

Michael G Deceglie

List of Publications by Year in descending order

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80
papers

1,759
citations

430874

18
h-index

315739

38
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81
all docs

81
docs citations

81
times ranked

1948
citing authors

#	ARTICLE	IF	CITATIONS
1	Systematic Operating Temperature Differences Between Al-BSF, PERC, and PERT-With-Optimized-Rear-Reflector Solar Mini-Modules Due to Rear Reflectance. IEEE Journal of Photovoltaics, 2022, 12, 293-300.	2.5	2
2	Technoeconomic analysis of high-value, crystalline silicon photovoltaic module recycling processes. Solar Energy Materials and Solar Cells, 2022, 238, 111592.	6.2	25
3	Differences in Printed Contacts Lead to Susceptibility of Silicon Cells to Series Resistance Degradation. IEEE Journal of Photovoltaics, 2022, 12, 690-695.	2.5	10
4	Light- and Elevated-Temperature-Induced Degradation-Affected Silicon Cells From a Utility-Scale Photovoltaic System Characterized by Deep-Level Transient Spectroscopy. IEEE Journal of Photovoltaics, 2022, 12, 703-710.	2.5	4
5	Photovoltaic fleet degradation insights. Progress in Photovoltaics: Research and Applications, 2022, 30, 1166-1175.	8.1	18
6	Millions of Small Pressure Cycles Drive Damage in Cracked Solar Cells. IEEE Journal of Photovoltaics, 2022, 12, 1090-1093.	2.5	6
7	Thermal model to quantify the impact of sub-bandgap reflectance on operating temperature of fielded PV modules. Solar Energy, 2021, 220, 246-250.	6.1	5
8	Optical approaches for passive thermal management in c-Si photovoltaic modules. Cell Reports Physical Science, 2021, 2, 100430.	5.6	9
9	Outdoor performance of a tandem InGaP/Si photovoltaic luminescent solar concentrator. Solar Energy Materials and Solar Cells, 2021, 223, 110945.	6.2	13
10	LeTID-affected Cells from a Utility-scale Photovoltaic System Characterized by Deep Level Transient Spectroscopy. , 2021, , .		2
11	Cracked Solar Cell Performance Depends on Module Temperature. , 2021, , .		4
12	Light Management in Bifacial Photovoltaics with Spectrally Selective Mirrors. ACS Applied Energy Materials, 2021, 4, 5397-5402.	5.1	7
13	Insulation or Irradiance: Exploring Why Bifacial Photovoltaics Run Hot. , 2021, , .		2
14	Differences in c-Si solar cell metallization and susceptibility to series resistance degradation. , 2021, , .		0
15	Reducing Interanalyst Variability in Photovoltaic Degradation Rate Assessments. IEEE Journal of Photovoltaics, 2020, 10, 206-212.	2.5	22
16	Research and development priorities for silicon photovoltaic module recycling to support a circular economy. Nature Energy, 2020, 5, 502-510.	39.5	188
17	PERC silicon PV infrared to ultraviolet optical model. Solar Energy Materials and Solar Cells, 2020, 215, 110655.	6.2	6
18	Combined Estimation of Degradation and Soiling Losses in Photovoltaic Systems. IEEE Journal of Photovoltaics, 2020, 10, 1788-1796.	2.5	27

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19	The 2020 photovoltaic technologies roadmap. Journal Physics D: Applied Physics, 2020, 53, 493001.	2.8	274
20	Light and Elevated Temperature Induced Degradation (LeTID) in a Utility-Scale Photovoltaic System. IEEE Journal of Photovoltaics, 2020, 10, 1084-1092.	2.5	15
21	Signal Processing on PV Time-Series Data: Robust Degradation Analysis Without Physical Models. IEEE Journal of Photovoltaics, 2020, 10, 546-553.	2.5	14
22	Predicting Photovoltaic Soiling From Air Quality Measurements. IEEE Journal of Photovoltaics, 2020, 10, 1142-1147.	2.5	16
23	PV Fleet Performance Data Initiative Program and Methodology. , 2020, , .		3
24	Modeling Spectrally-Selective Reflection for Thermal Management in Monofacial and Bifacial Modules. , 2020, , .		0
25	Automatic Detection of Clear-Sky Periods From Irradiance Data. IEEE Journal of Photovoltaics, 2019, 9, 998-1005.	2.5	3
26	Model for Characterization and Optimization of Spectrally Selective Structures to Reduce the Operating Temperature and Improve the Energy Yield of Photovoltaic Modules. ACS Applied Energy Materials, 2019, 2, 3614-3623.	5.1	17
27	PV Degradation “ Mounting & Temperature. , 2019, , .		11
28	Evaluating the Accuracy of Various Irradiance Models in Detecting Soiling of Irradiance Sensors. , 2019, , .		3
29	Numerical Validation of an Algorithm for Combined Soiling and Degradation Analysis of Photovoltaic Systems. , 2019, , .		8
30	Inserting a Low-Refractive-Index Dielectric Rear Reflector into PERC Cells: Challenges and Opportunities. , 2019, , .		2
31	Enhanced Photovoltaic Soiling In An Urban Environment. , 2019, , .		6
32	Outdoor Testing of c-Si Photovoltaic Modules with Spectrally-Selective Mirrors for Operating Temperature Reduction. , 2019, , .		1
33	Mapping Photovoltaic Soiling Using Spatial Interpolation Techniques. IEEE Journal of Photovoltaics, 2019, 9, 272-277.	2.5	21
34	Fleet-Scale Energy-Yield Degradation Analysis Applied to Hundreds of Residential and Nonresidential Photovoltaic Systems. IEEE Journal of Photovoltaics, 2019, 9, 476-482.	2.5	19
35	Predicting photovoltaic soiling losses using environmental parameters: An update. Progress in Photovoltaics: Research and Applications, 2019, 27, 210-219.	8.1	35
36	Emissivity of solar cell cover glass calculated from infrared reflectance measurements. Solar Energy Materials and Solar Cells, 2019, 190, 98-102.	6.2	19

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37	Spectrally Selective Mirrors with Combined Optical and Thermal Benefit for Photovoltaic Module Thermal Management. ACS Photonics, 2018, 5, 1528-1538.	6.6	30
38	Maximizing tandem solar cell power extraction using a three-terminal design. Sustainable Energy and Fuels, 2018, 2, 1141-1147.	4.9	67
39	Quantifying Soiling Loss Directly From PV Yield. IEEE Journal of Photovoltaics, 2018, 8, 547-551.	2.5	66
40	Reducing Operating Temperature in Photovoltaic Modules. IEEE Journal of Photovoltaics, 2018, 8, 532-540.	2.5	68
41	Optical Evaluation of PERC Cell Reflectance for Thermal Management. , 2018, , .		0
42	Performance of Low-Complexity Spectrally Selective One-Dimensional Mirrors for Photovoltaic Thermal Management. , 2018, , .		3
43	Automatic Detection of Clear-sky Periods Using Ground and Satellite Based Solar Resource Data. , 2018, , .		6
44	Local Variability in PV Soiling Rate. , 2018, , .		9
45	Operating principles of three-terminal solar cells. , 2018, , .		4
46	Energy Yield Analysis of Multiterminal Si-Based Tandem Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 1376-1383.	2.5	26
47	Yield analysis and comparison of GaInP/Si and GaInP/GaAs multi-terminal tandem solar cells. AIP Conference Proceedings, 2018, , .	0.4	2
48	Two-layer anti-reflection coatings with optimized sub-bandgap reflection for solar modules. , 2018, , .		4
49	Al+Si Interface Optical Properties Obtained in the Si Solar Cell Configuration. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700480.	1.8	7
50	Quantifying Year-to-Year Variations in Solar Panel Soiling from PV Energy-Production Data. , 2017, , .		7
51	NREL Efforts to Address Soiling on PV Modules. , 2017, , .		6
52	Modeling three-terminal III-V/ISi tandem solar cells. , 2017, , .		1
53	Illuminated Outdoor Luminescence Imaging of Photovoltaic Modules. , 2017, , .		11
54	Impact of Infrared Optical Properties on Crystalline Si and Thin Film CdTe Solar Cells. , 2017, , .		5

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55	A scalable method for extracting soiling rates from PV production data. , 2016, , .		24
56	PV degradation methodology comparison " A basis for a standard. , 2016, , .		22
57	Moving toward quantifying reliability - the next step in a rapidly maturing PV industry. , 2015, , .		6
58	Evaluation of PV module field performance. , 2015, , .		15
59	Thermal and electrical effects of partial shade in monolithic thin-film photovoltaic modules. , 2015, , .		4
60	Temperature-dependent light-stabilized states in thin-film PV modules. , 2015, , .		2
61	Real-Time Series Resistance Monitoring in PV Systems Without the Need for "V Curves. IEEE Journal of Photovoltaics, 2015, 5, 1706-1709.	2.5	14
62	Real-time series resistance monitoring in PV systems without the need for IV curves. , 2015, , .		4
63	Validated Method for Repeatable Power Measurement of CIGS Modules Exhibiting Light-Induced Metastabilities. IEEE Journal of Photovoltaics, 2015, 5, 607-612.	2.5	8
64	Thermal and Electrical Effects of Partial Shade in Monolithic Thin-Film Photovoltaic Modules. IEEE Journal of Photovoltaics, 2015, 5, 1742-1747.	2.5	45
65	Performance Stabilization of CdTe PV Modules Using Bias and Light. IEEE Journal of Photovoltaics, 2015, 5, 344-349.	2.5	11
66	Analysis of measured photovoltaic module performance for Florida, Oregon, and Colorado locations. Solar Energy, 2014, 110, 736-744.	6.1	40
67	Metastable changes to the temperature coefficients of thin-film photovoltaic modules. , 2014, , .		8
68	Performance stabilization of CdTe PV modules using bias and light. , 2014, , .		5
69	Scanning Laser-Beam-Induced Current Measurements of Lateral Transport Near-Junction Defects in Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 154-159.	2.5	7
70	Accounting for Localized Defects in the Optoelectronic Design of Thin-Film Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 599-604.	2.5	18
71	Solar cell efficiency enhancement via light trapping in printable resonant dielectric nanosphere arrays. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 255-260.	1.8	109
72	Outdoor performance of a thin-film gallium-arsenide photovoltaic module. , 2013, , .		27

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73	Experimental measurement of lateral transport in the inversion layer of silicon heterojunction solar cells. , 2013, , .		1
74	Optical cell temperature measurements of multiple CPV technologies in outdoor conditions. , 2013, , .		3
75	Back Cover: Solar cell efficiency enhancement via light trapping in printable resonant dielectric nanosphere arrays (Phys. Status Solidi A 2/2013). Physica Status Solidi (A) Applications and Materials Science, 2013, 210, .	1.8	0
76	Accounting for localized defects in the optoelectronic design of thin-film solar cells. , 2013, , .		0
77	Accounting for localized defects in the optoelectronic design of thin-film solar cells. , 2012, , .		2
78	Design of Nanostructured Solar Cells Using Coupled Optical and Electrical Modeling. Nano Letters, 2012, 12, 2894-2900.	9.1	224
79	Effect of defect-rich epitaxy on crystalline silicon / amorphous silicon heterojunction solar cells and the use of low-mobility layers to improve performance. , 2011, , .		1
80	Effects of bulk and grain boundary recombination on the efficiency of columnar-grained crystalline silicon film solar cells. , 2010, , .		2