

Jay B Patel

List of Publications by Citations

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40
papers

4,858
citations

27
h-index

42
g-index

42
ext. papers

5,731
ext. citations

17.8
avg, IF

5.58
L-index

#	Paper	IF	Citations
40	Bandgap-Tunable Cesium Lead Halide Perovskites with High Thermal Stability for Efficient Solar Cells. <i>Advanced Energy Materials</i> , 2016 , 6, 1502458	21.8	992
39	Perovskite-perovskite tandem photovoltaics with optimized band gaps. <i>Science</i> , 2016 , 354, 861-865	33.3	865
38	Photovoltaic mixed-cation lead mixed-halide perovskites: links between crystallinity, photo-stability and electronic properties. <i>Energy and Environmental Science</i> , 2017 , 10, 361-369	35.4	362
37	Efficient perovskite solar cells by metal ion doping. <i>Energy and Environmental Science</i> , 2016 , 9, 2892-2903	35.4	301
36	Vibrational Properties of the Organic-Inorganic Halide Perovskite CH ₃ NH ₃ PbI ₃ from Theory and Experiment: Factor Group Analysis, First-Principles Calculations, and Low-Temperature Infrared Spectra. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 25703-25718	3.8	220
35	Efficient and Air-Stable Mixed-Cation Lead Mixed-Halide Perovskite Solar Cells with n-Doped Organic Electron Extraction Layers. <i>Advanced Materials</i> , 2017 , 29, 1604186	24	211
34	Structured Organic-Inorganic Perovskite toward a Distributed Feedback Laser. <i>Advanced Materials</i> , 2016 , 28, 923-9	24	209
33	Crystallization Kinetics and Morphology Control of Formamidinium-Cesium Mixed-Cation Lead Mixed-Halide Perovskite via Tunability of the Colloidal Precursor Solution. <i>Advanced Materials</i> , 2017 , 29, 1607039	24	197
32	Bimolecular recombination in methylammonium lead triiodide perovskite is an inverse absorption process. <i>Nature Communications</i> , 2018 , 9, 293	17.4	175
31	Electronic Traps and Phase Segregation in Lead Mixed-Halide Perovskite. <i>ACS Energy Letters</i> , 2019 , 4, 75-84	20.1	134
30	Photon Reabsorption Masks Intrinsic Bimolecular Charge-Carrier Recombination in CH ₃ NH ₃ PbI ₃ Perovskite. <i>Nano Letters</i> , 2017 , 17, 5782-5789	11.5	108
29	Unveiling the Influence of pH on the Crystallization of Hybrid Perovskites, Delivering Low Voltage Loss Photovoltaics. <i>Joule</i> , 2017 , 1, 328-343	27.8	104
28	Enhanced Amplified Spontaneous Emission in Perovskites Using a Flexible Cholesteric Liquid Crystal Reflector. <i>Nano Letters</i> , 2015 , 15, 4935-41	11.5	97
27	Large-Area, Highly Uniform Evaporated Formamidinium Lead Triiodide Thin Films for Solar Cells. <i>ACS Energy Letters</i> , 2017 , 2, 2799-2804	20.1	86
26	Formation Dynamics of CH ₃ NH ₃ PbI ₃ Perovskite Following Two-Step Layer Deposition. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 96-102	6.4	82
25	Elucidating the long-range charge carrier mobility in metal halide perovskite thin films. <i>Energy and Environmental Science</i> , 2019 , 12, 169-176	35.4	76
24	Influence of Interface Morphology on Hysteresis in Vapor-Deposited Perovskite Solar Cells. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600470	6.4	53

23	Metal composition influences optoelectronic quality in mixed-metal lead-free triiodide perovskite solar absorbers. <i>Energy and Environmental Science</i> , 2020 , 13, 1776-1787	35.4	50
22	Elucidating the Role of a Tetrafluoroborate-Based Ionic Liquid at the n-Type Oxide/Perovskite Interface. <i>Advanced Energy Materials</i> , 2020 , 10, 1903231	21.8	50
21	Halide Segregation in Mixed-Halide Perovskites: Influence of A-Site Cations. <i>ACS Energy Letters</i> , 2021 , 6, 799-808	20.1	46
20	Highly Crystalline Methylammonium Lead Tribromide Perovskite Films for Efficient Photovoltaic Devices. <i>ACS Energy Letters</i> , 2018 , 3, 1233-1240	20.1	43
19	Near-Infrared and Short-Wavelength Infrared Photodiodes Based on Dye-Perovskite Composites. <i>Advanced Functional Materials</i> , 2017 , 27, 1702485	15.6	43
18	Control over Crystal Size in Vapor Deposited Metal-Halide Perovskite Films. <i>ACS Energy Letters</i> , 2020 , 5, 710-717	20.1	42
17	Trap States, Electric Fields, and Phase Segregation in Mixed-Halide Perovskite Photovoltaic Devices. <i>Advanced Energy Materials</i> , 2020 , 10, 1903488	21.8	39
16	Dual-Source Coevaporation of Low-Bandgap FA _{1-x} Cs _x Sn _{1-y} Pb _y I ₃ Perovskites for Photovoltaics. <i>ACS Energy Letters</i> , 2019 , 4, 2748-2756	20.1	37
15	Temperature-Dependent Refractive Index of Quartz at Terahertz Frequencies. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2018 , 39, 1236-1248	2.2	37
14	Growth modes and quantum confinement in ultrathin vapour-deposited MAPbI ₃ films. <i>Nanoscale</i> , 2019 , 11, 14276-14284	7.7	29
13	Charge-Carrier Dynamics, Mobilities, and Diffusion Lengths of 2D/3D Hybrid Butylammonium-Cesium-Formamidinium Lead Halide Perovskites. <i>Advanced Functional Materials</i> , 2019 , 29, 1902656	15.6	22
12	Effect of Ultraviolet Radiation on Organic Photovoltaic Materials and Devices. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 21543-21551	9.5	19
11	CsPbBr ₃ Nanocrystal Films: Deviations from Bulk Vibrational and Optoelectronic Properties. <i>Advanced Functional Materials</i> , 2020 , 30, 1909904	15.6	17
10	Photocurrent Spectroscopy of Perovskite Solar Cells Over a Wide Temperature Range from 15 to 350 K. <i>Journal of Physical Chemistry Letters</i> , 2018 , 9, 263-268	6.4	17
9	Light Absorption and Recycling in Hybrid Metal Halide Perovskite Photovoltaic Devices. <i>Advanced Energy Materials</i> , 2020 , 10, 1903653	21.8	17
8	Phase segregation in mixed-halide perovskites affects charge-carrier dynamics while preserving mobility. <i>Nature Communications</i> , 2021 , 12, 6955	17.4	16
7	Incorporating Electrochemical Halide Oxidation into Drift-Diffusion Models to Explain Performance Losses in Perovskite Solar Cells under Prolonged Reverse Bias. <i>Advanced Energy Materials</i> , 2021 , 11, 2002614	21.8	15
6	Limits to Electrical Mobility in Lead-Halide Perovskite Semiconductors. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 3607-3617	6.4	14

5	Temperature Coefficients of Perovskite Photovoltaics for Energy Yield Calculations. <i>ACS Energy Letters</i> , 2021 , 6, 2038-2047	20.1	11
4	Solvent-Free Method for Defect Reduction and Improved Performance of p-i-n Vapor-Deposited Perovskite Solar Cells. <i>ACS Energy Letters</i> , 1903-1911	20.1	8
3	Modification of the fluorinated tin oxide/electron-transporting material interface by a strong reductant and its effect on perovskite solar cell efficiency. <i>Molecular Systems Design and Engineering</i> , 2018 , 3, 741-747	4.6	7
2	Efficient energy transfer mitigates parasitic light absorption in molecular charge-extraction layers for perovskite solar cells. <i>Nature Communications</i> , 2020 , 11, 5525	17.4	6
1	Ultrafast photo-induced phonon hardening due to Pauli blocking in MAPbI ₃ single-crystal and polycrystalline perovskites. <i>JPhys Materials</i> , 2021 , 4, 044017	4.2	0