

Oliver HÃ¶hn

List of Publications by Year in descending order

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Version: 2024-02-01

69
papers

1,438
citations

361413

20
h-index

345221

36
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72
all docs

72
docs citations

72
times ranked

1575
citing authors

#	ARTICLE	IF	CITATIONS
1	Two-terminal III-V/Si triple-junction solar cell with power conversion efficiency of 35.9% at AM1.5g. Progress in Photovoltaics: Research and Applications, 2022, 30, 869-879.	8.1	53
2	Modeling the optical properties of Morpho-inspired thin-film interference filters on structured surfaces. Optics Express, 2022, 30, 14586.	3.4	3
3	Pathways and Potentials for III-V on Si Tandem Solar Cells Realized Using a ZnO-Based Transparent Conductive Adhesive. IEEE Journal of Photovoltaics, 2021, 11, 85-92.	2.5	4
4	Experimental coupling process efficiency and benefits of back surface reflectors in photovoltaic multi-junction photonic power converters. Progress in Photovoltaics: Research and Applications, 2021, 29, 461-470.	8.1	16
5	Impact of the refractive index on coupling structures for silicon solar cells. Journal of Photonics for Energy, 2021, 11, .	1.3	2
6	68.9% Efficient GaAs-Based Photonic Power Conversion Enabled by Photon Recycling and Optical Resonance. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100113.	2.4	56
7	Impact of Irradiance Data on the Energy Yield Modeling of Dual-Junction Solar Module Stacks for One-Sun Applications. IEEE Journal of Photovoltaics, 2021, 11, 692-698.	2.5	3
8	4-Junction GaAs Based Thin Film Photonic Power Converter with Back Surface Reflector for Medical Applications. , 2021, , .		4
9	Pushing the Boundaries of Photovoltaic Light to Electricity Conversion: A GaAs Based Photonic Power Converter with 68.9% Efficiency. , 2021, , .		5
10	Optimizing metal grating back reflectors for III-V-on-silicon multijunction solar cells. Optics Express, 2021, 29, 22517.	3.4	5
11	Counterbalancing light absorption and ionic transport losses in the electrolyte for integrated solar water splitting with III-V/Si dual-junctions. Applied Physics Letters, 2021, 119, .	3.3	3
12	Passivated, Highly Reflecting, Laser Contacted Ge Rear Side for III-V Multi-Junction Solar Cells. IEEE Journal of Photovoltaics, 2021, 11, 1256-1263.	2.5	4
13	The MorphoColor Concept for Colored Photovoltaic Modules. IEEE Journal of Photovoltaics, 2021, 11, 1305-1311.	2.5	21
14	Development and Analysis of Wafer-Bonded Four-Junction Solar Cells Based on Antimonides With 42% Efficiency Under Concentration. IEEE Journal of Photovoltaics, 2020, 10, 495-501.	2.5	9
15	Two-terminal Direct Wafer-Bonded GaInP/AlGaAs/Si Triple-junction Solar Cell with AM1.5g Efficiency of 34.1%. Solar Rrl, 2020, 4, 2000210.	5.8	45
16	51% Efficient Photonic Power Converters for O-Band Wavelengths around 1310 nm. , 2020, , .		8
17	Tailored disorder: a self-organized photonic contact for light trapping in silicon-based tandem solar cells. Optics Express, 2020, 28, 10909.	3.4	11
18	The First Glued Tandem Solar Cell Using a ZnO Based Adhesive. , 2020, , .		2

#	ARTICLE	IF	CITATIONS
19	34.1 % Efficient GaInP/AlGaAs//Si Tandem Cell. , 2020, , .		1
20	Coupling Structures on the Front of the Cell: Which Refrac-tive Index is Needed for Good Light Trapping?. , 2020, , .		0
21	A 19.9%-efficient ultrathin solar cell based on a 205-nm-thick GaAs absorber and a silver nanostructured back mirror. Nature Energy, 2019, 4, 761-767.	39.5	136
22	Electrical and optical analysis of a spray coated transparent conductive adhesive for two-terminal silicon based tandem solar cells. AIP Conference Proceedings, 2019, , .	0.4	4
23	Development of Germanium-Based Wafer-Bonded Four-Junction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1625-1630.	2.5	9
24	Development of back side technology for light trapping and photon recycling in GaAs solar cells. Progress in Photovoltaics: Research and Applications, 2019, 27, 163-170.	8.1	25
25	Broadband antireflection Mie scatterers revisitedâ€”a solar cell and module analysis. Optics Express, 2019, 27, A524.	3.4	5
26	Energy yield analysis of textured perovskite silicon tandem solar cells and modules. Optics Express, 2019, 27, A1419.	3.4	25
27	Towards Nanowire Tandem Junction Solar Cells on Silicon. IEEE Journal of Photovoltaics, 2018, 8, 733-740.	2.5	53
28	Combining Photon Recycling and Concentrated Illumination in a GaAs Heterojunction Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 348-354.	2.5	31
29	IIIâ€”V-on-silicon solar cells reaching 33% photoconversion efficiency in two-terminal configuration. Nature Energy, 2018, 3, 326-333.	39.5	244
30	Soft thermal nanoimprint of PMMA doped with upconverter nanoparticles. Microelectronic Engineering, 2018, 187-188, 154-159.	2.4	5
31	Potential Analysis of a Rear-Side Passivation for Multi-Junction Space Solar Cells based on Germanium Substrates. , 2018, , .		6
32	Light scattering at random pyramid textures: Effects beyond geometric optics. AIP Conference Proceedings, 2018, , .	0.4	3
33	Optical modeling of structured silicon-based tandem solar cells and module stacks. Optics Express, 2018, 26, A761.	3.4	13
34	Theoretical study of pyramid sizes and scattering effects in silicon photovoltaic module stacks. Optics Express, 2018, 26, A320.	3.4	26
35	Advanced module optics of textured perovskite silicon tandem solar cells. , 2018, , .		2
36	Nanoimprinted sol-gel materials for antireflective structures on silicon solar cells. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
37	Photonic structures for III-V/Si multijunction solar cells with efficiency >33%. , 2018, , .		4
38	Interference and nanoimprint lithography for the patterning of large areas. , 2017, , .		0
39	Status of Four-Junction Cell Development at Fraunhofer ISE. E3S Web of Conferences, 2017, 16, 03009.	0.5	4
40	Characterizing the degradation of PDMS stamps in nanoimprint lithography. Microelectronic Engineering, 2017, 180, 40-44.	2.4	27
41	Optical performance of the honeycomb texture “ a cell and module level analysis using the OPTOS formalism. Solar Energy Materials and Solar Cells, 2017, 173, 66-71.	6.2	5
42	Optical analysis of a III-V-nanowire-array-on-Si dual junction solar cell. Optics Express, 2017, 25, A665.	3.4	12
43	Impact of Front Side Pyramid Size on the Light Trapping Performance of Wafer Based Silicon Solar Cells and Modules. , 2017, , .		5
44	Nonradiative lifetime extraction using power-dependent relative photoluminescence of III-V semiconductor double-heterostructures. Journal of Applied Physics, 2016, 119, .	2.5	38
45	Optimal laser wavelength for efficient laser power converter operation over temperature. Applied Physics Letters, 2016, 108, .	3.3	53
46	Efficient optical analysis of surface texture combinations for silicon solar cells. , 2016, , .		0
47	Nanoparticle scattering for multijunction solar cells. Proceedings of SPIE, 2016, , .	0.8	0
48	Large area patterning using interference and nanoimprint lithography. Proceedings of SPIE, 2016, , .	0.8	7
49	Optical simulation of photovoltaic modules with multiple textured interfaces using the matrix-based formalism OPTOS. Optics Express, 2016, 24, A1083.	3.4	39
50	Wave optical simulation of the light trapping properties of black silicon surface textures. Optics Express, 2016, 24, A434.	3.4	42
51	Coloured Module Glass for BIPV inspired by Morpho Butterfly. , 2016, , .		3
52	Determining the Optimal Laser Wavelength for Laser Power Conversion Depending on Operation Temperature. , 2016, , .		0
53	3D optical simulation formalism OPTOS for textured silicon solar cells. Optics Express, 2015, 23, A1720.	3.4	56
54	Matrix formalism for light propagation and absorption in thick textured optical sheets. Optics Express, 2015, 23, A502.	3.4	40

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55	Impact of photon recycling and luminescence coupling on III-V single and dual junction photovoltaic devices. Journal of Photonics for Energy, 2015, 5, 053087.	1.3	21
56	Impact of Photon Recycling on GaAs Solar Cell Designs. IEEE Journal of Photovoltaics, 2015, 5, 1636-1645.	2.5	70
57	Effects of angular confinement and concentration to realistic solar cells. Journal of Applied Physics, 2015, 117, 034503.	2.5	7
58	Optical properties of textured sheets: an efficient matrix-based modelling approach. Proceedings of SPIE, 2015, , .	0.8	1
59	Impact of photon recycling and luminescence coupling in III-V photovoltaic devices. Proceedings of SPIE, 2015, , .	0.8	8
60	Diffractive Gratings for Light Trapping in Crystalline Silicon Solar Cells. , 2015, , .		0
61	The photonic solar cell: system design and efficiency estimations. , 2014, , .		4
62	Maximal power output by solar cells with angular confinement. Optics Express, 2014, 22, A715.	3.4	19
63	Optoelectronic simulation of GaAs solar cells with angularly selective filters. Journal of Applied Physics, 2014, 115, .	2.5	15
64	Study of plasmonic nanoparticle arrays for photon management in solar cells. , 2014, , .		2
65	Large area plasmonic nanoparticle arrays with well-defined size and shape. Optical Materials Express, 2014, 4, 944.	3.0	11
66	Spectrally selective intermediate reflectors for tandem thin-film silicon solar cells. , 2013, , .		5
67	Optimization of angularly selective photonic filters for concentrator photovoltaic. Proceedings of SPIE, 2012, , .	0.8	12
68	Origination of nano- and microstructures on large areas by interference lithography. Microelectronic Engineering, 2012, 98, 293-296.	2.4	51
69	Photon Management Structures Originated by Interference Lithography. Energy Procedia, 2011, 8, 712-718.	1.8	18