

Rudi Santbergen

List of Publications by Year in descending order

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Version: 2024-02-01

65
papers

2,085
citations

257450

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h-index

233421

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66
all docs

66
docs citations

66
times ranked

2548
citing authors

#	ARTICLE	IF	CITATIONS
1	Colored optic filters on c-Si IBC solar cells for building integrated photovoltaic applications. Progress in Photovoltaics: Research and Applications, 2022, 30, 401-435.	8.1	9
2	Ray-optics study of gentle non-conformal texture morphologies for perovskite/silicon tandems. Optics Express, 2022, 30, 5608.	3.4	8
3	Three-terminal perovskite/integrated back contact silicon tandem solar cells under low light intensity conditions. , 2022, 1, 148-156.		36
4	Towards bifacial silicon heterojunction solar cells with reduced TCO use. Progress in Photovoltaics: Research and Applications, 2022, 30, 750-762.	8.1	19
5	Innovative floating bifacial photovoltaic solutions for inland water areas. Progress in Photovoltaics: Research and Applications, 2021, 29, 725-743.	8.1	39
6	A silicon carbide-based highly transparent passivating contact for crystalline silicon solar cells approaching efficiencies of 24%. Nature Energy, 2021, 6, 529-537.	39.5	87
7	On current collection from supporting layers in perovskite/c-Si tandem solar cells. , 2021, , .		0
8	Comparing optical performance of a wide range of perovskite/silicon tandem architectures under real-world conditions. , 2021, , .		0
9	Room-temperature sputtered tungsten-doped indium oxide for improved current in silicon heterojunction solar cells. Solar Energy Materials and Solar Cells, 2021, 227, 111082.	6.2	23
10	Solar cells based on n+-AZO/p-BaSi ₂ heterojunction: Advanced opto-electrical modelling and experimental demonstration. Solar Energy Materials and Solar Cells, 2021, 230, 111181.	6.2	19
11	Comparing optical performance of a wide range of perovskite/silicon tandem architectures under real-world conditions. Nanophotonics, 2021, 10, 2043-2057.	6.0	12
12	Optical characterization of poly-SiO _x and poly-SiC _x carrier-selective passivating contacts. Solar Energy Materials and Solar Cells, 2020, 210, 110507.	6.2	14
13	From Geometry to Activity: A Quantitative Analysis of WO ₃ /Si Micropillar Arrays for Photoelectrochemical Water Splitting. Advanced Functional Materials, 2020, 30, 1909157.	14.9	20
14	3D Device Simulation and First Demonstration of BaSi ₂ Thin Film Solar Cells. ECS Meeting Abstracts, 2020, MA2020-02, 1877-1877.	0.0	0
15	Optimization of Three-Terminal Perovskite/Silicon Tandem Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 446-451.	2.5	30
16	Modeling and analyses of energy performances of photovoltaic greenhouses with sun-tracking functionality. Applied Energy, 2019, 233-234, 424-442.	10.1	53
17	Maximizing annual yield of bifacial photovoltaic noise barriers. Solar Energy, 2018, 162, 300-305.	6.1	34
18	Advanced modelling of E/UIPV systems from location to load. , 2018, , .		1

#	ARTICLE	IF	CITATIONS
19	A photovoltaic window with sun-tracking shading elements towards maximum power generation and non-glare daylighting. Applied Energy, 2018, 228, 1454-1472.	10.1	34
20	GenPro4 Optical Model for Solar Cell Simulation and Its Application to Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2017, 7, 919-926.	2.5	98
21	Calculation of irradiance distribution on PV modules by combining sky and sensitivity maps. Solar Energy, 2017, 150, 49-54.	6.1	14
22	Material properties of LPCVD processed n-type polysilicon passivating contacts and its application in PERPoly industrial bifacial solar cells. Energy Procedia, 2017, 124, 635-642.	1.8	60
23	Mirror Designs for Low-concentration PV Systems with High Efficiency c-Si Solar Cells. , 2017, , .		0
24	Performance Optimization of Semi-Transparent Thin-Film Amorphous Silicon Solar Cells. , 2017, , .		1
25	Optical Analysis of Poly-Si and Poly-SiOx Carrier-Selective Passivating Contacts for c-Si Solar Cells. , 2017, , .		3
26	Minimizing optical losses in monolithic perovskite/c-Si tandem solar cells with a flat top cell. Optics Express, 2016, 24, A1288.	3.4	124
27	Highly Efficient Hybrid Polymer and Amorphous Silicon Multijunction Solar Cells with Effective Optical Management. Advanced Materials, 2016, 28, 2170-2177.	21.0	36
28	Nanocrystal size distribution analysis from transmission electron microscopy images. Nanoscale, 2015, 7, 20593-20606.	5.6	8
29	Fabrication of double- and triple-junction solar cells with hydrogenated amorphous silicon oxide (a-SiOx:H) top cell. Solar Energy Materials and Solar Cells, 2015, 141, 148-153.	6.2	25
30	Effect of Substrate Morphology Slope Distributions on Light Scattering, nc-Si:H Film Growth, and Solar Cell Performance. ACS Applied Materials & Interfaces, 2014, 6, 22061-22068.	8.0	17
31	Enhancing the driving field for plasmonic nanoparticles in thin-film solar cells. Optics Express, 2014, 22, A1023.	3.4	24
32	Quadruple-junction thin-film silicon-based solar cells with high open-circuit voltage. Applied Physics Letters, 2014, 105, 063902.	3.3	44
33	Plasmonic Nanoparticle Films for Solar Cell Applications Fabricated by Size-selective Aerosol Deposition. Energy Procedia, 2014, 60, 3-12.	1.8	29
34	Photonic and plasmonic structures for applications in solar cells. , 2014, , .		0
35	In situ manipulation of the sub gap states in hydrogenated amorphous silicon monitored by advanced application of Fourier transform photocurrent spectroscopy. Solar Energy Materials and Solar Cells, 2014, 129, 70-81.	6.2	24
36	Optimized back Reflectors for Rear Diffused c-Si Solar Cells. Energy Procedia, 2014, 55, 94-100.	1.8	6

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37	Towards Lambertian internal light scattering in solar cells using coupled plasmonic and dielectric nanoparticles as back reflector. , 2013, , .		3
38	Design and fabrication of a SiOx/ITO double-layer anti-reflective coating for heterojunction silicon solar cells. Solar Energy Materials and Solar Cells, 2013, 117, 132-138.	6.2	75
39	Improved light trapping in microcrystalline silicon solar cells by plasmonic back reflector with broad angular scattering and low parasitic absorption. Applied Physics Letters, 2013, 102, .	3.3	58
40	Combined Optical and Electrical Design of Plasmonic Back Reflector for High-Efficiency Thin-Film Silicon Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 53-58.	2.5	25
41	The role of oxide interlayers in back reflector configurations for amorphous silicon solar cells. Journal of Applied Physics, 2013, 113, .	2.5	26
42	Optical model for multilayer structures with coherent, partly coherent and incoherent layers. Optics Express, 2013, 21, A262.	3.4	69
43	Combined optical and electrical design of plasmonic back reflector for high-efficiency thin-film silicon solar cells. , 2013, , .		0
44	Driving Field Optimization of Plasmonic Back Reflector for Thin-Film Silicon Solar Cells. , 2012, , .		0
45	Responses of simple optical standing wave sensors. Applied Optics, 2012, 51, 3109.	1.8	1
46	Plasmonic Solar Cells with Embedded Silver Nanoparticles from Vapor Condensation. Materials Research Society Symposia Proceedings, 2012, 1391, 52.	0.1	4
47	Plasmonic Light Trapping in Thin-film Silicon Solar Cells with Improved Self-Assembled Silver Nanoparticles. Nano Letters, 2012, 12, 4070-4076.	9.1	395
48	Combined optical and electrical design of plasmonic back reflector for high-efficiency thin-film silicon solar cells. , 2012, , .		0
49	Advanced Light Management Approaches for Thin-Film Silicon Solar Cells. Energy Procedia, 2012, 15, 189-199.	1.8	40
50	Application of plasmonic silver island films in thin-film silicon solar cells. Journal of Optics (United Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	2.2	73
51	Silver nanoparticles for plasmonic light trapping in A-Si:H solar cells. , 2011, , .		1
52	Raman spectroscopy on thin film silicon on non-transparent substrates and in solar cell devices. , 2011, , .		0
53	Effective Medium Analysis of Plasmonic Silver Nanoparticle Films. Materials Research Society Symposia Proceedings, 2011, 1322, 33.	0.1	1
54	Modeling of Advanced Light Trapping Approaches in Thin-Film Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2011, 1321, 153.	0.1	4

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55	Standing waves in fiber-optic interferometers. <i>Applied Optics</i> , 2011, 50, 5674.	2.1	5
56	Barotropic elliptical dipoles in a rotating fluid. <i>Theoretical and Computational Fluid Dynamics</i> , 2010, 24, 111-115.	2.2	6
57	Detailed analysis of the energy yield of systems with covered sheet-and-tube PVT collectors. <i>Solar Energy</i> , 2010, 84, 867-878.	6.1	106
58	The AM1.5 absorption factor of thin-film solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2010, 94, 715-723.	6.2	35
59	Amorphous Silicon Solar Cells With Silver Nanoparticles Embedded Inside the Absorber Layer. <i>Materials Research Society Symposia Proceedings</i> , 2010, 1245, 1.	0.1	7
60	Advanced Light Trapping in Thin-film Silicon Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , 2010, 1245, 1.	0.1	21
61	Thin-Film Silicon Solar Cells Using Back Reflector with Embedded Metal Nanoparticles. <i>Advances in Science and Technology</i> , 2010, 74, 182-187.	0.2	2
62	A-Si:H solar cells with embedded silver nanoparticles. , 2010, , .		15
63	Novel nanotechnology for a fine plasmon wavelength tuning. , 2010, , .		0
64	The absorption factor of crystalline silicon PV cells: A numerical and experimental study. <i>Solar Energy Materials and Solar Cells</i> , 2008, 92, 432-444.	6.2	144
65	Modeling the thermal absorption factor of photovoltaic/thermal combi-panels. <i>Energy Conversion and Management</i> , 2006, 47, 3572-3581.	9.2	18