Christophe Ballif

List of Publications by Year
in descending order

550 papers	29,217 citations	4146 87 h-index	7160 153 g-index
562 all docs	562 docs citations	562 times ranked	19032 citing authors

#	Article	IF	Citations
1	Operating Temperatures and Diurnal Temperature Variations of Modules Installed in Open-Rack and Typical BIPV Configurations. IEEE Journal of Photovoltaics, 2022, 12, 133-140.	2.5	6
2	Longâ€Term Performance and Shade Detection in Building Integrated Photovoltaic Systems. Solar Rrl, 2022, 6, 2100583.	5.8	6
3	Localisation of front side passivating contacts for direct metallisation of high-efficiency c-Si solar cells. Solar Energy Materials and Solar Cells, 2022, 235, 111455.	6.2	8
4	Monolithic Perovskiteâ€Silicon Tandem Solar Cells: From the Lab to Fab?. Advanced Materials, 2022, 34, e2106540.	21.0	92
5	Impact of rapid thermal processing on bulk and surface recombination mechanisms in FZ silicon with fired passivating contacts. Solar Energy Materials and Solar Cells, 2022, 238, 111647.	6.2	4
6	Transferability of the Light-Soaking Benefits on Silicon Heterojunction Cells to Module. IEEE Journal of Photovoltaics, 2022, 12, 662-668.	2.5	6
7	Status and perspectives of crystalline silicon photovoltaics in research and industry. Nature Reviews Materials, 2022, 7, 597-616.	48.7	139
8	In Situ Reflectometry and Diffraction Investigation of the Multiscale Structure of p-Type Polysilicon Passivating Contacts for c-Si Solar Cells. ACS Applied Materials & Interfaces, 2022, , .	8.0	5
9	Calibration of ground surface albedo models. Solar Energy, 2022, 237, 239-252.	6.1	2
10	Single photon detection with amorphous silicon-based microchannel plates: A Monte Carlo model. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 1032, 166589.	1.6	2
11	Bulk Defects and Hydrogenation Kinetics in Crystalline Silicon Solar Cells With Fired Passivating Contacts. IEEE Journal of Photovoltaics, 2022, 12, 711-721.	2.5	1
12	Quantitative Analysis of Nanorough Hydrogenated Si(111) Surfaces through Vibrational Spectral Assignment by Periodic DFT Calculations. Journal of Physical Chemistry C, 2022, 126, 8278-8286.	3.1	0
13	Bottom-Up and Top-Down Approaches for Identifying and Mitigating Electrical Losses in Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2022, 12, 906-914.	2.5	1
14	Optimization of front SiNx/ITO stacks for high-efficiency two-side contacted c-Si solar cells with co-annealed front and rear passivating contacts. Solar Energy Materials and Solar Cells, 2021, 219, 110815.	6.2	10
15	Implementation and understanding of p+ fired rear hole selective tunnel oxide passivating contacts enabling >22% conversion efficiency in p-type c-Si solar cells. Solar Energy Materials and Solar Cells, 2021, 219, 110809.	6.2	14
16	Hole-Selective Front Contact Stack Enabling 24.1%-Efficient Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2021, 11, 9-15.	2.5	11
17	Effects of Work Function and Electron Affinity on the Performance of Carrier-Selective Contacts in Silicon Solar Cells Using ZnSn_{$_ext{} x $} Ge_{$_ext{} 1-x $}N$_ext{2}$ as a Case Study. IEEE Journal of Photovoltaics, 2021, 11, 1350-1357.	2.5	5
18	Nanoscale Study of the Hole-Selective Passivating Contacts with High Thermal Budget Using C-AFM Tomography. ACS Applied Materials & Interfaces, 2021, 13, 9994-10000.	8.0	1

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19	Dopantâ€Free Bifacial Silicon Solar Cells. Solar Rrl, 2021, 5, 2000771.	5.8	11
20	Evaluating Materials Design Parameters of Hole-Selective Contacts for Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2021, 11, 247-258.	2.5	7
21	Vapor Transport Deposition of Methylammonium Iodide for Perovskite Solar Cells. ACS Applied Energy Materials, 2021, 4, 4333-4343.	5.1	22
22	Multimodal Microscale Imaging of Textured Perovskiteâ€“Silicon Tandem Solar Cells. ACS Energy Letters, 2021, 6, 2293-2304.	17.4	25
23	Routing of Electric Vehicles With Intermediary Charging Stations: A Reinforcement Learning Approach. Frontiers in Big Data, 2021, 4, 586481.	2.9	7
24	Advanced method for electrical characterization of carrier-selective passivating contacts using transfer-length-method measurements under variable illumination. Journal of Applied Physics, 2021, 129, .	2.5	7
25	Influence of Light Soaking on Silicon Heterojunction Solar Cells With Various Architectures. IEEE Journal of Photovoltaics, 2021, 11, 575-583.	2.5	33
26	ZnSnxGe1-xN2 as electron-selective contact for silicon heterojunction solar cells. , 2021, , .		0
27	A "combi-encapsulant" for enhanced performance of glass-free lightweight crystalline silicon solar PV modules. , 2021, , .		2
28	EVA for Glass/Glass Solar PV Modules: Effect of encasulant storage conditions and process parameters. , 2021, , .		0
29	Monitoring the Operating Temperatures of Modules in Open-Rack and Typical BIPV Configurations. , 2021, , .		2
30	Potential Induced Degradation Mechanism in Rear-Emitter Bifacial Silicon Heterojunction Solar Cells Encapsulated in Different Module Structures. , 2021, , .		1
31	Influence of the Dopant Gas Precursor in P-Type Nanocrystalline Silicon Layers on the Performance of Front Junction Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2021, 11, 944-956.	2.5	9
32	Toward Stable Monolithic Perovskite/Silicon Tandem Photovoltaics: A Six-Month Outdoor Performance Study in a Hot and Humid Climate. ACS Energy Letters, 2021, 6, 2944-2951.	17.4	42
33	Passivating Polysilicon Recombination Junctions for Crystalline Silicon Solar Cells. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100272.	2.4	6
34	Worldwide performance evaluation of ground surface reflectance models. Solar Energy, 2021, 224, 1063-1078.	6.1	3
35	Performance Limitations and Analysis of Silicon Heterojunction Solar Cells Using Ultra-Thin MoO‹sub›x‹/sub›Hole-Selective Contacts. IEEE Journal of Photovoltaics, 2021, 11, 1158-1166.	2.5	8
36	Deep reinforcement learning control of electric vehicle charging in the presence of photovoltaic generation. Applied Energy, 2021, 301, 117504.	10.1	52

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37	Palliating the efficiency loss due to shunting in perovskite/silicon tandem solar cells through modifying the resistive properties of the recombination junction. Sustainable Energy and Fuels, 2021, 5, 2036-2045.	4.9	10
38	Nano-emitting Heterostructures Violate Optical Reciprocity and Enable Efficient Photoluminescence in Halide-Segregated Methylammonium-Free Wide Bandgap Perovskites. ACS Energy Letters, 2021, 6, 419-428.	17.4	31
39	Industrialization of hybrid Si/IIIâ€“V and translucent planar microâ€tracking modules. Progress in Photovoltaics: Research and Applications, 2021, 29, 819-834.	8.1	17
40	Vapor deposition of metal halide perovskite thin films: Process control strategies to shape layer properties. APL Materials, 2021, 9, .	5.1	37
41	A Blockchain-Supported Framework for Charging Management of Electric Vehicles. Energies, 2021, 14, 7144.	3.1	10
42	Instability of pâ€“iâ€“n perovskite solar cells under reverse bias. Journal of Materials Chemistry A, 2020, 8, 242-250.	10.3	76
43	The versatility of passivating carrierâ€selective silicon thin films for diverse highâ€efficiency screenâ€printed heterojunctionâ€based solar cells. Progress in Photovoltaics: Research and Applications, 2020, 28, 569-577.	8.1	23
44	Mitigating Plasmonic Absorption Losses at Rear Electrodes in Highâ€Efficiency Silicon Solar Cells Using Dopantâ€Free Contact Stacks. Advanced Functional Materials, 2020, 30, 1907840.	14.9	55
45	Dopantâ€Free Backâ€Contacted Silicon Solar Cells with an Efficiency of 22.1%. Physica Status Solidi - Rapid Research Letters, 2020, 14, 1900688.	2.4	27
46	Rule-based scheduling of air conditioning using occupancy forecasting. Energy and AI, 2020, 2, 100022.	10.6	21
47	Effects of X-rays on Perovskite Solar Cells. Journal of Physical Chemistry C, 2020, 124, 17949-17956.	3.1	21
48	A Mixed-Phase SiO_x Hole Selective Junction Compatible With High Temperatures Used in Industrial Solar Cell Manufacturing. IEEE Journal of Photovoltaics, 2020, 10, 1262-1269.	2.5	11
49	Mitigating the impact of distributed PV in a low-voltage grid using electricity tariffs. Electric Power Systems Research, 2020, 189, 106763.	3.6	13
50	Spectrally Selective Mid-Wave Infrared Detection Using Fabry-PÃ©rot Cavity Enhanced Black Phosphorus 2D Photodiodes. ACS Nano, 2020, 14, 13645-13651.	14.6	41
51	Amorphous/Crystalline Silicon Interface Stability: Correlation between Infrared Spectroscopy and Electronic Passivation Properties. Advanced Materials Interfaces, 2020, 7, 2000957.	3.7	7
52	Degradation Mechanism and Stability Improvement of Dopant-Free ZnO/LiF_x/Al Electron Nanocontacts in Silicon Heterojunction Solar Cells. ACS Applied Nano Materials, 2020, 3, 11391-11398.	5.0	18
53	Influence of the Subcell Properties on the Fill Factor of Two-Terminal Perovskiteâ€“Silicon Tandem Solar Cells. ACS Energy Letters, 2020, 5, 1077-1082.	17.4	49
54	Lateral transport in silicon solar cells. Journal of Applied Physics, 2020, 127, .	2.5	32

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55	Influence of local surface defects on the minority-carrier lifetime of passivating-contact solar cells. Applied Physics Letters, 2020, 116, 113901.	3.3	3
56	Design Rules to Fully Benefit From Bifaciality in Two-Terminal Perovskite/Silicon Tandem Solar Cells. IEEE Journal of Photovoltaics, 2020, 10, 714-721.	2.5	18
57	23.5%-efficient silicon heterojunction silicon solar cell using molybdenum oxide as hole-selective contact. Nano Energy, 2020, 70, 104495.	16.0	179
58	Oneâ€typeâ€fitsâ€allâ€systems: Strategies for preventing potentialâ€induced degradation in crystalline silicon solar photovoltaic modules. Progress in Photovoltaics: Research and Applications, 2019, 27, 13-21.	8.1	23
59	Aluminium-Doped Zinc Oxide Rear Reflectors for High-Efficiency Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1217-1224.	2.5	29
60	I₂ vapor-induced degradation of formamidinium lead iodide based perovskite solar cells under heatâ€“light soaking conditions. Energy and Environmental Science, 2019, 12, 3074-3088.	30.8	131
61	Annealing of Silicon Heterojunction Solar Cells: Interplay of Solar Cell and Indium Tin Oxide Properties. IEEE Journal of Photovoltaics, 2019, 9, 1202-1207.	2.5	37
62	Optimization of tunnel-junction IBC solar cells based on a series resistance model. Solar Energy Materials and Solar Cells, 2019, 200, 110036.	6.2	26
63	Analysis of hydrogen distribution and migration in fired passivating contacts (FPC). Solar Energy Materials and Solar Cells, 2019, 200, 110018.	6.2	38
64	Solar Water Splitting with Perovskite/Silicon Tandem Cell and TiC-Supported Pt Nanocluster Electrocatalyst. Joule, 2019, 3, 2930-2941.	24.0	85
65	Field test and electrode optimization of electrodynamic cleaning systems for solar panels. Progress in Photovoltaics: Research and Applications, 2019, 27, 1020-1033.	8.1	15
66	Optimized Design of Silicon Heterojunction Solar Cells for Field Operating Conditions. IEEE Journal of Photovoltaics, 2019, 9, 1541-1547.	2.5	9
67	Unsupervised algorithm for disaggregating low-sampling-rate electricity consumption of households. Sustainable Energy, Grids and Networks, 2019, 19, 100244.	3.9	25
68	Impact of the oxygen content on the optoelectronic properties of the indium-tin-oxide based transparent electrodes for silicon heterojunction solar cells. AIP Conference Proceedings, 2019, , .	0.4	5
69	Contributions to the Contact Resistivity in Fired Tunnel-Oxide Passivating Contacts for Crystalline Silicon Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1548-1553.	2.5	9
70	Rear-emitter silicon heterojunction solar cells with atomic layer deposited ZnO:Al serving as an alternative transparent conducting oxide to In2O3:Sn. Solar Energy Materials and Solar Cells, 2019, 200, 109953.	6.2	24
71	Light Management: A Key Concept in High-Efficiency Perovskite/Silicon Tandem Photovoltaics. Journal of Physical Chemistry Letters, 2019, 10, 3159-3170.	4.6	81
72	35 years of photovoltaics: Analysis of the TISOâ€10â€kW solar plant, lessons learnt in safety and performanceâ€”Part 2. Progress in Photovoltaics: Research and Applications, 2019, 27, 760-778.	8.1	33

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73	Record-Efficiency n-Type and High-Efficiency p-Type Monolike Silicon Heterojunction Solar Cells with a High-Temperature Gettering Process. ACS Applied Energy Materials, 2019, 2, 4900-4906.	5.1	13
74	Low-Temperature p-Type Microcrystalline Silicon as Carrier Selective Contact for Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1158-1165.	2.5	33
75	Numerical simulations of hole carrier selective contacts in p-type c-Si solar cells. Solar Energy Materials and Solar Cells, 2019, 200, 109937.	6.2	27
76	Optimised Heat Pump Management for Increasing Photovoltaic Penetration into the Electricity Grid. Energies, 2019, 12, 1571.	3.1	12
77	Low-Temperature Screen-Printed Metallization for the Scale-Up of Two-Terminal Perovskiteâ€“Silicon Tandems. ACS Applied Energy Materials, 2019, 2, 3815-3821.	5.1	78
78	Quantifying competitive grain overgrowth in polycrystalline ZnO thin films. Acta Materialia, 2019, 173, 74-86.	7.9	5
79	25.1%-Efficient Monolithic Perovskite/Silicon Tandem Solar Cell Based on a p-type Monocrystalline Textured Silicon Wafer and High-Temperature Passivating Contacts. ACS Energy Letters, 2019, 4, 844-845.	17.4	152
80	Quantifying and modeling the impact of interconnection failures on the electrical performance of crystalline silicon photovoltaic modules. Progress in Photovoltaics: Research and Applications, 2019, 27, 424-432.	8.1	15
81	Exploring co-sputtering of ZnO:Al and SiO2 for efficient electron-selective contacts on silicon solar cells. Solar Energy Materials and Solar Cells, 2019, 194, 67-73.	6.2	23
82	Injection-dependent lateral resistance in front-junction solar cells with nc-Si:H and a-Si:H hole selective contact. , 2019, , .		3
83	Corrections to â€œHighly Conductive and Broadband Transparent Zr-Doped In2O3 as Front Electrode for Solar Cellsâ€•[Sep 18 1202-1207]. IEEE Journal of Photovoltaics, 2019, 9, 1155-1155.	2.5	0
84	Gallium Nitride as Transparent Electron-Selective Contact in Silicon Heterojunction Solar Cells. , 2019, , .		4
85	Monte Carlo Modeling of Electron Multiplication in Amorphous Silicon Based Microchannel Plates. , 2019, , .		2
86	Development of N-Type Amorphous and Microcrystalline Hydrogenated Silicon-Oxides (SiOx:H) and Investigation of their Impact as Window Layers on Silicon Heterojunction Solar Cells Device. , 2019, , .		1
87	Characterization of Amorphous Silicon Based Microchannel Plates with High Aspect Ratio. , 2019, , .		6
88	Phosphorous-Doped Silicon Carbide as Front-Side Full-Area Passivating Contact for Double-Side Contacted c-Si Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 346-354.	2.5	44
89	35Âyears of photovoltaics: Analysis of the TISOâ€10â€kW solar plant, lessons learnt in safety and performanceâ€”Part 1. Progress in Photovoltaics: Research and Applications, 2019, 27, 328-339.	8.1	49
90	Robust Glass-Free Lightweight Photovoltaic Modules With Improved Resistance to Mechanical Loads and Impact. IEEE Journal of Photovoltaics, 2019, 9, 245-251.	2.5	26

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91	A Physically-Based Electrical Model for Lithium-Ion Cells. IEEE Transactions on Energy Conversion, 2019, 34, 594-603.	5.2	28
92	Zr-doped indium oxide electrodes: Annealing and thickness effects on microstructure and carrier transport. Physical Review Materials, 2019, 3, .	2.4	23
93	PECVD based layers for improved high temperature industrial Solar cell processes. , 2019, , .		1
94	Toward Annealingâ€Stable Molybdenumâ€Oxideâ€Based Holeâ€Selective Contacts For Silicon Photovoltaics. Solar Rrl, 2018, 2, 1700227.	5.8	42
95	Complex Refractive Indices of Cesiumâ€“Formamidinium-Based Mixed-Halide Perovskites with Optical Band Gaps from 1.5 to 1.8 eV. ACS Energy Letters, 2018, 3, 742-747.	17.4	89
96	Amorphous gallium oxide grown by low-temperature PECVD. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, 021518.	2.1	13
97	Light and durable: <scp>C</scp>omposite structures for buildingâ€integrated photovoltaic modules. Progress in Photovoltaics: Research and Applications, 2018, 26, 718-729.	8.1	29
98	Recombination Analysis of Phosphorus-Doped Nanostructured Silicon Oxide Passivating Electron Contacts for Silicon Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 389-396.	2.5	42
99	Low-temperature processes for passivation and metallization of high-efficiency crystalline silicon solar cells. Solar Energy, 2018, 175, 54-59.	6.1	42
100	Interdigitated back contact silicon heterojunction solar cells featuring an interband tunnel junction enabling simplified processing. Solar Energy, 2018, 175, 60-67.	6.1	15
101	Application-independent protocol for predicting the efficiency of lithium-ion battery cells in operations. Journal of Energy Storage, 2018, 15, 415-422.	8.1	12
102	Properties of mixed phase silicon-oxide-based passivating contacts for silicon solar cells. Solar Energy Materials and Solar Cells, 2018, 181, 9-14.	6.2	19
103	Economic viability for residential battery storage systems in gridâ€connected PV plants. IET Renewable Power Generation, 2018, 12, 135-142.	3.1	61
104	Closing the Cell-to-Module Efficiency Gap: A Fully Laser Scribed Perovskite Minimodule With 16% Steady-State Aperture Area Efficiency. IEEE Journal of Photovoltaics, 2018, 8, 151-155.	2.5	32
105	Stable Dopant-Free Asymmetric Heterocontact Silicon Solar Cells with Efficiencies above 20%. ACS Energy Letters, 2018, 3, 508-513.	17.4	164
106	Amorphous silicon-based micro-channel plate detectors with high multiplication gain. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 912, 343-346.	1.6	7
107	Field Performance versus Standard Test Condition Efficiency of Tandem Solar Cells and the Singular Case of Perovskites/Silicon Devices. Journal of Physical Chemistry Letters, 2018, 9, 446-458.	4.6	69
108	Hole-Collection Mechanism in Passivating Metal-Oxide Contacts on Si Solar Cells: Insights From Numerical Simulations. IEEE Journal of Photovoltaics, 2018, 8, 473-482.	2.5	71

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109	Improved Optics in Monolithic Perovskite/Silicon Tandem Solar Cells with a Nanocrystalline Silicon Recombination Junction. Advanced Energy Materials, 2018, 8, 1701609.	19.5	192
110	Perovskite/Silicon Tandem Solar Cells: Marriage of Convenience or True Love Story? â€“ An Overview. Advanced Materials Interfaces, 2018, 5, 1700731.	3.7	321
111	Direct Contact to TCO with SmartWire Connection Technology. , 2018, , .		2
112	Silicon Heterojunction Solar Cells on Quasi-mono Wafers. , 2018, , .		4
113	Automated Quantification of PV Hosting Capacity In Distribution Networks Under User-Defined Control and Optimisation Procedures. , 2018, , .		6
114	The amazing improvement of silicon heterojunction technology: ready for a true mass market launch. , 2018, , .		6
115	Quantifying and Modeling the Impact of Interconnection Failures on the Electrical Performance of Crystalline Silicon Photovoltaic Modules. , 2018, , .		1
116	Engineering of Thin-Film Silicon Materials for High Efficiency Crystalline Silicon Solar Cells. , 2018, , .		1
117	In-situ Determination of Moisture Diffusion Properties of PV Module Encapsulants Using Digital Humidity Sensors. , 2018, , .		10
118	Hybrid sequential deposition process for fully textured perovskite/silicon tandem solar cells. , 2018, , .		2
119	A passivating contact concept compatible with a short thermal treatment. , 2018, , .		0
120	Crystalline Silicon Solar Cells With Coannealed Electron- and Hole-Selective SiC _x Passivating Contacts. IEEE Journal of Photovoltaics, 2018, 8, 1478-1485.	2.5	39
121	A passivating contact for silicon solar cells formed during a single firing thermal annealing. Nature Energy, 2018, 3, 800-808.	39.5	109
122	Design of perovskite/crystalline-silicon monolithic tandem solar cells. Optics Express, 2018, 26, A579.	3.4	44
123	Perovskite/Perovskite/Silicon Monolithic Triple-Junction Solar Cells with a Fully Textured Design. ACS Energy Letters, 2018, 3, 2052-2058.	17.4	87
124	Highly Conductive and Broadband Transparent Zr-Doped In₂O₃ as Front Electrode for Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 1202-1207.	2.5	46
125	New Route for â€œCold-Passivationâ€•of Defects in Tin-Based Oxides. Journal of Physical Chemistry C, 2018, 122, 17612-17620.	3.1	15
126	Numerical simulation of temperature dependence of MoOx based SHJ solar cell. AIP Conference Proceedings, 2018, , .	0.4	2

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127	Nanocrystalline silicon oxide stacks for silicon heterojunction solar cells for hot climates. AIP Conference Proceedings, 2018, , .	0.4	8
128	Silicon oxide treatment to promote crystallinity of p-type microcrystalline layers for silicon heterojunction solar cells. AIP Conference Proceedings, 2018, , .	0.4	10
129	Nitride layer screening as carrier-selective contacts for silicon heterojunction solar cells. AIP Conference Proceedings, 2018, , .	0.4	8
130	22% efficient dopant-free interdigitated back contact silicon solar cells. AIP Conference Proceedings, 2018, , .	0.4	20
131	Reassessment of cell to module gains and losses: Accounting for the current boost specific to cells located on the edges. AIP Conference Proceedings, 2018, , .	0.4	5
132	Thermo-mechanical stability of lightweight glass-free photovoltaic modules based on a composite substrate. Solar Energy Materials and Solar Cells, 2018, 187, 82-90.	6.2	21
133	Silicon heterojunction solar cells: Recent technological development and practical aspects - from lab to industry. Solar Energy Materials and Solar Cells, 2018, 187, 140-153.	6.2	159
134	Integrated thinking for photovoltaics in buildings. Nature Energy, 2018, 3, 438-442.	39.5	146
135	High-Bandgap Perovskite Materials for Multijunction Solar Cells. Joule, 2018, 2, 1421-1436.	24.0	173
136	Fully textured monolithic perovskite/silicon tandem solar cells with 25.2% power conversion efficiency. Nature Materials, 2018, 17, 820-826.	27.5	1,046
137	Charge Collection in Hybrid Perovskite Solar Cells: Relation to the Nanoscale Elemental Distribution. IEEE Journal of Photovoltaics, 2017, 7, 590-597.	2.5	45
138	Review: Progress in solar cells from hydrogenated amorphous silicon. Renewable and Sustainable Energy Reviews, 2017, 76, 1497-1523.	16.4	134
139	Photocurrent Spectroscopy of Perovskite Layers and Solar Cells: A Sensitive Probe of Material Degradation. Journal of Physical Chemistry Letters, 2017, 8, 838-843.	4.6	18
140	Direct Imaging of Dopant Distribution in Polycrystalline ZnO Films. ACS Applied Materials & Interfaces, 2017, 9, 7241-7248.	8.0	7
141	Optical Evaluation of the Rear Contacts of Crystalline Silicon Solar Cells by Coupled Electromagnetic and Statistical Ray-Optics Modeling. IEEE Journal of Photovoltaics, 2017, 7, 718-726.	2.5	5
142	High performance amorphous Zn-Sn-O: impact of composition, microstructure, and thermal treatments in the optoelectronic properties. Proceedings of SPIE, 2017, , .	0.8	1
143	New guidelines for a more accurate extraction of solar cells and modules key data from their currentâ€“voltage curves. Progress in Photovoltaics: Research and Applications, 2017, 25, 623-635.	8.1	3
144	Simple processing of back-contacted silicon heterojunction solar cells using selective-area crystalline growth. Nature Energy, 2017, 2, .	39.5	95

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145	1 cm2 CH3NH3PbI3 mesoporous solar cells with 17.8% steady-state efficiency by tailoring front FTO electrodes. Journal of Materials Chemistry C, 2017, 5, 4946-4950.	5.5	12
146	Impact of organic overlayers on a-Si:H/c-Si surface potential. Applied Physics Letters, 2017, 110, .	3.3	3
147	Control algorithm for a residential photovoltaic system with storage. Applied Energy, 2017, 202, 78-87.	10.1	34
148	Zinc blendeâ€“wurtzite polytypism in nanocrystalline ZnO films. Acta Materialia, 2017, 130, 240-248.	7.9	12
149	Transparent Electrodes for Efficient Optoelectronics. Advanced Electronic Materials, 2017, 3, 1600529.	5.1	310
150	The impact of silicon solar cell architecture and cell interconnection on energy yield in hot & sunny climates. Energy and Environmental Science, 2017, 10, 1196-1206.	30.8	76
151	Efficient Monolithic Perovskite/Perovskite Tandem Solar Cells. Advanced Energy Materials, 2017, 7, 1602121.	19.5	255
152	The Role of Water in the Reversible Optoelectronic Degradation of Hybrid Perovskites at Low Pressure. Journal of Physical Chemistry C, 2017, 121, 25659-25665.	3.1	19
153	Towards an optimum silicon heterojunction solar cell configuration for high temperature and high light intensity environment. Energy Procedia, 2017, 124, 331-337.	1.8	5
154	Demonstrating the high Voc potential of PEDOT:PSS/c-Si heterojunctions on solar cells. Energy Procedia, 2017, 124, 593-597.	1.8	17
155	ITO/MoOx/a-Si:H(i) Hole-Selective Contacts for Silicon Heterojunction Solar Cells: Degradation Mechanisms and Cell Integration. IEEE Journal of Photovoltaics, 2017, 7, 1584-1590.	2.5	52
156	Raising the one-sun conversion efficiency of IIIâ€“V/Si solar cells to 32.8% for two junctions andÂ35.9% for three junctions. Nature Energy, 2017, 2, .	39.5	424
157	Imaging the Spatial Evolution of Degradation in Perovskite/Si Tandem Solar Cells After Exposure to Humid Air. IEEE Journal of Photovoltaics, 2017, 7, 1563-1568.	2.5	14
158	Spectrally resolved nonlinearity and temperature dependence of perovskite solar cells. Solar Energy Materials and Solar Cells, 2017, 172, 66-73.	6.2	15
159	Improved ramp-rate and self consumption ratio in a renewable-energy-based DC micro-grid. , 2017, , .		1
160	Increasing the efficiency of silicon heterojunction solar cells and modules by light soaking. Solar Energy Materials and Solar Cells, 2017, 173, 43-49.	6.2	65
161	Interplay of annealing temperature and doping in hole selective rear contacts based on silicon-rich silicon-carbide thin films. Solar Energy Materials and Solar Cells, 2017, 173, 18-24.	6.2	79
162	Enhancing the optoelectronic properties of amorphous zinc tin oxide by subgap defect passivation: A theoretical and experimental demonstration. Physical Review B, 2017, 95, .	3.2	31

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163	From randomly self-textured substrates to highly efficient thin film solar cells: Influence of geometric interface engineering on light trapping, plasmonic losses and charge extraction. Solar Energy Materials and Solar Cells, 2017, 160, 141-148.	6.2	21
164	Metallization of Si heterojunction solar cells by nanosecond laser ablation and Ni-Cu plating. Solar Energy Materials and Solar Cells, 2017, 159, 243-250.	6.2	30
165	Analysis of lithium-ion cells performance, through novel test protocol for stationary applications. , 2017, , .		5
166	MoOx and WOx based hole-selective contacts for wafer-based Si solar cells. , 2017, , .		4
167	Modeling Potential-Induced Degradation (PID) of Field-Exposed Crystalline Silicon Solar PV Modules: Focus on a Regeneration Term. , 2017, , .		2
168	Fourier light scattering model for treating textures deeper than the wavelength. Optics Express, 2017, 25, A14.	3.4	11
169	Mechanically stacked 4-terminal III-V/Si tandem solar cells. , 2017, , .		2
170	Ultra-Lightweight PV module design for Building Integrated Photovoltaics. , 2017, , .		6
171	Exploring silicon carbide- and silicon oxide-based layer stacks for passivating contacts to silicon solar cells. , 2017, , .		0
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