Mojtaba Abdi-Jalebi

List of Publications by Year
in descending order

66 papers	7,393 citations	94415 37 h-index	123420 61 g-index
68 all docs	68 docs citations	68 times ranked	9451 citing authors

#	Article	IF	Citations
1	Impacts of plasmonic nanoparticles incorporation and interface energy alignment for highly efficient carbon-based perovskite solar cells. Scientific Reports, 2022, 12, 5367.	3.3	20
2	Perovskite light-emitting diodes. Nature Electronics, 2022, 5, 203-216.	26.0	268
3	Linking Glassâ€Transition Behavior to Photophysical and Charge Transport Properties of Highâ€Mobility Conjugated Polymers. Advanced Functional Materials, 2021, 31, 2007359.	14.9	26
4	Beyond 17% stable perovskite solar module via polaron arrangement of tuned polymeric hole transport layer. Nano Energy, 2021, 82, 105685.	16.0	28
5	Crystallographic, Optical, and Electronic Properties of the Cs2AgBi1â€“xInxBr6 Double Perovskite: Understanding the Fundamental Photovoltaic Efficiency Challenges. ACS Energy Letters, 2021, 6, 1073-1081.	17.4	19
6	Direct Probing of Gap States and Their Passivation in Halide Perovskites by High-Sensitivity, Variable Energy Ultraviolet Photoelectron Spectroscopy. Journal of Physical Chemistry C, 2021, 125, 5217-5225.	3.1	12
7	Highly Absorbing Lead-Free Semiconductor Cu₂AgBiI₆ for Photovoltaic Applications from the Quaternary CuIâ€“AgIâ€“BiI₃ Phase Space. Journal of the American Chemical Society, 2021, 143, 3983-3992.	13.7	59
8	Optimizing Structural and Mechanical Properties of Coiled Carbon Nanotubes with NSGA-II and Reactive Molecular Dynamics Simulation. Journal of Physical Chemistry C, 2021, 125, 6237-6248.	3.1	7
9	Charge transport physics of a unique class of rigid-rod conjugated polymers with fused-ring conjugated units linked by double carbon-carbon bonds. Science Advances, 2021, 7, .	10.3	28
10	In-gap states of an amorphous Inâ€“Gaâ€“Znâ€“O thin film studied via high-sensitivity ultraviolet photoemission spectroscopy using low-energy photons. Applied Physics Express, 2021, 14, 071004.	2.4	2
11	Low-frequency carrier kinetics in triple cation perovskite solar cells probed by impedance and modulus spectroscopy. Electrochimica Acta, 2021, 386, 138430.	5.2	33
12	Efficient and Spectrally Stable Blue Perovskite Lightâ€Emitting Diodes Employing a Cationic Ï€â€Conjugated Polymer. Advanced Materials, 2021, 33, e2103640.	21.0	77
13	Relaxed Current Matching Requirements in Highly Luminescent Perovskite Tandem Solar Cells and Their Fundamental Efficiency Limits. ACS Energy Letters, 2021, 6, 612-620.	17.4	38
14	Impact of hybrid plasmonic nanoparticles on the charge carrier mobility of P3HT:PCBM polymer solar cells. Scientific Reports, 2021, 11, 19774.	3.3	10
15	Optical absorption and photoluminescence spectroscopy. , 2020, , 49-79.		9
16	Bandgap lowering in mixed alloys of Cs₂Ag(Sb_xBi_{1âˆ’x})Br₆ double perovskite thin films. Journal of Materials Chemistry A, 2020, 8, 21780-21788.	10.3	66
17	Minimizing the Trade-Off between Photocurrent and Photovoltage in Triple-Cation Mixed-Halide Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2020, 11, 10188-10195.	4.6	36
18	Lanthanide-doped inorganic nanoparticles turn molecular triplet excitons bright. Nature, 2020, 587, 594-599.	27.8	135

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19	Charge and Thermoelectric Transport in Polymer-Sorted Semiconducting Single-Walled Carbon Nanotube Networks. ACS Nano, 2020, 14, 15552-15565.	14.6	28
20	Elucidating and Mitigating Degradation Processes in Perovskite Lightâ€Emitting Diodes. Advanced Energy Materials, 2020, 10, 2002676.	19.5	28
21	Understanding the Performance-Limiting Factors of Cs₂AgBiBr₆ Double-Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 2200-2207.	17.4	161
22	How To Quantify the Efficiency Potential of Neat Perovskite Films: Perovskite Semiconductors with an Implied Efficiency Exceeding 28%. Advanced Materials, 2020, 32, e2000080.	21.0	134
23	Correlated Electrical and Chemical Nanoscale Properties in Potassiumâ€Passivated, Tripleâ€Cation Perovskite Solar Cells. Advanced Materials Interfaces, 2020, 7, 2000515.	3.7	4
24	Recent progress in morphology optimization in perovskite solar cell. Journal of Materials Chemistry A, 2020, 8, 21356-21386.	10.3	159
25	A general approach for hysteresis-free, operationally stable metal halide perovskite field-effect transistors. Science Advances, 2020, 6, eaaz4948.	10.3	129
26	Performance-limiting nanoscale trap clusters at grain junctions in halide perovskites. Nature, 2020, 580, 360-366.	27.8	255
27	Photodoping through local charge carrier accumulation in alloyed hybrid perovskites for highly efficient luminescence. Nature Photonics, 2020, 14, 123-128.	31.4	93
28	A Highly Emissive Surface Layer in Mixedâ€Halide Multication Perovskites. Advanced Materials, 2019, 31, e1902374.	21.0	57
29	Reversible Removal of Intermixed Shallow States by Light Soaking in Multication Mixed Halide Perovskite Films. ACS Energy Letters, 2019, 4, 2360-2367.	17.4	41
30	Lattice strain causes non-radiative losses in halide perovskites. Energy and Environmental Science, 2019, 12, 596-606.	30.8	343
31	Detection of Xâ€Rays by Solutionâ€Processed Cesiumâ€Containing Mixed Triple Cation Perovskite Thin Films. Advanced Functional Materials, 2019, 29, 1902346.	14.9	74
32	Impact of Excess Lead Iodide on the Recombination Kinetics in Metal Halide Perovskites. ACS Energy Letters, 2019, 4, 1370-1378.	17.4	71
33	Charge extraction via graded doping of hole transport layers gives highly luminescent and stable metal halide perovskite devices. Science Advances, 2019, 5, eaav2012.	10.3	116
34	Visualizing the Creation and Healing of Traps in Perovskite Photovoltaic Films by Light Soaking and Passivation Treatments. , 2019, , .		1
35	Back-Contact Perovskite Solar Cells. , 2019, 1, 1-10.		4
36	How Methylammonium Cations and Chlorine Dopants Heal Defects in Lead Iodide Perovskites. Advanced Energy Materials, 2018, 8, 1702754.	19.5	86

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37	<i>In situ</i> simultaneous photovoltaic and structural evolution of perovskite solar cells during film formation. Energy and Environmental Science, 2018, 11, 383-393.	30.8	77
38	Interface-Dependent Radiative and Nonradiative Recombination in Perovskite Solar Cells. Journal of Physical Chemistry C, 2018, 122, 10691-10698.	3.1	40
39	Maximizing and stabilizing luminescence from halide perovskites with potassium passivation. Nature, 2018, 555, 497-501.	27.8	1,336
40	Unveiling the Chemical Composition of Halide Perovskite Films Using Multivariate Statistical Analyses. ACS Applied Energy Materials, 2018, 1, 7174-7181.	5.1	31
41	Potassium- and Rubidium-Passivated Alloyed Perovskite Films: Optoelectronic Properties and Moisture Stability. ACS Energy Letters, 2018, 3, 2671-2678.	17.4	126
42	Dedoping of Lead Halide Perovskites Incorporating Monovalent Cations. ACS Nano, 2018, 12, 7301-7311.	14.6	101
43	Investigation of Trap States and Their Dynamics in Hybrid Organic-inorganic Mixed Cation Perovskite Films Using Time Resolved Photoemission Electron Microscopy. , 2018, , .		2
44	Probing buried recombination pathways in perovskite structures using 3D photoluminescence tomography. Energy and Environmental Science, 2018, 11, 2846-2852.	30.8	42
45	Impact of microstructure on the electronâ€“hole interaction in lead halide perovskites. Energy and Environmental Science, 2017, 10, 1358-1366.	30.8	36
46	High-performance light-emitting diodes based on carbene-metal-amides. Science, 2017, 356, 159-163.	12.6	444
47	Dithiopheneindenofluorene (TIF) Semiconducting Polymers with Very High Mobility in Fieldâ€Effect Transistors. Advanced Materials, 2017, 29, 1702523.	21.0	81
48	Monovalent Cation Doping of CH₃NH₃PbI₃ for Efficient Perovskite Solar Cells. Journal of Visualized Experiments, 2017, , .	0.3	20
49	Vapour-Deposited Cesium Lead Iodide Perovskites: Microsecond Charge Carrier Lifetimes and Enhanced Photovoltaic Performance. ACS Energy Letters, 2017, 2, 1901-1908.	17.4	128
50	High Openâ€Circuit Voltages in Tinâ€Rich Lowâ€Bandgap Perovskiteâ€Based Planar Heterojunction Photovoltaics. Advanced Materials, 2017, 29, 1604744.	21.0	212
51	Impact of Monovalent Cation Halide Additives on the Structural and Optoelectronic Properties of CH₃NH₃PbI₃ Perovskite. Advanced Energy Materials, 2016, 6, 1502472.	19.5	196
52	Enhancing photoluminescence yields in lead halide perovskites by photon recycling and light out-coupling. Nature Communications, 2016, 7, 13941.	12.8	427
53	Impact of a Mesoporous Titaniaâ€“Perovskite Interface on the Performance of Hybrid Organicâ€“Inorganic Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2016, 7, 3264-3269.	4.6	85
54	A facile low temperature route to deposit a TiO2 scattering layer for efficient dye-sensitized solar cells. RSC Advances, 2016, 6, 70895-70901.	3.6	16

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55	Intrinsic and Extrinsic Stability of Formamidinium Lead Bromide Perovskite Solar Cells Yielding High Photovoltage. Nano Letters, 2016, 16, 7155-7162.	9.1	104
56	Growth Engineering of CH₃NH₃PbI₃ Structures for Highâ€Efficiency Solar Cells. Advanced Energy Materials, 2016, 6, 1501358.	19.5	36
57	Critical light instability in CB/DIO processed PBDTTT-EFT:PC 71 BM organic photovoltaic devices. Organic Electronics, 2016, 30, 225-236.	2.6	87
58	Photon recycling in lead iodide perovskite solar cells. Science, 2016, 351, 1430-1433.	12.6	600
59	Understanding the Impact of Bromide on the Photovoltaic Performance of CH₃NH₃PbI₃ Solar Cells. Advanced Materials, 2015, 27, 7221-7228.	21.0	73
60	Influence of an Inorganic Interlayer on Exciton Separation in Hybrid Solar Cells. ACS Nano, 2015, 9, 11863-11871.	14.6	22
61	Analysis of Electron Transfer Properties of ZnO and TiO₂ Photoanodes for Dye-Sensitized Solar Cells. ACS Nano, 2014, 8, 2261-2268.	14.6	326
62	Quantum-Confined ZnO Nanoshell Photoanodes for Mesoscopic Solar Cells. Nano Letters, 2014, 14, 1190-1195.	9.1	42
63	Double-Layer TiO2 Electrodes with Controlled Phase Composition and Morphology for Efficient Light Management in Dye-Sensitized Solar Cells. Journal of Cluster Science, 2014, 25, 1029-1045.	3.3	14
64	Controlling electron injection and electron transport of dye-sensitized solar cells aided by incorporating CNTs into a Cr-doped TiO2 photoanode. Electrochimica Acta, 2013, 111, 921-929.	5.2	27
65	Enhanced optoelectronic quality of metal halide perovskite via additive engineering. , 0, , .		0
66	The Impact of Lead Iodide on the Recombination Kinetics in Metal Halide Perovskite Films. , 0, , .		0