Ligang Wang

List of Publications by Citations

89 papers	15,032 citations	41 h-index	93 g-index
93 ext. papers	17,241 ext. citations	15.1 avg, IF	6.6 L-index

#	Paper	IF	Citations
89	Photovoltaics. Interface engineering of highly efficient perovskite solar cells. *Science*, **2014**, 345, 542-6	33.3	5272
88	Improved air stability of perovskite solar cells via solution-processed metal oxide transport layers. *Nature Nanotechnology*, **2016**, 11, 75-81	28.7	1614
87	Controllable self-induced passivation of hybrid lead iodide perovskites toward high performance solar cells. *Nano Letters*, **2014**, 14, 4158-63	11.5	1143
86	Under the spotlight: The organic–inorganic hybrid halide perovskite for optoelectronic applications. *Nano Today*, **2015**, 10, 355-396	17.9	700
85	A Eu-Eu ion redox shuttle imparts operational durability to Pb-I perovskite solar cells. *Science*, **2019**, 363, 265-270	33.3	533
84	Cation and anion immobilization through chemical bonding enhancement with fluorides for stable halide perovskite solar cells. *Nature Energy*, **2019**, 4, 408-415	62.3	511
83	Guanidinium: A Route to Enhanced Carrier Lifetime and Open-Circuit Voltage in Hybrid Perovskite Solar Cells. *Nano Letters*, **2016**, 16, 1009-16	11.5	400
82	Interfacial Degradation of Planar Lead Halide Perovskite Solar Cells. *ACS Nano*, **2016**, 10, 218-24	16.7	357
81	The optoelectronic role of chlorine in CH3NH3PbI3(Cl)-based perovskite solar cells. *Nature Communications*, **2015**, 6, 7269	17.4	354
80	Strain engineering in perovskite solar cells and its impacts on carrier dynamics. *Nature Communications*, **2019**, 10, 815	17.4	286
79	The identification and characterization of defect states in hybrid organic-inorganic perovskite photovoltaics. *Physical Chemistry Chemical Physics*, **2015**, 17, 112-6	3.6	285
78	Chemical Reduction of Intrinsic Defects in Thicker Heterojunction Planar Perovskite Solar Cells. *Advanced Materials*, **2017**, 29, 1606774	24	267
77	Exploration of Crystallization Kinetics in Quasi Two-Dimensional Perovskite and High Performance Solar Cells. *Journal of the American Chemical Society*, **2018**, 140, 459-465	16.4	248
76	The Additive Coordination Effect on Hybrids Perovskite Crystallization and High-Performance Solar Cell. *Advanced Materials*, **2016**, 28, 9862-9868	24	235
75	Towards commercialization: the operational stability of perovskite solar cells. *Chemical Society Reviews*, **2020**, 49, 8235-8286	58.5	143
74	Multilayer Transparent Top Electrode for Solution Processed Perovskite/Cu(In,Ga)(Se,S)2 Four Terminal Tandem Solar Cells. *ACS Nano*, **2015**, 9, 7714-21	16.7	139
73	Manipulation of facet orientation in hybrid perovskite polycrystalline films by cation cascade. *Nature Communications*, **2018**, 9, 2793	17.4	127

72	Perovskite/polymer monolithic hybrid tandem solar cells utilizing a low-temperature, full solution process. *Materials Horizons*, **2015**, 2, 203-211	14.4	127
71	Impacts of alkaline on the defects property and crystallization kinetics in perovskite solar cells. *Nature Communications*, **2019**, 10, 1112	17.4	124
70	The Progress of Interface Design in Perovskite-Based Solar Cells. *Advanced Energy Materials*, **2016**, 6, 1600460	21.8	121
69	The intrinsic properties of FA(1−x)MAxPbI3 perovskite single crystals. *Journal of Materials Chemistry A*, **2017**, 5, 8537-8544	13	110
68	Facile Water-Based Strategy for Synthesizing MoO Nanosheets: Efficient Visible Light Photocatalysts for Dye Degradation. *ACS Omega*, **2018**, 3, 2193-2201	3.9	103
67	Atomically Dispersed Mo Supported on Metallic Co9S8 Nanoflakes as an Advanced Noble-Metal-Free Bifunctional Water Splitting Catalyst Working in Universal pH Conditions. *Advanced Energy Materials*, **2020**, 10, 1903137	21.8	97
66	Improving the TiO2 electron transport layer in perovskite solar cells using acetylacetonate-based additives. *Journal of Materials Chemistry A*, **2015**, 3, 9108-9115	13	94
65	Low-Temperature TiOx Compact Layer for Planar Heterojunction Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2016**, 8, 11076-83	9.5	91
64	CsI Pre-Intercalation in the Inorganic Framework for Efficient and Stable FA Cs PbI (Cl) Perovskite Solar Cells. *Small*, **2017**, 13, 1700484	11	88
63	Working Mechanism for Flexible Perovskite Solar Cells with Simplified Architecture. *Nano Letters*, **2015**, 15, 6514-20	11.5	82
62	Self-Elimination of Intrinsic Defects Improves the Low-Temperature Performance of Perovskite Photovoltaics. *Joule*, **2020**, 4, 1961-1976	27.8	82
61	Microscopic Degradation in Formamidinium-Cesium Lead Iodide Perovskite Solar Cells under Operational Stressors. *Joule*, **2020**, 4, 1743-1758	27.8	70
60	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	35.4	68
59	Effect of High Dipole Moment Cation on Layered 2D Organic–Inorganic Halide Perovskite Solar Cells. *Advanced Energy Materials*, **2018**, 9, 1803024	21.8	65
58	A Thermodynamically Favored Crystal Orientation in Mixed Formamidinium/Methylammonium Perovskite for Efficient Solar Cells. *Advanced Materials*, **2019**, 31, e1900390	24	62
57	Liquid medium annealing for fabricating durable perovskite solar cells with improved reproducibility. *Science*, **2021**, 373, 561-567	33.3	60
56	The Spacer Cations Interplay for Efficient and Stable Layered 2D Perovskite Solar Cells. *Advanced Energy Materials*, **2020**, 10, 1901566	21.8	57
55	Tailored Au@TiO2 nanostructures for the plasmonic effect in planar perovskite solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 12034-12042	13	51

54	High-Performance Fused Ring Electron Acceptor-Perovskite Hybrid. *Journal of the American Chemical Society*, **2018**, 140, 14938-14944	16.4	51
53	To probe the performance of perovskite memory devices: defects property and hysteresis. *Journal of Materials Chemistry C*, **2017**, 5, 5810-5817	7.1	46
52	Precise Composition Tailoring of Mixed-Cation Hybrid Perovskites for Efficient Solar Cells by Mixture Design Methods. *ACS Nano*, **2017**, 11, 8804-8813	16.7	44
51	Achieving Highly Efficient Catalysts for Hydrogen Evolution Reaction by Electronic State Modification of Platinum on Versatile Ti3C2Tx (MXene). *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 4266-4273	8.3	44
50	Defects chemistry in high-efficiency and stable perovskite solar cells. *Journal of Applied Physics*, **2020**, 128, 060903	2.5	43
49	One-step, low-temperature deposited perovskite solar cell utilizing small molecule additive. *Journal of Photonics for Energy*, **2015**, 5, 057405	1.2	41
48	Unraveling the Growth of Hierarchical Quasi-2D/3D Perovskite and Carrier Dynamics. *Journal of Physical Chemistry Letters*, **2018**, 9, 1124-1132	6.4	41
47	Ligand engineering on CdTe quantum dots in perovskite solar cells for suppressed hysteresis. *Nano Energy*, **2018**, 46, 45-53	17.1	38
46	A low temperature processed fused-ring electron transport material for efficient planar perovskite solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 24820-24825	13	36
45	Recent Advances in Improving Phase Stability of Perovskite Solar Cells. *Small Methods*, **2020**, 4, 1900877	12.8	35
44	Molybdenum Oxide Nanosheets with Tunable Plasmonic Resonance: Aqueous Exfoliation Synthesis and Charge Storage Applications. *Advanced Functional Materials*, **2019**, 29, 1806699	15.6	35
43	Understanding the Defect Properties of Quasi-2D Halide Perovskites for Photovoltaic Applications. *Journal of Physical Chemistry Letters*, **2020**, 11, 3521-3528	6.4	29
42	Synergistic Effects of Eu-MOF on Perovskite Solar Cells with Improved Stability. *Advanced Materials*, **2021**, 33, e2102947	24	29
41	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	13	28
40	Promoting Energy Transfer via Manipulation of Crystallization Kinetics of Quasi-2D Perovskites for Efficient Green Light-Emitting Diodes. *Advanced Materials*, **2021**, 33, e2102246	24	25
39	Probing Phase Distribution in 2D Perovskites for Efficient Device Design. *ACS Applied Materials & Interfaces*, **2020**, 12, 3127-3133	9.5	21
38	Energy-Level Modulation in Diboron-Modified SnO2 for High-Efficiency Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 1900217	7.1	21
37	The Role of Surface Termination in Halide Perovskites for Efficient Photocatalytic Synthesis. *Angewandte Chemie - International Edition*, **2020**, 59, 12931-12937	16.4	19

36	Cation Diffusion Guides Hybrid Halide Perovskite Crystallization during the Gel Stage. *Angewandte Chemie - International Edition*, **2020**, 59, 5979-5987	16.4	19
35	Photon management for efficient hybrid perovskite solar cells via synergetic localized grating and enhanced fluorescence effect. *Nano Energy*, **2017**, 40, 540-549	17.1	18
34	Sandwiched electrode buffer for efficient and stable perovskite solar cells with dual back surface fields. *Joule*, **2021**, 5, 2148-2163	27.8	18
33	Carrier transport composites with suppressed glass-transition for stable planar perovskite solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 14106-14113	13	13
32	Electronic Tunability and Mobility Anisotropy of Quasi-2D Perovskite Single Crystals with Varied Spacer Cations. *Journal of Physical Chemistry Letters*, **2020**, 11, 7610-7616	6.4	13
31	Molecular Hinges Stabilize Formamidinium-Based Perovskite Solar Cells with Compressive Strain. *Advanced Functional Materials*,2201193	15.6	13
30	Defect suppression and passivation for perovskite solar cells: from the birth to the lifetime operation. *EnergyChem*, **2020**, 2, 100032	36.9	12
29	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	42.2	10
28	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	9.5	9
27	Interfacial-engineering enhanced performance and stability of ZnO nanowire-based perovskite solar cells. *Nanotechnology*, **2021**, 32,	3.4	9
26	Efficient Moisture-Resistant Perovskite Solar Cell With Nanostructure Featuring 3D Amine Motif. *Solar Rrl*, **2018**, 2, 1800069	7.1	8
25	Ion migration in halide perovskite solar cells: mechanism, characterization, impact and suppression. *Journal of Energy Chemistry*, **2021**,	12	8
24	Microstructure variations induced by excess PbX or AX within perovskite thin films. *Chemical Communications*, **2017**, 53, 12966-12969	5.8	7
23	The investigation of an amidine-based additive in the perovskite films and solar cells. *Journal of Semiconductors*, **2017**, 38, 014001	2.3	6
22	30% Enhancement of Efficiency in Layered 2D Perovskites Absorbers by Employing Homo-Tandem Structures. *Solar Rrl*, **2019**, 3, 1900083	7.1	6
21	Effects of Iodine Doping on Carrier Behavior at the Interface of Perovskite Crystals: Efficiency and Stability. *Crystals*, **2018**, 8, 185	2.3	6
20	In-situ Interfacial Passivation for Stable Perovskite Solar Cells. *Frontiers in Materials*, **2019**, 6,	4	6
19	One-pot synthesis of Cu-modified HNb3O8 nanobelts with enhanced photocatalytic hydrogen production. *Journal of Materials Chemistry A*, **2018**, 6, 10769-10775	13	6

18	Mobile Media Promotes Orientation of 2D/3D Hybrid Lead Halide Perovskite for Efficient Solar Cells. *ACS Nano*, **2021**, 15, 8350-8362	16.7	5
17	Thermal Management Enables More Efficient and Stable Perovskite Solar Cells. *ACS Energy Letters*, **2021**, 6, 3029-3036	20.1	5
16	Strain Modulation for Light-Stable n-i-p Perovskite/Silicon Tandem Solar Cells.. *Advanced Materials*, **2022**, e2201315	24	5
15	Avoiding Structural Collapse to Reduce Lead Leakage in Perovskite Photovoltaics.. *Angewandte Chemie - International Edition*, **2022**,	16.4	5
14	Progress in flexible perovskite solar cells with improved efficiency. *Journal of Semiconductors*, **2021**, 42, 101605	2.3	4
13	Cobalt diselenide (001) surface with short-range Co-Co interaction triggering high-performance electrocatalytic oxygen evolution. *Nano Research*, **2021**, 14, 4848	10	4
12	A Strategy toward New Low-Dimensional Hybrid Halide Perovskites with Anionic Spacers. *Small*, **2019**, 15, e1804152	11	3
11	Cation Diffusion Guides Hybrid Halide Perovskite Crystallization during the Gel Stage. *Angewandte Chemie*, **2020**, 132, 6035-6043	3.6	2
10	A general approach for nanoparticle composite transport materials toward efficient perovskite solar cells. *Chemical Communications*, **2017**, 53, 11028-11031	5.8	2
9	The Role of Surface Termination in Halide Perovskites for Efficient Photocatalytic Synthesis. *Angewandte Chemie*, **2020**, 132, 13031-13037	3.6	1
8	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	0.9	1
7	Collective and individual impacts of the cascade doping of alkali cations in perovskite single crystals. *Journal of Materials Chemistry C*, **2020**, 8, 15351-15360	7.1	1
6	Repair Strategies for Perovskite Solar Cells. *Chemical Research in Chinese Universities*, **2021**, 37, 1055	2.2	1
5	Spacer Organic Cation Engineering for Quasi Two-dimensional Metal Halide Perovskites and the Optoelectronic Application. *Small Structures*,	8.7	1
4	Stable, Efficient, Copper Coordination Polymer-Derived Heterostructured Catalyst for Oxygen Evolution under pH-Universal Conditions. *ACS Applied Materials & Interfaces*, **2021**, 13, 25461-25471	9.5	0
3	Phase transformation barrier modulation of CsPbI3 films via PbI3□complex for efficient all-inorganic perovskite photovoltaics. *Nano Energy*, **2022**, 99, 107388	17.1	0
2	Organic Inorganic Hybrid Perovskite Materials and Devices **2018**, 282-291		
1	Discovery of Layered Indium Hydroxide via a Hydroperoxyl Anion Coordinated Precursor at Room Temperature. *Chemistry - A European Journal*, **2018**, 24, 15491-15494	4.8	