Joel R Troughton

List of Publications by Year
in descending order

40 papers	4,355 citations	236925 25 h-index	302126 39 g-index
40 all docs	40 docs citations	40 times ranked	5927 citing authors

#	Article	IF	Citations
1	Managing grains and interfaces via ligand anchoring enables 22.3%-efficiency inverted perovskite solar cells. Nature Energy, 2020, 5, 131-140.	39.5	894
2	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. Science, 2020, 367, 1135-1140.	12.6	525
3	Quantifying Losses in Open-Circuit Voltage in Solution-Processable Solar Cells. Physical Review Applied, 2015, 4, .	3.8	500
4	Quantum Dots Supply Bulk- and Surface-Passivation Agents for Efficient and Stable Perovskite Solar Cells. Joule, 2019, 3, 1963-1976.	24.0	222
5	A one-step low temperature processing route for organolead halide perovskite solar cells. Chemical Communications, 2013, 49, 7893.	4.1	212
6	Humidity resistant fabrication of CH3NH3PbI3 perovskite solar cells and modules. Nano Energy, 2017, 39, 60-68.	16.0	197
7	Efficient, Semitransparent Neutral-Colored Solar Cells Based on Microstructured Formamidinium Lead Trihalide Perovskite. Journal of Physical Chemistry Letters, 2015, 6, 129-138.	4.6	173
8	A Transparent Conductive Adhesive Laminate Electrode for Highâ€Efficiency Organicâ€Inorganic Lead Halide Perovskite Solar Cells. Advanced Materials, 2014, 26, 7499-7504.	21.0	169
9	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. Nature Energy, 2021, 6, 167-175.	39.5	164
10	Highly efficient, flexible, indium-free perovskite solar cells employing metallic substrates. Journal of Materials Chemistry A, 2015, 3, 9141-9145.	10.3	133
11	Identifying Dominant Recombination Mechanisms in Perovskite Solar Cells by Measuring the Transient Ideality Factor. Physical Review Applied, 2019, 11, .	3.8	107
12	Photonic flash-annealing of lead halide perovskite solar cells in 1 ms. Journal of Materials Chemistry A, 2016, 4, 3471-3476.	10.3	95
13	Sources of Pb(0) artefacts during XPS analysis of lead halide perovskites. Materials Letters, 2019, 251, 98-101.	2.6	89
14	Room-Temperature-Sputtered Nanocrystalline Nickel Oxide as Hole Transport Layer for pâ€“iâ€“n Perovskite Solar Cells. ACS Applied Energy Materials, 2018, 1, 6227-6233.	5.1	88
15	Linked Nickel Oxide/Perovskite Interface Passivation for Highâ€Performance Textured Monolithic Tandem Solar Cells. Advanced Energy Materials, 2021, 11, 2101662.	19.5	77
16	Transient Optoelectronic Analysis of the Impact of Material Energetics and Recombination Kinetics on the Open-Circuit Voltage of Hybrid Perovskite Solar Cells. Journal of Physical Chemistry C, 2017, 121, 13496-13506.	3.1	76
17	Rapid processing of perovskite solar cells in under 2.5 seconds. Journal of Materials Chemistry A, 2015, 3, 9123-9127.	10.3	67
18	Outstanding Indoor Performance of Perovskite Photovoltaic Cells â€“ Effect of Device Architectures and Interlayers. Solar Rrl, 2019, 3, 1800207.	5.8	63

#	Article	IF	Citations
19	All Slotâ€Die Coated Nonâ€Fullerene Organic Solar Cells with PCE 11%. Advanced Functional Materials, 2021, 31, 2009996.	14.9	52
20	One-Step Facile Synthesis of a Simple Hole Transport Material for Efficient Perovskite Solar Cells. Chemistry of Materials, 2016, 28, 2515-2518.	6.7	51
21	Enhancing the Charge Extraction and Stability of Perovskite Solar Cells Using Strontium Titanate (SrTiO₃) Electron Transport Layer. ACS Applied Energy Materials, 2019, 2, 8090-8097.	5.1	51
22	Processingâ€Performance Evolution of Perovskite Solar Cells: From Large Grain Polycrystalline Films to Single Crystals. Advanced Energy Materials, 2020, 10, 1902762.	19.5	50
23	Enhancing the stability of organolead halide perovskite films through polymer encapsulation. RSC Advances, 2017, 7, 32942-32951.	3.6	48
24	A universal solution processed interfacial bilayer enabling ohmic contact in organic and hybrid optoelectronic devices. Energy and Environmental Science, 2020, 13, 268-276.	30.8	40
25	Cs_{0.15}FA_{0.85}PbI₃ perovskite solar cells for concentrator photovoltaic applications. Journal of Materials Chemistry A, 2018, 6, 21913-21917.	10.3	31
26	A Nonionic Alcohol Soluble Polymer Cathode Interlayer Enables Efficient Organic and Perovskite Solar Cells. Chemistry of Materials, 2021, 33, 8602-8611.	6.7	28
27	Effect of alkyl chain length on the properties of triphenylamine-based hole transport materials and their performance in perovskite solar cells. Physical Chemistry Chemical Physics, 2018, 20, 1252-1260.	2.8	25
28	Interfacial Dynamics and Contact Passivation in Perovskite Solar Cells. Advanced Electronic Materials, 2019, 5, 1800500.	5.1	25
29	Tuning the Thermoelectric Performance of Hybrid Tin Perovskites by Air Treatment. Advanced Energy and Sustainability Research, 2020, 1, 2000033.	5.8	20
30	A Multilayered Electron Extracting System for Efficient Perovskite Solar Cells. Advanced Functional Materials, 2020, 30, 2004273.	14.9	17
31	In-depth analysis of defects in TiO2 compact electron transport layers and impact on performance and hysteresis of planar perovskite devices at low light. Solar Energy Materials and Solar Cells, 2020, 209, 110448.	6.2	15
32	A Highly Conductive Conjugated Polyelectrolyte for Flexible Organic Thermoelectrics. ACS Applied Energy Materials, 2020, 3, 8667-8675.	5.1	11
33	Air-Processable and Thermally Stable Hole Transport Layer for Non-Fullerene Organic Solar Cells. ACS Applied Energy Materials, 2022, 5, 1023-1030.	5.1	11
34	Solution processing of TiO2 compact layers for 3rd generation photovoltaics. Ceramics International, 2016, 42, 11989-11997.	4.8	8
35	Mass Manufactured Glass Substrates Incorporating Prefabricated Electron Transport Layers for Perovskite Solar Cells. Advanced Materials Interfaces, 2019, 6, 1801773.	3.7	5
36	Star-shaped triarylamine-based hole-transport materials in perovskite solar cells. Sustainable Energy and Fuels, 2020, 4, 779-787.	4.9	5

#	Article	IF	Citations
37	Efficient Hybrid Amorphous Silicon/Organic Tandem Solar Cells Enabled by Nearâ€Infrared Absorbing Nonfullerene Acceptors. Advanced Energy Materials, 2021, 11, 2100166.	19.5	5
38	Self-adhesive electrode applied to ZnO nanorod-based piezoelectric nanogenerators. Smart Materials and Structures, 2019, 28, 105040.	3.5	3
39	Linked Nickel Oxide/Perovskite Interface Passivation for Highâ€Performance Textured Monolithic Tandem Solar Cells (Adv. Energy Mater. 40/2021). Advanced Energy Materials, 2021, 11, 2170160.	19.5	2
40	Identifying recombination mechanisms through materials development in perovskite solar cells. , 2015, , .		1