Pankaj Yadav

List of Publications by Year
in descending order

87 papers	4,263 citations	147801 31 h-index	118850 62 g-index
89 all docs	89 docs citations	89 times ranked	5243 citing authors

#	Article	IF	Citations
1	Is machine learning redefining the perovskite solar cells?. Journal of Energy Chemistry, 2022, 66, 74-90.	12.9	27
2	Thiocyanate-Passivated Diaminonaphthalene-Incorporated Dionâ€“Jacobson Perovskite for Highly Efficient and Stable Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 850-860.	8.0	22
3	Influence of the A-site cation on hysteresis and ion migration in lead-free perovskite single crystals. Physical Review Materials, 2022, 6, .	2.4	13
4	Band alignment and carrier recombination roles on the open circuit voltage of ETLâ€passivated perovskite photovoltaics. International Journal of Energy Research, 2022, 46, 6022-6030.	4.5	2
5	Recent Progress of Light Intensityâ€Modulated Small Perturbation Techniques in Perovskite Solar Cells. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	6
6	Atomic Layer Engineering of Aluminumâ€Doped Zinc Oxide Films for Efficient and Stable Perovskite Solar Cells. Advanced Materials Interfaces, 2022, 9, .	3.7	16
7	Investigation on the Facet-Dependent Anisotropy in Halide Perovskite Single Crystals. Journal of Physical Chemistry C, 2022, 126, 8906-8912.	3.1	7
8	Efficient and Lessâ€Toxic Indiumâ€Doped MAPbI₃ Perovskite Solar Cells Prepared by Metal Alloying Technique. Solar Rrl, 2022, 6, .	5.8	6
9	Dielectric Relaxation and Polaron Hopping in Cs₂AgBiBr₆ Halide Double Perovskites. Journal of Physical Chemistry C, 2022, 126, 10199-10208.	3.1	20
10	Highly Efficient and Stable 2D Dion Jacobson/3D Perovskite Heterojunction Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 29744-29753.	8.0	17
11	Identifying dominant recombination mechanisms in spiro-based conventional perovskite solar cells: Roles of interface and bulk recombination. Energy Reports, 2022, 8, 7957-7963.	5.1	5
12	Efficient, Hysteresisâ€Free, and Flexible Inverted Perovskite Solar Cells Using Allâ€Vacuum Processing. Solar Rrl, 2021, 5, .	5.8	33
13	Role of the spacer cation in the growth and crystal orientation of two-dimensional perovskites. Sustainable Energy and Fuels, 2021, 5, 1255-1279.	4.9	14
14	3D graphene nanosheets from plastic waste for highly efficient HTM free perovskite solar cells. Nanoscale Advances, 2021, 3, 4726-4738.	4.6	28
15	Recent Progress in Growth of Single-Crystal Perovskites for Photovoltaic Applications. ACS Omega, 2021, 6, 1030-1042.	3.5	35
16	Two-dimensional halide perovskite single crystals: principles and promises. Emergent Materials, 2021, 4, 865-880.	5.7	14
17	Metal Halide Perovskites for Energy Storage Applications. European Journal of Inorganic Chemistry, 2021, 2021, 1201-1212.	2.0	29
18	Mesoscopic TiO₂/Nb₂O₅ Electron Transfer Layer for Efficient and Stable Perovskite Solar Cells. Advanced Materials Interfaces, 2021, 8, 2100177.	3.7	20

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19	Ambient Stable and Efficient Monolithic Tandem Perovskite/PbS Quantum Dots Solar Cells via Surface Passivation and Light Management Strategies. Advanced Functional Materials, 2021, 31, 2010623.	14.9	44
20	Azahomofullerenes as New n-Type Acceptor Materials for Efficient and Stable Inverted Planar Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2021, 13, 20296-20304.	8.0	13
21	In the Quest of Lowâ€Frequency Impedance Spectra of Efficient Perovskite Solar Cells. Energy Technology, 2021, 9, 2100229.	3.8	16
22	Impedance Spectroscopy for Metal Halide Perovskite Single Crystals: Recent Advances, Challenges, and Solutions. ACS Energy Letters, 2021, 6, 3275-3286.	17.4	47
23	Effect of bromine doping on the charge transfer, ion migration and stability of the single crystalline MAPb(Br_{<i>x</i>}I_{1âˆ’<i>x</i>})₃ photodetector. Journal of Materials Chemistry C, 2021, 9, 15189-15200.	5.5	23
24	Interface Engineering of Mesoscopic Perovskite Solar Cells by Atomic Layer Deposition of Ta₂O₅. ACS Applied Energy Materials, 2021, 4, 10433-10441.	5.1	9
25	Suppressing recombination in perovskite solar cells via surface engineering of TiO2 ETL. Solar Energy, 2020, 197, 50-57.	6.1	53
26	Tuning Areal Density and Surface Passivation of ZnO Nanowire Array Enable Efficient PbS QDs Solar Cells with Enhanced Current Density. Advanced Materials Interfaces, 2020, 7, 1901551.	3.7	22
27	Double layer mesoscopic electron contact for efficient perovskite solar cells. Sustainable Energy and Fuels, 2020, 4, 843-851.	4.9	22
28	A review of aspects of additive engineering in perovskite solar cells. Journal of Materials Chemistry A, 2020, 8, 27-54.	10.3	232
29	Atomic Layer Deposition of an Effective Interface Layer of TiN for Efficient and Hysteresis-Free Mesoscopic Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 8098-8106.	8.0	30
30	Gold Nanoparticles Functionalized with Fullerene Derivative as an Effective Interface Layer for Improving the Efficiency and Stability of Planar Perovskite Solar Cells. Advanced Materials Interfaces, 2020, 7, 2001144.	3.7	14
31	Current scenario of CNG vehicular pollution and their possible abatement technologies: an overview. Environmental Science and Pollution Research, 2020, 27, 39977-40000.	5.3	16
32	A Dopantâ€Free Hole Transporting Layer for Efficient and Stable Planar Perovskite Solar Cells. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000147.	2.4	3
33	Changes in the Electrical Characteristics of Perovskite Solar Cells with Aging Time. Molecules, 2020, 25, 2299.	3.8	31
34	Reducing ion migration in methylammonium lead tri-bromide single crystal via lead sulfate passivation. Journal of Applied Physics, 2020, 127, .	2.5	46
35	Surface Treatment of Perovskite Layer with Guanidinium Iodide Leads to Enhanced Moisture Stability and Improved Efficiency of Perovskite Solar Cells. Advanced Materials Interfaces, 2020, 7, 2000105.	3.7	39
36	Efficient Perovskite Solar Cells Based on CdSe/ZnS Quantum Dots Electron Transporting Layer with Superior UV Stability. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000062.	2.4	11

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37	Interpretation of Resistance, Capacitance, Defect Density, and Activation Energy Levels in Single-Crystalline MAPbI₃. Journal of Physical Chemistry C, 2020, 124, 3496-3502.	3.1	33
38	Elucidation of the role of guanidinium incorporation in single-crystalline MAPbI₃ perovskite on ion migration and activation energy. Physical Chemistry Chemical Physics, 2020, 22, 11467-11473.	2.8	36
39	Electro-analytical comparison of commercial mono-crystalline silicon and PERC solar cells to maximize performance. Engineering Research Express, 2020, 2, 045018.	1.6	1
40	Identification of defects and defect energy distribution in the perovskite layer of MAPbI_{3âˆ’x}Cl_x perovskite solar cell. Materials Research Express, 2019, 6, 105510.	1.6	4
41	Oxygen Plasma-Induced p-Type Doping Improves Performance and Stability of PbS Quantum Dot Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 26047-26052.	8.0	33
42	Mechanoperovskites for Photovoltaic Applications: Preparation, Characterization, and Device Fabrication. Accounts of Chemical Research, 2019, 52, 3233-3243.	15.6	79
43	Effect of CsCl Additive on the Morphological and Optoelectronic Properties of Formamidinium Lead Iodide Perovskite. Solar Rrl, 2019, 3, 1900294.	5.8	30
44	Luminescence down-shifting enables UV-stable and efficient ZnO nanowire-based PbS quantum dot solar cells with <i>J</i>_{SC} exceeding 33 mA cm^{âˆ’2}. Sustainable Energy and Fuels, 2019, 3, 3128-3134.	4.9	18
45	Charge Accumulation, Recombination, and Their Associated Time Scale in Efficient (GUA)<i>_x</i>(MA)_{1â€“<i>x</i>}PbI₃-Based Perovskite Solar Cells. ACS Omega, 2019, 4, 16840-16846.	3.5	25
46	A graphene/ZnO electron transfer layer together with perovskite passivation enables highly efficient and stable perovskite solar cells. Journal of Materials Chemistry A, 2019, 7, 679-686.	10.3	145
47	Cation influence on carrier dynamics in perovskite solar cells. Nano Energy, 2019, 58, 604-611.	16.0	75
48	Correlation of recombination and open circuit voltage in planar heterojunction perovskite solar cells. Journal of Materials Chemistry C, 2019, 7, 1273-1279.	5.5	22
49	Highly efficient and stable inverted perovskite solar cells using down-shifting quantum dots as a light management layer and moisture-assisted film growth. Journal of Materials Chemistry A, 2019, 7, 14753-14760.	10.3	67
50	Ruthenium doped mesoporous titanium dioxide for highly efficient, hysteresis-free and stable perovskite solar cells. Solar Energy, 2019, 186, 156-165.	6.1	30
51	Controllable Perovskite Crystallization via Antisolvent Technique Using Chloride Additives for Highly Efficient Planar Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1803587.	19.5	221
52	Engineering of Perovskite Materials Based on Formamidinium and Cesium Hybridization for High-Efficiency Solar Cells. Chemistry of Materials, 2019, 31, 1620-1627.	6.7	99
53	Influence of A-site cations on the open-circuit voltage of efficient perovskite solar cells: a case of rubidium and guanidinium additives. Journal of Materials Chemistry A, 2019, 7, 8218-8225.	10.3	43
54	Synergistic ligand exchange and UV curing of PbS quantum dots for effective surface passivation. Nanoscale, 2019, 11, 22832-22840.	5.6	8

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55	Synergistic Crystal and Interface Engineering for Efficient and Stable Perovskite Photovoltaics. Advanced Energy Materials, 2019, 9, 1802646.	19.5	189
56	Multilayer evaporation of MAFAPbI_{3âˆ’<i>x</i>}Cl_{<i>x</i>} for the fabrication of efficient and large-scale device perovskite solar cells. Journal Physics D: Applied Physics, 2019, 52, 034005.	2.8	19
57	A chain is as strong as its weakest link â€“ Stability study of MAPbI3 under light and temperature. Materials Today, 2019, 29, 10-19.	14.2	58
58	Perovskite Solar Cells Yielding Reproducible Photovoltage of 1.20 V. Research, 2019, 2019, 1-9.	5.7	15
59	Perovskite Solar Cells Yielding Reproducible Photovoltage of 1.20 V. Research, 2019, 2019, 8474698.	5.7	22
60	Formation of Stable Mixed Guanidiniumâ€“Methylammonium Phases with Exceptionally Long Carrier Lifetimes for High-Efficiency Lead Iodide-Based Perovskite Photovoltaics. Journal of the American Chemical Society, 2018, 140, 3345-3351.	13.7	235
61	Influence of the Nature of A Cation on Dynamics of Charge Transfer Processes in Perovskite Solar Cells. Advanced Functional Materials, 2018, 28, 1706073.	14.9	58
62	One-step mechanochemical incorporation of an insoluble cesium additive for high performance planar heterojunction solar cells. Nano Energy, 2018, 49, 523-528.	16.0	95
63	Interpretation and evolution of open-circuit voltage, recombination, ideality factor and subgap defect states during reversible light-soaking and irreversible degradation of perovskite solar cells. Energy and Environmental Science, 2018, 11, 151-165.	30.8	586
64	Colorimetric optical chemosensor of toxic metal ion (Hg2+) and biological activity using green synthesized AgNPs. Green Chemistry Letters and Reviews, 2018, 11, 484-491.	4.7	20
65	Surface Engineering of TiO₂ ETL for Highly Efficient and Hysteresisâ€Less Planar Perovskite Solar Cell (21.4%) with Enhanced Openâ€Circuit Voltage and Stability. Advanced Energy Materials, 2018, 8, 1800794.	19.5	255
66	Elucidation of Charge Recombination and Accumulation Mechanism in Mixed Perovskite Solar Cells. Journal of Physical Chemistry C, 2018, 122, 15149-15154.	3.1	59
67	Understanding the effect of chlorobenzene and isopropanol anti-solvent treatments on the recombination and interfacial charge accumulation in efficient planar perovskite solar cells. Journal of Materials Chemistry A, 2018, 6, 14307-14314.	10.3	94
68	Blue and red wavelength resolved impedance response of efficient perovskite solar cells. Sustainable Energy and Fuels, 2018, 2, 2407-2411.	4.9	18
69	Surface modification of a hole transporting layer for an efficient perovskite solar cell with an enhanced fill factor and stability. Molecular Systems Design and Engineering, 2018, 3, 717-722.	3.4	31
70	Investigating the Role of Substrate Tin Diffusion on Hematite Based Photoelectrochemical Water Splitting System. Journal of Nanoscience and Nanotechnology, 2018, 18, 1856-1863.	0.9	6
71	Unraveling the Impact of Rubidium Incorporation on the Transport-Recombination Mechanisms in Highly Efficient Perovskite Solar Cells by Small-Perturbation Techniques. Journal of Physical Chemistry C, 2017, 121, 24903-24908.	3.1	42
72	The Role of Rubidium in Multipleâ€Cationâ€Based Highâ€Efficiency Perovskite Solar Cells. Advanced Materials, 2017, 29, 1701077.	21.0	120

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73	Reduction in the Interfacial Trap Density of Mechanochemically Synthesized MAPbI₃. ACS Applied Materials & Interfaces, 2017, 9, 28418-28425.	8.0	73
74	Donorâ€“Acceptor-Type <i>S</i>,<i>N</i>-Heteroacene-Based Hole-Transporting Materials for Efficient Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 44423-44428.	8.0	31
75	Intrinsic and interfacial kinetics of perovskite solar cells under photo and bias-induced degradation and recovery. Journal of Materials Chemistry C, 2017, 5, 7799-7805.	5.5	34
76	Interfacial Kinetics of Efficient Perovskite Solar Cells. Crystals, 2017, 7, 252.	2.2	24
77	High-performance self-powered perovskite photodetector with a rapid photoconductive response. RSC Advances, 2016, 6, 105076-105080.	3.6	37
78	Electrochemical and electronic properties of flower-like MoS₂ nanostructures in aqueous and ionic liquid media. RSC Advances, 2015, 5, 57943-57949.	3.6	30
79	Investigation of interface limited charge extraction and recombination in polycrystalline silicon solar cell: Using DC and AC characterization techniques. Solar Energy, 2015, 116, 293-302.	6.1	22
80	An effective way to analyse the performance limiting parameters of poly-crystalline silicon solar cell fabricated in the production line. Solar Energy, 2015, 122, 1-10.	6.1	19
81	Plasmon-Induced Photon Manipulation by Ag Nanoparticle-Coupled Graphene Thin-Film: Light Trapping for Photovoltaics. Plasmonics, 2015, 10, 157-164.	3.4	12
82	Influence of the magnitude and direction of electric field on the transport and growth property of deposited polyaniline films. Journal of Solid State Electrochemistry, 2014, 18, 453-463.	2.5	7
83	Recombination kinetics in a silicon solar cell at low concentration: electro-analytical characterization of space-charge and quasi-neutral regions. Physical Chemistry Chemical Physics, 2014, 16, 15469-15476.	2.8	30
84	Influence of current collector electrode on the capacitive performance of electrodeposited PANI: insight gained from frequency and time domain analysis. RSC Advances, 2014, 4, 53740-53751.	3.6	17
85	Plasmon-Enhanced Light Trapping to Improve Efficiency of TiO2 Nanorod-Based Dye-Sensitized Solar Cell. Plasmonics, 2013, 8, 1501-1507.	3.4	10
86	Exergy, Energy, and Dynamic Parameter Analysis of Indigenously Developed Low-Concentration Photovoltaic System. International Journal of Photoenergy, 2013, 2013, 1-12.	2.5	6
87	Effect of Varying Illumination and Temperature on Steady-State and Dynamic Parameters of Dye-Sensitized Solar Cell Using AC Impedance Modeling. International Journal of Photoenergy, 2013, 2013, 1-10.	2.5	20