

Ralph Gottschalg

List of Publications by Year in descending order

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Version: 2024-02-01

96
papers

2,192
citations

236833

25
h-index

243529

44
g-index

100
all docs

100
docs citations

100
times ranked

2064
citing authors

#	ARTICLE	IF	CITATIONS
1	Mapping the performance of PV modules, effects of module type and data averaging. Solar Energy, 2010, 84, 324-338.	2.9	247
2	Techno-Economic Assessment of Soiling Losses and Mitigation Strategies for Solar Power Generation. Joule, 2019, 3, 2303-2321.	11.7	207
3	Dust-induced shading on photovoltaic modules. Progress in Photovoltaics: Research and Applications, 2014, 22, 218-226.	4.4	163
4	Experimental study of variations of the solar spectrum of relevance to thin film solar cells. Solar Energy Materials and Solar Cells, 2003, 79, 527-537.	3.0	99
5	The effect of spectral variations on the performance parameters of single and double junction amorphous silicon solar cells. Solar Energy Materials and Solar Cells, 2005, 85, 415-428.	3.0	88
6	Extensive validation of CM SAF surface radiation products over Europe. Remote Sensing of Environment, 2017, 199, 171-186.	4.6	80
7	On the importance of considering the incident spectrum when measuring the outdoor performance of amorphous silicon photovoltaic devices. Measurement Science and Technology, 2004, 15, 460-466.	1.4	59
8	The influence of the measurement environment on the accuracy of the extraction of the physical parameters of solar cells. Measurement Science and Technology, 1999, 10, 796-804.	1.4	58
9	Changes of solar cell parameters during damp-heat exposure. Progress in Photovoltaics: Research and Applications, 2016, 24, 1346-1358.	4.4	56
10	An LED-based photovoltaic measurement system with variable spectrum and flash speed. Solar Energy Materials and Solar Cells, 2009, 93, 825-830.	3.0	54
11	Centralized Volt-Var Optimization Strategy Considering Malicious Attack on Distributed Energy Resources Control. IEEE Transactions on Sustainable Energy, 2018, 9, 148-156.	5.9	44
12	Degradation of interfacial adhesion strength within photovoltaic mini-modules during damp-heat exposure. Progress in Photovoltaics: Research and Applications, 2014, 22, 796-809.	4.4	41
13	Effect of seasonal spectral variations on performance of three different photovoltaic technologies in India. International Journal of Energy and Environmental Engineering, 2016, 7, 93-103.	1.3	40
14	Irradiance modelling for individual cells of shaded solar photovoltaic arrays. Solar Energy, 2014, 110, 410-419.	2.9	39
15	Impact of Component Reliability on Large Scale Photovoltaic Systems™ Performance. Energies, 2018, 11, 1579.	1.6	39
16	The future scope of large-scale solar in the UK: Site suitability and target analysis. Renewable Energy, 2019, 133, 1136-1146.	4.3	38
17	Equilibrium thermal characteristics of a building integrated photovoltaic tiled roof. Solar Energy, 2009, 83, 1893-1901.	2.9	36
18	Data sets for energy rating of photovoltaic modules. Solar Energy, 2013, 93, 267-279.	2.9	34

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19	Energy yields of small grid connected photovoltaic system: effects of component reliability and maintenance. IET Renewable Power Generation, 2015, 9, 432-437.	1.7	33
20	A critical appraisal of the factors affecting energy production from amorphous silicon photovoltaic arrays in a maritime climate. Solar Energy, 2004, 77, 909-916.	2.9	31
21	Uncertainty in Photovoltaic performance parameters – dependence on location and material. Solar Energy Materials and Solar Cells, 2009, 93, 1124-1128.	3.0	31
22	Effects of spectrum on the power rating of amorphous silicon photovoltaic devices. Progress in Photovoltaics: Research and Applications, 2011, 19, 640-648.	4.4	28
23	Spatially distributed model for the analysis of laser beam induced current (LBIC) measurements of thin film silicon solar modules. Solar Energy Materials and Solar Cells, 2011, 95, 111-114.	3.0	27
24	A GIS-Based Method for Identification of Wide Area Rooftop Suitability for Minimum Size PV Systems Using LiDAR Data and Photogrammetry. Energies, 2018, 11, 3506.	1.6	27
25	Voltage-dependent quantum efficiency measurements of amorphous silicon multi-junction mini-modules. Solar Energy Materials and Solar Cells, 2011, 95, 123-126.	3.0	26
26	Performance and durability of broadband antireflection coatings for thin film CdTe solar cells. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	0.9	26
27	Electroluminescence Imaging of PV Devices: Advanced Vignetting Calibration. IEEE Journal of Photovoltaics, 2018, 8, 1297-1304.	1.5	26
28	Optimised inverter sizing for photovoltaic systems in high-latitude maritime climates. IET Renewable Power Generation, 2011, 5, 58.	1.7	23
29	Large scale PV systems under non-uniform and fault conditions. Solar Energy, 2015, 116, 303-313.	2.9	22
30	Spatially-resolved modelling of dust effect on cadmium telluride photovoltaic modules. Solar Energy, 2013, 90, 154-163.	2.9	21
31	Loss analysis and optimization of PV module components and design to achieve higher energy yield and longer service life in desert regions. Applied Energy, 2020, 280, 116028.	5.1	20
32	Satellite or ground-based measurements for production of site specific hourly irradiance data: Which is most accurate and where?. Solar Energy, 2018, 165, 240-255.	2.9	19
33	Interpolating and Estimating Horizontal Diffuse Solar Irradiation to Provide UK-Wide Coverage: Selection of the Best Performing Models. Energies, 2017, 10, 181.	1.6	17
34	Spectral Response Measurements of Perovskite Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 220-226.	1.5	17
35	The Effects of Solar Cell Capacitance on Calibration Accuracy When using a Flash Simulator. , 2006, , .		16
36	Inference of missing data in photovoltaic monitoring datasets. IET Renewable Power Generation, 2016, 10, 434-439.	1.7	16

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37	Limited laser beam induced current measurements: a tool for analysing integrated photovoltaic modules. Measurement Science and Technology, 2011, 22, 085702.	1.4	15
38	Uncertainty Estimation of Temperature Coefficient Measurements of PV Modules. IEEE Journal of Photovoltaics, 2016, 6, 1554-1563.	1.5	15
39	Advantages in using LEDs as the main light source in solar simulators for measuring PV device characteristics. Proceedings of SPIE, 2008, , .	0.8	14
40	Multi-domain analysis of photovoltaic impacts via integrated spatial and probabilistic modelling. IET Renewable Power Generation, 2015, 9, 424-431.	1.7	14
41	Photovoltaic Performance Measurements in Europe: PV-Catapult Round Robin Tests. , 2006, , .		13
42	Compressive Current Response Mapping of Photovoltaic Devices Using MEMS Mirror Arrays. IEEE Transactions on Instrumentation and Measurement, 2016, 65, 1945-1950.	2.4	13
43	Indoor measurement of photovoltaic device characteristics at varying irradiance, temperature and spectrum for energy rating. Measurement Science and Technology, 2010, 21, 115701.	1.4	12
44	Electroluminescence imaging of PV devices: Camera calibration and image correction. , 2016, , .		12
45	Damp-heat induced degradation in photovoltaic modules manufactured with passivated emitter and rear contact solar cells. Progress in Photovoltaics: Research and Applications, 2022, 30, 1061-1071.	4.4	12
46	Spatially and spectrally resolved electroluminescence measurement system for photovoltaic characterisation. IET Renewable Power Generation, 2015, 9, 446-452.	1.7	11
47	Cross-Characterization for Imaging Parasitic Resistive Losses in Thin-Film Photovoltaic Modules. Journal of Imaging, 2016, 2, 23.	1.7	11
48	Assessment of potential for photovoltaic roof installations by extraction of roof tilt from light detection and ranging data and aggregation to census geography. IET Renewable Power Generation, 2016, 10, 467-473.	1.7	11
49	Influence of Viscoelastic Properties of Encapsulation Materials on the Thermomechanical Behavior of Photovoltaic Modules. IEEE Journal of Photovoltaics, 2018, 8, 183-188.	1.5	11
50	Accelerated Spatially Resolved Electrical Simulation of Photovoltaic Devices Using Photovoltaic-Oriented Nodal Analysis. IEEE Transactions on Electron Devices, 2015, 62, 1390-1398.	1.6	10
51	Interlaboratory comparison of short-circuit current versus irradiance linearity measurements of photovoltaic devices. Solar Energy, 2019, 182, 256-263.	2.9	10
52	Effect of loading on long term performance of single junction amorphous silicon modules. Solar Energy Materials and Solar Cells, 2011, 95, 119-122.	3.0	9
53	Solar Profiles and Spectral Modeling for CPV Simulations. IEEE Journal of Photovoltaics, 2012, 2, 62-67.	1.5	9
54	Compressed Sensing Current Mapping Spatial Characterization of Photovoltaic Devices. IEEE Journal of Photovoltaics, 2017, 7, 486-492.	1.5	9

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55	Distributed electrical network modelling approach for spatially resolved characterisation of photovoltaic modules. IET Renewable Power Generation, 2014, 8, 459-466.	1.7	8
56	Actual PV module performance including spectral losses in the UK. , 0, , .		7
57	Applying modern informatics technologies to monitoring photovoltaic (PV) modules and systems. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	7
58	Outlier identification in outdoor measurement data - effects of different strategies on the performance descriptors of photovoltaic modules. , 2009, , .		7
59	Soiling correction model for long term energy prediction in photovoltaic modules. , 2012, , .		7
60	Potential for LED solar simulators. , 2013, , .		7
61	Comparison of solar radiation and PV generation variability: system dispersion in the UK. IET Renewable Power Generation, 2017, 11, 550-557.	1.7	7
62	Electrical mismatch within single junction amorphous silicon and micromorph tandem thin film PV modules. , 2009, , .		6
63	Compensation of temporal averaging bias in solar irradiance data. IET Renewable Power Generation, 2017, 11, 1288-1294.	1.7	6
64	Inference of missing PV monitoring data using neural networks. , 2016, , .		5
65	Improved Model for Circumsolar Irradiance Calculation as an Extended Light Source and Spectral Implications for High-Concentration Photovoltaic Devices. IEEE Journal of Photovoltaics, 2016, 6, 258-265.	1.5	5
66	The UK Solar Farm Fleet: A Challenge for the National Grid? â€. Energies, 2017, 10, 1220.	1.6	5
67	Results of the round robin calibration of reference solar cells within the PhotoClass project. International Journal of Metrology and Quality Engineering, 2018, 9, 8.	0.4	5
68	Accuracy of Energy Prediction Methodologies. , 2006, , .		4
69	Long-Term Performance of Amorphous Photovoltaic Modules. , 2006, , .		4
70	Modeling the effect of varying spectra on multi junction A-Si solar cells. Desalination, 2007, 209, 78-85.	4.0	4
71	Determining spectral response of a photovoltaic device using polychromatic filters. IET Renewable Power Generation, 2014, 8, 467-473.	1.7	4
72	Realistic Adhesion Test for Photovoltaic Modules Qualification. IEEE Journal of Photovoltaics, 2018, 8, 218-223.	1.5	4

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73	Effect of viscoelasticity of ethylene vinyl acetate encapsulants on photovoltaic module solder joint degradation due to thermomechanical fatigue. Japanese Journal of Applied Physics, 2018, 57, 08RG03.	0.8	4
74	Effect of module degradation on inverter sizing. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	3
75	Modeling spatial electrical properties in photovoltaic modules using PV-oriented nodal analysis. , 2013, , .		3
76	Compressed sensing current mapping methods for PV characterisation. , 2016, , .		3
77	Large scale PV system monitoring - modules technology intercomparison. , 2010, , .		2
78	Accuracy of Energy Yield Prediction of Photovoltaic Modules. Japanese Journal of Applied Physics, 2012, 51, 10NF01.	0.8	2
79	Optical modelling for concentrating photovoltaic systems: insolation transfer variations with solar source descriptions. IET Renewable Power Generation, 2015, 9, 412-419.	1.7	2
80	Large scale evaluation of photovoltaic technologies in different climates. , 2009, , .		1
81	The spectral variation effects on energy yield of optimized multi-junction solar cell. , 2009, , .		1
82	Performance measurements at varying irradiance spectrum, intensity and module temperature of amorphous silicon solar cells. , 2010, , .		1
83	Performance characterisation of photovoltaic modules. , 2010, , .		1
84	Fast electrical modeling for spatially-resolved characterization of amorphous silicon photovoltaic cells. , 2014, , .		1
85	Adhesion requirements for photovoltaic modules of polymeric encapsulation. , 2016, , .		1
86	Optical technique for photovoltaic spatial current response measurements using compressive sensing and random binary projections. Journal of Photonics for Energy, 2016, 6, 025508.	0.8	1
87	Centralized Volt-Var Optimization Strategy Considering Malicious Attack on Distributed Energy Resources Control. , 2018, , .		1
88	Solar Over-Irradiance Events: Preliminary Results from a Global Study. , 2020, , .		1
89	Systematic causes of problems in operation of PV systems. , 2020, , .		1
90	Solar profiles and spectral modelling for CPV simulations. , 2011, , .		0

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91	Modeling A-Si module ageing using the concept of environmental dose. , 2013, , .		0
92	Reduced Measurement Uncertainty in PV Module Batch Testing. , 2017, , .		0
93	Inference of missing PV monitoring data using neural networks. , 2017, , .		0
94	A European proficiency test on thin-film tandem photovoltaic devices. Progress in Photovoltaics: Research and Applications, 2020, 28, 1258-1276.	4.4	0
95	Towards modelling realistic ageing rates of amorphous silicon devices in operational environment. Japanese Journal of Applied Physics, 2015, 54, 08KG03.	0.8	0
96	Particle-size dependent parameter studies for laboratory soiling tests: influence of temperature, relative humidity and tilt angle. , 2020, , .		0