

Rudi Santbergen

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2047126/publications.pdf>

Version: 2024-02-01

65
papers

2,085
citations

257450

24
h-index

233421

45
g-index

66
all docs

66
docs citations

66
times ranked

2548
citing authors

#	ARTICLE	IF	CITATIONS
1	Plasmonic Light Trapping in Thin-film Silicon Solar Cells with Improved Self-Assembled Silver Nanoparticles. Nano Letters, 2012, 12, 4070-4076.	9.1	395
2	The absorption factor of crystalline silicon PV cells: A numerical and experimental study. Solar Energy Materials and Solar Cells, 2008, 92, 432-444.	6.2	144
3	Minimizing optical losses in monolithic perovskite/c-Si tandem solar cells with a flat top cell. Optics Express, 2016, 24, A1288.	3.4	124
4	Detailed analysis of the energy yield of systems with covered sheet-and-tube PVT collectors. Solar Energy, 2010, 84, 867-878.	6.1	106
5	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
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	Design and fabrication of a SiO _x /ITO double-layer anti-reflective coating for heterojunction silicon solar cells. Solar Energy Materials and Solar Cells, 2013, 117, 132-138.	6.2	75
8	Application of plasmonic silver island films in thin-film silicon solar cells. Journal of Optics (United Kingdom), 2010, 11, 011001.	2.2	73
9	Optical model for multilayer structures with coherent, partly coherent and incoherent layers. Optics Express, 2013, 21, A262.	3.4	69
10	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
11	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
12	Modeling and analyses of energy performances of photovoltaic greenhouses with sun-tracking functionality. Applied Energy, 2019, 233-234, 424-442.	10.1	53
13	Quadruple-junction thin-film silicon-based solar cells with high open-circuit voltage. Applied Physics Letters, 2014, 105, 063902.	3.3	44
14	Advanced Light Management Approaches for Thin-Film Silicon Solar Cells. Energy Procedia, 2012, 15, 189-199.	1.8	40
15	Innovative floating bifacial photovoltaic solutions for inland water areas. Progress in Photovoltaics: Research and Applications, 2021, 29, 725-743.	8.1	39
16	Highly Efficient Hybrid Polymer and Amorphous Silicon Multijunction Solar Cells with Effective Optical Management. Advanced Materials, 2016, 28, 2170-2177.	21.0	36
17	Three-terminal perovskite/integrated back contact silicon tandem solar cells under low light intensity conditions. , 2022, 1, 148-156.		36
18	The AM1.5 absorption factor of thin-film solar cells. Solar Energy Materials and Solar Cells, 2010, 94, 715-723.	6.2	35

#	ARTICLE	IF	CITATIONS
19	Maximizing annual yield of bifacial photovoltaic noise barriers. <i>Solar Energy</i> , 2018, 162, 300-305.	6.1	34
20	A photovoltaic window with sun-tracking shading elements towards maximum power generation and non-glare daylighting. <i>Applied Energy</i> , 2018, 228, 1454-1472.	10.1	34
21	Optimization of Three-Terminal Perovskite/Silicon Tandem Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2019, 9, 446-451.	2.5	30
22	Plasmonic Nanoparticle Films for Solar Cell Applications Fabricated by Size-selective Aerosol Deposition. <i>Energy Procedia</i> , 2014, 60, 3-12.	1.8	29
23	The role of oxide interlayers in back reflector configurations for amorphous silicon solar cells. <i>Journal of Applied Physics</i> , 2013, 113, .	2.5	26
24	Combined Optical and Electrical Design of Plasmonic Back Reflector for High-Efficiency Thin-Film Silicon Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2013, 3, 53-58.	2.5	25
25	Fabrication of double- and triple-junction solar cells with hydrogenated amorphous silicon oxide (a-SiOx:H) top cell. <i>Solar Energy Materials and Solar Cells</i> , 2015, 141, 148-153.	6.2	25
26	Enhancing the driving field for plasmonic nanoparticles in thin-film solar cells. <i>Optics Express</i> , 2014, 22, A1023.	3.4	24
27	In situ manipulation of the sub gap states in hydrogenated amorphous silicon monitored by advanced application of Fourier transform photocurrent spectroscopy. <i>Solar Energy Materials and Solar Cells</i> , 2014, 129, 70-81.	6.2	24
28	Room-temperature sputtered tungsten-doped indium oxide for improved current in silicon heterojunction solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2021, 227, 111082.	6.2	23
29	Advanced Light Trapping in Thin-film Silicon Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , 2010, 1245, 1.	0.1	21
30	From Geometry to Activity: A Quantitative Analysis of WO ₃ /Si Micropillar Arrays for Photoelectrochemical Water Splitting. <i>Advanced Functional Materials</i> , 2020, 30, 1909157.	14.9	20
31	Solar cells based on n ⁺ -AZO/p-BaSi ₂ heterojunction: Advanced opto-electrical modelling and experimental demonstration. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111181.	6.2	19
32	Towards bifacial silicon heterojunction solar cells with reduced TCO use. <i>Progress in Photovoltaics: Research and Applications</i> , 2022, 30, 750-762.	8.1	19
33	Modeling the thermal absorption factor of photovoltaic/thermal combi-panels. <i>Energy Conversion and Management</i> , 2006, 47, 3572-3581.	9.2	18
34	Effect of Substrate Morphology Slope Distributions on Light Scattering, nc-Si:H Film Growth, and Solar Cell Performance. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 22061-22068.	8.0	17
35	A-Si:H solar cells with embedded silver nanoparticles. , 2010, , .		15
36	Calculation of irradiance distribution on PV modules by combining sky and sensitivity maps. <i>Solar Energy</i> , 2017, 150, 49-54.	6.1	14

#	ARTICLE	IF	CITATIONS
37	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
38	Comparing optical performance of a wide range of perovskite/silicon tandem architectures under real-world conditions. Nanophotonics, 2021, 10, 2043-2057.	6.0	12
39	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
40	Nanocrystal size distribution analysis from transmission electron microscopy images. Nanoscale, 2015, 7, 20593-20606.	5.6	8
41	Ray-optics study of gentle non-conformal texture morphologies for perovskite/silicon tandems. Optics Express, 2022, 30, 5608.	3.4	8
42	Amorphous Silicon Solar Cells With Silver Nanoparticles Embedded Inside the Absorber Layer. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	7
43	Barotropic elliptical dipoles in a rotating fluid. Theoretical and Computational Fluid Dynamics, 2010, 24, 111-115.	2.2	6
44	Optimized back Reflectors for Rear Diffused c-Si Solar Cells. Energy Procedia, 2014, 55, 94-100.	1.8	6
45	Standing waves in fiber-optic interferometers. Applied Optics, 2011, 50, 5674.	2.1	5
46	Modeling of Advanced Light Trapping Approaches in Thin-Film Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2011, 1321, 153.	0.1	4
47	Plasmonic Solar Cells with Embedded Silver Nanoparticles from Vapor Condensation. Materials Research Society Symposia Proceedings, 2012, 1391, 52.	0.1	4
48	Towards Lambertian internal light scattering in solar cells using coupled plasmonic and dielectric nanoparticles as back reflector. , 2013, , .		3
49	Optical Analysis of Poly-Si and Poly-SiO _x Carrier-Selective Passivating Contacts for c-Si Solar Cells. , 2017, , .		3
50	Thin-Film Silicon Solar Cells Using Back Reflector with Embedded Metal Nanoparticles. Advances in Science and Technology, 2010, 74, 182-187.	0.2	2
51	Silver nanoparticles for plasmonic light trapping in A-Si:H solar cells. , 2011, , .		1
52	Effective Medium Analysis of Plasmonic Silver Nanoparticle Films. Materials Research Society Symposia Proceedings, 2011, 1322, 33.	0.1	1
53	Responses of simple optical standing wave sensors. Applied Optics, 2012, 51, 3109.	1.8	1
54	Performance Optimization of Semi-Transparent Thin-Film Amorphous Silicon Solar Cells. , 2017, , .		1

#	ARTICLE	IF	CITATIONS
55	Advanced modelling of E/UIPV systems from location to load. , 2018, , .		1
56	Raman spectroscopy on thin film silicon on non-transparent substrates and in solar cell devices. , 2011, , .		0
57	Driving Field Optimization of Plasmonic Back Reflector for Thin-Film Silicon Solar Cells. , 2012, , .		0
58	Combined optical and electrical design of plasmonic back reflector for high-efficiency thin-film silicon solar cells. , 2012, , .		0
59	Combined optical and electrical design of plasmonic back reflector for high-efficiency thin-film silicon solar cells. , 2013, , .		0
60	Photonic and plasmonic structures for applications in solar cells. , 2014, , .		0
61	Mirror Designs for Low-concentration PV Systems with High Efficiency c-Si Solar Cells. , 2017, , .		0
62	On current collection from supporting layers in perovskite/c-Si tandem solar cells. , 2021, , .		0
63	Comparing optical performance of a wide range of perovskite/silicon tandem architectures under real-world conditions. , 2021, , .		0
64	Novel nanotechnology for a fine plasmon wavelength tuning. , 2010, , .		0
65	3D Device Simulation and First Demonstration of BaSi ₂ Thin Film Solar Cells. ECS Meeting Abstracts, 2020, MA2020-02, 1877-1877.	0.0	0