Bernd Stannowski

List of Publications by Year in Descending Order

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	Encapsulation and Outdoor Testing of Perovskite Solar Cells: Comparing Industrially Relevant Process with a Simplified Lab Procedure.. *ACS Applied Materials & Interfaces*, **2022**, 14, 5159-5167	9.5	4
69	Imaging of Bandtail States in Silicon Heterojunction Solar Cells: Nanoscopic Current Effects on Photovoltaics. *ACS Applied Nano Materials*, **2021**, 4, 2404-2412	5.6	2
68	27.9% Efficient Monolithic Perovskite/Silicon Tandem Solar Cells on Industry Compatible Bottom Cells. *Solar Rrl*, **2021**, 5, 2100244	7.1	22
67	Co-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	21.8	29
66	Monolithic perovskite/silicon tandem solar cell with >29% efficiency by enhanced hole extraction. *Science*, **2020**, 370, 1300-1309	33.3	438
65	Toward High Solar Cell Efficiency with Low Material Usage: 15% Efficiency with 14 µm Polycrystalline Silicon on Glass. *Solar Rrl*, **2020**, 4, 2000058	7.1	7
64	A piperidinium salt stabilizes efficient metal-halide perovskite solar cells. *Science*, **2020**, 369, 96-102	33.3	231
63	Proton Radiation Hardness of Perovskite Tandem Photovoltaics. *Joule*, **2020**, 4, 1054-1069	27.8	53
62	Improved Surface Passivation by Wet Texturing, Ozone-Based Cleaning, and Plasma-Enhanced Chemical Vapor Deposition Processes for High-Efficiency Silicon Heterojunction Solar Cells. *Physica Status Solidi (A) Applications and Materials Science*, **2020**, 217, 1900518	1.6	11
61	Influence of Silicon Layers on the Growth of ITO and AZO in Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2020**, 10, 703-709	3.7	14
60	Tailored Nanostructures for Light Management in Silicon Heterojunction Solar Cells. *Solar Rrl*, **2020**, 4, 2000484	7.1	2
59	Effect of the ambient conditions on the operation of a large-area integrated photovoltaic-electrolyser. *Sustainable Energy and Fuels*, **2020**, 4, 4831-4847	5.8	7
58	Versatility of Nanocrystalline Silicon Films: from Thin-Film to Perovskite/c-Si Tandem Solar Cell Applications. *Coatings*, **2020**, 10, 759	2.9	3
57	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	5.8	139
56	Aluminum-Doped Zinc Oxide as Front Electrode for Rear Emitter Silicon Heterojunction Solar Cells with High Efficiency. *Applied Sciences (Switzerland)*, **2019**, 9, 862	2.6	12
55	Effect of front TCO on the performance of rear-junction silicon heterojunction solar cells: Insights from simulations and experiments. *Solar Energy Materials and Solar Cells*, **2019**, 195, 339-345	6.4	42
54	Demonstration of a 50 cm2 BiVO4 tandem photoelectrochemical-photovoltaic water splitting device. *Sustainable Energy and Fuels*, **2019**, 3, 2366-2379	5.8	48

53	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 **2019**,		5
52	Infrared Light Management Using a Nanocrystalline Silicon Oxide Interlayer in Monolithic Perovskite/Silicon Heterojunction Tandem Solar Cells with Efficiency above 25%. *Advanced Energy Materials*, **2019**, 9, 1803241	21.8	161
51	ITO-Free Silicon Heterojunction Solar Cells With ZnO:Al/SiO2 Front Electrodes Reaching a Conversion Efficiency of 23%. *IEEE Journal of Photovoltaics*, **2019**, 9, 34-39	3.7	28
50	Ultra-thin nanocrystalline n-type silicon oxide front contact layers for rear-emitter silicon heterojunction solar cells. *Solar Energy Materials and Solar Cells*, **2018**, 179, 386-391	6.4	40
49	Infrared photocurrent management in monolithic perovskite/silicon heterojunction tandem solar cells by using a nanocrystalline silicon oxide interlayer. *Optics Express*, **2018**, 26, A487-A497	3.3	33
48	ZnO:Al/a-SiOx front contact for polycrystalline-silicon-on-oxide (POLO) solar cells **2018**,		5
47	. *IEEE Journal of Photovoltaics*, **2018**, 8, 70-78	3.7	42
46	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	25.4	194
45	Nanocrystalline silicon oxide interlayer in monolithic perovskite/silicon heterojunction tandem solar cells with total current density >39 mA/cm2 **2018**,		2
44	Nanocrystalline silicon emitter optimization for Si-HJ solar cells: Substrate selectivity and CO2 plasma treatment effect. *Physica Status Solidi (A) Applications and Materials Science*, **2017**, 214, 1532958	1.6	22
43	Passivation at the interface between liquid-phase crystallized silicon and silicon oxynitride in thin film solar cells. *Progress in Photovoltaics: Research and Applications*, **2017**, 25, 515-524	6.8	6
42	ITO-free metallization for interdigitated back contact silicon heterojunction solar cells. *Energy Procedia*, **2017**, 124, 379-383	2.3	2
41	Crystalline silicon on glass: interface passivation and absorber material quality. *Progress in Photovoltaics: Research and Applications*, **2016**, 24, 1499-1512	6.8	15
40	Architectures for scalable integrated photo driven catalytic devices-A concept study. *International Journal of Hydrogen Energy*, **2016**, 41, 20823-20831	6.7	11
39	Optimized immobilization of ZnO:Co electrocatalysts realizes 5% efficiency in photo-assisted splitting of water. *Journal of Materials Chemistry A*, **2016**, 4, 3082-3090	13	7
38	Resolving the nanostructure of plasma-enhanced chemical vapor deposited nanocrystalline SiOx layers for application in solar cells. *Journal of Applied Physics*, **2016**, 119, 223104	2.5	19
37	Wafer Surface Tuning for a-Si:H/μc-Si:H/c-Si Triple Junction Solar Cells for Application in Water Splitting. *Energy Procedia*, **2016**, 102, 126-135	2.3	8
36	Artificial Leaf for Water Splitting Based on a Triple-Junction Thin-Film Silicon Solar Cell and a PEDOT:PSS/Catalyst Blend. *Energy Technology*, **2016**, 4, 230-241	3.5	25

35	Quadruple-junction solar cells and modules based on amorphous and microcrystalline silicon with high stable efficiencies. *Japanese Journal of Applied Physics*, **2015**, 54, 08KB03	1.4	33
34	Nanocrystalline Silicon Oxide Emitters for Silicon Hetero Junction Solar Cells. *Energy Procedia*, **2015**, 77, 304-310	2.3	14
33	Influence of Chemical Composition and Structure in Silicon Dielectric Materials on Passivation of Thin Crystalline Silicon on Glass. *ACS Applied Materials & Interfaces*, **2015**, 7, 19282-94	9.5	10
32	The Influence of ITO Dopant Density on J-V Characteristics of Silicon Heterojunction Solar Cells: Experiments and Simulations. *Energy Procedia*, **2015**, 77, 725-732	2.3	32
31	On the Plasma Chemistry During Plasma Enhanced Chemical Vapor Deposition of Microcrystalline Silicon Oxides. *Plasma Processes and Polymers*, **2015**, 12, 82-91	3.4	26
30	Comparison of the influence of boron and aluminium doping on the material properties of electrochemically deposited ZnO films. *Thin Solid Films*, **2015**, 594, 215-224	2.2	3
29	Silicon Heterojunction Solar Cells With Nanocrystalline Silicon Oxide Emitter: Insights Into Charge Carrier Transport. *IEEE Journal of Photovoltaics*, **2015**, 5, 1601-1605	3.7	20
28	p-type microcrystalline silicon oxide emitter for silicon heterojunction solar cells allowing current densities above 40 mA/cm2. *Applied Physics Letters*, **2015**, 106, 023902	3.4	76
27	Hybrid organic/inorganic thin-film multijunction solar cells exceeding 11% power conversion efficiency. *Advanced Materials*, **2015**, 27, 1262-7	24	38
26	Plasma enhanced chemical vapor deposition process optimization for thin film silicon tandem junction solar cells. *Thin Solid Films*, **2014**, 558, 337-343	2.2	12
25	Zinc oxide films grown by galvanic deposition from 99% metals basis zinc nitrate electrolyte. *Journal of Materials Chemistry A*, **2014**, 2, 9626-9635	13	3
24	Implications of TCO Topography on Intermediate Reflector Design for a-Si/□-Si Tandem Solar Cells□Experiments and Rigorous Optical Simulations. *IEEE Journal of Photovoltaics*, **2014**, 4, 10-15	3.7	14
23	PECVD Intermediate and Absorber Layers Applied in Liquid-Phase Crystallized Silicon Solar Cells on Glass Substrates. *IEEE Journal of Photovoltaics*, **2014**, 4, 1343-1348	3.7	24
22	Improved conversion efficiency of a-Si:H/□c-Si:H thin-film solar cells by using annealed Al-doped zinc oxide as front electrode material. *Progress in Photovoltaics: Research and Applications*, **2014**, 22, 1285-1291	6.8	22
21	Efficient plasmonic scattering of colloidal silver particles through annealing-induced changes. *Nanotechnology*, **2014**, 25, 455706	3.4	7
20	Comparison of TMB and B2H6 as Precursors for Emitter Doping in High Efficiency Silicon Hetero Junction Solar Cells. *Energy Procedia*, **2014**, 60, 123-128	2.3	12
19	Plasma monitoring and PECVD process control in thin film silicon-based solar cell manufacturing. *EPJ Photovoltaics*, **2014**, 5, 55202	0.7	24
18	Potential of high-mobility sputtered zinc oxide as front contact for high efficiency thin film silicon solar cells. *Thin Solid Films*, **2014**, 555, 138-142	2.2	7

17	Growth process of microcrystalline silicon studied by combined photoluminescence and Raman investigations. *Journal of Applied Physics*, **2013**, 114, 223511	2.5	4
16	Advanced properties of Al-doped ZnO films with a seed layer approach for industrial thin film photovoltaic application. *Thin Solid Films*, **2013**, 534, 474-481	2.2	19
15	Characterization of thin-film a-Si:H/μc-Si:H tandem solar cells on glass substrates. *Crystal Research and Technology*, **2013**, 48, 279-286	1.3	1
14	The growth of microcrystalline silicon oxide thin films studied by in situ plasma diagnostics. *Applied Physics Letters*, **2013**, 102, 051906	3.4	23
13	An improved silicon-oxide-based intermediate-reflector for micromorph solar cells. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2012**, 9, 2145-2148		16
12	Efficiency Enhancement of Organic and Thin-Film Silicon Solar Cells with Photochemical Upconversion. *Journal of Physical Chemistry C*, **2012**, 116, 22794-22801	3.8	146
11	Improving the light-harvesting of amorphous silicon solar cells with photochemical upconversion. *Energy and Environmental Science*, **2012**, 5, 6953	35.4	299
10	Photochemical Upconversion Enhanced Solar Cells: Effect of a Back Reflector. *Australian Journal of Chemistry*, **2012**, 65, 480	1.2	75
9	Helianthos: Roll-to-Roll Deposition of Flexible Solar Cell Modules. *Plasma Processes and Polymers*, **2007**, 4, 275-281	3.4	22
8	Silicon nitride at high deposition rate by Hot Wire Chemical Vapor Deposition as passivating and antireflection layer on multicrystalline silicon solar cells. *Thin Solid Films*, **2006**, 501, 51-54	2.2	25
7	Growth process and properties of silicon nitride deposited by hot-wire chemical vapor deposition. *Journal of Applied Physics*, **2003**, 93, 2618-2625	2.5	40
6	Thin-film transistors deposited by hot-wire chemical vapor deposition. *Thin Solid Films*, **2003**, 430, 220-225	2.2	26
5	Hot-wire amorphous silicon thin-film transistors on glass. *Thin Solid Films*, **2001**, 383, 125-128	2.2	16
4	Application of hot-wire chemical vapor-deposited Si:H films in thin film transistors and solar cells. *Thin Solid Films*, **2001**, 395, 320-329	2.2	20
3	Hot-wire silicon nitride for thin-film transistors. *Thin Solid Films*, **2001**, 395, 339-342	2.2	24
2	High energy-barrier for defect creation in thin-film transistors based on hot-wire amorphous silicon. *Applied Physics Letters*, **1999**, 75, 3674-3676	3.4	14
1	Transient photocurrent response of three-color detectors based on amorphous silicon. *Journal of Applied Physics*, **1999**, 85, 3904-3911	2.5	10