

# Bernd Stannowski

## List of Publications by Citations

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70  
papers

2,851  
citations

25  
h-index

52  
g-index

74  
ext. papers

3,683  
ext. citations

7  
avg, IF

4.98  
L-index

#	Paper	IF	Citations
70	Monolithic perovskite/silicon tandem solar cell with >29% efficiency by enhanced hole extraction. <i>Science</i> , <b>2020</b> , 370, 1300-1309	33.3	438
69	Improving the light-harvesting of amorphous silicon solar cells with photochemical upconversion. <i>Energy and Environmental Science</i> , <b>2012</b> , 5, 6953	35.4	299
68	A piperidinium salt stabilizes efficient metal-halide perovskite solar cells. <i>Science</i> , <b>2020</b> , 369, 96-102	33.3	231
67	Textured interfaces in monolithic perovskite/silicon tandem solar cells: advanced light management for improved efficiency and energy yield. <i>Energy and Environmental Science</i> , <b>2018</b> , 11, 3511-3523	35.4	194
66	Infrared Light Management Using a Nanocrystalline Silicon Oxide Interlayer in Monolithic Perovskite/Silicon Heterojunction Tandem Solar Cells with Efficiency above 25%. <i>Advanced Energy Materials</i> , <b>2019</b> , 9, 1803241	21.8	161
65	Efficiency Enhancement of Organic and Thin-Film Silicon Solar Cells with Photochemical Upconversion. <i>Journal of Physical Chemistry C</i> , <b>2012</b> , 116, 22794-22801	3.8	146
64	Highly efficient monolithic perovskite silicon tandem solar cells: analyzing the influence of current mismatch on device performance. <i>Sustainable Energy and Fuels</i> , <b>2019</b> , 3, 1995-2005	5.8	139
63	p-type microcrystalline silicon oxide emitter for silicon heterojunction solar cells allowing current densities above 40 mA/cm <sup>2</sup> . <i>Applied Physics Letters</i> , <b>2015</b> , 106, 023902	3.4	76
62	Photochemical Upconversion Enhanced Solar Cells: Effect of a Back Reflector. <i>Australian Journal of Chemistry</i> , <b>2012</b> , 65, 480	1.2	75
61	Proton Radiation Hardness of Perovskite Tandem Photovoltaics. <i>Joule</i> , <b>2020</b> , 4, 1054-1069	27.8	53
60	Demonstration of a 50 cm <sup>2</sup> BiVO <sub>4</sub> tandem photoelectrochemical-photovoltaic water splitting device. <i>Sustainable Energy and Fuels</i> , <b>2019</b> , 3, 2366-2379	5.8	48
59	Effect of front TCO on the performance of rear-junction silicon heterojunction solar cells: Insights from simulations and experiments. <i>Solar Energy Materials and Solar Cells</i> , <b>2019</b> , 195, 339-345	6.4	42
58	. <i>IEEE Journal of Photovoltaics</i> , <b>2018</b> , 8, 70-78	3.7	42
57	Ultra-thin nanocrystalline n-type silicon oxide front contact layers for rear-emitter silicon heterojunction solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2018</b> , 179, 386-391	6.4	40
56	Growth process and properties of silicon nitride deposited by hot-wire chemical vapor deposition. <i>Journal of Applied Physics</i> , <b>2003</b> , 93, 2618-2625	2.5	40
55	Hybrid organic/inorganic thin-film multijunction solar cells exceeding 11% power conversion efficiency. <i>Advanced Materials</i> , <b>2015</b> , 27, 1262-7	24	38
54	Quadruple-junction solar cells and modules based on amorphous and microcrystalline silicon with high stable efficiencies. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 08KB03	1.4	33

53	Infrared photocurrent management in monolithic perovskite/silicon heterojunction tandem solar cells by using a nanocrystalline silicon oxide interlayer. <i>Optics Express</i> , <b>2018</b> , 26, A487-A497	3.3	33
52	The Influence of ITO Dopant Density on J-V Characteristics of Silicon Heterojunction Solar Cells: Experiments and Simulations. <i>Energy Procedia</i> , <b>2015</b> , 77, 725-732	2.3	32
51	Co-Evaporated Formamidinium Lead Iodide Based Perovskites with 1000 h Constant Stability for Fully Textured Monolithic Perovskite/Silicon Tandem Solar Cells. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2101460	21.8	29
50	ITO-Free Silicon Heterojunction Solar Cells With ZnO:Al/SiO <sub>2</sub> Front Electrodes Reaching a Conversion Efficiency of 23%. <i>IEEE Journal of Photovoltaics</i> , <b>2019</b> , 9, 34-39	3.7	28
49	On the Plasma Chemistry During Plasma Enhanced Chemical Vapor Deposition of Microcrystalline Silicon Oxides. <i>Plasma Processes and Polymers</i> , <b>2015</b> , 12, 82-91	3.4	26
48	Thin-film transistors deposited by hot-wire chemical vapor deposition. <i>Thin Solid Films</i> , <b>2003</b> , 430, 220-225	2.2	26
47	Silicon nitride at high deposition rate by Hot Wire Chemical Vapor Deposition as passivating and antireflection layer on multicrystalline silicon solar cells. <i>Thin Solid Films</i> , <b>2006</b> , 501, 51-54	2.2	25
46	Artificial Leaf for Water Splitting Based on a Triple-Junction Thin-Film Silicon Solar Cell and a PEDOT:PSS/Catalyst Blend. <i>Energy Technology</i> , <b>2016</b> , 4, 230-241	3.5	25
45	PECVD Intermediate and Absorber Layers Applied in Liquid-Phase Crystallized Silicon Solar Cells on Glass Substrates. <i>IEEE Journal of Photovoltaics</i> , <b>2014</b> , 4, 1343-1348	3.7	24
44	Plasma monitoring and PECVD process control in thin film silicon-based solar cell manufacturing. <i>EPJ Photovoltaics</i> , <b>2014</b> , 5, 55202	0.7	24
43	Hot-wire silicon nitride for thin-film transistors. <i>Thin Solid Films</i> , <b>2001</b> , 395, 339-342	2.2	24
42	The growth of microcrystalline silicon oxide thin films studied by in situ plasma diagnostics. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 051906	3.4	23
41	Nanocrystalline silicon emitter optimization for Si-HJ solar cells: Substrate selectivity and CO <sub>2</sub> plasma treatment effect. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2017</b> , 214, 1532958	1.6	22
40	Improved conversion efficiency of a-Si:H/ $\mu$ c-Si:H thin-film solar cells by using annealed Al-doped zinc oxide as front electrode material. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2014</b> , 22, 1285-1291	6.8	22
39	Helianthos: Roll-to-Roll Deposition of Flexible Solar Cell Modules. <i>Plasma Processes and Polymers</i> , <b>2007</b> , 4, 275-281	3.4	22
38	27.9% Efficient Monolithic Perovskite/Silicon Tandem Solar Cells on Industry Compatible Bottom Cells. <i>Solar Rrl</i> , <b>2021</b> , 5, 2100244	7.1	22
37	Silicon Heterojunction Solar Cells With Nanocrystalline Silicon Oxide Emitter: Insights Into Charge Carrier Transport. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 1601-1605	3.7	20
36	Application of hot-wire chemical vapor-deposited Si:H films in thin film transistors and solar cells. <i>Thin Solid Films</i> , <b>2001</b> , 395, 320-329	2.2	20

35	Advanced properties of Al-doped ZnO films with a seed layer approach for industrial thin film photovoltaic application. <i>Thin Solid Films</i> , <b>2013</b> , 534, 474-481	2.2	19
34	Resolving the nanostructure of plasma-enhanced chemical vapor deposited nanocrystalline SiOx layers for application in solar cells. <i>Journal of Applied Physics</i> , <b>2016</b> , 119, 223104	2.5	19
33	An improved silicon-oxide-based intermediate-reflector for micromorph solar cells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2012</b> , 9, 2145-2148		16
32	Hot-wire amorphous silicon thin-film transistors on glass. <i>Thin Solid Films</i> , <b>2001</b> , 383, 125-128	2.2	16
31	Crystalline silicon on glass Interface passivation and absorber material quality. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2016</b> , 24, 1499-1512	6.8	15
30	Nanocrystalline Silicon Oxide Emitters for Silicon Hetero Junction Solar Cells. <i>Energy Procedia</i> , <b>2015</b> , 77, 304-310	2.3	14
29	Implications of TCO Topography on Intermediate Reflector Design for a-Si/ $\mu$ -Si Tandem Solar Cells Experiments and Rigorous Optical Simulations. <i>IEEE Journal of Photovoltaics</i> , <b>2014</b> , 4, 10-15	3.7	14
28	High energy-barrier for defect creation in thin-film transistors based on hot-wire amorphous silicon. <i>Applied Physics Letters</i> , <b>1999</b> , 75, 3674-3676	3.4	14
27	Influence of Silicon Layers on the Growth of ITO and AZO in Silicon Heterojunction Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2020</b> , 10, 703-709	3.7	14
26	Aluminum-Doped Zinc Oxide as Front Electrode for Rear Emitter Silicon Heterojunction Solar Cells with High Efficiency. <i>Applied Sciences (Switzerland)</i> , <b>2019</b> , 9, 862	2.6	12
25	Plasma enhanced chemical vapor deposition process optimization for thin film silicon tandem junction solar cells. <i>Thin Solid Films</i> , <b>2014</b> , 558, 337-343	2.2	12
24	Comparison of TMB and B2H6 as Precursors for Emitter Doping in High Efficiency Silicon Hetero Junction Solar Cells. <i>Energy Procedia</i> , <b>2014</b> , 60, 123-128	2.3	12
23	Architectures for scalable integrated photo driven catalytic devices-A concept study. <i>International Journal of Hydrogen Energy</i> , <b>2016</b> , 41, 20823-20831	6.7	11
22	Improved Surface Passivation by Wet Texturing, Ozone-Based Cleaning, and Plasma-Enhanced Chemical Vapor Deposition Processes for High-Efficiency Silicon Heterojunction Solar Cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2020</b> , 217, 1900518	1.6	11
21	Influence of Chemical Composition and Structure in Silicon Dielectric Materials on Passivation of Thin Crystalline Silicon on Glass. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2015</b> , 7, 19282-94	9.5	10
20	Transient photocurrent response of three-color detectors based on amorphous silicon. <i>Journal of Applied Physics</i> , <b>1999</b> , 85, 3904-3911	2.5	10
19	Wafer Surface Tuning for a-Si:H/ $\mu$ -Si:H/c-Si Triple Junction Solar Cells for Application in Water Splitting. <i>Energy Procedia</i> , <b>2016</b> , 102, 126-135	2.3	8
18	Toward High Solar Cell Efficiency with Low Material Usage: 15% Efficiency with 14 $\mu$ m Polycrystalline Silicon on Glass. <i>Solar Rrl</i> , <b>2020</b> , 4, 2000058	7.1	7

17	Optimized immobilization of ZnO:Co electrocatalysts realizes 5% efficiency in photo-assisted splitting of water. <i>Journal of Materials Chemistry A</i> , <b>2016</b> , 4, 3082-3090	13	7
16	Efficient plasmonic scattering of colloidal silver particles through annealing-induced changes. <i>Nanotechnology</i> , <b>2014</b> , 25, 455706	3.4	7
15	Potential of high-mobility sputtered zinc oxide as front contact for high efficiency thin film silicon solar cells. <i>Thin Solid Films</i> , <b>2014</b> , 555, 138-142	2.2	7
14	Effect of the ambient conditions on the operation of a large-area integrated photovoltaic-electrolyser. <i>Sustainable Energy and Fuels</i> , <b>2020</b> , 4, 4831-4847	5.8	7
13	Passivation at the interface between liquid-phase crystallized silicon and silicon oxynitride in thin film solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2017</b> , 25, 515-524	6.8	6
12	ZnO:Al/a-SiO <sub>x</sub> front contact for polycrystalline-silicon-on-oxide (POLO) solar cells <b>2018</b> ,		5
11	A simple method with analytical model to extract heterojunction solar cell series resistance components and to extract the A-Si:H(i/p) to transparent conductive oxide contact resistivity <b>2019</b> ,		5
10	Growth process of microcrystalline silicon studied by combined photoluminescence and Raman investigations. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 223511	2.5	4
9	Encapsulation and Outdoor Testing of Perovskite Solar Cells: Comparing Industrially Relevant Process with a Simplified Lab Procedure.. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2022</b> , 14, 5159-5167	9.5	4
8	Zinc oxide films grown by galvanic deposition from 99% metals basis zinc nitrate electrolyte. <i>Journal of Materials Chemistry A</i> , <b>2014</b> , 2, 9626-9635	13	3
7	Comparison of the influence of boron and aluminium doping on the material properties of electrochemically deposited ZnO films. <i>Thin Solid Films</i> , <b>2015</b> , 594, 215-224	2.2	3
6	Versatility of Nanocrystalline Silicon Films: from Thin-Film to Perovskite/c-Si Tandem Solar Cell Applications. <i>Coatings</i> , <b>2020</b> , 10, 759	2.9	3
5	ITO-free metallization for interdigitated back contact silicon heterojunction solar cells. <i>Energy Procedia</i> , <b>2017</b> , 124, 379-383	2.3	2
4	Tailored Nanostructures for Light Management in Silicon Heterojunction Solar Cells. <i>Solar Rrl</i> , <b>2020</b> , 4, 2000484	7.1	2
3	Imaging of Bandtail States in Silicon Heterojunction Solar Cells: Nanoscopic Current Effects on Photovoltaics. <i>ACS Applied Nano Materials</i> , <b>2021</b> , 4, 2404-2412	5.6	2
2	Nanocrystalline silicon oxide interlayer in monolithic perovskite/silicon heterojunction tandem solar cells with total current density >39 mA/cm <sup>2</sup> <b>2018</b> ,		2
1	Characterization of thin-film a-Si:H/μc-Si:H tandem solar cells on glass substrates. <i>Crystal Research and Technology</i> , <b>2013</b> , 48, 279-286	1.3	1