Hsinhan Tsai

List of Publications by Year
in descending order

71 papers	13,165 citations	101543 36 h-index	110387 64 g-index
72 all docs	72 docs citations	72 times ranked	14115 citing authors

#	Article	IF	Citations
1	Emerging Lead-Halide Perovskite Semiconductor for Solid-State Detectors. , 2022, , 35-58.		1
2	Quasiâ€2D Perovskite Crystalline Layers for Printable Direct Conversion Xâ€Ray Imaging. Advanced Materials, 2022, 34, e2106498.	21.0	37
3	Cesium Lead Halide Perovskite Nanocrystals Assembled in Metalâ€Organic Frameworks for Stable Blue Light Emitting Diodes. Advanced Science, 2022, 9, e2105850.	11.2	23
4	The challenges and promises of layered 2D perovskites. CheM, 2022, 8, 890-891.	11.7	2
5	The degradation and recovery behavior of mixed-cation perovskite solar cells in moisture and a gas mixture environment. Journal of Materials Chemistry A, 2022, 10, 13519-13526.	10.3	10
6	Perovskite nanocrystals stabilized in metalâ€“organic frameworks for light emission devices. Journal of Materials Chemistry A, 2022, 10, 19518-19533.	10.3	15
7	Benzimidazole Based Holeâ€Transporting Materials for Highâ€performance Inverted Perovskite Solar Cells. Advanced Functional Materials, 2022, 32, .	14.9	19
8	Highly efficient photoelectric effect in halide perovskites for regenerative electron sources. Nature Communications, 2021, 12, 673.	12.8	13
9	Facile Fabrication of Selfâ€Assembly Functionalized Polythiophene Hole Transporting Layer for High Performance Perovskite Solar Cells. Advanced Science, 2021, 8, 2002718.	11.2	46
10	In-situ observation of trapped carriers in organic metal halide perovskite films with ultra-fast temporal and ultra-high energetic resolutions. Nature Communications, 2021, 12, 1636.	12.8	11
11	Billion-pixel x-ray camera (BiPC-X). Review of Scientific Instruments, 2021, 92, 043708.	1.3	10
12	Millimeterâ€Size Allâ€inorganic Perovskite Crystalline Thin Film Grown by Chemical Vapor Deposition. Advanced Functional Materials, 2021, 31, 2101058.	14.9	19
13	A simple one-step method with wide processing window for high-quality perovskite mini-module fabrication. Joule, 2021, 5, 958-974.	24.0	55
14	An Efficient and Reversible Battery Anode Electrode Derived from a Lead-Based Metalâ€“Organic Framework. Energy & Fuels, 2021, 35, 9669-9682.	5.1	13
15	Robust Unencapsulated Perovskite Solar Cells Protected by a Fluorinated Fullerene Electron Transporting Layer. ACS Energy Letters, 2021, 6, 3376-3385.	17.4	27
16	Bright and stable light-emitting diodes made with perovskite nanocrystals stabilized in metalâ€“organic frameworks. Nature Photonics, 2021, 15, 843-849.	31.4	117
17	A fabrication process for flexible single-crystal perovskite devices. Nature, 2020, 583, 790-795.	27.8	278
18	Edge States Drive Exciton Dissociation in Ruddlesdenâ€“Popper Lead Halide Perovskite Thin Films. , 2020, 2, 1360-1367.		20

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19	Role of the Metalâ€“Semiconductor Interface in Halide Perovskite Devices for Radiation Photon Counting. ACS Applied Materials & Interfaces, 2020, 12, 45533-45540.	8.0	21
20	Correlation of Spatiotemporal Dynamics of Polarization and Charge Transport in Blended Hybrid Organicâ€“Inorganic Perovskites on Macro- and Nanoscales. ACS Applied Materials & Interfaces, 2020, 12, 15380-15388.	8.0	5
21	Methylammonium Lead Tribromide Single Crystal Detectors towards Robust Gammaâ€Ray Photon Sensing. Advanced Optical Materials, 2020, 8, 2000233.	7.3	18
22	Critical Role of Organic Spacers for Bright 2D Layered Perovskites Lightâ€Emitting Diodes. Advanced Science, 2020, 7, 1903202.	11.2	39
23	The working principle of hybrid perovskite gamma-ray photon counter. Materials Today, 2020, 37, 27-34.	14.2	22
24	Vacuumâ€Free, Allâ€Solution, and Allâ€Air Processed Organic Photovoltaics with over 11% Efficiency and Promoted Stability Using Layerâ€byâ€Layer Codoped Polymeric Electrodes. Solar Rrl, 2020, 4, 1900543.	5.8	19
25	A sensitive and robust thin-film x-ray detector using 2D layered perovskite diodes. Science Advances, 2020, 6, eaay0815.	10.3	153
26	Response to Comment on â€œLight-induced lattice expansion leads to high-efficiency solar cellsâ€• Science, 2020, 368, .	12.6	13
27	PEDOT:PSS for Flexible and Stretchable Electronics: Modifications, Strategies, and Applications. Advanced Science, 2019, 6, 1900813.	11.2	563
28	Halide Perovskite High-k Field Effect Transistors with Dynamically Reconfigurable Ambipolarity. , 2019, 1, 633-640.		29
29	Cation Alloying Delocalizes Polarons in Lead Halide Perovskites. Journal of Physical Chemistry Letters, 2019, 10, 3516-3524.	4.6	33
30	Uniaxial Expansion of the 2D Ruddlesdenâ€“Popper Perovskite Family for Improved Environmental Stability. Journal of the American Chemical Society, 2019, 141, 5518-5534.	13.7	193
31	Structural and thermodynamic limits of layer thickness in 2D halide perovskites. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 58-66.	7.1	236
32	Composite Nature of Layered Hybrid Perovskites: Assessment on Quantum and Dielectric Confinements and Band Alignment. ACS Nano, 2018, 12, 3321-3332.	14.6	146
33	Phase Transition Control for High Performance Ruddlesdenâ€“Popper Perovskite Solar Cells. Advanced Materials, 2018, 30, e1707166.	21.0	244
34	Light-induced lattice expansion leads to high-efficiency perovskite solar cells. Science, 2018, 360, 67-70.	12.6	554
35	Stable Lightâ€Emitting Diodes Using Phaseâ€Pure Ruddlesdenâ€“Popper Layered Perovskites. Advanced Materials, 2018, 30, 1704217.	21.0	258
36	Understanding Film Formation Morphology and Orientation in High Member 2D Ruddlesdenâ€“Popper Perovskites for Highâ€Efficiency Solar Cells. Advanced Energy Materials, 2018, 8, 1700979.	19.5	286

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37	Critical Role of Interface and Crystallinity on the Performance and Photostability of Perovskite Solar Cell on Nickel Oxide. Advanced Materials, 2018, 30, 1703879.	21.0	198
38	Effect of Cation Composition on the Mechanical Stability of Perovskite Solar Cells. Advanced Energy Materials, 2018, 8, 1702116.	19.5	130
39	The crucial role of a spacer material on the efficiency of charge transfer processes in organic donorâ€“acceptor junction solar cells. Nanoscale, 2018, 10, 451-459.	5.6	5
40	Geometry Distortion and Small Polaron Binding Energy Changes with Ionic Substitution in Halide Perovskites. Journal of Physical Chemistry Letters, 2018, 9, 7130-7136.	4.6	52
41	Two-Dimensional Halide Perovskites Incorporating Straight Chain Symmetric Diammonium Ions, (NH₃C_mH_{2m}NH₃)(CH₃NH₃)_n (m = 4â€“9; n = 1â€“4). Journal of the American Chemical Society, 2018, 140, 12226-12238.	13.7	184
42	Design principles for electronic charge transport in solution-processed vertically stacked 2D perovskite quantum wells. Nature Communications, 2018, 9, 2130.	12.8	153
43	Concept of Lattice Mismatch and Emergence of Surface States in Two-dimensional Hybrid Perovskite Quantum Wells. Nano Letters, 2018, 18, 5603-5609.	9.1	103
44	Effect of Precursor Solution Aging on the Crystallinity and Photovoltaic Performance of Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1602159.	19.5	130
45	High Members of the 2D Ruddlesden-Popper Halide Perovskites: Synthesis, Optical Properties, and Solar Cells of (CH3(CH2)3NH3)2(CH3NH3)4Pb5I16. CheM, 2017, 2, 427-440.	11.7	354
46	New Type of 2D Perovskites with Alternating Cations in the Interlayer Space, (C(NH₂)₃)(CH₃NH₃)_nPb_nI_{3n} Structure, Properties, and Photovoltaic Performance. Journal of the American Chemical Society, 2017, 139, 16297-16309.	13.7	374
47	High-efficiency two-dimensional Ruddlesdenâ€“Popper perovskite solar cells. Nature, 2016, 536, 312-316.	27.8	2,767
48	Polaron Stabilization by Cooperative Lattice Distortion and Cation Rotations in Hybrid Perovskite Materials. Nano Letters, 2016, 16, 3809-3816.	9.1	245
49	Optoelectronic properties and photo-physics of large grain hybrid perovskites. , 2016, , .		0
50	Role of Organic Counterion in Lead- and Tin-Based Two-Dimensional Semiconducting Iodide Perovskites and Application in Planar Solar Cells. Chemistry of Materials, 2016, 28, 7781-7792.	6.7	228
51	Structurally Defined 3D Nanographene Assemblies via Bottomâ€Up Chemical Synthesis for Highly Efficient Lithium Storage. Advanced Materials, 2016, 28, 10250-10256.	21.0	72
52	Supramolecular block copolymer photovoltaics through ureido-pyrimidinone hydrogen bonding interactions. RSC Advances, 2016, 6, 51562-51568.	3.6	8
53	Advances and Promises of Layered Halide Hybrid Perovskite Semiconductors. ACS Nano, 2016, 10, 9776-9786.	14.6	351
54	Light-activated photocurrent degradation and self-healing in perovskite solar cells. Nature Communications, 2016, 7, 11574.	12.8	584

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55	Interface Design Principles for Highâ€Performance Organic Semiconductor Devices. Advanced Science, 2015, 2, 1500024.	11.2	18
56	Semiconductors: Interface Design Principles for High-Performance Organic Semiconductor Devices (Adv. Sci. 6/2015). Advanced Science, 2015, 2, .	11.2	0
57	Nanoscaled self-assemblies for facilitated energy conversion. , 2015, , .		0
58	High-efficiency solution-processed perovskite solar cells with millimeter-scale grains. Science, 2015, 347, 522-525.	12.6	2,978
59	Optimizing Composition and Morphology for Large-Grain Perovskite Solar Cells via Chemical Control. Chemistry of Materials, 2015, 27, 5570-5576.	6.7	82
60	DNA-assisted photoinduced charge transfer between a cationic poly(phenylene vinylene) and a cationic fullerene. Physical Chemistry Chemical Physics, 2015, 17, 15675-15678.	2.8	4
61	Hydrazine-Free Surface Modification of CZTSe Nanocrystals with All-Inorganic Ligand. Journal of Physical Chemistry C, 2014, 118, 30302-30308.	3.1	24
62	Structural Design of Benzo[1,2-b:4,5-bâ€²]dithiophene-Based 2D Conjugated Polymers with Bithienyl and Terthienyl Substituents toward Photovoltaic Applications. Macromolecules, 2014, 47, 1008-1020.	4.8	56
63	Flexible memory devices with tunable electrical bistability via controlled energetics in donorâ€“donor and donorâ€“acceptor conjugated polymers. Journal of Materials Chemistry C, 2014, 2, 4374-4378.	5.5	34
64	One-step synthesis of Mn3O4/reduced graphene oxide nanocomposites for oxygen reduction in nonaqueous Liâ€“O2 batteries. Chemical Communications, 2013, 49, 10838.	4.1	106
65	Laser wavelength- and power-dependent plasmon-driven chemical reactions monitored using single particle surface enhanced Raman spectroscopy. Chemical Communications, 2013, 49, 3389.	4.1	165
66	Structure-Dependent Electrocatalytic Properties of Cu₂O Nanocrystals for Oxygen Reduction Reaction. Journal of Physical Chemistry C, 2013, 117, 13872-13878.	3.1	92
67	Structural dynamics and charge transfer via complexation with fullerene in large area conjugated polymer honeycomb thin filmsâ€. Chemistry of Materials, 2011, 23, 759-761.	6.7	32
68	Polymer-assisted preparation of metal nanoparticles with controlled size and morphology. Journal of Materials Chemistry, 2011, 21, 2550-2554.	6.7	41
69	Synthesis and Characterization of Ethylene Glycol Substituted Poly(phenylene Vinylene) Derivatives. ACS Applied Materials & Interfaces, 2010, 2, 738-747.	8.0	9
70	Solvent Polarity Effect on Chain Conformation, Film Morphology, and Optical Properties of a Water-Soluble Conjugated Polymer. Journal of Physical Chemistry B, 2010, 114, 11746-11752.	2.6	38
71	Halide Perovskites: Recent Advances in Optoelectronic Properties from Atomic Scale Modelling. , 0, , .		0