Stefan Wilbert

List of Publications by Year
in descending order

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69	1,439	331670	377865
papers	citations	21 h-index	34 g-index

74	74	74	842
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Direct normal irradiance related definitions and applications: The circumsolar issue. Solar Energy, 2014, 110, 561-577.	6.1	150
2	Preliminary survey on site-adaptation techniques for satellite-derived and reanalysis solar radiation datasets. Solar Energy, 2016, 132, 25-37.	6.1	136
3	Investigation of Soiling Effect on Different Solar Mirror Materials under Moroccan Climate. Energy Procedia, 2015, 69, 1948-1957.	1.8	55
4	Validation of an allâ€sky imagerâ€"based nowcasting system for industrial <scp>PV</scp> plants. Progress in Photovoltaics: Research and Applications, 2018, 26, 608-621.	8.1	51
5	Determination of cloud transmittance for all sky imager based solar nowcasting. Solar Energy, 2019, 181, 251-263.	6.1	49
6	Cloud height and tracking accuracy of three all sky imager systems for individual clouds. Solar Energy, 2019, 177, 213-228.	6.1	48
7	Modeling beam attenuation in solar tower plants using common DNI measurements. Solar Energy, 2016, 129, 244-255.	6.1	39
8	Shadow camera system for the generation of solar irradiance maps. Solar Energy, 2017, 157, 157-170.	6.1	39
9	Proposal and evaluation of subordinate standard solar irradiance spectra for applications in solar energy systems. Solar Energy, 2018, 168, 30-43.	6.1	38
10	Validation of Two Optical Measurement Methods for the Qualification of the Shape Accuracy of Mirror Panels for Concentrating Solar Systems. Journal of Solar Energy Engineering, Transactions of the ASME, 2011, 133, .	1.8	37
11	Atmospheric extinction in solar tower plants: absorption and broadband correction for MOR measurements. Atmospheric Measurement Techniques, 2015, 8, 3467-3480.	3.1	35
12	Atmospheric extinction in solar tower plants â€" A review. Solar Energy, 2017, 152, 193-207.	6.1	34
13	Measurement of Solar Radiance Profiles With the Sun and Aureole Measurement System. Journal of Solar Energy Engineering, Transactions of the ASME, 2013, 135, .	1.8	32
14	Screening and Flagging of Solar Irradiation and Ancillary Meteorological Data. Energy Procedia, 2015, 69, 1989-1998.	1.8	31
15	Nowcasting of DNI maps for the solar field based on voxel carving and individual 3D cloud objects from all sky images. AIP Conference Proceedings, 2018, , .	0.4	31
16	Benchmarking of six cloud segmentation algorithms for ground-based all-sky imagers. Solar Energy, 2020, 201, 596-614.	6.1	31
17	The enerMENA meteorological network â€" Solar radiation measurements in the MENA region. AIP Conference Proceedings, 2016, , .	0.4	30
18	Short-term forecasting of high resolution local DNI maps with multiple fish-eye cameras in stereoscopic mode. AIP Conference Proceedings, 2017, , .	0.4	29

#	Article	IF	Citations
19	Real-Time Uncertainty Specification of All Sky Imager Derived Irradiance Nowcasts. Remote Sensing, 2019, 11, 1059.	4.0	29
20	Uncertainty of rotating shadowband irradiometers and Si-pyranometers including the spectral irradiance error. AIP Conference Proceedings, 2016, , .	0.4	28
21	Optimization of parabolic trough power plant operations in variable irradiance conditions using all sky imagers. Solar Energy, 2020, 198, 434-453.	6.1	26
22	Integration of Soiling-Rate Measurements and Cleaning Strategies in Yield Analysis of Parabolic Trough Plants. Journal of Solar Energy Engineering, Transactions of the ASME, 2018, 140, .	1.8	22
23	Determination of circumsolar radiation from Meteosat Second Generation. Atmospheric Measurement Techniques, 2014, 7, 823-838.	3.1	20
24	Long-term Behavior, Accuracy and Drift of LI-200 Pyranometers as Radiation Sensors in Rotating Shadowband Irradiometers (RSI). Energy Procedia, 2014, 49, 2330-2339.	1.8	19
25	Applying self-supervised learning for semantic cloud segmentation of all-sky images. Atmospheric Measurement Techniques, 2022, 15, 797-809.	3.1	19
26	A Hybrid Solar Irradiance Nowcasting Approach: Combining All Sky Imager Systems and Persistence Irradiance Models for Increased Accuracy. Solar Rrl, 2022, 6, 2100442.	5.8	18
27	Validation of spatially resolved all sky imager derived DNI nowcasts. AIP Conference Proceedings, 2017, , .	0.4	16
28	Benchmarking three low-cost, low-maintenance cloud height measurement systems and ECMWF cloud heights against a ceilometer. Solar Energy, 2018, 168, 140-152.	6.1	16
29	Determination of the optimal camera distance for cloud height measurements with two all-sky imagers. Solar Energy, 2019, 179, 74-88.	6.1	14
30	Field validation and benchmarking of a cloud shadow speed sensor. Solar Energy, 2018, 173, 229-245.	6.1	13
31	Comparison of measurement techniques for the determination of circumsolar irradiance. , 2013, , .		12
32	Design and Operation of an Irradiance Measurement Network. Energy Procedia, 2015, 69, 2019-2030.	1.8	12
33	Atmospheric Transmittance Model Validation for CSP Tower Plants. Remote Sensing, 2019, 11, 1083.	4.0	12
34	Short-term forecasting based on all-sky cameras. , 2017, , 153-178.		10
35	Modelling the soiling rate: Dependencies on meteorological parameters. AIP Conference Proceedings, 2019, , .	0.4	10
36	Impact of DNI nowcasting on annual revenues of CSP plants for a time of delivery based feed in tariff. Meteorologische Zeitschrift, 2019, 28, 235-253.	1.0	10

#	Article	IF	Citations
37	Spatio-Temporal Resolution of Irradiance Samples in Machine Learning Approaches for Irradiance Forecasting. IEEE Access, 2020, 8, 51518-51531.	4.2	10
38	Cloud height measurement by a network of all-sky imagers. Atmospheric Measurement Techniques, 2021, 14, 5199-5224.	3.1	10
39	Optimization of cleaning strategies based on ANN algorithms assessing the benefit of soiling rate forecasts. AIP Conference Proceedings, 2019, , .	0.4	9
40	Calibration methods for rotating shadowband irradiometers and optimizing the calibration duration. Atmospheric Measurement Techniques, 2016, 9, 1601-1612.	3.1	8
41	Evaluation of an all sky imager based nowcasting system for distinct conditions and five sites. AIP Conference Proceedings, 2020, , .	0.4	8
42	Applications of a shadow camera system for energy meteorology. Advances in Science and Research, 0, 15, 11-14.	1.0	8
43	Application of simple all-sky imagers for the estimation of aerosol optical depth. AIP Conference Proceedings, 2017, , .	0.4	7
44	Principles of CSP performance assessment. , 2017, , 31-64.		7
45	Incidence angle and diffuse radiation adaptation of soiling ratio measurements of indirect optical soiling sensors. Journal of Renewable and Sustainable Energy, 2021, 13, .	2.0	7
46	Airborne soiling measurements of entire solar fields with Qfly. AIP Conference Proceedings, 2020, , .	0.4	7
47	New methodology for adjusting rotating shadowband irradiometer measurements. AIP Conference Proceedings, 2017, , .	0.4	6
48	Shadow-camera based solar nowcasting system for shortest-term forecasts. Meteorologische Zeitschrift, 2019, 28, 255-270.	1.0	6
49	Measurement of diffuse and plane of array irradiance by a combination of a pyranometer and an all-sky imager. Solar Energy, 2022, 232, 232-247.	6.1	6
50	Assessment of the impact of meteorological conditions on pyrheliometer calibration. Solar Energy, 2018, 168, 44-59.	6.1	5
51	Sunbelt spectra comparison with standard ASTM G173: The Chilean case. AIP Conference Proceedings, 2018, , .	0.4	5
52	Validation of Direct Beam Irradiance Measurements From Rotating Shadowband Irradiometers in a Region With Different Atmospheric Conditions. Journal of Solar Energy Engineering, Transactions of the ASME, 2016, 138, .	1.8	4
53	AATTENUATIONâ€"The Atmospheric Attenuation Model for CSP Tower Plants: A Look-Up Table for Operational Implementation. Energies, 2020, 13, 5248.	3.1	4
54	A way to increase parabolic trough plant yield by roughly 2% using all sky imager derived DNI maps. AIP Conference Proceedings, 2020, , .	0.4	4

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55	Physically based correction of systematic errors of Rotating Shadowband Irradiometers. Meteorologische Zeitschrift, 2020, 29, 19-39.	1.0	4
56	Proposal and Evaluation of Subordinate Standard Solar Irradiance Spectra with a Focus on Air Mass Effects. , 2017, , .		4
57	Atmospheric extinction in simulation tools for solar tower plants. AIP Conference Proceedings, 2017, , .	0.4	3
58	Sunshape measurements with conventional rotating shadowband irradiometers. AIP Conference Proceedings, 2018, , .	0.4	3
59	Quality Assurance of Solar Radiation Measurements. Green Energy and Technology, 2019, , 99-135.	0.6	3
60	Accuracy of satellite-derived solar direct irradiance in Southern Spain and Switzerland. International Journal of Remote Sensing, 2020, 41, 8808-8838.	2.9	3
61	Uncertainty Calculation Method for Photodiode Pyranometers. Solar Rrl, 0, , 2100468.	5.8	2
62	T-TraCS â€“ An automated method to measure soiling losses at parabolic trough receiver tubes. AIP Conference Proceedings, 2020, , .	0.4	2
63	Methods to provide meteorological forecasts for optimum CSP system operations. , 2017, , 253-281.		1
64	Removing biases from rotating shadowband radiometers. AIP Conference Proceedings, 2019, , .	0.4	1
65	Irradiance maps from a shadow camera on a mountain range. AIP Conference Proceedings, 2022, , .	0.4	1
66	Satellite-based DNI nowcasting based on a sectoral atmospheric motion approach. AIP Conference Proceedings, 2018, , .	0.4	0
67	Dynamical Behavior of CSP Plants. , 2021, , 1-27.		0
68	Application of the Clear Sky Spectral Error for Radiometer Classification in ISO 9060. , 2019, , .		0
69	Dynamical Behavior of CSP Plants. , 2022, , 187-213.		0