynamics and Photoconductive Properties in Ultrapure Lead Iodine Perovskite Monocrystalline Wires. ACS Applied Materials & Interfaces, 2017, 9, 25985-25994.	4.0	14
75	Efficient Moistureâ€Resistant Perovskite Solar Cell With Nanostructure Featuring 3D Amine Motif. Solar Rrl, 2018, 2, 1800069.	3.1	13
76	Amidinium additives for high-performance perovskite solar cells. Journal of Materials Chemistry A, 2022, 10, 3506-3512.	5.2	11
77	30% Enhancement of Efficiency in Layered 2D Perovskites Absorbers by Employing Homoâ€Tandem Structures. Solar Rrl, 2019, 3, 1900083.	3.1	10
78	Microstructure variations induced by excess PbX₂or AX within perovskite thin films. Chemical Communications, 2017, 53, 12966-12969.	2.2	9
79	Phase transformation barrier modulation of CsPbI3 films via PbI3â^' complex for efficient all-inorganic perovskite photovoltaics. Nano Energy, 2022, 99, 107388.	8.2	9
80	Effects of Iodine Doping on Carrier Behavior at the Interface of Perovskite Crystals: Efficiency and Stability. Crystals, 2018, 8, 185.	1.0	8
81	In-situ Interfacial Passivation for Stable Perovskite Solar Cells. Frontiers in Materials, 2019, 6, .	1.2	8
82	One-pot synthesis of Cu-modified HNb₃O₈ nanobelts with enhanced photocatalytic hydrogen production. Journal of Materials Chemistry A, 2018, 6, 10769-10775.	5.2	7
83	Stable, Efficient, Copper Coordination Polymer-Derived Heterostructured Catalyst for Oxygen Evolution under pH-Universal Conditions. ACS Applied Materials & Interfaces, 2021, 13, 25461-25471.	4.0	7
84	The investigation of an amidine-based additive in the perovskite films and solar cells. Journal of Semiconductors, 2017, 38, 014001.	2.0	6
85	Avoiding Structural Collapse to Reduce Lead Leakage in Perovskite Photovoltaics. Angewandte Chemie, 0, , .	1.6	6
86	A general approach for nanoparticle composite transport materials toward efficient perovskite solar cells. Chemical Communications, 2017, 53, 11028-11031.	2.2	3
87	A Strategy toward New Lowâ€Dimensional Hybrid Halide Perovskites with Anionic Spacers. Small, 2019, 15, e1804152.	5.2	3
88	Repair Strategies for Perovskite Solar Cells. Chemical Research in Chinese Universities, 2021, 37, 1055-1066.	1.3	3
89	The Role of Surface Termination in Halide Perovskites for Efficient Photocatalytic Synthesis. Angewandte Chemie, 2020, 132, 13031-13037.	1.6	2
90	The Effects of the Withdrawal Rate and Heat Treatment on the Microstructure of Directionally Solidified Nb-14Si-24Ti Alloy. High Temperature Materials and Processes, 2013, 32, 113-118.	0.6	1

#	Article	IF	Citations
91	Collective and individual impacts of the cascade doping of alkali cations in perovskite single crystals. Journal of Materials Chemistry C, 2020, 8, 15351-15360.	2.7	1
92	Organic Inorganic Hybrid Perovskite Materials and Devices. , 2018, , 282-291.		0
93	Discovery of Layered Indium Hydroxide via a Hydroperoxyl Anion Coordinated Precursor at Room Temperature. Chemistry - A European Journal, 2018, 24, 15491-15494.	1.7	0