

# Photovoltaic solar cell technologies: analysing the state

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Scalable Fabrication of Metal Halide Perovskite Solar Cells and Modules. ACS Energy Letters, 2019, 4, 2147-2167.	17.4	161
2	Guide for the perplexed to the Shockley-Queisser model for solar cells. Nature Photonics, 2019, 13, 501-505.	31.4	153
3	Characterization and analysis of FA <sub>1-x</sub> Cs(1-x)Pb(I <sub>y</sub> Br(1-x)) <sub>3</sub> perovskite solar cells with thickness controlled transport layers for performance optimization. AIP Advances, 2019, 9, .	1.3	5
4	Carboxylic Acid Functionalization at the Meso-Position of the Bodipy Core and Its Influence on Photovoltaic Performance. Nanomaterials, 2019, 9, 1346.	4.1	3
5	Ultrafast Charge Carrier Relaxation in Inorganic Halide Perovskite Single Crystals Probed by Two-Dimensional Electronic Spectroscopy. Journal of Physical Chemistry Letters, 2019, 10, 5414-5421.	4.6	16
6	Pushing the activity of CO <sub>2</sub> electroreduction by system engineering. Science Bulletin, 2019, 64, 1805-1816.	9.0	30
7	Photolysis of dimethoxynitrobenzyl- $\alpha$ -amino acids yields fluorescent products. Scientific Reports, 2019, 9, 13421.	3.3	5
8	HLE17: An Efficient Way To Predict Band Gaps of Complex Materials. Journal of Physical Chemistry C, 2019, 123, 17416-17424.	3.1	26
9	Rapid Charge-Transfer Cascade through SWCNT Composites Enabling Low-Voltage Losses for Perovskite Solar Cells. ACS Energy Letters, 2019, 4, 1872-1879.	17.4	33
10	Photovoltaic properties of Aurivillius Bi <sub>4</sub> NdTi <sub>3</sub> FeO <sub>15</sub> ceramics with different orientations. Journal of Alloys and Compounds, 2019, 800, 134-139.	5.5	22
11	Selective Alcohol on Dark Cathodes by Photoelectrochemical CO <sub>2</sub> Valorization and Their In Situ Characterization. ACS Energy Letters, 2019, 4, 1549-1555.	17.4	15
12	$\text{I}^{\pm}$ -CsPbI <sub>3</sub> Colloidal Quantum Dots: Synthesis, Photodynamics, and Photovoltaic Applications. ACS Energy Letters, 2019, 4, 1308-1320.	17.4	65
13	Evaluation of AA-CVD deposited phase pure polymorphs of SnS for thin films solar cells. RSC Advances, 2019, 9, 14899-14909.	3.6	42
14	Enhanced terahertz emission from imprinted halide perovskite nanostructures. Nanophotonics, 2020, 9, 187-194.	6.0	16
15	Orientation modulation of ZnO nanorods on charge transfer performance enhancement for Sb <sub>2</sub> S <sub>3</sub> quantum dot sensitized solar cells. Journal of Alloys and Compounds, 2020, 816, 152628.	5.5	9
16	Towards photoferroic materials by design: recent progress and perspectives. JPhys Energy, 2020, 2, 011001.	5.3	13
17	Carbon-Electrode Based Perovskite Solar Cells: Effect of Bulk Engineering and Interface Engineering on the Power Conversion Properties. Solar Rrl, 2020, 4, 1900190.	5.8	45
18	How to Report Record Open-Circuit Voltages in Lead-Halide Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 1902573.	19.5	153

#	ARTICLE	IF	CITATIONS
19	Wearable and self-cleaning hybrid energy harvesting system based on micro/nanostructured haze film. <i>Nano Energy</i> , 2020, 67, 104243.	16.0	77
20	Recycling of FTO/TiO <sub>2</sub> Substrates: Route toward Simultaneously High-Performance and Cost-Efficient Carbon-Based, All-Inorganic CsPbI <sub>2</sub> Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 4549-4557.	8.0	38
21	Revealing the origin of voltage loss in mixed-halide perovskite solar cells. <i>Energy and Environmental Science</i> , 2020, 13, 258-267.	30.8	283
22	How Interplay between Photo and Thermal Activation Dictates Halide Ion Segregation in Mixed Halide Perovskites. <i>ACS Energy Letters</i> , 2020, 5, 56-63.	17.4	123
23	Integration of a Hydrogenase in a Lead Halide Perovskite Photoelectrode for Tandem Solar Water Splitting. <i>ACS Energy Letters</i> , 2020, 5, 232-237.	17.4	68
24	Interface connection modulation by heating treatment for photovoltaic performance enhancement on CuInS <sub>2</sub> quantum dot sensitized solar cells. <i>Journal of Alloys and Compounds</i> , 2020, 817, 153351.	5.5	6
25	Charge Transport between Coaxial Polymer Nanorods and Grafted All-Inorganic Perovskite Nanocrystals for Hybrid Organic Solar Cells with Enhanced Photoconversion Efficiency. <i>Journal of Physical Chemistry C</i> , 2020, 124, 246-255.	3.1	11
26	Quantum-Chemical Study of the FeNCN Conversion Reaction Mechanism in Lithium-and Sodium-Ion Batteries. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 3718-3723.	13.8	24
27	Effect of graphene contents in polyaniline/graphene composites counter electrode material on the photovoltaic performance of dye-sensitized solar cells (DSSCs). <i>Solar Energy</i> , 2020, 196, 132-136.	6.1	43
28	Tuning the band gaps of ferroelectric Aurivillius compounds by transition metal substitution. <i>Ceramics International</i> , 2020, 46, 8314-8319.	4.8	17
29	Electrical characteristics of modified truncated cone nanowire for efficient light trapping. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2020, 38, 100761.	2.0	6
30	Minimizing non-radiative recombination losses in perovskite solar cells. <i>Nature Reviews Materials</i> , 2020, 5, 44-60.	48.7	754
31	Flow Synthesis of Metal Halide Perovskite Quantum Dots: From Rapid Parameter Space Mapping to AI-Guided Modular Manufacturing. <i>Matter</i> , 2020, 3, 1053-1086.	10.0	45
32	Thermally Stable Passivation toward High Efficiency Inverted Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 3336-3343.	17.4	19
33	Lead-free halide perovskite photovoltaics: Challenges, open questions, and opportunities. <i>APL Materials</i> , 2020, 8, .	5.1	65
34	Photoinduced Phase Segregation in Mixed Halide Perovskites: Thermodynamic and Kinetic Aspects of Cl <sup>-</sup> /Br Segregation. <i>Advanced Optical Materials</i> , 2021, 9, 2001440.	7.3	46
35	Observation of mixed types of energy gaps in some II-VI semiconductors nanostructured films: towards enhanced solar cell performance. <i>Applied Physics A: Materials Science and Processing</i> , 2020, 126, 1.	2.3	6
36	A numerical simulation of high efficiency CdS/CdTe based solar cell using NiO HTL and ZnO TCO. <i>Optik</i> , 2020, 223, 165625.	2.9	65

#	ARTICLE	IF	CITATIONS
37	Solar-Driven Electrochemical CO <sub>2</sub> Reduction with Heterogeneous Catalysts. <i>Advanced Energy Materials</i> , 2021, 11, 2002652.	19.5	67
38	Two-dimensional perovskite solar cells with high luminescence and ultra-low open-circuit voltage deficit. <i>Journal of Materials Chemistry A</i> , 2020, 8, 22175-22180.	10.3	9
39	Impact of Processing on Structural and Compositional Evolution in Mixed Metal Halide Perovskites during Film Formation. <i>Advanced Functional Materials</i> , 2020, 30, 2001752.	14.9	39
40	Control over Crystal Size in Vapor Deposited Metal-Halide Perovskite Films. <i>ACS Energy Letters</i> , 2020, 5, 710-717.	17.4	72
41	Light emission from perovskite materials. <i>APL Materials</i> , 2020, 8, 070401.	5.1	12
42	The role of Ce <sup>3+</sup> in the spectroscopic properties of cerium oxide doped zinc-tellurite glasses prepared under air. <i>Journal of Materials Chemistry A</i> , 2020, 8, 24920-24942.	3.1	16
43	Defect suppression in multinary chalcogenide photovoltaic materials derived from kesterite: progress and outlook. <i>Journal of Materials Chemistry A</i> , 2020, 8, 24920-24942.	10.3	36
44	Performance evaluation of a low-cost, novel vanadium nitride xerogel (VNXC) as a platinum-free electrocatalyst for dye-sensitized solar cells. <i>RSC Advances</i> , 2020, 10, 41177-41186.	3.6	13
45	Effect of Basset's hereditary force on bubble dynamics in liquid oxide-based diffusion-bubbling membranes. <i>Physics of Fluids</i> , 2020, 32, .	4.0	6
46	Interfacial electronic features in methyl-ammonium lead iodide and p-type oxide heterostructures: new insights for inverted perovskite solar cells. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 28401-28413.	2.8	12
47	Low-Dimensional Hybrid Indium/Antimony Halide Perovskites: Supramolecular Assembly and Electronic Properties. <i>Journal of Physical Chemistry C</i> , 2020, 124, 25686-25700.	3.1	23
48	An optimized lead-free formamidinium Sn-based perovskite solar cell design for high power conversion efficiency by SCAPS simulation. <i>Optical Materials</i> , 2020, 108, 110213.	3.6	107
49	Perovskite Tandem Solar Cells: From Fundamentals to Commercial Deployment. <i>Chemical Reviews</i> , 2020, 120, 9835-9950.	47.7	248
50	Potential of building integrated and attached/applied photovoltaic (BIPV/BAPV) for adaptive less energy-hungry building's skin: A comprehensive review. <i>Journal of Cleaner Production</i> , 2020, 276, 123343.	9.3	172
51	Colorful opaque photovoltaic modules with down-converting InP/ZnSexS1-x quantum dot layers. <i>Nano Energy</i> , 2020, 77, 105169.	16.0	20
52	Third-Generation Solar Cells: Toxicity and Risk of Exposure. <i>Helvetica Chimica Acta</i> , 2020, 103, e2000074.	1.6	18
53	An artificial intelligence-aided virtual screening recipe for two-dimensional materials discovery. <i>Npj Computational Materials</i> , 2020, 6, .	8.7	39
54	Large scale assembly of nanomaterials: mechanisms and applications. <i>Nanoscale</i> , 2020, 12, 17571-17589.	5.6	21

#	ARTICLE	IF	CITATIONS
55	Selective CO production from aqueous CO <sub>2</sub> using a Cu <sub>96</sub> In <sub>4</sub> catalyst and its integration into a bias-free solar perovskite/BiVO <sub>4</sub> tandem device. <i>Energy and Environmental Science</i> , 2020, 13, 3536-3543.	30.8	32
56	Easy processing carbon paper electrode for highly efficient perovskite solar cells. <i>Journal of Power Sources</i> , 2020, 479, 229071.	7.8	8
57	Tuning the Properties of the CuAl <sub>(1-x)</sub> Fe <sub>x</sub> S <sub>2</sub> Thin Film as a Potential Absorber for Solar Cell Application. <i>ACS Applied Energy Materials</i> , 2020, 3, 10550-10559.	5.1	17
58	Harnessing photo/electro-catalytic activity via nano-junctions in ternary nanocomposites for clean energy. <i>Nanoscale</i> , 2020, 12, 23461-23479.	5.6	18
59	Calcium-stannous oxide solid solutions for solar devices. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	2
60	Photoinduced Vibrations Drive Ultrafast Structural Distortion in Lead Halide Perovskite. <i>Journal of the American Chemical Society</i> , 2020, 142, 16569-16578.	13.7	30
61	Design of 2D Templating Molecules for Mixed-Dimensional Perovskite Light-Emitting Diodes. <i>Chemistry of Materials</i> , 2020, 32, 8097-8105.	6.7	24
62	Quantum-assisted photoelectric gain effects in perovskite solar cells. <i>NPG Asia Materials</i> , 2020, 12, .	7.9	12
63	Stretchable and Transparent Ionogels with High Thermoelectric Properties. <i>Advanced Functional Materials</i> , 2020, 30, 2004699.	14.9	138
64	Effect of Perovskite Thickness on Electroluminescence and Solar Cell Conversion Efficiency. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 8189-8194.	4.6	68
65	Recent Progress in Metal Halide Perovskite-Based Tandem Solar Cells. <i>Advanced Materials</i> , 2020, 32, e2002228.	21.0	39
66	Covalent Functionalization of Single-Walled Carbon Nanotubes by the Bingel Reaction for Building Charge-Transfer Complexes. <i>Journal of Organic Chemistry</i> , 2020, 85, 11721-11731.	3.2	6
67	Bioinspired Molecular Bridging in a Hybrid Perovskite Leads to Enhanced Stability and Tunable Properties. <i>Advanced Functional Materials</i> , 2020, 30, 2005136.	14.9	10
68	Perspective and advanced development of lead-carbon battery for inhibition of hydrogen evolution. <i>Emergent Materials</i> , 2020, 3, 791-805.	5.7	8
69	Efficient radiational outcoupling of electromagnetic energy from hyperbolic metamaterial resonators. <i>Scientific Reports</i> , 2020, 10, 21854.	3.3	1
70	Monolithic perovskite/silicon tandem solar cell with >29% efficiency by enhanced hole extraction. <i>Science</i> , 2020, 370, 1300-1309.	12.6	1,120
71	CZTSSe Formation Mechanism Using a Cu/Zn/SnS Stacked Precursor: Origin of Triple CZTSSe Layer Formation. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 46037-46044.	8.0	4
72	Imaging and quantifying carrier collection in silicon solar cells: A submicron study using electron beam induced current. <i>Solar Energy</i> , 2020, 211, 1214-1222.	6.1	1

#	ARTICLE	IF	CITATIONS
73	Perovskite Puzzle for Revolutionary Functional Materials. <i>Frontiers in Chemistry</i> , 2020, 8, 550625.	3.6	5
74	A review of photovoltaic performance of organic/inorganic solar cells for future renewable and sustainable energy technologies. <i>Superlattices and Microstructures</i> , 2020, 143, 106549.	3.1	90
75	Effect of oxygen vacancies in the electron transfer layer SiZnSnO on the performance of perovskite solar cells. <i>Journal of Alloys and Compounds</i> , 2020, 835, 155284.	5.5	11
76	Enhanced Photoelectrochemical Water Oxidation from CdTe Photoanodes Annealed with CdCl <sub>2</sub> . <i>Angewandte Chemie</i> , 2020, 132, 13904-13910.	2.0	7
77	The Impact of Atmosphere on Energetics of Lead Halide Perovskites. <i>Advanced Energy Materials</i> , 2020, 10, 2000908.	19.5	12
78	Asymmetric Electron Acceptors for High Efficiency and Low Energy Loss Organic Photovoltaics. <i>Advanced Materials</i> , 2020, 32, e2001160.	21.0	246
79	Enhanced Photoelectrochemical Water Oxidation from CdTe Photoanodes Annealed with CdCl <sub>2</sub> . <i>Angewandte Chemie - International Edition</i> , 2020, 59, 13800-13806.	13.8	21
80	Complexes of BiCl <sub>3</sub> with hydrazone derived ligands: a Möbius-like discrete metal chelate versus a salt-like porous polymeric structure. <i>New Journal of Chemistry</i> , 2020, 44, 9429-9437.	2.8	5
81	Solvent vapour annealing of methylammonium lead halide perovskite: what's the catch?. <i>Journal of Materials Chemistry A</i> , 2020, 8, 10943-10956.	10.3	11
82	A Realistic Methodology for 30% Efficient Perovskite Solar Cells. <i>CheM</i> , 2020, 6, 1254-1264.	11.7	160
83	Maximum Power Point Tracking of SPV Array Using Phase-Shifted PWM DC-DC Converter. , 2020, , .		0
84	Effect of Crystal Symmetry on the Spin States of Fe <sup>3+</sup> and Vibration Modes in Lead-free Double-Perovskite Cs <sub>2</sub> AgBi(Fe)Br <sub>6</sub> . <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 4873-4878.	4.6	11
85	Absorption Engineering in an Ultrasubwavelength Quantum System. <i>Nano Letters</i> , 2020, 20, 4430-4436.	9.1	21
86	Recent Advances in Solar-Driven Carbon Dioxide Conversion: Expectations versus Reality. <i>ACS Energy Letters</i> , 2020, 5, 1996-2014.	17.4	173
87	Perspective Oxygen Separation Technology Based on Liquid-Oxide Electrochemical Membranes. <i>Journal of the Electrochemical Society</i> , 2020, 167, 103501.	2.9	6
88	Study of Physico-Chemical Changes of CdTe QDs after Their Exposure to Environmental Conditions. <i>Nanomaterials</i> , 2020, 10, 865.	4.1	10
89	Dopant-Free Crossconjugated Hole-Transporting Polymers for Highly Efficient Perovskite Solar Cells. <i>Advanced Science</i> , 2020, 7, 1903331.	11.2	55
90	Incorporating Solution-Processed Mesoporous WO <sub>3</sub> as an Interfacial Cathode Buffer Layer for Photovoltaic Applications. <i>Journal of Physical Chemistry A</i> , 2020, 124, 5709-5719.	2.5	23

#	ARTICLE	IF	CITATIONS
91	Shape adaptable and highly resilient 3D braided triboelectric nanogenerators as e-textiles for power and sensing. <i>Nature Communications</i> , 2020, 11, 2868.	12.8	285
92	Semi-biological approaches to solar-to-chemical conversion. <i>Chemical Society Reviews</i> , 2020, 49, 4926-4952.	38.1	157
93	Selected Electrochemical Properties of 4,4'-bis((1E,1'-thioether)-(1,2,4-Thiadiazole-3,5-diyl)bis(azaneylylidene))bis(methaneylylidene))bis(N,N-di-p-tolyylaniline) towards Perovskite Solar Cells with 14.4% Efficiency. <i>Materials</i> , 2020, 13, 2440.	2.9	15
94	Understanding the Performance-Limiting Factors of Cs <sub>2</sub> AgBiBr <sub>6</sub> Double-Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 2200-2207.	17.4	161
95	Defects in halide perovskites: The lattice as a boojum?. <i>MRS Bulletin</i> , 2020, 45, 478-484.	3.5	20
96	Large Photoresponsivity in the Amorphous TiO <sub>2</sub> /SrRuO <sub>3</sub> Heterostructure. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 2000273.	2.4	3
97	Multinary copper-based chalcogenide nanocrystal systems from the perspective of device applications. <i>Nanoscale Advances</i> , 2020, 2, 3069-3082.	4.6	25
98	Open-Circuit Voltage Loss of Antimony Chalcogenide Solar Cells: Status, Origin, and Possible Solutions. <i>ACS Energy Letters</i> , 2020, 5, 2294-2304.	17.4	146
99	Shining Light on the Photoluminescence Properties of Metal Halide Perovskites. <i>Advanced Functional Materials</i> , 2020, 30, 1910004.	14.9	101
100	Polymer Zwitterions for Stabilization of CsPbBr <sub>3</sub> Perovskite Nanoparticles and Nanocomposite Films. <i>Angewandte Chemie</i> , 2020, 132, 10894-10898.	2.0	14
101	Near-infrared absorption enhancement for perovskite solar cells via the rear grating design. <i>Optical and Quantum Electronics</i> , 2020, 52, 1.	3.3	8
102	Supramolecular Energy Materials. <i>Advanced Materials</i> , 2020, 32, e1907247.	21.0	101
103	Ionic-Defect Distribution Revealed by Improved Evaluation of Deep-Level Transient Spectroscopy on Perovskite Solar Cells. <i>Physical Review Applied</i> , 2020, 13, .	3.8	50
104	Upper limit to the photovoltaic efficiency of imperfect crystals from first principles. <i>Energy and Environmental Science</i> , 2020, 13, 1481-1491.	30.8	107
105	Pitfalls and prospects of optical spectroscopy to characterize perovskite-transport layer interfaces. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	28
106	Polymer Zwitterions for Stabilization of CsPbBr <sub>3</sub> Perovskite Nanoparticles and Nanocomposite Films. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 10802-10806.	13.8	49
107	Visible light-driven Suzuki-Miyaura reaction by self-supported Pd nanocatalysts in the formation of Stille coupling-based photoactive microporous organic polymers. <i>Catalysis Science and Technology</i> , 2020, 10, 5535-5543.	4.1	11
108	A Highly Conductive Titanium Oxynitride Electron-Selective Contact for Efficient Photovoltaic Devices. <i>Advanced Materials</i> , 2020, 32, e2002608.	21.0	46

#	ARTICLE	IF	CITATIONS
109	Performance Evaluation of Control Methods for PV-Integrated Shading Devices. <i>Energies</i> , 2020, 13, 3171.	3.1	6
111	Recent advances and comprehensive insights on nickel oxide in emerging optoelectronic devices. <i>Sustainable Energy and Fuels</i> , 2020, 4, 4415-4458.	4.9	33
112	Controlling the preferred orientation of layered BiOI solar absorbers. <i>Journal of Materials Chemistry C</i> , 2020, 8, 10791-10797.	5.5	25
113	Predicting the chemical reactivity of organic materials using a machine-learning approach. <i>Chemical Science</i> , 2020, 11, 7813-7822.	7.4	32
114	Design of Lead-Free and Stable Two-Dimensional Dionâ€“Jacobson-Type Chalcogenide Perovskite Aâ€²La2B3S10 (Aâ€² = Ba/Sr/Ca; B = Hf/Zr) with Optimal Band Gap, Strong Optical Absorption, and High Efficiency for Photovoltaics. <i>Chemistry of Materials</i> , 2020, 32, 2450-2460.	6.7	19
115	Are the optimum angles of photovoltaic systems so important?. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 124, 109791.	16.4	15
116	Quantumâ€“Chemical Study of the FeNCN Conversionâ€“Reaction Mechanism in Lithiumâ€“and Sodiumâ€“Ion Batteries. <i>Angewandte Chemie</i> , 2020, 132, 3747-3752.	2.0	2
117	Electronic Structure and Optoelectronic Properties of Bismuth Oxyiodide Robust against Percentâ€“Level Iodineâ€“, Oxygenâ€“, and Bismuthâ€“Related Surface Defects. <i>Advanced Functional Materials</i> , 2020, 30, 1909983.	14.9	40
118	Effect of reabsorption and photon recycling on photoluminescence spectra and transients in lead-halide perovskite crystals. <i>JPhys Materials</i> , 2020, 3, 025003.	4.2	20
119	A Modified High Voltage Gain Quasi-Impedance Source Coupled Inductor Multilevel Inverter for Photovoltaic Application. <i>Energies</i> , 2020, 13, 874.	3.1	27
120	Computational functionalityâ€“driven design of semiconductors for optoelectronic applications. <i>InformaAnA-MateriAjly</i> , 2020, 2, 879-904.	17.3	32
121	DFT-based study of the bulk tin mixed-halide CsSnI3-Br perovskite. <i>Computational Materials Science</i> , 2020, 178, 109619.	3.0	19
122	Excitons in Metalâ€“Halide Perovskites. <i>Advanced Energy Materials</i> , 2020, 10, 1903659.	19.5	240
123	Molecularly engineered hole-transport material for low-cost perovskite solar cells. <i>Chemical Science</i> , 2020, 11, 2429-2439.	7.4	29
124	Various roles of dye molecules in organic ternary blend solar cells. <i>Dyes and Pigments</i> , 2020, 176, 108231.	3.7	11
125	Distance Matters: Effect of the Spacer Length on the Photophysical Properties of Multimodular Perylenediimideâ€“Silicon Phthalocyanineâ€“Fullerene Triads. <i>Chemistry - A European Journal</i> , 2020, 26, 4822-4832.	3.3	11
126	Multifunctional nanostructured materials for next generation photovoltaics. <i>Nano Energy</i> , 2020, 70, 104480.	16.0	52
127	Compositionâ€“Dependent Passivation Efficiency at the CdS/CuIn 1- x Ga x Se 2 Interface. <i>Advanced Materials</i> , 2020, 32, 1907763.	21.0	7

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128	Improvement of Exciton Collection and Light-Harvesting Range in Ternary Blend Polymer Solar Cells Based on Two Non-Fullerene Acceptors. <i>Nanomaterials</i> , 2020, 10, 241.	4.1	8
129	Metal composition influences optoelectronic quality in mixed-metal lead-tin triiodide perovskite solar absorbers. <i>Energy and Environmental Science</i> , 2020, 13, 1776-1787.	30.8	87
130	Sustainable Energy for Smart Cities. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2020, , .	0.3	1
131	Enhanced photoconversion efficiency in cesium-antimony-halide perovskite derivatives by tuning crystallographic dimensionality. <i>Applied Materials Today</i> , 2020, 19, 100637.	4.3	32
132	Carrier Diffusion Lengths Exceeding 1 $\mu$ m Despite Trap-Limited Transport in Halide Double Perovskites. <i>ACS Energy Letters</i> , 2020, 5, 1337-1345.	17.4	58
133	A general approach for hysteresis-free, operationally stable metal halide perovskite field-effect transistors. <i>Science Advances</i> , 2020, 6, eaaz4948.	10.3	129
134	Passivating contacts and tandem concepts: Approaches for the highest silicon-based solar cell efficiencies. <i>Applied Physics Reviews</i> , 2020, 7, .	11.3	150
135	Star-like hexakis[di(ethoxycarbonyl)methano]-C <sub>60</sub> with higher electron mobility: An unexpected electron extractor interfaced in photovoltaic perovskites. <i>Nano Energy</i> , 2020, 74, 104859.	16.0	20
136	All-Inorganic CsPbBr <sub>3</sub> Nanocrystals: Gram-Scale Mechanochemical Synthesis and Selective Photocatalytic CO <sub>2</sub> Reduction to Methane. <i>ACS Applied Energy Materials</i> , 2020, 3, 4509-4522.	5.1	75
137	Spatially Resolved Performance Analysis for Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1904001.	19.5	30
138	Pseudohalide Additives Enhanced Perovskite Photodetectors. <i>Advanced Optical Materials</i> , 2021, 9, 2001587.	7.3	15
139	Synergetic Hybridization Effect of Homogeneously Mixed Inorganic and Graphene Nanosheets on the Photocatalytic Activity of Semiconductor. <i>Solar Rrl</i> , 2021, 5, 2000411.	5.8	6
140	The case study of a photovoltaic plant located at the university of L'Aquila: An economic analysis. <i>Journal of Cleaner Production</i> , 2021, 278, 123561.	9.3	18
141	Review of technological design options for building integrated photovoltaics (BIPV). <i>Energy and Buildings</i> , 2021, 231, 110381.	6.7	152
142	Understanding the precursor chemistry for one-step deposition of mixed cation perovskite solar cells by methylamine route. <i>Journal of Energy Chemistry</i> , 2021, 57, 386-391.	12.9	9
143	Efficient and stable inverted perovskite solar cells enabled by inhibition of self-aggregation of fullerene electron-transporting compounds. <i>Science Bulletin</i> , 2021, 66, 339-346.	9.0	23
144	Interfacial engineering in lead-free tin-based perovskite solar cells. <i>Journal of Energy Chemistry</i> , 2021, 57, 147-168.	12.9	55
145	Dual-Stage Atmospheric Water Harvesting Device for Scalable Solar-Driven Water Production. <i>Joule</i> , 2021, 5, 166-182.	24.0	173

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146	Template-free synthesis of Vanadium Nitride Nanopetals (VNNP) as a high performance counter electrode for dye sensitized solar cells. <i>Solar Energy</i> , 2021, 213, 145-153.	6.1	16
147	Thinâ€Metalâ€Filmâ€Based Transparent Conductors: Material Preparation, Optical Design, and Device Applications. <i>Advanced Optical Materials</i> , 2021, 9, 2001298.	7.3	64
148	Mn <sup>2+</sup> â€Doped Metal Halide Perovskites: Structure, Photoluminescence, and Application. <i>Laser and Photonics Reviews</i> , 2021, 15, .	8.7	167
149	Impact of Semiconductor Band Tails and Band Filling on Photovoltaic Efficiency Limits. <i>ACS Energy Letters</i> , 2021, 6, 52-57.	17.4	49
150	Fabrication and characterization of potassium-doped ZnO thin films. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 669-675.	2.2	11
151	Water Triggered Synthesis of Highly Stable and Biocompatible 1D Nanowire, 2D Nanoplatelet, and 3D Nanocube CsPbBr <sub>3</sub> Perovskites for Multicolor Two-Photon Cell Imaging. <i>Jacs Au</i> , 2021, 1, 53-65.	7.9	40
152	Review and perspective of materials for flexible solar cells. <i>Materials Reports Energy</i> , 2021, 1, 100001.	3.2	54
153	Transparent and Colored Solar Photovoltaics for Building Integration. <i>Solar Rrl</i> , 2021, 5, 2000614.	5.8	27
154	Wide-Bandgap Metal Halide Perovskites for Tandem Solar Cells. <i>ACS Energy Letters</i> , 2021, 6, 232-248.	17.4	89
155	Recent Advances in Carbon Nanotube Utilizations in Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2021, 31, 2004765.	14.9	37
156	Leadâ€Free Perovskiteâ€Inspired Absorbers for Indoor Photovoltaics. <i>Advanced Energy Materials</i> , 2021, 11, 2002761.	19.5	95
157	Stabilization of nonâ€native polymorphs for electrocatalysis and energy storage systems. <i>Wiley Interdisciplinary Reviews: Energy and Environment</i> , 2021, 10, e389.	4.1	5
158	Interdigitated backâ€contact doubleâ€heterojunction GaInP/GaAs solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , 2021, 29, 47-53.	8.1	5
159	Tribodiffusion-driven triboelectric nanogenerators based on MoS <sub>2</sub> . <i>Journal of Materials Chemistry A</i> , 2021, 9, 10316-10325.	10.3	9
160	Semitransparent polymer solar cells floating on water: selected transmission windows and active control of algal growth. <i>Journal of Materials Chemistry C</i> , 2021, 9, 13132-13143.	5.5	8
161	A lead-free perovskite Bi <sub>1/2</sub> (Na <sub>1/4</sub> Li <sub>1/4</sub> )TiO <sub>3</sub> : investigation on structural, electrical properties, and device application. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 4629-4638.	2.2	4
162	ZnAlâ€LDH-induced electroactive $\hat{2}$ -phase and controlled dielectrics of PVDF for a high-performance triboelectric nanogenerator for humidity and pressure sensing applications. <i>Journal of Materials Chemistry A</i> , 2021, 9, 15993-16005.	10.3	45
163	Heteroatom-Doped Carbon Materials as Support for Anode Electrocatalysts for Direct Formic Acid Fuel Cells. <i>International Journal of Electrochemical Science</i> , 2021, 16, 150926.	1.3	9

#	ARTICLE	IF	CITATIONS
164	Orienting Z scheme charge transfer in graphitic carbon nitride-based systems for photocatalytic energy and environmental applications. <i>Journal of Materials Chemistry A</i> , 2021, 9, 10039-10080.	10.3	90
165	Electronic Structure and Optical Properties of Mixed Iodine/Bromine Lead Perovskites. To Mix or Not to Mix?. <i>Advanced Optical Materials</i> , 2021, 9, 2001832.	7.3	17
166	Substance and shadow of formamidinium lead triiodide based solar cells. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 9049-9060.	2.8	7
167	An efficient and stable solar flow battery enabled by a single-junction GaAs photoelectrode. <i>Nature Communications</i> , 2021, 12, 156.	12.8	22
168	Light-Promoted Electrostatic Adsorption of High-Density Lewis Base Monolayers as Passivating Electron-Selective Contacts. <i>Advanced Science</i> , 2021, 8, 2003245.	11.2	14
169	Perovskite solar cells: New precursors and challenges for scaling-up. , 2021, , 477-508.		1
171	Review on Optoelectronic Response of Emerging Solar Photovoltaic Materials. <i>Advances in Sustainability Science and Technology</i> , 2021, , 79-97.	0.6	0
172	A high-throughput study of oxynitride, oxyfluoride and nitrofluoride perovskites. <i>Journal of Materials Chemistry A</i> , 2021, 9, 8501-8513.	10.3	18
173	Ternary quantum dots for solar cell applications. , 2021, , 237-249.		0
174	Life Cycle Environmental Assessment of Different Solar Photovoltaic Technologies. , 2021, , 5-1-5-34.		3
175	Dynamic halide perovskite heterojunction generates direct current. <i>Energy and Environmental Science</i> , 2021, 14, 374-381.	30.8	31
176	Perovskite-inspired materials for photovoltaics and beyond—from design to devices. <i>Nanotechnology</i> , 2021, 32, 132004.	2.6	106
177	“Turning the dials”: controlling synthesis, structure, composition, and surface chemistry to tailor silicon nanoparticle properties. <i>Nanoscale</i> , 2021, 13, 16379-16404.	5.6	11
178	Optical properties and electronic structure of methylammonium iodocuprate as an X-ray scintillator. <i>Mendelev Communications</i> , 2021, 31, 14-16.	1.6	2
179	Doping-Induced Charge Localization Suppresses Electron-Hole Recombination in Copper Zinc Tin Sulfide: Quantum Dynamics Combined with Deep Neural Networks Analysis. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 835-842.	4.6	15
180	A Laser-Processed Silicon Solar Cell with Photovoltaic Efficiency in the Infrared. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2021, 218, 2000550.	1.8	15
182	The Influence of Photo-Induced Space Charge and Energetic Disorder on the Indoor and Outdoor Performance of Organic Solar Cells. <i>Advanced Theory and Simulations</i> , 2021, 4, 2000319.	2.8	9
183	Self-Powered Wearable Biosensors. <i>Accounts of Materials Research</i> , 2021, 2, 184-197.	11.7	118

#	ARTICLE	IF	CITATIONS
184	Quantum optics of quantum emitters in the near field of a nanoparticle. <i>Physics-Uspekhi</i> , 2022, 65, 245-269.	2.2	1
185	Vacuum-free fabrication of organic solar cell on assembled glass substrates. <i>Optical Materials</i> , 2021, 112, 110683.	3.6	1
186	Present Status of Solution-Processing Routes for Cu(In,Ga)(S,Se) <sub>2</sub> Solar Cell Absorbers. <i>Advanced Energy Materials</i> , 2021, 11, 2003743.	19.5	57
187	Crystallographic, Optical, and Electronic Properties of the Cs <sub>2</sub> AgBi <sub>1-x</sub> In <sub>x</sub> Br <sub>6</sub> Double Perovskite: Understanding the Fundamental Photovoltaic Efficiency Challenges. <i>ACS Energy Letters</i> , 2021, 6, 1073-1081.	17.4	19
188	Design and Modeling of High-Efficiency GaAs Nanowire Metal-Oxide-Semiconductor Solar Cells beyond the Shockley-Queisser Limit: An NEGF Approach. <i>Physical Review Applied</i> , 2021, 15, .	3.8	6
189	Modeling of a stand-alone Wind-PV Hybrid Generation System Using (MATLAB/SIMULINK). , 2021, , .		7
190	Electron-Selective Contact for GaAs Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 1356-1364.	5.1	17
191	Rhenium Doping of Layered Transition-Metal Diselenides Triggers Enhancement of Photoelectrochemical Activity. <i>ACS Nano</i> , 2021, 15, 2374-2385.	14.6	19
192	Reply to "Ideal solar cell efficiencies". <i>Nature Photonics</i> , 2021, 15, 165-166.	31.4	7
193	A multifunctional pentlandite counter electrode toward efficient and stable sensitized solar cells. <i>Advanced Composites and Hybrid Materials</i> , 2021, 4, 392-400.	21.1	28
194	Imide-Functionalized Triarylamine-Based Donor-Acceptor Polymers as Hole Transporting Layers for High-Performance Inverted Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2021, 31, 2100332.	14.9	38
195	Doubling the Near-Infrared Photocurrent in a Solar Cell via Omni-Resonant Coherent Perfect Absorption. <i>Advanced Optical Materials</i> , 2021, 9, 2001107.	7.3	3
196	Formation of Li <sub>2</sub> CO <sub>3</sub> Nanostructures for Lithium-Ion Battery Anode Application by Nanotransfer Printing. <i>Materials</i> , 2021, 14, 1585.	2.9	0
197	Deconvoluting Energy Transport Mechanisms in Metal Halide Perovskites Using CsPbBr <sub>3</sub> Nanowires as a Model System. <i>Advanced Functional Materials</i> , 2021, 31, 2010704.	14.9	12
198	Mechanism of Additive-Assisted Room-Temperature Processing of Metal Halide Perovskite Thin Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 13212-13225.	8.0	27
199	Lead-Free Cs <sub>2</sub> Sn <sub>6</sub> Perovskites for Optoelectronic Applications: Recent Developments and Perspectives. <i>Solar Rrl</i> , 2021, 5, 2000830.	5.8	25
200	Efficient and Stable Red Perovskite Light-Emitting Diodes with Operational Stability >300 h. <i>Advanced Materials</i> , 2021, 33, e2008820.	21.0	119
201	Polymeric Carbon Nitride-Derived Photocatalysts for Water Splitting and Nitrogen Fixation. <i>Small</i> , 2021, 17, e2005149.	10.0	45

#	ARTICLE	IF	CITATIONS
202	The Optoelectronic Property Analysis of P doped SrGeN <sub>2</sub> : A First Principle Calculation for Solar Cell Compound. Journal of Physics: Conference Series, 2021, 1849, 012025.	0.4	1
203	Efficient Photocatalytic Extraction of Uranium over Ethylenediamine Capped Cadmium Sulfide Telluride Nanobelts. ACS Applied Materials & Interfaces, 2021, 13, 11968-11976.	8.0	32
204	Highly Absorbing Lead-Free Semiconductor Cu <sub>2</sub> AgBi <sub>6</sub> for Photovoltaic Applications from the Quaternary Cu <sup>+</sup> Ag <sup>+</sup> Bi <sup>3+</sup> Phase Space. Journal of the American Chemical Society, 2021, 143, 3983-3992.	13.7	59
205	Understanding Transient Photoluminescence in Halide Perovskite Layer Stacks and Solar Cells. Advanced Energy Materials, 2021, 11, 2003489.	19.5	117
206	The advent of modern solar-powered electric agricultural machinery: A solution for sustainable farm operations. Journal of Cleaner Production, 2021, 292, 126030.	9.3	79
207	Effect of SiO <sub>2</sub> nanoparticles embedded in the electrode layer on the efficiency of organic solar cells. Optical Materials Express, 2021, 11, 1537.	3.0	1
208	Dielectric screening in perovskite photovoltaics. Nature Communications, 2021, 12, 2479.	12.8	88
209	Microstructured ZnO-ZnS composite for earth-abundant photovoltaics: Elaboration, surface analysis and enhanced optical performances. Solar Energy, 2021, 218, 312-319.	6.1	14
210	Two-Dimensional Graphene/BlueP/MoS <sub>2</sub> van der Waals Multilayer Heterostructure as a High-Performance Anode Material for LIBs. Journal of Physical Chemistry C, 2021, 125, 8980-8992.	3.1	8
211	Molecular Packing in the Active Layers of Organic Solar Cells Based on Non-Fullerene Acceptors: Impact of Isomerization on Charge Transport, Exciton Dissociation, and Nonradiative Recombination. ACS Applied Energy Materials, 2021, 4, 4002-4011.	5.1	12
212	Recent Advances in Transition Metal Nitride-Based Materials for Photocatalytic Applications. Advanced Functional Materials, 2021, 31, 2100553.	14.9	80
213	Coupling properties and parametric optimization of a photovoltaic panel driven thermoelectric refrigerators system. Energy, 2021, 220, 119798.	8.8	15
214	Synthesis, Characterization and Visible-Light Photocatalytic Activity of Solid and TiO <sub>2</sub> -Supported Uranium Oxycompounds. Nanomaterials, 2021, 11, 1036.	4.1	8
215	Approaching Charge Separation Efficiency to Unity without Charge Recombination. Physical Review Letters, 2021, 126, 176401.	7.8	35
216	Self-powered wearable biosensors. , 2021, , .		0
217	Reduction of Hysteresis in Hybrid Perovskite Transistors by Solvent-Controlled Growth. Materials, 2021, 14, 2573.	2.9	6
218	Ambient Air Blade Coating Fabrication of Stable Triple Cation Perovskite Solar Modules by Green Solvent Quenching. Solar Rrl, 2021, 5, 2100073.	5.8	34
219	Evaporation Deposition Strategies for All-Inorganic CsPb(I <sub>1-x</sub> Br <sub>x</sub> ) <sub>3</sub> Perovskite Solar Cells: Recent Advances and Perspectives. Solar Rrl, 2021, 5, 2100172.	5.8	24

#	ARTICLE	IF	CITATIONS
220	Photoinduced post-modification of graphitic carbon nitride-embedded hydrogels: synthesis of 'hydrophobic hydrogels' and pore substructuring. Beilstein Journal of Organic Chemistry, 2021, 17, 1323-1334.	2.2	3
221	Improved CsPbBr <sub>3</sub> visible light photodetectors via decoration of sputtered Au nanoparticles with synergistic benefits. Nano Select, 0, .	3.7	8
222	The Role of Dimensionality on the Optoelectronic Properties of Oxide and Halide Perovskites, and their Halide Derivatives. Advanced Energy Materials, 2022, 12, 2100499.	19.5	66
223	Merging Biology and Photovoltaics: How Nature Helps Sun Catching. Advanced Energy Materials, 2021, 11, 2100520.	19.5	15
224	Assessing the Impact of Defects on Lead-Free Perovskite-Inspired Photovoltaics via Photoinduced Current Transient Spectroscopy. Advanced Energy Materials, 2021, 11, 2003968.	19.5	26
225	Organoammonium-Ion-based Perovskites Can Degrade to Pb <sup>0</sup> via Amine-Pb(II) Coordination. ACS Energy Letters, 2021, 6, 2262-2267.	17.4	25
226	Charge transfer evidence in donor-acceptor single-walled carbon nanotubes filled with sexithiophene oligomers: Nanotube diameter dependence. Journal of Raman Spectroscopy, 2021, 52, 1381-1394.	2.5	9
227	Oxygen Promotes the Formation of MoSe <sub>2</sub> at the Interface of Cu <sub>2</sub> ZnSnSe <sub>4</sub> /Mo. Journal of Physical Chemistry Letters, 2021, 12, 4447-4452.	4.6	8
228	PV-Pix: Slum Community Co-design of Self-Powered Deformable Smart Messaging Materials. , 2021, .		3
229	Direct growth and size tuning of InAs/GaAs quantum dots on transferable silicon nanomembranes for solar cells application. Journal of Materials Science: Materials in Electronics, 2021, 32, 18251-18263.	2.2	3
230	Interface connection modulation by Cu <sub>x</sub> S buffer layer on charge transfer performance enhancement of CuInS <sub>2</sub> quantum dot-sensitized solar cells. Journal of Materials Research, 2021, 36, 2881-2889.	2.6	1
231	A PESTLE analysis of solar home systems in refugee camps in Rwanda. Renewable and Sustainable Energy Reviews, 2021, 143, 110872.	16.4	25
232	Light Harvesting Using Biomimetic Micro-textured Transparent Films for Photovoltaic Applications. , 2021, 6, 775-785.		2
233	Understanding VOC and performance deficit in wide bandgap perovskite photovoltaic devices. Solar Energy Materials and Solar Cells, 2021, 225, 111015.	6.2	9
234	Impact of carbon-based charge transporting layer on the performance of perovskite solar cells. Solar Energy, 2021, 221, 254-274.	6.1	7
235	Emerging Indoor Photovoltaic Technologies for Sustainable Internet of Things. Advanced Energy Materials, 2021, 11, 2100698.	19.5	117
236	Performance Analysis of Perovskite Solar Cells Using DFT-Extracted Parameters of Metal-Doped TiO <sub>2</sub> Electron Transport Layer. Journal of Physical Chemistry C, 2021, 125, 13158-13166.	3.1	20
237	Solid State NMR Spectroscopy a Valuable Technique for Structural Insights of Advanced Thin Film Materials: A Review. Nanomaterials, 2021, 11, 1494.	4.1	9

#	ARTICLE	IF	CITATIONS
238	Non-toxic near-infrared light-emitting diodes. <i>IScience</i> , 2021, 24, 102545.	4.1	14
239	Non-fullerene acceptors based on multiple non-covalent interactions for low cost and air stable organic solar cells. <i>Organic Electronics</i> , 2021, 93, 106132.	2.6	18
240	Absorption enhancement in amorphous Si by introducing RF sputtered Ti intermediate layers for photovoltaic applications. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2021, 269, 115152.	3.5	3
241	A Comprehensive Perspective on the Fabrication of CuGaSe <sub>2</sub> /Si Tandem Solar Cells. <i>Energy Technology</i> , 2021, 9, 2100193.	3.8	3
242	Photocurrent density and electrical properties of Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> -BaNi <sub>0.5</sub> Nb <sub>0.5</sub> O <sub>3</sub> ceramics. <i>Journal of Advanced Ceramics</i> , 2021, 10, 1119-1128.	17.4	30
243	Screening of II-IV-V <sub>2</sub> Materials for Photovoltaic Applications Based on Density Functional Theory Calculations. <i>Crystals</i> , 2021, 11, 883.	2.2	1
244	Method for Sizing of a PV System for Family Home Using Economic Indicators. <i>Energies</i> , 2021, 14, 4529.	3.1	7
245	Oriented Halide Perovskite Nanostructures and Thin Films for Optoelectronics. <i>Chemical Reviews</i> , 2021, 121, 12112-12180.	47.7	70
246	Triplet exciton formation for non-radiative voltage loss in high-efficiency nonfullerene organic solar cells. <i>Joule</i> , 2021, 5, 1832-1844.	24.0	98
247	Cryogenic Electron Microscopy for Energy Materials. <i>Accounts of Chemical Research</i> , 2021, 54, 3505-3517.	15.6	19
248	Quantum Optics in Nanostructures. <i>Nanomaterials</i> , 2021, 11, 1919.	4.1	15
249	Controlling solid-state structure and film morphology in non-fullerene organic photovoltaic devices. <i>Canadian Journal of Chemistry</i> , 2021, 99, 921-932.	1.1	2
250	Design and Experimental Validation of a Compact Low-Cost Weather Station for Solar Photovoltaic Applications. <i>EAI Endorsed Transactions on Energy Web</i> , 2021, 8, 167290.	0.4	0
252	A combinatorial study of electrochemical anion intercalation into graphite. <i>Materials Research Express</i> , 2021, 8, 085502.	1.6	5
253	MOF-derived Co <sup>2+</sup> -doped TiO <sub>2</sub> nanoparticles as photoanodes for dye-sensitized solar cells. <i>Scientific Reports</i> , 2021, 11, 16265.	3.3	40
254	Unique Curve for the Radiative Photovoltage Deficit Caused by the Urbach Tail. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 7840-7845.	4.6	9
256	Recent advances and developments in advanced green porous nanomaterial for sustainable energy storage application. <i>Journal of Porous Materials</i> , 0, , 1.	2.6	9
258	Improved Open-Circuit Voltage of Sb <sub>2</sub> Se <sub>3</sub> Thin-Film Solar Cells Via Interfacial Sulfur Diffusion-Induced Gradient Bandgap Engineering. <i>Solar Rrl</i> , 2021, 5, 2100419.	5.8	13

#	ARTICLE	IF	CITATIONS
259	Sequentially Slot-Die-Coated Perovskite for Efficient and Scalable Solar Cells. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100743.	3.7	21
260	Hot-Casting Boosts Efficiency of Halogen-Free Solvent Processed Non-Fullerene Organic Solar Cells. <i>Advanced Functional Materials</i> , 2021, 31, 2105794.	14.9	17
261	The diffusion of solar home systems in Rwandan refugee camps. <i>Energy for Sustainable Development</i> , 2021, 63, 119-132.	4.5	10
262	Efficient and Stable Perovskite Large Area Cells by Low-Cost Fluorene-Xantene-Based Hole Transporting Layer. <i>Energies</i> , 2021, 14, 6081.	3.1	10
263	Inorganic-organic interfaces in hybrid solar cells. <i>Electronic Structure</i> , 2021, 3, 033002.	2.8	20
264	A Perspective on the Commercial Viability of Perovskite Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2100401.	5.8	33
265	Reduced non-radiative charge recombination enables organic photovoltaic cell approaching 19% efficiency. <i>Joule</i> , 2021, 5, 2408-2419.	24.0	419
266	Identification of lead vacancy defects in lead halide perovskites. <i>Nature Communications</i> , 2021, 12, 5566.	12.8	51
267	A review of primary technologies of thin-film solar cells. <i>Engineering Research Express</i> , 2021, 3, 032001.	1.6	42
268	Atomic layer deposition of electrocatalytic layer of MoS <sub>2</sub> onto metal-based 3D-printed electrode toward tailoring hydrogen evolution efficiency. <i>Applied Materials Today</i> , 2021, 24, 101131.	4.3	8
269	Numerical modelling and analysis of earth abundant Sb <sub>2</sub> S <sub>3</sub> and Sb <sub>2</sub> Se <sub>3</sub> based solar cells using SCAPS-1D. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111184.	6.2	112
270	Influence of Electrospayed MoSe <sub>2</sub> Antireflective Surface Coatings on Performance of Multicrystalline Silicon Solar Cell. <i>Silicon</i> , 2022, 14, 6039-6051.	3.3	10
271	Ultrasonically synthesized TiO <sub>2</sub> /ZnS nanocomposites to improve the efficiency of dye sensitized solar cells. <i>Materials Science in Semiconductor Processing</i> , 2021, 132, 105917.	4.0	6
272	Optimization of TiO <sub>2</sub> paste concentration employed as electron transport layers in fully ambient air processed perovskite solar cells with a low-cost architecture. <i>Ceramics International</i> , 2022, 48, 320-336.	4.8	36
273	The Fabrication of Lead-Free Cs <sub>2</sub> SnI <sub>6</sub> Perovskite Films Using Iodine-Rich Strategy for Optoelectronic Applications. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2021, 218, 2100271.	1.8	5
274	Magnetic-field induced sustainable electrochemical energy harvesting and storage devices: Recent progress, opportunities, and future perspectives. <i>Nano Energy</i> , 2021, 87, 106119.	16.0	29
275	Polymerized Hybrid Perovskites with Enhanced Stability, Flexibility, and Lattice Rigidity. <i>Advanced Materials</i> , 2021, 33, e2104842.	21.0	45
276	Life cycle assessment of high-performance monocrystalline titanium dioxide nanorod-based perovskite solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111288.	6.2	10

#	ARTICLE	IF	CITATIONS
277	Development of Photovoltaic Cells: A Materials Prospect and Next-Generation Futuristic Overview. Brazilian Journal of Physics, 2021, 51, 1916-1928.	1.4	6
278	Self-powered narrowband visible-light photodetection enabled by organolead halide perovskite CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> /p-Si heterojunction. Applied Physics Letters, 2021, 119, .	3.3	17
279	Role of substrate architecture and modelling on photocurrent and photovoltage in TiO <sub>2</sub> /NiO transparent photovoltaic. Materials Research Bulletin, 2021, 142, 111421.	5.2	6
280	The nonlinear dynamic buckling behaviour of imperfect solar cells subjected to impact load. Thin-Walled Structures, 2021, 169, 108317.	5.3	16
281	Effects of PbS-NPs doping on the photovoltaic performance of natural dye-sensitized TiO <sub>2</sub> photoelectrodes. Solid State Communications, 2021, 340, 114523.	1.9	2
282	A generalized theoretical approach for solar cells fill factors by using Shockley diode model and Lambert W-function: A review comparing theory and experimental data. Physica B: Condensed Matter, 2022, 624, 413427.	2.7	4
283	Energy for rural development. , 2021, , 181-222.		0
284	Numerical Insights into the Influence of Electrical Properties of n-CdS Buffer Layer on the Performance of SLG/Mo/p-Absorber/n-CdS/n-ZnO/Ag Configured Thin Film Photovoltaic Devices. Coatings, 2021, 11, 52.	2.6	15
285	A penetrated 2D/3D hybrid heterojunction for high-performance perovskite solar cells. Journal of Materials Chemistry A, 2021, 9, 23019-23027.	10.3	23
286	Hybrid Perovskite Terahertz Photoconductive Antenna. Nanomaterials, 2021, 11, 313.	4.1	11
287	Making the sun shine at night: comparing the cost of dispatchable concentrating solar power and photovoltaics with storage. Energy Sources, Part B: Economics, Planning and Policy, 2021, 16, 55-74.	3.4	49
288	Recent Advances in Solar Cells. , 2020, , 79-122.		7
289	Supramolecular Purification and Regioselective Functionalization of Fullerenes and Endohedral Metallofullerenes. Chem, 2020, 6, 3219-3262.	11.7	38
290	Emerging 2D Organic-Inorganic Heterojunctions. Cell Reports Physical Science, 2020, 1, 100166.	5.6	23
291	Solar Cells Operating under Thermal Stress. Cell Reports Physical Science, 2020, 1, 100267.	5.6	17
292	Graphene-Based Interconnects for Stable Dye-Sensitized Solar Modules. ACS Applied Energy Materials, 2021, 4, 98-110.	5.1	9
293	Photoenzymatic Reductions Enabled by Direct Excitation of Flavin-Dependent $\alpha$ -Reductases. Journal of the American Chemical Society, 2021, 143, 1735-1739.	13.7	46
294	Polyvinyl alcohol/beetroot dye film as light absorbing material in solar cell. AIP Conference Proceedings, 2020, , .	0.4	2

#	ARTICLE	IF	CITATIONS
295	Exciton Vortices in Two-Dimensional Hybrid Perovskite Monolayers. Chinese Physics Letters, 2020, 37, 117102.	3.3	3
296	Design of Split Hexagonal Patch Array Shaped Nano-metaabsorber with Ultra-wideband Absorption for Visible and UV Spectrum Application. Nanoscale Research Letters, 2019, 14, 393.	5.7	10
297	Optimization of Seebeck nanoantenna-based infrared harvesters. Optics Express, 2020, 28, 116.	3.4	3
298	Lead-free metal-halide double perovskites: from optoelectronic properties to applications. Nanophotonics, 2021, 10, 2181-2219.	6.0	33
299	Analysis of Transition Metal Oxides based Heterojunction Solar Cells with S-shaped J-V curves. , 2020, , .		2
300	A review on MXenes: new-generation 2D materials for supercapacitors. Sustainable Energy and Fuels, 2021, 5, 5672-5693.	4.9	55
301	Analysis of Energy Performance and Integrated Optimization of Tubular Houses in Southern China Using Computational Simulation. Applied Sciences (Switzerland), 2021, 11, 9371.	2.5	3
302	Element-specific electronic and structural dynamics using transient XUV and soft X-ray spectroscopy. Chem, 2021, 7, 2569-2584.	11.7	14
303	Shedding Light on Graphene Quantum Dots: Key Synthetic Strategies, Characterization Tools, and Cutting-Edge Applications. Materials, 2021, 14, 6153.	2.9	12
304	Layered Dionâ€“Jacobson-Type Chalcogenide Perovskite CsLaM<sub>2</sub>X<sub>7</sub> (M = Ta/Nb; X) Tj ETQq1 1 0.784314 rg BT ACS Applied Materials & Interfaces, 2021, 13, 48971-48980.	8.0	3
305	Optimization of Zn 1â€“ x Sn x O Buffer Layer for Application in CZTSe Solar Cells with H 2 â€“Assisted Reactive Sputtering. Physica Status Solidi (A) Applications and Materials Science, 0, , 2100585.	1.8	1
306	Interplay of Structure, Chargeâ€“Carrier Localization and Dynamics in Copperâ€“Silverâ€“Bismuthâ€“Halide Semiconductors. Advanced Functional Materials, 2022, 32, .	14.9	19
307	Semitransparent Perovskite Solar Cells for Building Integration and Tandem Photovoltaics: Design Strategies and Challenges. Solar Rrl, 2021, 5, 2100702.	5.8	31
308	Allâ€“Inorganic CsPbl<sub>2</sub>Br Perovskite Solar Cells: Recent Developments and Challenges. Energy Technology, 2021, 9, 2100691.	3.8	11
309	Contact passivation for defect mitigation in multi-dimensional perovskite interfaces. Applied Physics Letters, 2021, 119, 141602.	3.3	1
310	The Environmental Crisis and Nanotechnology. Micro and Nanosystems, 2022, 14, 188-190.	0.6	5
311	Super Flexible Transparent Conducting Oxideâ€“Free Organicâ€“Inorganic Hybrid Perovskite Solar Cells with 19.01% Efficiency (Active Areaâ€“=â€“1â€“cm<sup>2</sup>). Solar Rrl, 2021, 5, 2100733.	5.8	10
312	Nanoscale Growth Initiation as a Pathway to Improve the Earth-Abundant Absorber Zinc Phosphide. ACS Applied Energy Materials, 2022, 5, 5298-5306.	5.1	3

#	ARTICLE	IF	CITATIONS
313	Reliability-Oriented Design of a Solar-PV Deployments. <i>Energies</i> , 2021, 14, 6535.	3.1	8
314	Hole transporting layer optimization for an efficient lead-free double perovskite solar cell by numerical simulation. <i>Optical Materials</i> , 2021, 121, 111645.	3.6	36
315	Recent progress and future prospects of perovskite tandem solar cells. <i>Applied Physics Reviews</i> , 2021, 8, .	11.3	71
316	Metallic nanoparticle-on-mirror: Multiple-band light harvesting and efficient photocurrent generation under visible light irradiation. <i>Nano Energy</i> , 2021, 90, 106609.	16.0	8
317	Recent advancement in inorganic-organic electron transport layers in perovskite solar cell: current status and future outlook. <i>Materials Today Chemistry</i> , 2021, 22, 100595.	3.5	17
320	$V_{2O_5}$ Nanosheets as an Efficient, Low-cost Pt-free Alternate Counter Electrode for Dye-Sensitized Solar Cells. <i>ChemNanoMat</i> , 2022, 8, .	2.8	7
321	Near-optimal composition of CZTS thin film via exploration of copper and thiourea molar concentration in spray pyrolysis technique. <i>Materials Research Express</i> , 2021, 8, 116404.	1.6	11
322	A Polycation-Modified Nanofillers Tailored Polymer Electrolytes Fiber for Versatile Biomechanical Energy Harvesting and Full-Range Personal Healthcare Sensing. <i>Advanced Functional Materials</i> , 2022, 32, 2106731.	14.9	33
323	A Structured Phase Change Material with Controllable Thermoconductive Highways Enables Unparalleled Electricity via Solar-Thermal-Electric Conversion. <i>Advanced Functional Materials</i> , 2022, 32, 2109255.	14.9	49
324	General In Situ Photoactivation Route with IPCE over 80% toward CdS Photoanodes for Photoelectrochemical Applications. <i>Small</i> , 2021, 17, e2104307.	10.0	7
325	Nanostructured-Gratings for Enhanced Light Absorption in Ultra-Thin Crystalline Si Solar Cells. , 2020, , .		0
326	Naphthalene diimide-based electron transport materials for perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2021, 9, 27170-27192.	10.3	17
327	Low-temperature processing of polyvinylpyrrolidone modified CsPbI <sub>2</sub> Br perovskite films for high-performance solar cells. <i>Journal of Solid State Chemistry</i> , 2022, 305, 122656.	2.9	6
328	Solar, wind and logistic substitution in global energy supply to 2050 – Barriers and implications. <i>Renewable and Sustainable Energy Reviews</i> , 2022, 153, 111720.	16.4	66
329	Effective energy harvesting in thin film organic solar cells using Ni:Zn as bimetallic nanoparticles. <i>Journal of Physics and Chemistry of Solids</i> , 2022, 161, 110405.	4.0	6
330	Probing electron-phonon couplings in halide perovskites crystals by temperature-dependent ultrafast two-dimensional electronic spectroscopy. , 2020, , .		0
331	Self-shape-transformable 3D tessellated bifacial crystalline Si solar cell module enabling extra energy gain through intervals and an integrated actuator. <i>Sustainable Energy and Fuels</i> , 2021, 6, 89-97.	4.9	1
332	Solid solutions of CdS and ZnS for conversion of visible light energy to electricity. <i>AIP Conference Proceedings</i> , 2020, , .	0.4	1

#	ARTICLE	IF	CITATIONS
334	Highly Efficient Bifacial Color-Tunable Perovskite Solar Cells. <i>Advanced Optical Materials</i> , 2022, 10, 2101696.	7.3	7
336	Full spectrum ultra-wideband absorber with stacked round hole disks. <i>Optik</i> , 2022, 249, 168297.	2.9	11
337	Interface and material properties of wide band gap a-SiCx:H thin films for solar cell applications. <i>Renewable Energy</i> , 2022, 183, 781-790.	8.9	5
338	Solution-processed vanadium oxides as a hole-transport layer for Sb <sub>2</sub> Se <sub>3</sub> thin-film solar cells. <i>Solar Energy</i> , 2022, 231, 1-7.	6.1	17
339	Photoelectrochemical Application of Nanomaterials. <i>Engineering Materials</i> , 2022, , 121-153.	0.6	1
340	Organic Nanostructured Materials for Sustainable Application in Next Generation Solar Cells. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 11324.	2.5	6
341	A new cooling method for photovoltaic panels using brine from reverse osmosis units to increase efficiency and improve productivity. <i>Energy Conversion and Management</i> , 2022, 251, 115031.	9.2	10
342	The Chemical Design in High-Performance Lead Halide Perovskite: Additive vs Dopant?. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 11636-11644.	4.6	13
343	Role of conducting polymers in enhancing the stability and performance of perovskite solar cells: a brief review. <i>Materials Today Sustainability</i> , 2022, 17, 100090.	4.1	20
344	Intramolecular Noncovalent Interaction-Enabled Dopant-Free Hole-Transporting Materials for High-Performance Inverted Perovskite Solar Cells. <i>Angewandte Chemie</i> , 2022, 134, .	2.0	18
345	Action Plots in Action: In-Depth Insights into Photochemical Reactivity. <i>Journal of the American Chemical Society</i> , 2021, 143, 21113-21126.	13.7	60
346	Intramolecular Noncovalent Interaction-Enabled Dopant-Free Hole-Transporting Materials for High-Performance Inverted Perovskite Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2022, 61, e202113749.	13.8	72
347	Dynamics of photoconversion processes: the energetic cost of lifetime gain in photosynthetic and photovoltaic systems. <i>Chemical Society Reviews</i> , 2021, 50, 13372-13409.	38.1	10
348	Highly efficient light trapping of clustered silicon nanowires for solar cell applications. <i>Applied Optics</i> , 2022, 61, 369.	1.8	5
349	Design of dopant-free small molecular hole transport materials for perovskite solar cells: a viewpoint from defect passivation. <i>Journal of Materials Chemistry A</i> , 2022, 10, 1150-1178.	10.3	44
350	Mechanical Integrity and Failure Analysis of Photovoltaic Modules under Simulated Snow Loads Using Pneumatic Airbag Setup. <i>Journal of Power and Energy Engineering</i> , 2022, 10, 1-13.	0.6	1
351	Toward High-Efficiency Organic Photovoltaics: Perspectives on the Origin and Role of Energetic Disorder. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 544-551.	4.6	17
352	Understanding and suppressing non-radiative losses in methylammonium-free wide-bandgap perovskite solar cells. <i>Energy and Environmental Science</i> , 2022, 15, 714-726.	30.8	68

#	ARTICLE	IF	CITATIONS
353	Unravelling the effect of defect density, grain boundary and gradient doping in an efficient lead-free formamidinium perovskite solar cell. <i>Optical Materials</i> , 2022, 124, 111952.	3.6	11
354	Effect of nanowall bunching on surface reflectance and wetting behaviour of silicon nanowall architectures. <i>Nano Structures Nano Objects</i> , 2022, 29, 100833.	3.5	4
355	Carrier transport and working mechanism of transparent photovoltaic cells. <i>Applied Materials Today</i> , 2022, 26, 101344.	4.3	9
356	Robust tungsten oxide nanostructure for efficient photoelectric conversion and hydrogen evolution. <i>Materials Letters</i> , 2022, 312, 131626.	2.6	7
357	Growth and reaction mechanism of solution-processed Cu <sub>2</sub> ZnSnSe <sub>4</sub> thin films for realising efficient photovoltaic applications. <i>Journal of Alloys and Compounds</i> , 2022, 900, 163457.	5.5	6
358	In situ transmission electron microscopy and artificial intelligence enabled data analytics for energy materials. <i>Journal of Energy Chemistry</i> , 2022, 68, 454-493.	12.9	33
359	Efficient, stable and low-cost hole transporting layer for Perovskite solar cells. , 2020, , .		1
360	Identification of Structural Inhomogeneity on Spray Pyrolyzed Cu <sub>2</sub> ZnSnS <sub>4</sub> Thin Film Using Micro-Raman Spectroscopy. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
361	Chemically Stable Semitransparent Perovskite Solar Cells with High Hydrogen Generation Rates Based on Photovoltaic-Photoelectrochemical Tandem Cells. <i>Advanced Photonics Research</i> , 2022, 3, .	3.6	0
362	Introduction to compound semiconductor nanocrystals and their applications. , 2022, , 1-46.		1
363	Photovoltaic-Battery-Ultracapacitor-Diesel Hybrid Generation System for Mobile Hospital Energy Supply. <i>Electronics (Switzerland)</i> , 2022, 11, 390.	3.1	2
364	Crystal Growth Promotion and Defects Healing Enable Minimum Open-Circuit Voltage Deficit in Antimony Selenide Solar Cells. <i>Advanced Science</i> , 2022, 9, e2105142.	11.2	85
365	Fully Scalable and Stable CsPb <sub>2</sub> Br Solar Cells Realized by an All-Spray-Coating Process. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 7926-7935.	8.0	18
367	Downscaling an open quantum system: An atomistic approach applied to photovoltaics. , 2022, , 147-181.		0
368	Autonomous Design of Photoferroic Ruddlesden-Popper Perovskites for Water Splitting Devices. <i>Materials</i> , 2022, 15, 309.	2.9	3
369	Monolithic Perovskite-Silicon Tandem Solar Cells: From the Lab to Fab?. <i>Advanced Materials</i> , 2022, 34, e2106540.	21.0	92
370	Structure and optical properties of Titanium Dioxide thin film with mixed Fluorine and Indium doping for solar cell components. <i>Journal of Physics: Conference Series</i> , 2022, 2165, 012009.	0.4	0
371	Materials for Photovoltaics: Overview, Generations, Recent Advancements and Future Prospects. , 0, , .		11

#	ARTICLE	IF	CITATIONS
372	Color camouflage, solar absorption, and infrared camouflage based on phase-change material in the visible-infrared band. <i>Optical Materials Express</i> , 2022, 12, 1251.	3.0	9
373	Facile Generation of a Stable Bi-Functional Mixed Phase Fe <sub>3</sub> O <sub>4</sub> /Fe-N <sub>4</sub> Electro catalyst for Rechargeable Zinc-Air Battery. <i>Journal of the Electrochemical Society</i> , 2022, 169, 020516.	2.9	3
374	Performance of simple green synthesized Ag incorporated TiO <sub>2</sub> nanoparticles based photoanodes by doctor-blade coating as working electrodes for dye sensitized solar cells. <i>Progress in Organic Coatings</i> , 2022, 164, 106697.	3.9	7
375	Universal Digital Twin: Land use. <i>Data-Centric Engineering</i> , 2022, 3, .	2.3	8
376	Blind Image Separation Using the JADE Method. <i>Engineering Proceedings</i> , 2022, 14, .	0.4	0
377	Enhancing the efficiency and stability of Organic/Silicon solar cells using graphene electrode and Double-layer Anti-reflection coating. <i>Solar Energy</i> , 2022, 234, 111-118.	6.1	13
378	A review on advancements, challenges, and prospective of copper and non-copper based thin-film solar cells using facile spray pyrolysis technique. <i>Solar Energy</i> , 2022, 234, 81-102.	6.1	45
379	Emerging Chalcogenide Thin Films for Solar Energy Harvesting Devices. <i>Chemical Reviews</i> , 2022, 122, 10170-10265.	47.7	81
381	Impact of alkaline-earth doping on electronic properties of the photovoltaic perovskite CsSnI <sub>3</sub> : insights from a DFT perspective. <i>Dalton Transactions</i> , 2022, 51, 6607-6621.	3.3	7
383	Boosting Radiation of Stacked Halide Layer for Perovskite Solar Cells With Efficiency Over 25%. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
384	Selection of the ultimate perovskite solar cell materials and fabrication processes towards its industrialization: A review. <i>Energy Science and Engineering</i> , 2022, 10, 1478-1525.	4.0	9
385	A perspective on optimizing photoelectric conversion process in 2D transition-metal dichalcogenides and related heterostructures. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	9
386	Electrostatic dust removal using adsorbed moisture-assisted charge induction for sustainable operation of solar panels. <i>Science Advances</i> , 2022, 8, eabm0078.	10.3	31
387	Advanced Machine Learning Methods for Learning from Sparse Data in High-Dimensional Spaces: A Perspective on Uses in the Upstream of Development of Novel Energy Technologies. <i>Physchem</i> , 2022, 2, 72-95.	1.1	8
388	Enhanced Absorption in InP Nanodisk Arrays on Ultra-Thin-Film Silicon for Solar Cell Applications. <i>Photonics</i> , 2022, 9, 157.	2.0	2
389	Universal machine learning framework for defect predictions in zinc blende semiconductors. <i>Patterns</i> , 2022, 3, 100450.	5.9	22
390	Application of ultrathin TiO <sub>2</sub> layers in solar energy conversion devices. <i>Energy Science and Engineering</i> , 2022, 10, 1614-1629.	4.0	19
391	Crystal Growth Regulation of 2D/3D Perovskite Films for Solar Cells with Both High Efficiency and Stability. <i>Advanced Materials</i> , 2022, 34, e2200705.	21.0	91

#	ARTICLE	IF	CITATIONS
392	Steadily Decreasing Power Loss of a Double Schottky Barrier Originating from the Dynamics of Mobile Ions with Stable Interface States. <i>Physical Review Applied</i> , 2022, 17, .	3.8	20
393	Physical Model for the Current-Voltage Hysteresis and Impedance of Halide Perovskite Memristors. <i>ACS Energy Letters</i> , 2022, 7, 1214-1222.	17.4	47
394	Interface Engineering for Efficient Raindrop Solar Cell. <i>ACS Nano</i> , 2022, 16, 5292-5302.	14.6	47
395	Thermodynamic evaluation of electricity and hydrogen cogeneration from solar energy and fossil fuels. <i>Energy Conversion and Management</i> , 2022, 256, 115344.	9.2	23
396	State-of-the-art advancements of transition metal oxides as photoelectrode materials for solar water splitting. <i>Rare Metals</i> , 2022, 41, 2370-2386.	7.1	20
397	Near-Infrared Optical Response and Carrier Dynamics for High Photoconversion in Tellurene. <i>Journal of Physical Chemistry C</i> , 2022, 126, 6129-6134.	3.1	1
398	Transversal Halide Motion Intensifies Band-to-Band Transitions in Halide Perovskites. <i>Advanced Science</i> , 2022, 9, e2200706.	11.2	12
399	Modeling and numerical simulation of high efficiency perovskite solar cell with three active layers. <i>Solar Energy</i> , 2022, 236, 724-732.	6.1	21
400	Efficiency improvement of CIGS solar cells using RF sputtered TCO/Ag/TCO thin-film as prospective buffer layer. <i>Ceramics International</i> , 2022, 48, 20194-20200.	4.8	17
401	High efficiency ternary organic solar cells via morphology regulation with asymmetric nonfused ring electron acceptor. <i>Chemical Engineering Journal</i> , 2022, 438, 135384.	12.7	14
402	Energy-harvesting photovoltaic transparent tandem devices using hydrogenated amorphous and microcrystalline silicon absorber layers for window applications. <i>Applied Surface Science</i> , 2022, 589, 152936.	6.1	3
403	Reconsideration of solar array simulator based on Thevenin equivalent circuit for low-power applications. <i>International Journal of Electrical Power and Energy Systems</i> , 2022, 140, 108016.	5.5	3
404	Quantification of Losses in a Photovoltaic System: A Review. , 2021, 11, .		4
405	Graph Theory-Based Characterization and Classification of Household Photovoltaics. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 10999.	2.5	2
406	Transparent Photovoltaics for Self-Powered Bioelectronics and Neuromorphic Applications. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 12426-12436.	4.6	12
407	Solution-Processed Chalcopyrite Solar Cells: the Grain Growth Mechanism and the Effects of Cu/In Mole Ratio. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	9
408	Deciphering the Role of Defects in the Ambipolar Electrical Transport in Nanocrystalline Sb <sub>2</sub> Se <sub>3</sub> Thin Films. <i>Advanced Electronic Materials</i> , 2022, 8, .	5.1	6
409	Cathodoluminescence in Ultrafast Electron Microscopy. <i>ACS Nano</i> , 2021, 15, 19480-19489.	14.6	8

#	ARTICLE	IF	CITATIONS
410	Direct Plasmonic Solar Cell Efficiency Dependence on Spiro-OMeTAD Li-TFSI Content. <i>Nanomaterials</i> , 2021, 11, 3329.	4.1	4
411	A hierarchical thermal interface material based on a double self-assembly technique enables efficient output power via solar thermoelectric conversion. <i>Journal of Materials Chemistry A</i> , 2022, 10, 10452-10465.	10.3	18
412	Optimized carrier extraction at interfaces for 23.6% efficient tin-lead perovskite solar cells. <i>Energy and Environmental Science</i> , 2022, 15, 2096-2107.	30.8	172
413	çŽšâçfâ¥½žžéâç,1âé³èf½è½-æçâ™â»ŕç”ç©ŕèžâ±. <i>Chinese Science Bulletin</i> , 2022, , .	0.7	1
414	Atomic-Level Description of Thermal Fluctuations in Inorganic Lead Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 3382-3391.	4.6	13
415	Heteroatoms as Rotational Blocking Groups for Non-Fullerene Acceptors in Indoor Organic Solar Cells. <i>ACS Energy Letters</i> , 2022, 7, 1635-1641.	17.4	15
416	Organic-semiconductor-assisted dielectric screening effect for stable and efficient perovskite solar cells. <i>Science Bulletin</i> , 2022, 67, 1243-1252.	9.0	23
417	Quantum thermodynamic devices: From theoretical proposals to experimental reality. <i>AVS Quantum Science</i> , 2022, 4, .	4.9	73
418	Probing the Disorder Inside the Cubic Unit Cell of Halide Perovskites from First-Principles. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 22973-22981.	8.0	12
419	Light-induced beneficial ion accumulation for high-performance quasi-2D perovskite solar cells. <i>Energy and Environmental Science</i> , 2022, 15, 2499-2507.	30.8	18
420	Design of Double-Click Gels for Self-Contained Underwater Adhesion and Energy-Wise Applications in Floating Photovoltaics. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	13
421	Electrically Conductive Photoluminescent Porphyrin Phosphonate Metal-Organic Frameworks. <i>Advanced Optical Materials</i> , 2022, 10, .	7.3	8
422	Efficient Solar Thermal Energy Conversion and Utilization by a Film of Conductive Metal-Organic Framework Layered on Nanocellulose. , 2022, 4, 1058-1064.		19
423	Enhanced Efficiency and Stability in Sb <sub>2</sub> S <sub>3</sub> Seed Layer Buffered Sb <sub>2</sub> Se <sub>3</sub> Solar Cells. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	13
424	Formation of a Secondary Phase in Thermally Evaporated MAPbI <sub>3</sub> and Its Effects on Solar Cell Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 34269-34280.	8.0	5
425	Scalable Fabrication of Nanogratings on GaP for Efficient Diffraction of Near-Infrared Pulses and Enhanced Terahertz Generation by Optical Rectification. <i>Crystals</i> , 2022, 12, 684.	2.2	6
426	PTAA as Efficient Hole Transport Materials in Perovskite Solar Cells: A Review. <i>Solar Rrl</i> , 2022, 6, .	5.8	65
427	ITO Top-Electrodes via Industrial-Scale PLD for Efficient Buffer-Layer-Free Semitransparent Perovskite Solar Cells. <i>Advanced Materials Technologies</i> , 2022, 7, .	5.8	12

#	ARTICLE	IF	CITATIONS
428	Photovoltaic/photo-electrocatalysis integration for green hydrogen: A review. <i>Energy Conversion and Management</i> , 2022, 261, 115648.	9.2	48
429	Effect of thermal radiation entropy on the outdoor efficiency limit of single-junction silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2022, 242, 111763.	6.2	2
430	In Silico Investigation of the Impact of Hole-Transport Layers on the Performance of CH <sub>3</sub> NH <sub>3</sub> SnI <sub>3</sub> Perovskite Photovoltaic Cells. <i>Crystals</i> , 2022, 12, 699.	2.2	13
431	Dependence of cuprous oxide conductivity on metal doping: a hybrid density functional simulation. <i>European Physical Journal B</i> , 2022, 95, .	1.5	0
432	Carbon nanomaterials-polymer composites for perovskite solar cells: preparation, properties and applications. <i>Journal of Materials Chemistry A</i> , 2022, 10, 19211-19230.	10.3	11
433	Nanophotonics for Perovskite Solar Cells. <i>Advanced Photonics Research</i> , 2022, 3, .	3.6	15
434	Degradation conceptualization of an innovative perovskite solar cell fabricated using SnO <sub>2</sub> and P3HT as electron and hole transport layers. <i>New Journal of Chemistry</i> , 0, , .	2.8	1
435	Tunable Photovoltaics: Adapting Solar Cell Technologies to Versatile Applications. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	27
436	Toward Efficient Perovskite Solar Cells: Progress, Strategies, and Perspectives. <i>ACS Energy Letters</i> , 2022, 7, 2084-2091.	17.4	68
437	TiO <sub>2</sub> /AgO composites by one step photo reduction technique as electron transport layers (ETL) for dye-sensitized solar cells. <i>Chemosphere</i> , 2022, , 134953.	8.2	2
438	Solvent effect on the efficiency of triphenylamine-based dye-sensitized solar cells, molecular approach. <i>Chemical Physics</i> , 2022, 561, 111594.	1.9	2
439	Search of chalcopyrite materials based on hybrid density functional theory calculation. <i>Journal of Physics Communications</i> , 2022, 6, 065001.	1.2	1
440	The role of surface charges in the blinking mechanisms and quantum-confined Stark effect of single colloidal quantum dots. <i>Nano Research</i> , 2022, 15, 7655-7661.	10.4	12
443	Life cycle assessment of organic solar cells and perovskite solar cells with graphene transparent electrodes. <i>Renewable Energy</i> , 2022, 195, 906-917.	8.9	12
444	Ion Migration in the All-Inorganic Perovskite CsPbBr <sub>3</sub> and Its Impacts on Photodetection. <i>Journal of Physical Chemistry C</i> , 2022, 126, 10007-10013.	3.1	8
445	A self-powered triboelectric MXene-based 3D-printed wearable physiological biosignal sensing system for on-demand, wireless, and real-time health monitoring. <i>Nano Energy</i> , 2022, 101, 107511.	16.0	57
446	Optical Metasurfaces for Energy Conversion. <i>Chemical Reviews</i> , 2022, 122, 15082-15176.	47.7	52
447	A Rising Role for Decentralized Solar Minigrids in Integrated Rural Electrification Planning? Large-Scale, Least-Cost, and Customer-Wise Design of Grid and Off-Grid Supply Systems in Uganda. <i>Energies</i> , 2022, 15, 4517.	3.1	7

#	ARTICLE	IF	CITATIONS
448	Water desalination plant powered by solid oxide fuel cell technology in Egypt. <i>Journal of Cleaner Production</i> , 2022, 365, 132570.	9.3	6
449	Photo-Assisted Rechargeable Battery Desalination. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 30907-30913.	8.0	6
450	Electronic and Optical Properties of CsGeX <sub>3</sub> (X= Cl, Br, and I) Compounds. <i>ACS Omega</i> , 2022, 7, 25210-25218.	3.5	19
451	Towards Self-Powered WSN: The Design of Ultra-Low-Power Wireless Sensor Transmission Unit Based on Indoor Solar Energy Harvester. <i>Electronics (Switzerland)</i> , 2022, 11, 2077.	3.1	2
452	A-site cation influence on the conduction band of lead bromide perovskites. <i>Nature Communications</i> , 2022, 13, .	12.8	9
453	Effects of a flexible ion gel as an active outer-layer when in contact with a metallic electrode. <i>Applied Physics A: Materials Science and Processing</i> , 2022, 128, .	2.3	0
454	Photovoltaic Solar Cells: A Review. <i>Applied System Innovation</i> , 2022, 5, 67.	4.6	50
455	Towards long term sustainability of c-Si solar panels: The environmental benefits of glass sheet recovery. <i>Renewable Energy Focus</i> , 2022, 42, 206-210.	4.5	4
456	Surface passivation boosted performances of perovskite solar cells assembled under ambient conditions. <i>Optical Materials</i> , 2022, 131, 112746.	3.6	12
457	Design and characterization of an OPV-ETFE multi-layer semi-transparent glazing. <i>Energy Reports</i> , 2022, 8, 8312-8320.	5.1	3
458	Inorganic Nanoparticle-Based Superhydrophobic Colored Coatings for Sustainable Building-Integrated Photovoltaics. <i>Advanced Materials Technologies</i> , 0, , 2200358.	5.8	3
459	High-Throughput Computational Screening and Machine Learning Modeling of Janus 2D III-VI van der Waals Heterostructures for Solar Energy Applications. <i>Chemistry of Materials</i> , 2022, 34, 6687-6701.	6.7	17
460	Heat Management Strategy for All-Inorganic, Full-Spectral Concentrator CsPbBr <sub>3</sub> /Bi <sub>2</sub> Te <sub>3</sub> -Integrated Solar Cells. <i>Solar Rrl</i> , 2022, 6, .	5.8	4
461	Prediction of Power Output from a Crystalline Silicon Photovoltaic Module with Repaired Cell-in-Hotspots. <i>Electronics (Switzerland)</i> , 2022, 11, 2307.	3.1	3
462	Identification of structural inhomogeneity on spray pyrolyzed Cu <sub>2</sub> ZnSnS <sub>4</sub> thin film using micro-Raman spectroscopy. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2022, 448, 128331.	2.1	0
463	Influence of Low-Temperature Annealing on the Structure and Chemical Composition of Cu <sub>2</sub> ZnSnS <sub>4</sub> Films Deposited on Flexible Polyimide Substrates. <i>Materials Science</i> , 2022, 57, 572-581.	0.9	1
464	Irreversible phase transitions of the multiferroic oxide Mn <sub>3</sub> TeO <sub>6</sub> at high pressures. <i>Applied Physics Letters</i> , 2022, 121, 044102.	3.3	0
465	Perovskite Solar Cells: A Review of the Recent Advances. <i>Coatings</i> , 2022, 12, 1089.	2.6	49

#	ARTICLE	IF	CITATIONS
466	Avoid Pitfalls in Identifying Perovskite Grain Size. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 7236-7242.	4.6	7
467	Extending machine learning beyond interatomic potentials for predicting molecular properties. <i>Nature Reviews Chemistry</i> , 2022, 6, 653-672.	30.2	33
468	Transition from Capacitive to Inductive Hysteresis: A Neuron-Style Model to Correlate $I < i > \sim V < i >$ Curves to Impedances of Metal Halide Perovskites. <i>Journal of Physical Chemistry C</i> , 2022, 126, 13560-13578.	3.1	32
469	Overview and Outlook on Graphene and Carbon Nanotubes in Perovskite Photovoltaics from Single-Junction to Tandem Applications. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	14
470	A convenient method for assessing steady-state carrier density and lifetime in solar cell materials using pulse excitation measurements. <i>Journal of Chemical Physics</i> , 2022, 157, .	3.0	3
471	Iron Pyrite in Photovoltaics: A Review on Recent Trends and Challenges. <i>ACS Applied Electronic Materials</i> , 2022, 4, 4173-4211.	4.3	4
472	Design of a Photocatalytic [2+2] Cycloaddition Reaction Using Redox-Tag Strategy. <i>Chemistry - A European Journal</i> , 2022, 28, .	3.3	5
473	Comparative Analysis and Performance Optimization of Low-Cost Solution-Processed Hybrid Perovskite-Based Solar Cells With Different Organic HTLs. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 5012-5020.	3.0	6
474	Clean energy futures: An Australian based foresight study. <i>Energy</i> , 2022, 260, 125089.	8.8	10
475	Review of nanomaterials impact on improving the performance of dye-sensitized and perovskite solar cells. <i>Optical and Quantum Electronics</i> , 2022, 54, .	3.3	6
476	Household photovoltaic systems optimization methodology based on graph theory reliability. <i>Energy Reports</i> , 2022, 8, 11334-11342.	5.1	3
477	Photoelectron spectroscopic studies on metal halide perovskite materials. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2022, 40, .	2.1	1
478	Electron states in perovskite quantum dots. <i>Physica B: Condensed Matter</i> , 2022, 646, 414294.	2.7	0
479	Poly(3,4-ethylenedioxythiophene) decorated MXene as an alternative counter electrode for dye-sensitized solar cells. <i>Materials Today Chemistry</i> , 2022, 26, 101113.	3.5	6
480	Two-dimensional MXO/MoX <sub>2</sub> (M = Hf, Ti and X = S, Se) van der Waals heterostructure: a promising photovoltaic material. <i>RSC Advances</i> , 2022, 12, 21270-21279.	3.6	1
481	Thin Films of Solid-State Polymer Electrolytes for Dye-Sensitized Solar Cells. <i>SSRN Electronic Journal</i> , 0, .	0.4	0
482	Spiers Memorial Lecture: Next generation chalcogenide-based absorbers for thin-film solar cells. <i>Faraday Discussions</i> , 0, 239, 9-37.	3.2	10
483	High-efficiency luminescent solar concentrators based on Composition-tunable Eco-friendly Core/shell quantum dots. <i>Chemical Engineering Journal</i> , 2023, 452, 139490.	12.7	24

#	ARTICLE	IF	CITATIONS
484	Elaboration of Graded Band-Gap a-SiC Thin-Film Using RF Magnetron Sputtering Technique. , 2022, , .		0
485	Optical Absorption on Electron Quantum-Confined States of Perovskite Quantum Dots. Nanomaterials, 2022, 12, 2973.	4.1	0
486	Effects of Mono- and Bifunctional Surface Ligands of Cu <sup>2+</sup> /In <sup>3+</sup> /Se Quantum Dots on Photoelectrochemical Hydrogen Production. Materials, 2022, 15, 6010.	2.9	3
487	Recent Development of Moisture-Enabled Electric Nanogenerators. Small, 2022, 18, .	10.0	20
488	Formation of CuIn <sub>(1-x)</sub> Ga <sub>x</sub> S <sub>2</sub> Thin Films through a Solution Approach: Nonlinear Variation of Fermi Energy and Band Gap Bowing. Langmuir, 2022, 38, 11909-11916.	3.5	2
489	Effect of structural site disorder on the optical properties of Ag <sub>6+x</sub> (P <sub>1-x</sub> G <sub>x</sub> )S <sub>5</sub> solid solutions. Journal of Materials Science: Materials in Electronics, 2022, 33, 21874-21889.	2.2	4
490	The Impact of the Presence of Aromatic Rings in the Substituent on the Performance of C <sub>60</sub> /C <sub>70</sub> Fullerene-Based Acceptor Materials in Photovoltaic Cells. Journal of Electronic Materials, 2022, 51, 6995-7008.	2.2	2
491	Narrow Bandgap Inorganic Ferroelectric Thin Film Materials. Advanced Materials Interfaces, 2022, 9, .	3.7	8
492	Study on the series resistance of betavoltaic batteries. Semiconductor Science and Technology, 0, , .	2.0	0
493	Photonic Processing of MAPbI <sub>3</sub> Films by Flash Annealing and Rapid Growth for High-Performance Perovskite Solar Cells. Solar Rrl, 2022, 6, .	5.8	3
494	Integrated energy generation and storage systems for low-power device applications. Energy Storage, 2023, 5, .	4.3	1
495	Review on bandgap engineering in metal-chalcogenide absorber layer via grading: A trend in thin-film solar cells. Solar Energy, 2022, 246, 152-180.	6.1	11
496	Microstructure and optical properties of CdTe thin films prepared by close spaced sublimation method at various growth temperatures. Journal of Luminescence, 2022, 252, 119372.	3.1	1
497	TiO <sub>2</sub> /Bi <sub>5</sub> O <sub>7</sub> I nanocomposite for photoanode of electrochemical cell. , 0, , 61-70.		4
498	DFT investigation of the electronic and optical properties of hexagonal MX <sub>2</sub> /ZrXO (M =) Tj ETQq0 0 0 rgBT /Overlock 10 Tf Advances, 2022, 12, 30838-30845.	3.6	4
499	Reduced Open-Circuit Voltage Loss of Perovskite Solar Cells via Forming p/p <sup>+</sup> /n <sup>+</sup> Homojunction and Interface Electric Field on the Surfaces of Perovskite Film. Advanced Energy Materials, 2022, 12, .	19.5	33
500	Special roles of two-dimensional octahedral frameworks in photodynamics of Cs <sub>3</sub> Bi <sub>2</sub> Br <sub>9</sub> nanoplatelets: Electron and lattice-wave localization. Applied Physics Letters, 2022, 121, .	3.3	3
501	Short-Term Energy Yield Prediction of Dust Accumulated Standard, Half-Cut and Quarter-Cut PV Modules Using Multi-layer Neural Network Algorithm. Lecture Notes in Electrical Engineering, 2023, , 575-584.	0.4	0

#	ARTICLE	IF	CITATIONS
502	Phenothiazine functionalized fulleropyrrolidines: synthesis, charge transport and applications to organic solar cells. Photochemical and Photobiological Sciences, 0, , .	2.9	0
503	Surface Reconstruction for Tin-Based Perovskite Solar Cells. ACS Energy Letters, 2022, 7, 3889-3899.	17.4	27
504	Tunable photoluminescence and enhanced stability in two-dimensional (C <sub>3</sub> H <sub>7</sub> NH <sub>3</sub> ) <sub>2</sub> (MA) <sub>n</sub> -1PbnBr <sub>3n+1</sub> perovskite colloidal nanocrystals. Optical Materials, 2022, 133, 113072.	3.6	1
505	Purcell-induced suppression of superradiance for molecular overlayers on noble atom surfaces. Journal of Chemical Physics, 2022, 157, 194111.	3.0	0
506	Photo-electrochemical performance of Cu <sub>2</sub> ZnSnS <sub>4</sub> thin films prepared via successive ionic layer adsorption and reaction method. Chemical Physics Letters, 2022, 809, 140131.	2.6	1
507	Perspectives on weak interactions in complex materials at different length scales. Physical Chemistry Chemical Physics, 2023, 25, 2671-2705.	2.8	10
508	Pure 2D Perovskite Formation by Interfacial Engineering Yields a High Open-Circuit Voltage beyond 1.28 V for 1.77 eV Wide-Bandgap Perovskite Solar Cells. Advanced Science, 2022, 9, .	11.2	21
509	Piezoelectric Energy Harvesting for Low-Power Smart Electronics. , 2023, , 369-404.		0
510	Solar photovoltaic tree multi aspects analysis a review. Renewable Energy and Environmental Sustainability, 2022, 7, 26.	1.4	1
511	High output performance flutter-driven triboelectric nanogenerator. Nano Energy, 2023, 106, 108106.	16.0	6
512	Synergetic effect of 2D/2D Co-SnS <sub>2</sub> with reduced graphene oxide heterostructure for Pt-free counter electrode. Materials Today Communications, 2023, 34, 105204.	1.9	3
513	Understanding solar fuel photocatalysis using covalent organic frameworks. Photochemistry, 2022, , 403-427.	0.2	0
514	Modeling and Simulation of Tin Sulfide (SnS)-Based Solar Cell Using ZnO as Transparent Conductive Oxide (TCO) and NiO as Hole Transport Layer (HTL). Micromachines, 2022, 13, 2073.	2.9	14
515	Droplet-Based Electricity Generator toward Practicality: Configuration, Optimization, and Hybrid Integration. Advanced Materials Technologies, 2023, 8, .	5.8	4
516	On Hybrid Health Monitoring of Photovoltaics. , 2022, , .		1
517	Thermal Conductivity of a Porous Material with an Ordered Structure. , 2022, , .		2
518	Model for the dynamics of carrier injection in a band with polaronic states: Application to exciton dissociation in organic solar cells. Physical Review B, 2022, 106, .	3.2	1
519	Boosting radiation of stacked halide layer for perovskite solar cells with efficiency over 25%. Joule, 2023, 7, 112-127.	24.0	27



#	ARTICLE	IF	CITATIONS
538	Polymer-based nano-inks for solar cells. , 2023, , 359-388.		0
539	Band gap tailoring in a low toxicity and low-cost solar cell absorber Cu <sub>3</sub> SbS <sub>4</sub> through Na alloying: a first-principles study. Journal of Crystal Growth, 2023, , 127132.	1.5	1
540	2-T Non-Toxic Tandem solar cell with Distinct HTL Materials. , 2022, , .		1
541	Protic ionic-liquid modifies the microstructure and photoelectrochemical performance of zinc oxide-based photoanodes. Bulletin of Materials Science, 2023, 46, .	1.7	0
542	Recent progress of photodetector based on carbon nanotube film and application in optoelectronic integration. , 2023, 2, e9120058.		18
543	Comparing Methods of Characterizing Energetic Disorder in Organic Solar Cells. Advanced Energy Materials, 2023, 13, .	19.5	3
544	Non-toxic CuInS <sub>2</sub> quantum dot sensitized solar cell with functionalized thermoplast polyurethane gel electrolytes. Polymer, 2023, 269, 125708.	3.8	2
545	Buried Interface Passivation of Perovskite Solar Cells by Atomic Layer Deposition of Al <sub>2</sub> O <sub>3</sub> . ACS Energy Letters, 2023, 8, 2058-2065.	17.4	6
546	Recipe for Fabricating Optimized Solid-State Electrochromic Devices and Its Know-How: Challenges and Future. Advanced Optical Materials, 2023, 11, .	7.3	15
547	Insight into structure defects in high-performance perovskite solar cells. Journal of Power Sources, 2023, 570, 233011.	7.8	4
548	Tribovoltaic effect: Fundamental working mechanism and emerging applications. Materials Today Nano, 2023, 22, 100318.	4.6	5
549	Towards improved efficiency of SnS solar cells using back grooves and strained-SnO <sub>2</sub> buffer layer: FDTD and DFT calculations. Journal of Physics and Chemistry of Solids, 2023, 178, 111353.	4.0	5
550	Transient conduction of ZnO varistors under moderate time-varying voltages: Dynamics of interfacial charges of the double Schottky barrier. Journal of Applied Physics, 2023, 133, .	2.5	3
551	Surface-modified liquid metal nanocapsules derived multiple triboelectric composites for efficient energy harvesting and wearable self-powered sensing. Chemical Engineering Journal, 2023, 460, 141737.	12.7	10
552	First principle study of optical and electronic response of Ca-based novel chalcopyrite compounds. Physica Scripta, 2023, 98, 035821.	2.5	3
553	Lead(II) 2-ethylhexanoate for Simultaneous Modulated Crystallization and Surface Shielding to Boost Perovskite Solar Cell Efficiency and Stability. Advanced Materials, 2023, 35, .	21.0	12
554	High-performance lead-free perovskite solar cell: a theoretical study. Emerging Materials Research, 2023, 12, 92-99.	0.7	2
555	A green, robust, and versatile BN nanosheet unidirectional aerogel encapsulated phase change material for effective thermal management of electronics and solar-thermoelectric conversion. Journal of Materials Chemistry A, 2023, 11, 7115-7127.	10.3	11

#	ARTICLE	IF	CITATIONS
556	Thin films of solid-state polymer electrolytes for dye-sensitized solar cells. <i>Journal of Power Sources</i> , 2023, 564, 232896.	7.8	4
557	High-Performance Ternary Organic Solar Cells Enabled by Integrating a 3D-Shaped Guest Acceptor Derived from Perylene Diimide. <i>Advanced Functional Materials</i> , 2023, 33, .	14.9	15
558	Terthiophene based low-cost fully non-fused electron acceptors for high-efficiency as-cast organic solar cells. <i>Journal of Materials Chemistry A</i> , 2023, 11, 7498-7504.	10.3	8
559	Prediction of PV cell parameters at different temperatures via ML algorithms and comparative performance analysis in Multiphysics environment. <i>Energy Conversion and Management</i> , 2023, 282, 116881.	9.2	2
560	Leveraging Low-Energy Structural Thermodynamics in Halide Perovskites. <i>ACS Energy Letters</i> , 2023, 8, 1705-1715.	17.4	8
561	On biosafety of Sn-containing halide perovskites. <i>Energy and Environmental Science</i> , 2023, 16, 2120-2132.	30.8	6
562	The tough and multi-functional stretchable device based on silicone rubber composites. <i>Polymers for Advanced Technologies</i> , 2023, 34, 2167-2178.	3.2	2
563	Doing More with Ambient Light: Harvesting Indoor Energy and Data Using Emerging Solar Cells. <i>Solar</i> , 2023, 3, 161-183.	1.8	5
564	Monolithic Quasi-Solid-State Dye Sensitized Solar Cells Prepared Entirely by Printing Processes. <i>ACS Sustainable Chemistry and Engineering</i> , 2023, 11, 5293-5302.	6.7	5
565	Highly efficient Cd-Free ZnMgO/CIGS solar cells via effective band-gap tuning strategy. <i>Journal of Computational Electronics</i> , 2023, 22, 887-896.	2.5	1
566	Improving interface quality for 1-cm <sup>2</sup> all-perovskite tandem solar cells. <i>Nature</i> , 2023, 618, 80-86.	27.8	110
567	Photonically Cured Solution-Processed SnO <sub>2</sub> Thin Films for High-Efficiency and Stable Perovskite Solar Cells and Minimodules. <i>ACS Applied Energy Materials</i> , 2023, 6, 3996-4006.	5.1	0
568	Refined molecular microstructure and optimized carrier management of multicomponent organic photovoltaics toward 19.3% certified efficiency. <i>Energy and Environmental Science</i> , 2023, 16, 2262-2273.	30.8	34
569	Versatile organic photovoltaics with a power density of nearly 40 W g <sup>-1</sup> . <i>Energy and Environmental Science</i> , 2023, 16, 2284-2294.	30.8	21
570	Multiconfigurational Calculations and Photodynamics Describe Norbornadiene Photochemistry. <i>Journal of Organic Chemistry</i> , 2023, 88, 5311-5320.	3.2	5
571	Small Energetic Disorder Enables Ultralow Energy Losses in Non-Fullerene Organic Solar Cells. <i>Advanced Energy Materials</i> , 2023, 13, .	19.5	12
572	Design and Synthesis of Novel NIR-Sensitive Unsymmetrical Squaraine Dyes for Molecular Photovoltaics. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2023, 220, .	1.8	4
573	Multiscale architected porous materials for renewable energy conversion and storage. <i>Energy Storage Materials</i> , 2023, 59, 102768.	18.0	6

#	ARTICLE	IF	CITATIONS
574	Nonreciprocal Photovoltaics: The Path to Conversion of Entire Power-Beam Exergy. , 0, , .		0
575	Efficient Liquid-Solid Core/Shell Engineering in Mixed-Cation Lead Mixed-Halide Perovskite for Photovoltaic Performance Improvement. Solar Rrl, 0, , .	5.8	0
576	All-Perovskite Tandem Solar Cells: From Certified 25% and Beyond. Energies, 2023, 16, 3519.	3.1	3
577	Will Cuprous Oxide Really Make It in Water-Splitting Applications?. ACS Energy Letters, 2023, 8, 2338-2344.	17.4	7
578	High Performance Photorechargeable Li-Ion Batteries Based on Nanoporous Fe <sub>2</sub> O <sub>3</sub> Photocathodes. Advanced Sustainable Systems, 2023, 7, .	5.3	3
579	Machine learning for perovskite solar cell design. Computational Materials Science, 2023, 226, 112215.	3.0	5
580	Optical absorption on electron states of perovskites nanocrystals. Applied Physics A: Materials Science and Processing, 2023, 129, .	2.3	0
581	Superradiance Emission and Its Thermal Decoherence in Lead Halide Perovskites Superlattices. Advanced Optical Materials, 2023, 11, .	7.3	3
582	Machine learning in energy chemistry: introduction, challenges and perspectives. Energy Advances, 2023, 2, 896-921.	3.3	6
583	1D Diisopropylammonium Lead Iodide Perovskite Shows Exceptional Optical Stability and Third-Order Nonlinearity. Advanced Optical Materials, 2023, 11, .	7.3	2
584	Unrevealing tunable resonant excitons and correlated plasmons and their coupling in new amorphous carbon-like for highly efficient photovoltaic devices. Scientific Reports, 2023, 13, .	3.3	2
585	A novel intelligent tracking controller based on human reaction towards light. AIP Conference Proceedings, 2023, , .	0.4	0
586	Bridging the Gap between Solar Cells and Batteries: Optical Design of Bifunctional Solar Batteries Based on 2D Carbon Nitrides. Advanced Energy Materials, 0, , .	19.5	2
587	Comprehensive Review on Thin Film Homo Junction Solar Cells: Technologies, Progress and Challenges. Energies, 2023, 16, 4402.	3.1	4
588	Controlled <i>p</i> -Type Doping of Pyrite FeS <sub>2</sub> . ACS Applied Materials & Interfaces, 2023, 15, 28258-28266.	8.0	2
589	Giant optomechanical spring effect in plasmonic nano- and picocavities probed by surface-enhanced Raman scattering. Nature Communications, 2023, 14, .	12.8	7
590	Finite-size corrections to defect energetics along one-dimensional configuration coordinate. Physical Review B, 2023, 107, .	3.2	2
591	Colloidal Synthesis of Multinary Alkali-Metal Chalcogenides Containing Bi and Sb: An Emerging Class of VI <sub>2</sub> Nanocrystals with Tunable Composition and Interesting Properties. Chemistry of Materials, 2023, 35, 4810-4820.	6.7	1

#	ARTICLE	IF	CITATIONS
592	Increase in demand for critical materials under IEA Net-Zero emission by 2050 scenario. <i>Applied Energy</i> , 2023, 346, 121400.	10.1	6
593	Encapsulant Materials and Their Adoption in Photovoltaic Modules: A Brief Review. <i>Sustainability</i> , 2023, 15, 9453.	3.2	1
594	Tandem cells for unbiased photoelectrochemical water splitting. <i>Chemical Society Reviews</i> , 2023, 52, 4644-4671.	38.1	17
595	AiiDA-defects: an automated and fully reproducible workflow for the complete characterization of defect chemistry in functional materials. <i>Electronic Structure</i> , 2023, 5, 024009.	2.8	2
596	A comprehensive review of the current progresses and material advances in perovskite solar cells. <i>Nanoscale Advances</i> , 2023, 5, 3803-3833.	4.6	12
597	Semitransparent organic solar cells based on low temperature processed PEIE as electron transport layer with enhanced charge transfer ability. <i>Physica Scripta</i> , 2023, 98, 065931.	2.5	0
598	First-principles modeling of dye-sensitized solar cells: From the optical properties of standalone dyes to the charge separation at dye/TiO <sub>2</sub> interfaces. , 2023, , 215-245.		1
599	Electrochromic Strategies for Modulation between Primary Colors: Covering the Visible Spectrum. , 2023, 1, 915-923.		1
600	Fully inkjet-printed large-scale photoelectrodes. <i>Joule</i> , 2023, 7, 884-919.	24.0	4
601	A perspective on photoelectrochemical storage materials for coupled solar batteries. <i>Energy and Environmental Science</i> , 2023, 16, 2432-2447.	30.8	12
602	Performance enhancement by introducing different chlorinated salts in the SnO <sub>2</sub> electron transfer layer of perovskite solar cells. , 2022, , .		0
603	Optical and Electrical Analyses of Solar Cells with a Radial PN Junction and Incorporating an Innovative NW Design That Mimics ARC Layers. <i>Nanomaterials</i> , 2023, 13, 1649.	4.1	0
604	High-resolution and localized parametric embodied impact calculator of PV systems. <i>IOP Conference Series: Earth and Environmental Science</i> , 2023, 1196, 012014.	0.3	1
605	Optimized topology for a photovoltaic array using switches control. <i>Energy Conversion and Management</i> , 2023, 291, 117315.	9.2	1
606	OTSunWebApp: A ray tracing web application for the analysis of concentrating solar-thermal and photovoltaic solar cells. <i>SoftwareX</i> , 2023, 23, 101449.	2.6	3
607	Hydrogenase as the basis for green hydrogen production and utilization. <i>Journal of Energy Chemistry</i> , 2023, 85, 348-362.	12.9	3
608	Advances in CIGS thin film solar cells with emphasis on the alkali element post-deposition treatment. <i>Materials Reports Energy</i> , 2023, 3, 100214.	3.2	5
609	Recent progress in vanadium dioxide: The multi-stimuli responsive material and its applications. <i>Materials Science and Engineering Reports</i> , 2023, 155, 100747.	31.8	7

#	ARTICLE	IF	CITATIONS
611	Universal rule of revealing energy-band diagrams at various semiconductor interfaces: The influence of film thickness and dielectric constants. <i>Journal of Applied Physics</i> , 2023, 134, .	2.5	0
612	Energy-efficient colorful silicon photovoltaic modules driven by transparent-colored radiative cooling. <i>Solar Energy Materials and Solar Cells</i> , 2023, 259, 112459.	6.2	2
613	Investigation of the optoelectronic and structural properties of FA(1- $x$ )BixPbBr <sub>3</sub> of perovskite mixed halide films. <i>Optik</i> , 2023, 288, 171160.	2.9	4
614	Efficient Integrated Perovskite/Organic Solar Cells <i>via</i> Interdigitated Interfacial Charge Transfer. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 34742-34749.	8.0	2
615	MXenes based 2D nanostructures for supercapacitors. , 2023, , 261-303.		0
616	Homomeric chains of intermolecular bonds scaffold octahedral germanium perovskites. <i>Nature</i> , 2023, 620, 328-335.	27.8	18
617	Device modeling and numerical study of a double absorber solar cell using a variety of electron transport materials. <i>Heliyon</i> , 2023, 9, e18265.	3.2	2
618	Revealing the impact of the host-salt non-stoichiometry on the performance of perovskite solar cells. <i>Sustainable Energy and Fuels</i> , 0, , .	4.9	0
619	SCAPS device simulation study of formamidinium Tin-Based perovskite solar Cells: Investigating the influence of absorber parameters and transport layers on device performance. <i>Solar Energy</i> , 2023, 262, 111846.	6.1	2
620	Thermodynamic Stability and Anion Ordering of Perovskite Oxynitrides. <i>Chemistry of Materials</i> , 2023, 35, 5975-5987.	6.7	3
621	Insights into the Size Effect of the Dynamic Characteristics of the Perovskite Solar Cell. <i>Lecture Notes in Civil Engineering</i> , 2023, , 353-357.	0.4	0
622	Computational-Guided Design of Photoelectrode Active Materials for Light-Assisted Energy Storage. <i>Small</i> , 0, , .	10.0	0
623	High Quality Factor in Solution-Processed Inorganic Microcavities Embedding CsPbBr <sub>3</sub> Perovskite Nanocrystals. , 2023, 1, 1343-1349.		0
624	Integrated Solar Batteries: Design and Device Concepts. <i>ACS Energy Letters</i> , 2023, 8, 3343-3355.	17.4	1
625	Photochargeable Semiconductors: in "Dark Photocatalysis" and Beyond. <i>Advanced Functional Materials</i> , 2023, 33, .	14.9	4
626	The Energy Structure of Spin States in Reducing the Nonradiative Voltage Loss in Organic Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2023, 14, 7490-7497.	4.6	0
627	Role of Charge-Carrier Dynamics Toward the Fabrication of Efficient Air-Processed Organic Solar Cells. <i>Small Methods</i> , 2024, 8, .	8.6	0
628	A constant-current generator <i>via</i> water droplets driving Schottky diodes without a rectifying circuit. <i>Energy and Environmental Science</i> , 2023, 16, 4620-4629.	30.8	1

#	ARTICLE	IF	CITATIONS
629	Low-Temperature Emission Dynamics of Methylammonium Lead Bromide Hybrid Perovskite Thin Films at the Sub-Micrometer Scale. <i>Nanomaterials</i> , 2023, 13, 2376.	4.1	1
630	Theoretical and Experimental Advances in High-Pressure Behaviors of Nanoparticles. <i>Chemical Reviews</i> , 2023, 123, 10206-10257.	47.7	4
631	Light-Assisted Energy Storage Devices: Principles, Performance, and Perspectives. <i>Advanced Energy Materials</i> , 2023, 13, .	19.5	5
632	Negative-pressure sulfurization of antimony sulfide thin films for generating a record open-circuit voltage of 805 mV in solar cell applications. <i>Journal of Materials Chemistry A</i> , 2023, 11, 19298-19307.	10.3	2
633	Disentangle electronic, structural, and spin dynamics using transient extreme ultraviolet spectroscopy. <i>Journal of Materials Chemistry C</i> , 2023, 11, 12128-12146.	5.5	0
634	Probing three-dimensional mesoscopic interfacial structures in a single view using multibeam X-ray coherent surface scattering and holography imaging. <i>Nature Communications</i> , 2023, 14, .	12.8	0
635	Lead-free organic inorganic hybrid halide perovskites: An emerging candidate for bifunctional applications. <i>Renewable and Sustainable Energy Reviews</i> , 2023, 186, 113649.	16.4	11
636	First-principles prediction on Ag <sub>3</sub> SbS <sub>4</sub> as a photovoltaic absorber. <i>Journal of Physics and Chemistry of Solids</i> , 2023, 183, 111655.	4.0	0
637	Rewiring photosynthetic electron transport chains for solar energy conversion. , 2023, 1, 887-905.		5
638	An integrated electricity generator harnessing water and solar energy featuring common-electrode configuration. <i>Nano Energy</i> , 2023, 116, 108831.	16.0	6
639	Resonant perovskite solar cells with extended band edge. <i>Nature Communications</i> , 2023, 14, .	12.8	9
640	Correlated anharmonicity and dynamic disorder control carrier transport in halide perovskites. <i>Physical Review Materials</i> , 2023, 7, .	2.4	0
641	Understanding the origin of defect states, their nature, and effects on metal halide perovskite solar cells. <i>Materials Today Energy</i> , 2023, 37, 101400.	4.7	2
642	Effect of CaO on crystallization and photoluminescence of CsPbBr <sub>3</sub> quantum dots germanium borate glass. <i>Journal of Luminescence</i> , 2024, 265, 120243.	3.1	0
643	Thermophotonic cells in self-sustaining parallel circuits. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2024, 312, 108792.	2.3	0
644	High efficiency ternary organic solar cells based on two nonfused ring electron acceptors with similar molecular structure. <i>Dyes and Pigments</i> , 2023, 220, 111737.	3.7	0
645	DeePKS Model for Halide Perovskites with the Accuracy of a Hybrid Functional. <i>Journal of Physical Chemistry C</i> , 2023, 127, 18755-18764.	3.1	0
646	High-Performance Carbon Black-Based Counter Electrodes for Copper (I)/(II)-Mediated Dye-Sensitized Solar Cells. <i>ACS Sustainable Chemistry and Engineering</i> , 2023, 11, 12166-12176.	6.7	5

#	ARTICLE	IF	CITATIONS
648	Solar cell-based hybrid energy harvesters towards sustainability. , 2023, 2, 230011-230011.		10
649	Carbon dots and dendrimers nano hybrids: from synthesis to applications. Materials Today Chemistry, 2023, 32, 101662.	3.5	1
650	Low-cost fabrication of single chalcogenide CuInGaSe <sub>2</sub> sputter target and its thin films for solar cell applications. Journal of Optics (India), 2024, 53, 828-846.	1.7	0
651	Classical modeling of extrinsic degradation in polycrystalline perovskite solar cells; defect induced degradation. Solar Energy Materials and Solar Cells, 2023, 261, 112500.	6.2	1
652	Optimizing the design of broadband solar metamaterial absorbers based on titanium nitride nanorings [Invited]. Optical Materials Express, 2023, 13, 2787.	3.0	3
653	Enhancing the efficiency of solar photovoltaic systems by using liquid cooling techniques. , 2023, , 575-590.		0
654	Unveiling the Potential of Bismuth Oxy-Iodide (BiOI)-Based Photovoltaic Device for Indoor Light Harvesting. IEEE Transactions on Electron Devices, 2023, 70, 5690-5695.	3.0	0
655	Analysis of thermally stressed GaAs solar cells for operation in terrestrial hybrid systems. AIP Conference Proceedings, 2023, , .	0.4	0
657	Regulation of phase arrangement in 2D Ruddlesden-Popper perovskite films via anti-solvent method for efficient solar cells. Solar Energy Materials and Solar Cells, 2023, 262, 112568.	6.2	0
658	Anionic framework descriptors and microstructure effects on optical parameters of Ag <sub>7+x</sub> (P <sub>1-x</sub> G <sub>x</sub> )S <sub>6</sub> single crystals. Optical Materials, 2023, 145, 114407.	3.6	0
659	Indoor Photovoltaics for the Internet-of-Things – A Comparison of State-of-the-Art Devices from Different Photovoltaic Technologies. ACS Applied Energy Materials, 2023, 6, 10404-10414.	5.1	4
660	Synthesis, Characterization, and Photoelectric and Electrochemical Behavior of (CH <sub>3</sub> NH <sub>3</sub> ) <sub>2</sub> Zn <sub>1-x</sub> Co <sub>x</sub> Br <sub>4</sub> Perovskites. Inorganic Chemistry, 2023, 62, 17046-17051.		0
661	Suppressing Optical Losses in Solar Cells via Multifunctional and Large-Scale Geometric Arrays. Nanomaterials, 2023, 13, 2766.	4.1	0
662	Optoelectronic Characterisation and Theoretical Insight into the Binding Mechanism of D <sup>+</sup> Triphenylamine-Organic Dyes for Dye Sensitized Solar Cells. ChemistrySelect, 2023, 8, .	1.5	0
663	Methylammonium-free wide-bandgap metal halide perovskites for tandem photovoltaics. Nature Reviews Materials, 2023, 8, 822-838.	48.7	2
664	An isogeometric approach of static, free vibration and buckling analyses of multilayered solar cell structures. International Journal of Mechanics and Materials in Design, 0, , .	3.0	0
665	Investigating a Renewable-Resource-Targeting Mobile Aquaculture System Using Route Optimization Based on Optimal Foraging Theory. Journal of Marine Science and Engineering, 2023, 11, 2123.	2.6	0
666	Controlling Thin Film Morphology Formation during Gas Quenching of Slot-Die Coated Perovskite Solar Modules. ACS Applied Materials & Interfaces, 0, , .	8.0	0

#	ARTICLE	IF	CITATIONS
667	Future in Solar Cell Technology. , 2023, , 237-256.		0
668	Mesoscopic Simulation of Core-Shell Composite Powder Materials by Selective Laser Melting. Materials, 2023, 16, 7005.	2.9	0
669	Recent progresses in terahertz modulators based on metal halide perovskites. Optics and Laser Technology, 2024, 171, 110342.	4.6	0
670	Recent Progress on Phase Engineering of Nanomaterials. Chemical Reviews, 2023, 123, 13489-13692.	47.7	3
671	Synergistic solar-powered water-electricity generation: An integrated floating system on water. Nano Energy, 2024, 119, 109074.	16.0	2
672	Transparent Photovoltaics for Self-Powered Devices and Memories. Solar Rrl, 2024, 8, .	5.8	0
673	All layers patterned conical nanostructured thin-film silicon solar cells for light-trapping efficiency improvement. Optics Express, 2023, 31, 42111.	3.4	0
674	Gallium nanoparticles as antireflection structures on III-V solar cells. Solar Energy Materials and Solar Cells, 2024, 265, 112632.	6.2	0
675	Research progress and challenges in extending the infra-red absorption of perovskite tandem solar cells. Nano Energy, 2024, 121, 109175.	16.0	0
676	Back Contact Plasma Treatment Enables 14.5% Efficient Solution-Processed CuIn(S,Se) <sub>2</sub> Solar Cells. Advanced Functional Materials, 2024, 34, .	14.9	0
677	Effect of Doping Concentration and Band Offset on the Efficiency of Homojunction Perovskite Solar Cells. Lecture Notes in Electrical Engineering, 2024, , 250-256.	0.4	0
678	Solar Cell Modeling Parameters. , 2023, , 197-210.		0
679	Performance Metrics for Photovoltaic 4.0 Systems: 27.5 kW Solar Station as an Example. , 2023, , .		1
681	Rational Buried Interface Engineering of Inorganic NiO <sub>x</sub> Layer toward Efficient Inverted Perovskite Solar Cells. Solar Rrl, 0, , .	5.8	0
682	SCAPS-FDTD simulation of 20.1 % efficient Perovskite-SnS tandem solar cell based on alternative charge transport layers and Au-nanoparticles. Physica Scripta, 0, , .	2.5	0
683	Numerical Investigation of a New Double-Absorber Lead-free Perovskite Solar Cell via SCAPS-1D. , 2023, , .		0
684	An Efficient S and Se Co-Annealing Strategy for Performance Enhancement of Solution-Processed Submicron CuIn(S,Se) <sub>2</sub> Solar Cells. IEEE Journal of Photovoltaics, 2024, 14, 246-252.	2.5	0
685	Optical and Electrical Properties of Annealed AZO/Ag/AZO Multilayer Deposited Using RF Sputtering Technique. , 2023, , .		0

#	ARTICLE	IF	CITATIONS
686	Characterization of the efficiency of solar generators based on three-dimensional geometric designs of photovoltaic cells. , 2023, , .		0
687	Effect on green energy conversion and stability with $\text{Er}^{\text{TM}}$ modification in multiferroic based perovskite solar cell devices. Materials Today Communications, 2024, 38, 107841.	1.9	0
688	Research progress of bulk photovoltaic effect in two-dimensional materials. Wuli Xuebao/Acta Physica Sinica, 2023, 72, 237201.	0.5	0
690	Analysis of the effect of size, material, position and period of metal nanowires on the performance of thin film solar cells. , 2024, 21, 47-53.		0
691	Optimisation and Numerical Analysis of Highly Efficient CGSe-Based Thin Film Solar Cell.. Physica Scripta, 0, , .	2.5	0
692	Analysis of the structural, electronic, optical and mechanical properties of CsGel2Br under tensile and compressive strain for optoelectronic applications: A DFT computational perspective. , 2024, 186, 207750.		0
693	Advances in boron nitride-based materials for electrochemical energy storage and conversion. , 2023, 1, 375-404.		2
694	Molecular structure effects of passivation agents on the performance of perovskite solar cells. Chemical Engineering Journal, 2024, 485, 148999.	12.7	0
695	Application of large datasets to assess trends in the stability of perovskite photovoltaics through machine learning. Journal of Materials Chemistry A, 2024, 12, 3122-3132.	10.3	0
696	Opto-electro-thermo-mechanical behaviours of perovskite plates. International Journal of Mechanical Sciences, 2024, 267, 109016.	6.7	0
697	Addressing Triboelectric Nanogenerator Impedance for Efficient CO <sub>2</sub> Utilization. Advanced Energy Materials, 2024, 14, .	19.5	0
698	A review on current development of thermophotovoltaic technology in heat recovery. International Journal of Extreme Manufacturing, 2024, 6, 022009.	12.7	1
699	Active Strategies Based on Parametric Design for Applying Shading Structures. Applied Sciences (Switzerland), 2024, 14, 974.	2.5	0
700	From contaminant to commodity: a critical review of selenium usage, treatment, and recovery. Reviews in Environmental Science and Biotechnology, 2024, 23, 223-255.	8.1	0
701	Digital Privacy and Cyberphysical Security Perspectives of Grid-Edge Power Systems and Markets. , 2023, , .		0
702	A $\text{Er}^{\text{TM}}$ -strategy for promoting the 3D network packing of fully non-fused ring acceptors in organic solar cells. Journal of Materials Chemistry A, 2024, 12, 6996-7004.	10.3	0
703	Sustainable Devices for Electronic Applications. , 2024, , .		0
704	Optical, thermal, and electrical analysis of perovskite solar cell with grated cds and embedded plasmonic Au nanoparticles. JPhys Energy, 2024, 6, 025007.	5.3	0

#	ARTICLE	IF	CITATIONS
705	Tailoring the Dimensionality of 2D/3D Heterojunctions for Inverted Perovskite Solar Cells. ACS Energy Letters, 2024, 9, 779-788.	17.4	0
706	In-depth analysis of battery life enhancement in solar-assisted fuel-cell range-extender vehicles. International Journal of Hydrogen Energy, 2024, 67, 1033-1043.	7.1	1
707	Study on the Rectification of Ionic Diode Based on Cross-Linked Nanocellulose Bipolar Membranes. Biomacromolecules, 2024, 25, 1933-1941.	5.4	0
708	Exploring the potential of potato starch-capped TiO <sub>2</sub> nanoparticles for DSSC photoanodes. Results in Optics, 2024, 15, 100630.	2.0	0
709	Design and Implementation of an Isolated Two-Stage Dual Active Bridge Topology Inverter for Solar PV Off-Grid. , 2023, , .		0
710	A Two Stage Topology Inverter for Off-Grid Solar PV: Design and Implementation. , 2023, , .		0
711	Upconversion as a spear carrier for tuning photovoltaic efficiency. Materials Advances, 2024, 5, 1783-1802.	5.4	0
712	Solar-driven (photo)electrochemical devices for green hydrogen production and storage: Working principles and design. Journal of Energy Storage, 2024, 82, 110484.	8.1	0
713	Sustainable Late Transition Metal-Based Dyes for Dye-Sensitized Solar Cells. Comments on Inorganic Chemistry, 0, , 1-79.	5.2	0
714	Photo-Enhanced Li-Ion Batteries Based on Conversion Type Hematite Phase Iron Oxide Nanostructures. Advances in Sustainability Science and Technology, 2024, , 71-79.	0.6	0
715	Integration of Supercapacitors with Sensors and Energy Harvesting Devices: A Review. Advanced Materials Technologies, 0, , .	5.8	0
716	New frontiers in supramolecular design of materials. MRS Bulletin, 0, , .	3.5	0
717	Effects of quasi-fermi level splitting and band tail states on open circuit voltage towards high-efficiency Cu(In,Ga)Se <sub>2</sub> solar cells. Solar Energy Materials and Solar Cells, 2024, 269, 112767.	6.2	0
718	Single-Layer Carbon Nitride as an Efficient Metal-Free Organic Electron Transport Material with a Tunable Work Function. Advanced Functional Materials, 0, , .	14.9	0
719	Mass-production of biomimetic fur knitted triboelectric fabric for smart home and healthcare. Nano Energy, 2024, 125, 109510.	16.0	0
720	Zn <sub>x</sub> Cd <sub>1-x</sub> Se <sub>y</sub> as an effective electron transport layer for improving the efficiency of Sb <sub>2</sub> S <sub>3</sub> and Sb <sub>2</sub> Se <sub>3</sub> thin-film solar cells. European Physical Journal Plus, 2024, 139, .	2.6	0
721	The effectiveness of using IT in art education to develop learning motivation and psychological well-being. Education and Information Technologies, 0, , .	5.7	0
722	Band gap engineering in lead free halide cubic perovskites GaGeX <sub>3</sub> (X = Cl, Br, and I) based on first-principles calculations. RSC Advances, 2024, 14, 9805-9818.	3.6	0

#	ARTICLE	IF	CITATIONS
723	Optimization design of surface optical characteristics of space solar cells based on transfer matrix method. Japanese Journal of Applied Physics, 2024, 63, 035501.	1.5	0
724	Investigation of the Photoelectric Characteristics of GaAs Solar Cells with Different InGaAs Quantum Dot Array Positioning in the i-Region. Technical Physics Letters, 2023, 49, S125-S129.	0.7	0
725	Design, Construction, and Characterization of a Solar Photovoltaic Hybrid Heat Exchanger Prototype. Processes, 2024, 12, 588.	2.8	0
726	Beyond lead halide perovskites: Crystal structure, bandgaps, photovoltaic properties and future stance of lead-free halide double perovskites. Nano Energy, 2024, 125, 109523.	16.0	0
727	A Deep Dive into Cu <sub>2</sub> ZnSnS <sub>4</sub> (CZTS) Solar Cells: A Review of Exploring Roadblocks, Breakthroughs, and Shaping the Future. Small, 0, , .	10.0	0