Stefaan De Wolf

List of Publications by Citations

178 papers	13,998 citations	61 h-index	116 g-index
203 ext. papers	17,173 ext. citations	12.7 avg, IF	6.81 L-index

#	Paper	IF	Citations
178	Organometallic Halide Perovskites: Sharp Optical Absorption Edge and Its Relation to Photovoltaic Performance. *Journal of Physical Chemistry Letters*, **2014**, 5, 1035-9	6.4	1699
177	High-efficiency crystalline silicon solar cells: status and perspectives. *Energy and Environmental Science*, **2016**, 9, 1552-1576	35.4	578
176	High-efficiency Silicon Heterojunction Solar Cells: A Review. *Green*, **2012**, 2, 7-24		576
175	Complex Refractive Index Spectra of CH3NH3PbI3 Perovskite Thin Films Determined by Spectroscopic Ellipsometry and Spectrophotometry. *Journal of Physical Chemistry Letters*, **2015**, 6, 66-71	6.4	391
174	Current Losses at the Front of Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2012**, 2, 7-15	3.7	379
173	Efficient Monolithic Perovskite/Silicon Tandem Solar Cell with Cell Area >1 cm(2). *Journal of Physical Chemistry Letters*, **2016**, 7, 161-6	6.4	372
172	Efficient silicon solar cells with dopant-free asymmetric heterocontacts. *Nature Energy*, **2016**, 1,	62.3	351
171	Silicon heterojunction solar cell with passivated hole selective MoOx contact. *Applied Physics Letters*, **2014**, 104, 113902	3.4	307
170	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140	33.3	298
169	22.5% efficient silicon heterojunction solar cell with molybdenum oxide hole collector. *Applied Physics Letters*, **2015**, 107, 081601	3.4	297
168	Efficient Near-Infrared-Transparent Perovskite Solar Cells Enabling Direct Comparison of 4-Terminal and Monolithic Perovskite/Silicon Tandem Cells. *ACS Energy Letters*, **2016**, 1, 474-480	20.1	281
167	Defect and Contact Passivation for Perovskite Solar Cells. *Advanced Materials*, **2019**, 31, e1900428	24	276
166	A Universal Double-Side Passivation for High Open-Circuit Voltage in Perovskite Solar Cells: Role of Carbonyl Groups in Poly(methyl methacrylate). *Advanced Energy Materials*, **2018**, 8, 1801208	21.8	268
165	Organic-inorganic halide perovskite/crystalline silicon four-terminal tandem solar cells. *Physical Chemistry Chemical Physics*, **2015**, 17, 1619-29	3.6	257
164	Self-Assembled Monolayer Enables Hole Transport Layer-Free Organic Solar Cells with 18% Efficiency and Improved Operational Stability. *ACS Energy Letters*, **2020**, 5, 2935-2944	20.1	244
163	Transparent Electrodes for Efficient Optoelectronics. *Advanced Electronic Materials*, **2017**, 3, 1600529	6.4	224
162	Infrared light management in high-efficiency silicon heterojunction and rear-passivated solar cells. *Journal of Applied Physics*, **2013**, 113, 013107	2.5	221

161	CH(3)NH(3)PbI(3) perovskite / silicon tandem solar cells: characterization based optical simulations. *Optics Express*, **2015**, 23, A263-78	3.3	209
160	Improved amorphous/crystalline silicon interface passivation by hydrogen plasma treatment. *Applied Physics Letters*, **2011**, 99, 123506	3.4	197
159	Passivating contacts for crystalline silicon solar cells. *Nature Energy*, **2019**, 4, 914-928	62.3	190
158	Abruptness of a-Si:H□-Si interface revealed by carrier lifetime measurements. *Applied Physics Letters*, **2007**, 90, 042111	3.4	185
157	Sputtered rear electrode with broadband transparency for perovskite solar cells. *Solar Energy Materials and Solar Cells*, **2015**, 141, 407-413	6.4	182
156	Raman Spectroscopy of Organic-Inorganic Halide Perovskites. *Journal of Physical Chemistry Letters*, **2015**, 6, 401-6	6.4	182
155	Terawatt-scale photovoltaics: Transform global energy. *Science*, **2019**, 364, 836-838	33.3	178
154	Damage at hydrogenated amorphous/crystalline silicon interfaces by indium tin oxide overlayer sputtering. *Applied Physics Letters*, **2012**, 101, 171604	3.4	171
153	>21% Efficient Silicon Heterojunction Solar Cells on n- and p-Type Wafers Compared. *IEEE Journal of Photovoltaics*, **2013**, 3, 83-89	3.7	165
152	Nanoimprint lithography for high-efficiency thin-film silicon solar cells. *Nano Letters*, **2011**, 11, 661-5	11.5	156
151	Nature of doped a-Si:H/c-Si interface recombination. *Journal of Applied Physics*, **2009**, 105, 103707	2.5	153
150	Improved Optics in Monolithic Perovskite/Silicon Tandem Solar Cells with a Nanocrystalline Silicon Recombination Junction. *Advanced Energy Materials*, **2018**, 8, 1701609	21.8	148
149	Improving metal reflectors by suppressing surface plasmon polaritons: a priori calculation of the internal reflectance of a solar cell. *Light: Science and Applications*, **2013**, 2, e106-e106	16.7	123
148	Multi-cation Synergy Suppresses Phase Segregation in Mixed-Halide Perovskites. *Joule*, **2019**, 3, 1746-1764	27.8	118
147	Temperature Dependence of the Urbach Energy in Lead Iodide Perovskites. *Journal of Physical Chemistry Letters*, **2019**, 10, 1368-1373	6.4	116
146	Stretched-exponential a-Si:H□-Si interface recombination decay. *Applied Physics Letters*, **2008**, 93, 032101	3.4	115
145	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. *Nature Communications*, **2020**, 11, 1257	17.4	114
144	Intrinsic efficiency limits in low-bandgap non-fullerene acceptor organic solar cells. *Nature Materials*, **2021**, 20, 378-384	27	108

143	Industrially feasible, dopant-free, carrier-selective contacts for high-efficiency silicon solar cells. *Progress in Photovoltaics: Research and Applications*, **2017**, 25, 896-904	6.8	104
142	Organic–inorganic Halide Perovskites: Perspectives for Silicon-Based Tandem Solar Cells. *IEEE Journal of Photovoltaics*, **2014**, 4, 1545-1551	3.7	100
141	Lithium Fluoride Based Electron Contacts for High Efficiency n-Type Crystalline Silicon Solar Cells. *Advanced Energy Materials*, **2016**, 6, 1600241	21.8	95
140	Amorphous silicon oxide window layers for high-efficiency silicon heterojunction solar cells. *Journal of Applied Physics*, **2014**, 115, 024502	2.5	93
139	Boron-doped a-Si:H/c-Si interface passivation: Degradation mechanism. *Applied Physics Letters*, **2007**, 91, 112109	3.4	92
138	Low-Temperature High-Mobility Amorphous IZO for Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2015**, 5, 1340-1347	3.7	85
137	Zr-Doped Indium Oxide (IZRO) Transparent Electrodes for Perovskite-Based Tandem Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1901741	15.6	83
136	Record Infrared Internal Quantum Efficiency in Silicon Heterojunction Solar Cells With Dielectric/Metal Rear Reflectors. *IEEE Journal of Photovoltaics*, **2013**, 3, 1243-1249	3.7	81
135	The silane depletion fraction as an indicator for the amorphous/crystalline silicon interface passivation quality. *Applied Physics Letters*, **2010**, 97, 183505	3.4	77
134	A Low Resistance Calcium/Reduced Titania Passivated Contact for High Efficiency Crystalline Silicon Solar Cells. *Advanced Energy Materials*, **2017**, 7, 1602606	21.8	76
133	Tantalum Nitride Electron-Selective Contact for Crystalline Silicon Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1800608	21.8	76
132	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. *Nature Energy*, **2021**, 6, 167-175	62.3	76
131	Silicon Heterojunction Solar Cells With Copper-Plated Grid Electrodes: Status and Comparison With Silver Thick-Film Techniques. *IEEE Journal of Photovoltaics*, **2014**, 4, 1055-1062	3.7	75
130	Zinc tin oxide as high-temperature stable recombination layer for mesoscopic perovskite/silicon monolithic tandem solar cells. *Applied Physics Letters*, **2016**, 109, 233902	3.4	74
129	Amorphous/crystalline silicon interface defects induced by hydrogen plasma treatments. *Applied Physics Letters*, **2013**, 102, 231604	3.4	73
128	Simple processing of back-contacted silicon heterojunction solar cells using selective-area crystalline growth. *Nature Energy*, **2017**, 2,	62.3	70
127	Interplay between temperature and bandgap energies on the outdoor performance of perovskite/silicon tandem solar cells. *Nature Energy*, **2020**, 5, 851-859	62.3	70
126	Tin Oxide Electron-Selective Layers for Efficient, Stable, and Scalable Perovskite Solar Cells. *Advanced Materials*, **2021**, 33, e2005504	24	70

125	High-Performance Perovskite Single-Junction and Textured Perovskite/Silicon Tandem Solar Cells via Slot-Die-Coating. *ACS Energy Letters*, **2020**, 5, 3034-3040	20.1	65
124	Very fast light-induced degradation of a-Si:H/c-Si(100) interfaces. *Physical Review B*, **2011**, 83,	3.3	63
123	Influence of stoichiometry of direct plasma-enhanced chemical vapor deposited SiNx films and silicon substrate surface roughness on surface passivation. *Journal of Applied Physics*, **2005**, 97, 063303	2.5	63
122	Back-Contacted Silicon Heterojunction Solar Cells With Efficiency >21%. *IEEE Journal of Photovoltaics*, **2014**, 4, 1046-1054	3.7	62
121	Kinetics of a-Si:H bulk defect and a-Si:H/c-Si interface-state reduction. *Physical Review B*, **2012**, 85,	3.3	62
120	Surface passivation properties of boron-doped plasma-enhanced chemical vapor deposited hydrogenated amorphous silicon films on p-type crystalline Si substrates. *Applied Physics Letters*, **2006**, 88, 022104	3.4	62
119	Dual-Function Electron-Conductive, Hole-Blocking Titanium Nitride Contacts for Efficient Silicon Solar Cells. *Joule*, **2019**, 3, 1314-1327	27.8	61
118	Field-effect passivation on silicon nanowire solar cells. *Nano Research*, **2015**, 8, 673-681	10	61
117	Nanocrystalline Silicon Carrier Collectors for Silicon Heterojunction Solar Cells and Impact on Low-Temperature Device Characteristics. *IEEE Journal of Photovoltaics*, **2016**, 6, 1654-1662	3.7	61
116	Parasitic Absorption Reduction in Metal Oxide-Based Transparent Electrodes: Application in Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2016**, 8, 17260-7	9.5	60
115	Kinetic Stabilization of the Sol-Gel State in Perovskites Enables Facile Processing of High-Efficiency Solar Cells. *Advanced Materials*, **2019**, 31, e1808357	24	57
114	Parasitic absorption in the rear reflector of a silicon solar cell: Simulation and measurement of the sub-bandgap reflectance for common dielectric/metal reflectors. *Solar Energy Materials and Solar Cells*, **2014**, 120, 426-430	6.4	57
113	Room-Temperature-Sputtered Nanocrystalline Nickel Oxide as Hole Transport Layer for p-i-n Perovskite Solar Cells. *ACS Applied Energy Materials*, **2018**, 1, 6227-6233	6.1	57
112	Damp heat-stable perovskite solar cells with tailored-dimensionality 2D/3D heterojunctions.. *Science*, **2022**, eabm5784	33.3	57
111	Properties of interfaces in amorphous/crystalline silicon heterojunctions. *Physica Status Solidi (A) Applications and Materials Science*, **2010**, 207, 651-656	1.6	55
110	. *IEEE Journal of Photovoltaics*, **2018**, 8, 473-482	3.7	53
109	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	35.4	49
108	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	6.4	49

107	Ambient blade coating of mixed cation, mixed halide perovskites without dripping: in situ investigation and highly efficient solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 1095-1104	13	49
106	Analysis of lateral transport through the inversion layer in amorphous silicon/crystalline silicon heterojunction solar cells. *Journal of Applied Physics*, **2013**, 114, 074504	2.5	46
105	Atomic-Layer-Deposited Transparent Electrodes for Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2014**, 4, 1387-1396	3.7	44
104	Defect Passivation in Perovskite Solar Cells by Cyano-Based π-Conjugated Molecules for Improved Performance and Stability. *Advanced Functional Materials*, **2020**, 30, 2002861	15.6	43
103	Concurrent cationic and anionic perovskite defect passivation enables 27.4% perovskite/silicon tandems with suppression of halide segregation. *Joule*, **2021**, 5, 1566-1586	27.8	43
102	Back-Contacted Silicon Heterojunction Solar Cells: Optical-Loss Analysis and Mitigation. *IEEE Journal of Photovoltaics*, **2015**, 5, 1293-1303	3.7	42
101	Strategies for Doped Nanocrystalline Silicon Integration in Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2016**, 6, 1132-1140	3.7	42
100	Device physics underlying silicon heterojunction and passivating-contact solar cells: A topical review. *Progress in Photovoltaics: Research and Applications*, **2018**, 26, 241-260	6.8	39
99	Micromorph thin-film silicon solar cells with transparent high-mobility hydrogenated indium oxide front electrodes. *Journal of Applied Physics*, **2011**, 109, 114501	2.5	39
98	Light-induced performance increase of silicon heterojunction solar cells. *Applied Physics Letters*, **2016**, 109, 153503	3.4	37
97	Transparent Electrodes in Silicon Heterojunction Solar Cells: Influence on Contact Passivation. *IEEE Journal of Photovoltaics*, **2016**, 6, 17-27	3.7	35
96	Increasing the efficiency of silicon heterojunction solar cells and modules by light soaking. *Solar Energy Materials and Solar Cells*, **2017**, 173, 43-49	6.4	34
95	Manufacturing 100-μm-thick silicon solar cells with efficiencies greater than 20% in a pilot production line. *Physica Status Solidi (A) Applications and Materials Science*, **2015**, 212, 13-24	1.6	33
94	Toward Annealing-Stable Molybdenum-Oxide-Based Hole-Selective Contacts For Silicon Photovoltaics. *Solar Rrl*, **2018**, 2, 1700227	7.1	31
93	Environmental stability of high-mobility indium-oxide based transparent electrodes. *APL Materials*, **2015**, 3, 116105	5.7	30
92	Acene Ring Size Optimization in Fused Lactam Polymers Enabling High n-Type Organic Thermoelectric Performance. *Journal of the American Chemical Society*, **2021**, 143, 260-268	16.4	30
91	Ultralow Lattice Thermal Conductivity and Thermoelectric Properties of Monolayer Tl2O. *ACS Applied Energy Materials*, **2019**, 2, 3004-3008	6.1	29
90	Mitigating Plasmonic Absorption Losses at Rear Electrodes in High-Efficiency Silicon Solar Cells Using Dopant-Free Contact Stacks. *Advanced Functional Materials*, **2020**, 30, 1907840	15.6	29

89	Atomic Layer Deposition of Vanadium Oxide as Hole-Selective Contact for Crystalline Silicon Solar Cells. *Advanced Electronic Materials*, **2020**, 6, 2000467	6.4	29
88	. *IEEE Journal of Photovoltaics*, **2017**, 7, 169-176	3.7	27
87	Recombination junctions for efficient monolithic perovskite-based tandem solar cells: physical principles, properties, processing and prospects. *Materials Horizons*, **2020**, 7, 2791-2809	14.4	27
86	Enhancing the Charge Extraction and Stability of Perovskite Solar Cells Using Strontium Titanate (SrTiO3) Electron Transport Layer. *ACS Applied Energy Materials*, **2019**, 2, 8090-8097	6.1	26
85	A universal solution processed interfacial bilayer enabling ohmic contact in organic and hybrid optoelectronic devices. *Energy and Environmental Science*, **2020**, 13, 268-276	35.4	26
84	Ligand-bridged charge extraction and enhanced quantum efficiency enable efficient n□p perovskite/silicon tandem solar cells. *Energy and Environmental Science*,	35.4	26
83	Amorphous/Crystalline Silicon Interface Passivation: Ambient-Temperature Dependence and Implications for Solar Cell Performance. *IEEE Journal of Photovoltaics*, **2015**, 5, 718-724	3.7	25
82	Polysilicon Passivating Contacts for Silicon Solar Cells: Interface Passivation and Carrier Transport Mechanism. *ACS Applied Energy Materials*, **2019**, 2, 4609-4617	6.1	23
81	A Highly Conductive Titanium Oxynitride Electron-Selective Contact for Efficient Photovoltaic Devices. *Advanced Materials*, **2020**, 32, e2002608	24	22
80	Amorphous Silicon/Crystalline Silicon Heterojunction Solar Cells. *Semiconductors and Semimetals*, **2014**, 73-120	0.6	22
79	Interfacial Dynamics and Contact Passivation in Perovskite Solar Cells. *Advanced Electronic Materials*, **2019**, 5, 1800500	6.4	22
78	Generation of long-lived charges in organic semiconductor heterojunction nanoparticles for efficient photocatalytic hydrogen evolution. *Nature Energy*,	62.3	22
77	Probing Photocurrent Nonuniformities in the Subcells of Monolithic Perovskite/Silicon Tandem Solar Cells. *Journal of Physical Chemistry Letters*, **2016**, 7, 5114-5120	6.4	21
76	Dip Coating Passivation of Crystalline Silicon by Lewis Acids. *ACS Nano*, **2019**, 13, 3723-3729	16.7	20
75	Lewis-Acid Doping of Triphenylamine-Based Hole Transport Materials Improves the Performance and Stability of Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2020**, 12, 23874-23884	9.5	20
74	Polymeric Electron-Selective Contact for Crystalline Silicon Solar Cells with an Efficiency Exceeding 19%. *ACS Energy Letters*, **2020**, 5, 897-902	20.1	19
73	Linked Nickel Oxide/Perovskite Interface Passivation for High-Performance Textured Monolithic Tandem Solar Cells. *Advanced Energy Materials*,2101662	21.8	19
72	Copper Thiocyanate and Copper Selenocyanate Hole Transport Layers: Determination of Band Offsets with Silicon and Hybrid Perovskites from First Principles. *Physica Status Solidi - Rapid Research Letters*, **2019**, 13, 1900328	2.5	18

71	Low-temperature plasma-deposited silicon epitaxial films: Growth and properties. *Journal of Applied Physics*, **2014**, 116, 053519	2.5	18
70	Is light-induced degradation of a-Si:H/c-Si interfaces reversible?. *Applied Physics Letters*, **2014**, 104, 252108	3.4	18
69	Damp-Heat-Stable, High-Efficiency, Industrial-Size Silicon Heterojunction Solar Cells. *Joule*, **2020**, 4, 913-927	27.8	17
68	Dynamics of Antisolvent Processed Hybrid Metal Halide Perovskites Studied by In Situ Photoluminescence and Its Influence on Optoelectronic Properties. *ACS Applied Energy Materials*, **2020**, 3, 2386-2393	6.1	15
67	Eco-Friendly Spray Deposition of Perovskite Films on Macroscale Textured Surfaces. *Advanced Materials Technologies*, **2020**, 5, 1901009	6.8	15
66	28.2%-efficient, outdoor-stable perovskite/silicon tandem solar cell. *Joule*, **2021**,	27.8	15
65	Scaling-up perovskite solar cells on hydrophobic surfaces. *Nano Energy*, **2021**, 81, 105633	17.1	15
64	Metal-induced gap states in passivating metal/silicon contacts. *Applied Physics Letters*, **2019**, 114, 071601	3.4	14
63	Characterizing amorphous silicon, silicon nitride, and diffused layers in crystalline siliconsolarcellsusingmicro-photoluminescence spectroscopy. *Solar Energy Materials and Solar Cells*, **2016**, 145, 403-411	6.4	14
62	Sputtered Hydrogenated Amorphous Silicon for Silicon Heterojunction Solar Cell Fabrication. *Energy Procedia*, **2014**, 55, 865-872	2.3	14
61	Photocurrent Spectroscopy of Perovskite Layers and Solar Cells: A Sensitive Probe of Material Degradation. *Journal of Physical Chemistry Letters*, **2017**, 8, 838-843	6.4	13
60	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	3.7	13
59	How Humidity and Light Exposure Change the Photophysics of Metal Halide Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 2000382	7.1	13
58	Tuning the Optoelectronic Properties of ZnO:Al by Addition of Silica for Light Trapping in High-Efficiency Crystalline Si Solar Cells. *Advanced Materials Interfaces*, **2016**, 3, 1500462	4.6	13
57	Asymmetric band offsets in silicon heterojunction solar cells: Impact on device performance. *Journal of Applied Physics*, **2016**, 120, 054501	2.5	13
56	Profilometry of thin films on rough substrates by Raman spectroscopy. *Scientific Reports*, **2016**, 6, 37859	4.9	13
55	Potassium Thiocyanate-Assisted Enhancement of Slot-Die-Coated Perovskite Films for High-Performance Solar Cells. *Small Science*, **2021**, 1, 2000044		13
54	Autonomous MXene-PVDF actuator for flexible solar trackers. *Nano Energy*, **2020**, 77, 105277	17.1	12

53	Scalable Pulsed Laser Deposition of Transparent Rear Electrode for Perovskite Solar Cells. *Advanced Materials Technologies*, **2021**, 6, 2000856	6.8	12
52	Triarylphosphine Oxide as Cathode Interfacial Material for Inverted Perovskite Solar Cells. *Advanced Materials Interfaces*, **2019**, 6, 1900434	4.6	11
51	Carrier Extraction from Perovskite to Polymeric Charge Transport Layers Probed by Ultrafast Transient Absorption Spectroscopy. *Journal of Physical Chemistry Letters*, **2019**, 10, 6921-6928	6.4	11
50	Effect of the thin-film limit on the measurable optical properties of graphene. *Scientific Reports*, **2015**, 5, 15684	4.9	10
49	Attenuated total reflectance Fourier-transform infrared spectroscopic investigation of silicon heterojunction solar cells. *Review of Scientific Instruments*, **2015**, 86, 073108	1.7	10
48	Wide and Tunable Bandgap MAPbBr3−xClx Hybrid Perovskites with Enhanced Phase Stability: In Situ Investigation and Photovoltaic Devices. *Solar Rrl*, **2021**, 5, 2000718	7.1	10
47	Survey of dopant-free carrier-selective contacts for silicon solar cells **2016**,		10
46	Practical silicon deposition rules derived from silane monitoring during plasma-enhanced chemical vapor depositiona). *Journal of Applied Physics*, **2015**, 117, 203303	2.5	9
45	Photon recycling in perovskite solar cells and its impact on device design. *Nanophotonics*, **2021**, 10, 2023–2042	6.5	9
44	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	20.1	9
43	Impact of Cesium/Rubidium Incorporation on the Photophysics of Multiple-Cation Lead Halide Perovskites. *Solar Rrl*, **2020**, 4, 2000072	7.1	8
42	Amorphous gallium oxide grown by low-temperature PECVD. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2018**, 36, 021518	2.9	8
41	Sputtered transparent electrodes for optoelectronic devices: Induced damage and mitigation strategies. *Matter*, **2021**, 4, 3549-3584	12.7	8
40	Impact of Cation Multiplicity on Halide Perovskite Defect Densities and Solar Cell Voltages. *Journal of Physical Chemistry C*, **2020**, 124, 27333-27339	3.8	7
39	Understanding of Passivation Mechanism in Heterojunction c-Si Solar Cells. *Materials Research Society Symposia Proceedings*, **2008**, 1066, 1		7
38	Chemical Design Rules for Non-Fullerene Acceptors in Organic Solar Cells. *Advanced Energy Materials*,2102363	21.8	7
37	Solution-Doped Polysilicon Passivating Contacts for Silicon Solar Cells. *ACS Applied Materials & Interfaces*, **2021**, 13, 8455-8460	9.5	7
36	Large-area Hybrid Silicon Heterojunction Solar Cells with Ni/Cu Plated Front Contacts. *Energy Procedia*, **2014**, 55, 715-723	2.3	6

35	Heat generation and mitigation in silicon solar cells and modules. *Joule*, **2021**, 5, 631-645	27.8	6
34	Impact of Acceptor Quadrupole Moment on Charge Generation and Recombination in Blends of IDT-Based Non-Fullerene Acceptors with PCE10 as Donor Polymer. *Advanced Energy Materials*, **2021** , 11, 2100839	21.8	6
33	All Set for Efficient and Reliable Perovskite/Silicon Tandem Photovoltaic Modules?. *Solar Rrl*,2100493	7.1	6
32	Visualization of Charge Carrier Trapping in Silicon at the Atomic Surface Level Using Four-Dimensional Electron Imaging. *Journal of Physical Chemistry Letters*, **2019**, 10, 1960-1966	6.4	5
31	Electrode metallization for scaled perovskite/silicon tandem solar cells: Challenges and opportunities. *Progress in Photovoltaics: Research and Applications*,	6.8	5
30	Intrinsic Silicon Buffer Layer Improves Hole-Collecting Poly-Si Passivating Contact. *Advanced Materials Interfaces*, **2020**, 7, 2000188	4.6	4
29	Photolithography-free interdigitated back-contacted silicon heterojunction solar cells with efficiency >21% **2014**,		4
28	Impact of Photoluminescence Reabsorption in Metal-Halide Perovskite Solar Cells. *Solar Rrl*, **2021**, 5, 2100029	7.1	4
27	Potassium Thiocyanate-Assisted Enhancement of Slot-Die-Coated Perovskite Films for High-Performance Solar Cells. *Small Science*, **2021**, 1, 2170013		4
26	Silicon heterojunction solar cells: Techno-economic assessment and opportunities. *Joule*, **2022**, 6, 514-542	27.8	4
25	Photoactivated p-Doping of Organic Interlayer Enables Efficient Perovskite/Silicon Tandem Solar Cells. *ACS Energy Letters*,1987-1993	20.1	4
24	Impact of organic overlayers on a-Si:H/c-Si surface potential. *Applied Physics Letters*, **2017**, 110, 151601	3.4	3
23	Scanning Laser-Beam-Induced Current Measurements of Lateral Transport Near-Junction Defects in Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2014**, 4, 154-159	3.7	3
22	Surface and Ultrathin-layer Absorptance Spectroscopy for Solar Cells. *Energy Procedia*, **2014**, 60, 57-62	2.3	3
21	HIT Solar Cell With V20x Window Layer. *MRS Advances*, **2017**, 2, 3147-3156	0.7	3
20	Hole selective MoOx contact for silicon heterojunction solar cells **2014**,		3
19	Efficient Hybrid Amorphous Silicon/Organic Tandem Solar Cells Enabled by Near-Infrared Absorbing Nonfullerene Acceptors. *Advanced Energy Materials*, **2021**, 11, 2100166	21.8	3
18	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	3.7	2

List of Publications

17	Perovskite/Silicon Tandem Solar Cells: Challenges Towards High- Efficiency in 4-Terminal and Monolithic Devices **2017**,		2
16	MoOx and WOx based hole-selective contacts for wafer-based Si solar cells **2017**,		2
15	Mechanical Reliability of Fullerene/Tin Oxide Interfaces in Monolithic Perovskite/Silicon Tandem Cells. *ACS Energy Letters*, **2022**, 7, 827-833	20.1	2
14	Charge Carrier Recombination at Perovskite/Hole Transport Layer Interfaces Monitored by Time-Resolved Spectroscopy. *ACS Energy Letters*,4155-4164	20.1	2
13	Amorphous/Crystalline Silicon Interface Stability: Correlation between Infrared Spectroscopy and Electronic Passivation Properties. *Advanced Materials Interfaces*, **2020**, 7, 2000957	4.6	2
12	Electron-Selective ?Lithium Contacts for Crystalline Silicon Solar Cells. *Advanced Materials Interfaces*, **2021**, 8, 2100015	4.6	2
11	Unleashing the Full Power of Perovskite/Silicon Tandem Modules with Solar Trackers. *ACS Energy Letters*,1604-1610	20.1	2
10	Towards an optimum silicon heterojunction solar cell configuration for high temperature and high light intensity environment. *Energy Procedia*, **2017**, 124, 331-337	2.3	1
9	Advances in crystalline silicon heterojunction research and opportunities for low manufacturing costs **2015**,		1
8	Experimental measurement of lateral transport in the inversion layer of silicon heterojunction solar cells **2013**,		1
7	Structural, optical, and electrical properties of silicon nanowires for solar cells **2010**,		1
6	In Situ Plasma-Grown Silicon-Oxide for Polysilicon Passivating Contacts. *Advanced Materials Interfaces*, **2020**, 7, 2000589	4.6	1
5	High-efficiency perovskite/silicon heterojunction tandem solar cells **2016**,		1
4	3-D Modeling of Ultrathin Solar Cells with Nanostructured Dielectric Passivation: Case Study of Chalcogenide Solar Cells. *Advanced Theory and Simulations*,2100191	3.5	1
3	Chemical Design Rules for Non-Fullerene Acceptors in Organic Solar Cells (Adv. Energy Mater. 44/2021). *Advanced Energy Materials*, **2021**, 11, 2170175	21.8	0
2	Photo-induced enhancement of lattice fluctuations in metal-halide perovskites.. *Nature Communications*, **2022**, 13, 1019	17.4	0
1	Linked Nickel Oxide/Perovskite Interface Passivation for High-Performance Textured Monolithic Tandem Solar Cells (Adv. Energy Mater. 40/2021). *Advanced Energy Materials*, **2021**, 11, 2170160	21.8	