Bernd Rech

List of Publications by Year
in descending order

314 papers	18,510 citations	16451 64 h-index	14208 128 g-index
322 all docs	322 docs citations	322 times ranked	13256 citing authors

#	Article	IF	Citations
1	A mixed-cation lead mixed-halide perovskite absorber for tandem solar cells. Science, 2016, 351, 151-155.	12.6	2,514
2	Monolithic perovskite/silicon tandem solar cell with >29% efficiency by enhanced hole extraction. Science, 2020, 370, 1300-1309.	12.6	1,120
3	TCO and light trapping in silicon thin film solar cells. Solar Energy, 2004, 77, 917-930.	6.1	951
4	Intrinsic microcrystalline silicon: A new material for photovoltaics. Solar Energy Materials and Solar Cells, 2000, 62, 97-108.	6.2	566
5	Monolithic perovskite/silicon-heterojunction tandem solar cells processed at low temperature. Energy and Environmental Science, 2016, 9, 81-88.	30.8	536
6	Texture etched ZnO:Al coated glass substrates for silicon based thin film solar cells. Thin Solid Films, 1999, 351, 247-253.	1.8	527
7	Conformal monolayer contacts with lossless interfaces for perovskite single junction and monolithic tandem solar cells. Energy and Environmental Science, 2019, 12, 3356-3369.	30.8	519
8	The effect of front ZnO:Al surface texture and optical transparency on efficient light trapping in silicon thin-film solar cells. Journal of Applied Physics, 2007, 101, 074903.	2.5	469
9	Modified Thornton model for magnetron sputtered zinc oxide: film structure and etching behaviour. Thin Solid Films, 2003, 442, 80-85.	1.8	328
10	Potential of amorphous silicon for solar cells. Applied Physics A: Materials Science and Processing, 1999, 69, 155-167.	2.3	283
11	Textured interfaces in monolithic perovskite/silicon tandem solar cells: advanced light management for improved efficiency and energy yield. Energy and Environmental Science, 2018, 11, 3511-3523.	30.8	281
12	On the Relation between the Openâ€Circuit Voltage and Quasiâ€Fermi Level Splitting in Efficient Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1901631.	19.5	275
13	Efforts to improve carrier mobility in radio frequency sputtered aluminum doped zinc oxide films. Journal of Applied Physics, 2004, 95, 1911-1917.	2.5	251
14	Absorption loss at nanorough silver back reflector of thin-film silicon solar cells. Journal of Applied Physics, 2004, 95, 1427-1429.	2.5	213
15	Highly efficient monolithic perovskite silicon tandem solar cells: analyzing the influence of current mismatch on device performance. Sustainable Energy and Fuels, 2019, 3, 1995-2005.	4.9	208
16	Radiation Hardness and Selfâ€Healing of Perovskite Solar Cells. Advanced Materials, 2016, 28, 8726-8731.	21.0	195
17	On the Origin of the Ideality Factor in Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 2000502.	19.5	175
18	Improved electrical transport in Al-doped zinc oxide by thermal treatment. Journal of Applied Physics, 2010, 107, .	2.5	172

#	Article	IF	Citations
19	Perovskite Solar Cells with Large-Area CVD-Graphene for Tandem Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 2745-2750.	4.6	170
20	21.6%-Efficient Monolithic Perovskite/Cu(In,Ga)Se₂ Tandem Solar Cells with Thin Conformal Hole Transport Layers for Integration on Rough Bottom Cell Surfaces. ACS Energy Letters, 2019, 4, 583-590.	17.4	155
21	Microcrystalline silicon for large area thin film solar cells. Thin Solid Films, 2003, 427, 157-165.	1.8	141
22	Polycrystalline silicon thin-film solar cells: Status and perspectives. Solar Energy Materials and Solar Cells, 2013, 119, 112-123.	6.2	141
23	The Doping Mechanism of Halide Perovskite Unveiled by Alkaline Earth Metals. Journal of the American Chemical Society, 2020, 142, 2364-2374.	13.7	132
24	Oxygen vacancies in tungsten oxide and their influence on tungsten oxide/silicon heterojunction solar cells. Solar Energy Materials and Solar Cells, 2016, 158, 77-83.	6.2	129
25	Interplay of amorphous silicon disorder and hydrogen content with interface defects in amorphous/crystalline silicon heterojunctions. Applied Physics Letters, 2010, 96, .	3.3	127
26	Surface textured MF-sputtered ZnO films for microcrystalline silicon-based thin-film solar cells. Solar Energy Materials and Solar Cells, 2006, 90, 3054-3060.	6.2	120
27	Recent development on surface-textured ZnO:Al films prepared by sputtering for thin-film solar cell application. Thin Solid Films, 2008, 516, 5836-5841.	1.8	120
28	Comparative material study on RF and DC magnetron sputtered ZnO:Al films. Thin Solid Films, 2006, 502, 311-316.	1.8	119
29	Correlation between Electronic Defect States Distribution and Device Performance of Perovskite Solar Cells. Advanced Science, 2017, 4, 1700183.	11.2	117
30	New materials and deposition techniques for highly efficient silicon thin film solar cells. Solar Energy Materials and Solar Cells, 2002, 74, 439-447.	6.2	115
31	Numerical optical optimization of monolithic planar perovskite-silicon tandem solar cells with regular and inverted device architectures. Optics Express, 2017, 25, A473.	3.4	114
32	Challenges in microcrystalline silicon based solar cell technology. Thin Solid Films, 2006, 511-512, 548-555.	1.8	113
33	It Takes Two to Tangoâ€"Double-Layer Selective Contacts in Perovskite Solar Cells for Improved Device Performance and Reduced Hysteresis. ACS Applied Materials & Interfaces, 2017, 9, 17245-17255.	8.0	107
34	Optimization of the electrical properties of magnetron sputtered aluminum-doped zinc oxide films for opto-electronic applications. Thin Solid Films, 2003, 442, 167-172.	1.8	106
35	Towards wafer quality crystalline silicon thin-film solar cells on glass. Solar Energy Materials and Solar Cells, 2014, 128, 190-197.	6.2	105
36	Proton Radiation Hardness of Perovskite Tandem Photovoltaics. Joule, 2020, 4, 1054-1069.	24.0	104

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37	Perovskite solar cells: On top of commercial photovoltaics. Nature Energy, 2017, 2, .	39.5	103
38	Efficient Light Management by Textured Nanoimprinted Layers for Perovskite Solar Cells. ACS Photonics, 2017, 4, 1232-1239.	6.6	103
39	Ion Migrationâ€Induced Amorphization and Phase Segregation as a Degradation Mechanism in Planar Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 2000310.	19.5	103
40	Comprehensive study of microcrystalline silicon solar cells deposited at high rate using 13.56 MHz plasma-enhanced chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 492-498.	2.1	102
41	Coâ€Evaporated Formamidinium Lead Iodide Based Perovskites with 1000 h Constant Stability for Fully Textured Monolithic Perovskite/Silicon Tandem Solar Cells. Advanced Energy Materials, 2021, 11, 2101460.	19.5	102
42	Material study on reactively sputtered zinc oxide for thin film silicon solar cells. Thin Solid Films, 2006, 502, 286-291.	1.8	101
43	Electrical transport mechanisms in a-Si:H/c-Si heterojunction solar cells. Journal of Applied Physics, 2010, 107, .	2.5	100
44	Intrinsic microcrystalline silicon prepared by hot-wire chemical vapour deposition for thin film solar cells. Thin Solid Films, 2003, 430, 202-207.	1.8	99
45	Band lineup in amorphous/crystalline silicon heterojunctions and the impact of hydrogen microstructure and topological disorder. Physical Review B, 2011, 83, .	3.2	96
46	Defect Dynamics in Proton Irradiated CH₃NH₃PbI₃ Perovskite Solar Cells. Advanced Electronic Materials, 2017, 3, 1600438.	5.1	96
47	p-type microcrystalline silicon oxide emitter for silicon heterojunction solar cells allowing current densities above 40â€‰mA/cm2. Applied Physics Letters, 2015, 106, .	3.3	93
48	Crystalline silicon solar cells with tetracene interlayers: the path to silicon-singlet fission heterojunction devices. Materials Horizons, 2018, 5, 1065-1075.	12.2	92
49	Development of highly efficient thin film silicon solar cells on texture-etched zinc oxide-coated glass substrates. Solar Energy Materials and Solar Cells, 2001, 66, 275-281.	6.2	88
50	ZnO:Al films deposited by in-line reactive AC magnetron sputtering for a-Si:H thin film solar cells. Thin Solid Films, 2006, 496, 16-25.	1.8	88
51	Efficient interdigitated backâ€contacted silicon heterojunction solar cells. Physica Status Solidi - Rapid Research Letters, 2011, 5, 159-161.	2.4	83
52	Towards optical optimization of planar monolithic perovskite/silicon-heterojunction tandem solar cells. Journal of Optics (United Kingdom), 2016, 18, 064012.	2.2	82
53	Discerning passivation mechanisms at a-Si:H/c-Si interfaces by means of photoconductance measurements. Applied Physics Letters, 2011, 98, .	3.3	79
54	Co-Evaporated p-i-n Perovskite Solar Cells beyond 20% Efficiency: Impact of Substrate Temperature and Hole-Transport Layer. ACS Applied Materials & Interfaces, 2020, 12, 39261-39272.	8.0	79

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55	Experimental studies and limitations of the light trapping and optical losses in microcrystalline silicon solar cells. Solar Energy Materials and Solar Cells, 2008, 92, 1037-1042.	6.2	77
56	Bi-functional interfaces by poly(ionic liquid) treatment in efficient pin and nip perovskite solar cells. Energy and Environmental Science, 2021, 14, 4508-4522.	30.8	76
57	Polycrystalline silicon thin-film solar cells on glass. Solar Energy Materials and Solar Cells, 2009, 93, 1004-1008.	6.2	75
58	Nanowire Arrays in Multicrystalline Silicon Thin Films on Glass: A Promising Material for Research and Applications in Nanotechnology. Nano Letters, 2012, 12, 4050-4054.	9.1	74
59	Recent developments of silicon thin film solar cells on glass substrates. Thin Solid Films, 1999, 351, 241-246.	1.8	73
60	Amorphous and microcrystalline silicon solar cells prepared at high deposition rates using RF (13.56MHz) plasma excitation frequencies. Solar Energy Materials and Solar Cells, 2001, 66, 267-273.	6.2	73
61	Highly efficient microcrystalline silicon solar cells deposited from a pure SiH4 flow. Applied Physics Letters, 2005, 87, 263503.	3.3	71
62	Optical modeling of free electron behavior in highly doped ZnO films. Thin Solid Films, 2009, 518, 1289-1293.	1.8	70
63	Damp heat stability and annealing behavior of aluminum doped zinc oxide films prepared by magnetron sputtering. Thin Solid Films, 2006, 511-512, 673-677.	1.8	69
64	Thickness dependence of microcrystalline silicon solar cell properties. Solar Energy Materials and Solar Cells, 2001, 66, 345-351.	6.2	68
65	Flexible amorphous and microcrystalline silicon tandem solar modules in the temporary superstrate concept. Solar Energy Materials and Solar Cells, 2007, 91, 572-580.	6.2	64
66	State-of-the-art mid-frequency sputtered ZnO films for thin film silicon solar cells and modules. Thin Solid Films, 2003, 442, 158-162.	1.8	62
67	Temperature Dependence of the Band Gap of CH₃NH₃PbI₃ Stabilized with PMMA: A Modulated Surface Photovoltage Study. Journal of Physical Chemistry C, 2015, 119, 23968-23972.	3.1	59
68	27.9% Efficient Monolithic Perovskite/Silicon Tandem Solar Cells on Industry Compatible Bottom Cells. Solar Rrl, 2021, 5, 2100244.	5.8	59
69	Solution of the ZnO/p contact problem in a-Si:H solar cells. Solar Energy Materials and Solar Cells, 1996, 41-42, 485-492.	6.2	58
70	Metastable Defect Formation at Microvoids Identified as a Source of Light-Induced Degradation in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>a</mml:mi><mml:mtext>â^'</mml:mtext><mml:mi>Si</mml:mi><mml:mo</mml:mo><mml:m mathvariant="normal">H</mml:mi></mml:mrow></mml:math>. Physical Review Letters, 2014, 112, 066403.	7.8	57
71	High open circuit voltages in pin-type perovskite solar cells through strontium addition. Sustainable Energy and Fuels, 2019, 3, 550-563.	4.9	57
72	Impact of the transparent conductive oxide work function on injection-dependent a-Si:H/c-Si band bending and solar cell parameters. Journal of Applied Physics, 2013, 113, .	2.5	55

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73	High deposition rate aluminium-doped zinc oxide films with highly efficient light trapping for silicon thin film solar cells. Thin Solid Films, 2008, 516, 1242-1248.	1.8	53
74	Field Effect Passivation in Perovskite Solar Cells by a LiF Interlayer. Advanced Energy Materials, 2022, 12, .	19.5	53
75	Upscaling of texture-etched zinc oxide substrates for silicon thin film solar cells. Thin Solid Films, 2001, 392, 327-333.	1.8	52
76	Influence of excitation frequency, temperature, and hydrogen dilution on the stability of plasma enhanced chemical vapor deposited a-Si:H. Journal of Applied Physics, 1998, 84, 3949-3953.	2.5	50
77	Polycrystalline silicon heterojunction thin-film solar cells on glass exhibiting 582mV open-circuit voltage. Solar Energy Materials and Solar Cells, 2013, 115, 7-10.	6.2	50
78	Conversion efficiency and process stability improvement of electron beam crystallized thin film silicon solar cells on glass. Solar Energy Materials and Solar Cells, 2014, 123, 13-16.	6.2	49
79	High rate direct current magnetron sputtered and texture-etched zinc oxide films for silicon thin film solar cells. Thin Solid Films, 2008, 516, 4628-4632.	1.8	48
80	Microstructure and photovoltaic performance of polycrystalline silicon thin films on temperature-stable ZnO:Al layers. Journal of Applied Physics, 2009, 106, .	2.5	47
81	Silicon Thin-Film Solar Cells on Glass With Open-Circuit Voltages Above 620 mV Formed by Liquid-Phase Crystallization. IEEE Journal of Photovoltaics, 2014, 4, 1496-1501.	2.5	47
82	Valence band alignment and hole transport in amorphous/crystalline silicon heterojunction solar cells. Applied Physics Letters, 2015, 107, 013902.	3.3	47
83	Oxygen and nitrogen impurities in microcrystalline silicon deposited under optimized conditions: Influence on material properties and solar cell performance. Journal of Applied Physics, 2009, 105, 074509.	2.5	44
84	Potential of interdigitated back-contact silicon heterojunction solar cells for liquid phase crystallized silicon on glass with efficiency above 14%. Solar Energy Materials and Solar Cells, 2018, 174, 187-195.	6.2	43
85	Interface Molecular Engineering for Laminated Monolithic Perovskite/Silicon Tandem Solar Cells with 80.4% Fill Factor. Advanced Functional Materials, 2019, 29, 1901476.	14.9	43
86	Cs<i>_x</i>FA_{1â€"<i>x</i>}Pb(I_{1â€"<i>y</i>}Br<i>_y</i>)₃ Perovskite Compositions: the Appearance of Wrinkled Morphology and its Impact on Solar Cell Performance. Journal of Physical Chemistry C, 2018, 122, 17123-17135.	3.1	42
87	Hybrid Organic/Inorganic Thinâ€Film Multijunction Solar Cells Exceeding 11% Power Conversion Efficiency. Advanced Materials, 2015, 27, 1262-1267.	21.0	40
88	Liquid phase crystallized silicon on glass: Technology, material quality and back contacted heterojunction solar cells. Japanese Journal of Applied Physics, 2016, 55, 04EA04.	1.5	40
89	A new concept for mass production of large area thin-film silicon solar cells on glass. Thin Solid Films, 2006, 502, 300-305.	1.8	39
90	Temperature stability of ZnO:Al film properties for poly-Si thin-film devices. Applied Physics Letters, 2007, 91, 241911.	3.3	39

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91	Improving the electrical and optical properties of DC-sputtered ZnO:Al by thermal post deposition treatments. Thin Solid Films, 2012, 520, 4203-4207.	1.8	39
92	Double-side textured liquid phase crystallized silicon thin-film solar cells on imprinted glass. Solar Energy Materials and Solar Cells, 2015, 135, 2-7.	6.2	39
93	Determination of the complex refractive index and optical bandgap of CH3NH3PbI3 thin films. Journal of Applied Physics, 2017, 121, .	2.5	38
94	Accelerated interface defect removal in amorphous/crystalline silicon heterostructures using pulsed annealing and microwave heating. Applied Physics Letters, 2009, 95, .	3.3	37
95	Analysis of photo-current potentials and losses in thin film crystalline silicon solar cells. Solar Energy Materials and Solar Cells, 2015, 143, 457-466.	6.2	37
96	The Influence of ITO Dopant Density on J-V Characteristics of Silicon Heterojunction Solar Cells: Experiments and Simulations. Energy Procedia, 2015, 77, 725-732.	1.8	37
97	Light trapping and optical losses in microcrystalline silicon pin solar cells deposited on surface-textured glass/ZnO substrates. Solar Energy Materials and Solar Cells, 2004, , .	6.2	36
98	Nanocrystalline silicon emitter optimization for Si-HJ solar cells: Substrate selectivity and CO₂plasma treatment effect. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1532958.	1.8	36
99	Recent developments in amorphous siliconâ€based solar cells. Physica Status Solidi (B): Basic Research, 1996, 194, 41-53.	1.5	35
100	Valence band offset in heterojunctions between crystalline silicon and amorphous silicon (sub)oxides (a-SiOx:H, 0 < x < 2). Applied Physics Letters, 2015, 106, .	3.3	34
101	Towards monocrystalline silicon thin films grown on glass by liquid phase crystallization. Solar Energy Materials and Solar Cells, 2015, 140, 86-91.	6.2	34
102	Influence of Hydrogen Plasma on the Defect Passivation of Polycrystalline Si Thin Film Solar Cells. Plasma Processes and Polymers, 2009, 6, S36.	3.0	33
103	Quadruple-junction solar cells and modules based on amorphous and microcrystalline silicon with high stable efficiencies. Japanese Journal of Applied Physics, 2015, 54, 08KB03.	1.5	33
104	Diffusion length of photo-generated charge carriers in layers and powders of CH3NH3PbI3 perovskite. Applied Physics Letters, 2016, 109, .	3.3	33
105	Transient depletion of source gases during materials processing: a case study on the plasma deposition of microcrystalline silicon. New Journal of Physics, 2007, 9, 280-280.	2.9	32
106	Growth of polycrystalline silicon on glass for thin-film solar cells. Journal of Crystal Growth, 2010, 312, 1277-1281.	1.5	32
107	Impact of Fermi-level dependent defect equilibration on Voc of amorphous/crystalline silicon heterojunction solar cells. Energy Procedia, 2011, 8, 282-287.	1.8	32
108	Achievements and challenges in thin film silicon module production. Solar Energy Materials and Solar Cells, 2013, 119, 196-203.	6.2	32

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109	Unravelling the low-temperature metastable state in perovskite solar cells by noise spectroscopy. Scientific Reports, 2016, 6, 34675.	3.3	32
110	Silicon Solar Cells on Glass with Power Conversion Efficiency above 13% at Thickness below 15 Micrometer. Scientific Reports, 2017, 7, 873.	3.3	32
111	Microcrystalline silicon deposition: Process stability and process control. Thin Solid Films, 2007, 515, 7455-7459.	1.8	31
112	Crystallization kinetics in electron-beam evaporated amorphous silicon on ZnO:Al-coated glass for thin film solar cells. Applied Physics Letters, 2009, 95, 101902.	3.3	31
113	Combined multifrequency EPR and DFT study of dangling bonds in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>a</mml:mi></mml:math>-Si:H. Physical Review B, 2011, 84, .	3.2	31
114	PECVD-AlOx/SiNx Passivation Stacks on Silicon: Effective Charge Dynamics and Interface Defect State Spectroscopy. Energy Procedia, 2014, 55, 845-854.	1.8	31
115	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
116	The role of plasma induced substrate heating during high rate deposition of microcrystalline silicon solar cells. Thin Solid Films, 2006, 511-512, 562-566.	1.8	30
117	Microcrystalline silicon solar cells with an open-circuit voltage above 600mV. Applied Physics Letters, 2007, 90, 183504.	3.3	30
118	Deposition of highly efficient microcrystalline silicon solar cells under conditions of low H2 dilution: the role of the transient depletion induced incubation layer. Progress in Photovoltaics: Research and Applications, 2007, 15, 291-301.	8.1	30
119	Development of a rapid thermal annealing process for polycrystalline silicon thin-film solar cells on glass. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 329-332.	3.5	30
120	PECVD-AlOx/SiNx passivation stacks on wet chemically oxidized silicon: Constant voltage stress investigations of charge dynamics and interface defect states. Solar Energy Materials and Solar Cells, 2015, 135, 49-56.	6.2	30
121	Polycrystalline silicon thin films by high-rate electronbeam evaporation for photovoltaic applications â€“ Influence of substrate texture and temperature. Energy Procedia, 2011, 10, 61-65.	1.8	29
122	Atomic Structure of Interface States in Silicon Heterojunction Solar Cells. Physical Review Letters, 2013, 110, 136803.	7.8	29
123	Influence of the total gas flow on the deposition of microcrystalline silicon solar cells. Thin Solid Films, 2004, 451-452, 466-469.	1.8	28
124	Hard x-ray photoelectron spectroscopy study of the buried Si/ZnO thin-film solar cell interface: Direct evidence for the formation of Siâ€“O at the expense of Zn-O bonds. Applied Physics Letters, 2011, 99, .	3.3	28
125	Directional growth and crystallization of silicon thin films prepared by electron-beam evaporation on oblique and textured surfaces. Journal of Crystal Growth, 2013, 367, 126-130.	1.5	28
126	Sinusoidal nanotextures for light management in silicon thin-film solar cells. Nanoscale, 2016, 8, 8722-8728.	5.6	28

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127	Mixtures of Dopant-Free Spiro-OMeTAD and Water-Free PEDOT as a Passivating Hole Contact in Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 9172-9181.	8.0	28
128	Improvement in stabilized efficiency of a-Si:H solar cells through optimized p/i-interface layers. Solar Energy Materials and Solar Cells, 1996, 41-42, 475-483.	6.2	27
129	Planar rear emitter back contact silicon heterojunction solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 1900-1903.	6.2	27
130	Light trapping in thin-film silicon solar cells by nano-textured interfaces. , 2006, 6197, 619701.		26
131	Solid-phase crystallization of amorphous silicon on ZnO:Al for thin-film solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 855-858.	6.2	26
132	PECVD Intermediate and Absorber Layers Applied in Liquid-Phase Crystallized Silicon Solar Cells on Glass Substrates. IEEE Journal of Photovoltaics, 2014, 4, 1343-1348.	2.5	26
133	Preferential {100} grain orientation in 10 micrometer-thick laser crystallized multicrystalline silicon on glass. Thin Solid Films, 2015, 576, 68-74.	1.8	26
134	Silicon Heterojunction Solar Cells With Nanocrystalline Silicon Oxide Emitter: Insights Into Charge Carrier Transport. IEEE Journal of Photovoltaics, 2015, 5, 1601-1605.	2.5	25
135	Optimization of the post-deposition annealing process of high-mobility In2O3:H for photovoltaic applications. Thin Solid Films, 2016, 599, 78-83.	1.8	25
136	Smooth anti-reflective three-dimensional textures for liquid phase crystallized silicon thin-film solar cells on glass. Scientific Reports, 2017, 7, 2658.	3.3	25
137	Optical characterization and bandgap engineering of flat and wrinkle-textured FA0.83Cs0.17Pb(I1â€"<i>x</i>Br<i>x</i>)3 perovskite thin films. Journal of Applied Physics, 2018, 123, .	2.5	25
138	Plasma emission diagnostics for the transition from microcrystalline to amorphous silicon solar cells. Solar Energy Materials and Solar Cells, 2005, 87, 795-805.	6.2	24
139	Influence of deep defects on device performance of thin-film polycrystalline silicon solar cells. Applied Physics Letters, 2012, 101, 123904.	3.3	24
140	The growth of microcrystalline silicon oxide thin films studied by in situ plasma diagnostics. Applied Physics Letters, 2013, 102, 051906.	3.3	24
141	Improved conversion efficiency of aâ€Si:H/Âµcâ€Si:H thinâ€film solar cells by using annealed Alâ€doped zinc oxide as front electrode material. Progress in Photovoltaics: Research and Applications, 2014, 22, 1285-1291.	8.1	24
142	High mobility In2O3:H as contact layer for a-Si:H/c-Si heterojunction and Î¼c-Si:H thin film solar cells. Thin Solid Films, 2015, 594, 316-322.	1.8	24
143	Advantageous light management in Cu(In,Ga)Se2 superstrate solar cells. Solar Energy Materials and Solar Cells, 2016, 150, 76-81.	6.2	24
144	Nondestructive Probing of Perovskite Silicon Tandem Solar Cells Using Multiwavelength Photoluminescence Mapping. IEEE Journal of Photovoltaics, 2017, 7, 1081-1086.	2.5	24

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145	Large-grained poly-Si films on ZnO:Al coated glass substrates. Thin Solid Films, 2008, 516, 6869-6872.	1.8	22
146	Influence of Barrier and Doping Type on the Open-Circuit Voltage of Liquid Phase-Crystallized Silicon Thin-Film Solar Cells on Glass. IEEE Journal of Photovoltaics, 2015, 5, 1001-1005.	2.5	22
147	Balance of optical, structural, and electrical properties of textured liquid phase crystallized Si solar cells. Journal of Applied Physics, 2015, 117, .	2.5	22
148	Structure of PECVD Si:H films for solar cell applications. Solar Energy Materials and Solar Cells, 2003, 77, 125-143.	6.2	21
149	Ultrathin SiO2layers on Si(111): preparation, interface gap states and the influence of passivation. Nanotechnology, 2008, 19, 424020.	2.6	21
150	Nanophotonic light trapping in 3-dimensional thin-film silicon architectures. Optics Express, 2013, 21, A42.	3.4	21
151	Amorphous and Microcrystalline Silicon Based Solar Cells and Modules on Textured Zinc Oxide Coated Glass Substrates. Materials Research Society Symposia Proceedings, 2003, 762, 311.	0.1	20
152	Characterization and control of crystal nucleation in amorphous electron beam evaporated silicon for thin film solar cells. Journal of Applied Physics, 2011, 110, 063530.	2.5	20
153	Impact of a-Si:H hydrogen depth profiles on passivation properties in a-Si:H/c-Si heterojunctions. Thin Solid Films, 2012, 520, 4439-4444.	1.8	20
154	Revisiting the Determination of the Valence Band Maximum and Defect Formation in Halide Perovskites for Solar Cells: Insights from Highly Sensitive Nearâ€“UV Photoemission Spectroscopy. ACS Applied Materials & Interfaces, 2021, 13, 43540-43553.	8.0	20
155	Large-area 2D periodic crystalline silicon nanodome arrays on nanoimprinted glass exhibiting photonic band structure effects. Nanotechnology, 2012, 23, 135302.	2.6	19
156	Impact of dislocations and dangling bond defects on the electrical performance of crystalline silicon thin films. Applied Physics Letters, 2014, 105, .	3.3	19
157	Crystalline silicon on glassâ€"interface passivation and absorber material quality. Progress in Photovoltaics: Research and Applications, 2016, 24, 1499-1512.	8.1	19
158	Process control of high rate microcrystalline silicon based solar cell deposition by optical emission spectroscopy. Thin Solid Films, 2008, 516, 4633-4638.	1.8	18
159	Largeâ€area fabrication of equidistant freeâ€standing Si crystals on nanoimprinted glass. Physica Status Solidi - Rapid Research Letters, 2011, 5, 376-378.	2.4	18
160	Chemical speciation at buried interfaces in high-temperature processed polycrystalline silicon thin-film solar cells on ZnO:Al. Journal of Applied Physics, 2013, 113, .	2.5	18
161	An improved siliconâ€oxideâ€based intermediateâ€reflector for micromorph solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 2145-2148.	0.8	17
162	Implications of TCO Topography on Intermediate Reflector Design for a-Si/Î¼c-Si Tandem Solar Cellsâ€"Experiments and Rigorous Optical Simulations. IEEE Journal of Photovoltaics, 2014, 4, 10-15.	2.5	17

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163	Solutionâ€Processed Crystalline Silicon Thinâ€Film Solar Cells. Advanced Materials Interfaces, 2014, 1, 1300046.	3.7	17
164	Interdigitated backâ€contact heterojunction solar cell concept for liquid phase crystallized thinâ€film silicon on glass. Progress in Photovoltaics: Research and Applications, 2016, 24, 716-724.	8.1	17
165	Thin-film silicon solar cells with grating couplers â€" An experimental and numerical study. Journal of Non-Crystalline Solids, 2006, 352, 1949-1952.	3.1	16
166	GIXRFâ€"NEXAFS investigations on buried ZnO/Si interfaces: A first insight in changes of chemical states due to annealing of the specimen. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 370-373.	1.4	16
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