

Jay B Patel

List of Publications by Year in descending order

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42
papers

6,673
citations

136740

32
h-index

288905

40
g-index

42
all docs

42
docs citations

42
times ranked

8633
citing authors

#	ARTICLE	IF	CITATIONS
1	Bandgap-Tunable Cesium Lead Halide Perovskites with High Thermal Stability for Efficient Solar Cells. <i>Advanced Energy Materials</i> , 2016, 6, 1502458.	10.2	1,265
2	Perovskite-perovskite tandem photovoltaics with optimized band gaps. <i>Science</i> , 2016, 354, 861-865.	6.0	1,107
3	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.	15.6	482
4	Efficient perovskite solar cells by metal ion doping. <i>Energy and Environmental Science</i> , 2016, 9, 2892-2901.	15.6	372
5	Vibrational Properties of the Organic-Inorganic Halide Perovskite $\text{CH}_3\text{NH}_3\text{PbI}_3$ 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.	1.5	276
6	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.	11.1	263
7	Structured Organic-Inorganic Perovskite toward a Distributed Feedback Laser. <i>Advanced Materials</i> , 2016, 28, 923-929.	11.1	257
8	Bimolecular recombination in methylammonium lead triiodide perovskite is an inverse absorption process. <i>Nature Communications</i> , 2018, 9, 293.	5.8	243
9	Efficient and Air-Stable Mixed-Cation Lead Mixed-Halide Perovskite Solar Cells with Doped Organic Electron Extraction Layers. <i>Advanced Materials</i> , 2017, 29, 1604186.	11.1	237
10	Electronic Traps and Phase Segregation in Lead Mixed-Halide Perovskite. <i>ACS Energy Letters</i> , 2019, 4, 75-84.	8.8	212
11	Unveiling the Influence of pH on the Crystallization of Hybrid Perovskites, Delivering Low Voltage Loss Photovoltaics. <i>Joule</i> , 2017, 1, 328-343.	11.7	148
12	Photon Reabsorption Masks Intrinsic Bimolecular Charge-Carrier Recombination in $\text{CH}_3\text{NH}_3\text{PbI}_3$ Perovskite. <i>Nano Letters</i> , 2017, 17, 5782-5789.	4.5	147
13	Halide Segregation in Mixed-Halide Perovskites: Influence of A-Site Cations. <i>ACS Energy Letters</i> , 2021, 6, 799-808.	8.8	129
14	Enhanced Amplified Spontaneous Emission in Perovskites Using a Flexible Cholesteric Liquid Crystal Reflector. <i>Nano Letters</i> , 2015, 15, 4935-4941.	4.5	117
15	Large-Area, Highly Uniform Evaporated Formamidinium Lead Triiodide Thin Films for Solar Cells. <i>ACS Energy Letters</i> , 2017, 2, 2799-2804.	8.8	116
16	Elucidating the long-range charge carrier mobility in metal halide perovskite thin films. <i>Energy and Environmental Science</i> , 2019, 12, 169-176.	15.6	115
17	Formation Dynamics of $\text{CH}_3\text{NH}_3\text{PbI}_3$ Perovskite Following Two-Step Layer Deposition. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 96-102.	2.1	100
18	Metal composition influences optoelectronic quality in mixed-metal lead-tin triiodide perovskite solar absorbers. <i>Energy and Environmental Science</i> , 2020, 13, 1776-1787.	15.6	87

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19	Elucidating the Role of a Tetrafluoroborate-Based Ionic Liquid at the n-Type Oxide/Perovskite Interface. <i>Advanced Energy Materials</i> , 2020, 10, 1903231.	10.2	81
20	Trap States, Electric Fields, and Phase Segregation in Mixed-Halide Perovskite Photovoltaic Devices. <i>Advanced Energy Materials</i> , 2020, 10, 1903488.	10.2	79
21	Temperature-Dependent Refractive Index of Quartz at Terahertz Frequencies. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2018, 39, 1236-1248.	1.2	75
22	Control over Crystal Size in Vapor Deposited Metal-Halide Perovskite Films. <i>ACS Energy Letters</i> , 2020, 5, 710-717.	8.8	72
23	Phase segregation in mixed-halide perovskites affects charge-carrier dynamics while preserving mobility. <i>Nature Communications</i> , 2021, 12, 6955.	5.8	72
24	Influence of Interface Morphology on Hysteresis in Vapor-Deposited Perovskite Solar Cells. <i>Advanced Electronic Materials</i> , 2017, 3, 1600470.	2.6	63
25	Near-Infrared and Short-Wavelength Infrared Photodiodes Based on Dye-Perovskite Composites. <i>Advanced Functional Materials</i> , 2017, 27, 1702485.	7.8	59
26	Highly Crystalline Methylammonium Lead Tribromide Perovskite Films for Efficient Photovoltaic Devices. <i>ACS Energy Letters</i> , 2018, 3, 1233-1240.	8.8	54
27	Growth modes and quantum confinement in ultrathin vapour-deposited MAPbI ₃ films. <i>Nanoscale</i> , 2019, 11, 14276-14284.	2.8	51
28	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.	7.8	45
29	Limits to Electrical Mobility in Lead-Halide Perovskite Semiconductors. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 3607-3617.	2.1	45
30	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.	8.8	43
31	Temperature Coefficients of Perovskite Photovoltaics for Energy Yield Calculations. <i>ACS Energy Letters</i> , 2021, 6, 2038-2047.	8.8	43
32	Effect of Ultraviolet Radiation on Organic Photovoltaic Materials and Devices. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 21543-21551.	4.0	37
33	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.	10.2	34
34	Solvent-Free Method for Defect Reduction and Improved Performance of p-i-n Vapor-Deposited Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2022, 7, 1903-1911.	8.8	33
35	CsPbBr ₃ Nanocrystal Films: Deviations from Bulk Vibrational and Optoelectronic Properties. <i>Advanced Functional Materials</i> , 2020, 30, 1909904.	7.8	29
36	Light Absorption and Recycling in Hybrid Metal Halide Perovskite Photovoltaic Devices. <i>Advanced Energy Materials</i> , 2020, 10, 1903653.	10.2	28

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37	Photocurrent Spectroscopy of Perovskite Solar Cells Over a Wide Temperature Range from 15 to 350 K. Journal of Physical Chemistry Letters, 2018, 9, 263-268.	2.1	23
38	Efficient energy transfer mitigates parasitic light absorption in molecular charge-extraction layers for perovskite solar cells. Nature Communications, 2020, 11, 5525.	5.8	15
39	Modification of the fluorinated tin oxide/electron-transporting material interface by a strong reductant and its effect on perovskite solar cell efficiency. Molecular Systems Design and Engineering, 2018, 3, 741-747.	1.7	9
40	Ultrafast photo-induced phonon hardening due to Pauli blocking in MAPbI ₃ single-crystal and polycrystalline perovskites. JPhys Materials, 2021, 4, 044017.	1.8	4
41	Time-resolved THz spectroscopy of metal-halide perovskite single crystals and polycrystalline thin films. , 2019, , .		3
42	In-Operando Characterization of P-I-N Perovskite Solar Cells Under Reverse Bias. , 2021, , .		3