Jesus Polo

List of Publications by Year
in descending order

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Version: 2024-02-01

117 papers	2,554 citations	201385 27 h-index	233125 45 g-index
120 all docs	120 docs citations	120 times ranked	1998 citing authors

#	Article	IF	Citations
1	Prediction of global solar irradiance based on time series analysis: Application to solar thermal power plants energy production planning. Solar Energy, 2010, 84, 1772-1781.	2.9	261
2	Preliminary survey on site-adaptation techniques for satellite-derived and reanalysis solar radiation datasets. Solar Energy, 2016, 132, 25-37.	2.9	136
3	Analysis of different comparison parameters applied to solar radiation data from satellite and German radiometric stations. Solar Energy, 2009, 83, 118-125.	2.9	111
4	Clear sky solar irradiance models: A review of seventy models. Renewable and Sustainable Energy Reviews, 2019, 107, 374-387.	8.2	110
5	Solar resources and power potential mapping in Vietnam using satellite-derived and GIS-based information. Energy Conversion and Management, 2015, 98, 348-358.	4.4	99
6	Artificial intelligence techniques applied to hourly global irradiance estimation from satellite-derived cloud index. Energy, 2005, 30, 1685-1697.	4.5	69
7	Building-Integrated Photovoltaic (BIPV) products and systems: A review of energy-related behavior. Energy and Buildings, 2022, 262, 111998.	3.1	67
8	A new statistical approach for deriving global solar radiation from satellite images. Solar Energy, 2009, 83, 480-484.	2.9	65
9	Sensitivity of satellite-based methods for deriving solar radiation to different choice of aerosol input and models. Renewable Energy, 2014, 68, 785-792.	4.3	62
10	Analysis of the long-term solar potential for electricity generation in Qatar. Renewable and Sustainable Energy Reviews, 2017, 73, 1231-1246.	8.2	58
11	Worldwide analysis of spectral factors for seven photovoltaic technologies. Solar Energy, 2017, 142, 194-203.	2.9	57
12	Solar radiation estimations over India using Meteosat satellite images. Solar Energy, 2011, 85, 2395-2406.	2.9	50
13	Steam generator tube rupture (SGTR) scenarios. Nuclear Engineering and Design, 2005, 235, 457-472.	0.8	44
14	Sensitivity study for modelling atmospheric attenuation of solar radiation with radiative transfer models and the impact in solar tower plant production. Solar Energy, 2016, 134, 219-227.	2.9	42
15	Comparison between MRM simulations, CAMS and PVGIS databases with measured solar radiation components at the Methoni station, Greece. Renewable Energy, 2020, 146, 1372-1391.	4.3	42
16	Benchmarking on improvement and site-adaptation techniques for modeled solar radiation datasets. Solar Energy, 2020, 201, 469-479.	2.9	42
17	A simple approach to the synthetic generation of solar irradiance time series with high temporal resolution. Solar Energy, 2011, 85, 1164-1170.	2.9	40
18	Correcting satellite derived DNI with systematic and seasonal deviations: Application to India. Renewable Energy, 2015, 80, 238-243.	4.3	38

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19	Proposal and evaluation of subordinate standard solar irradiance spectra for applications in solar energy systems. Solar Energy, 2018, 168, 30-43.	2.9	38
20	Atmospheric extinction in solar tower plants: absorption and broadband correction for MOR measurements. Atmospheric Measurement Techniques, 2015, 8, 3467-3480.	1.2	35
21	Estimation of daily Linke turbidity factor by using global irradiance measurements at solar noon. Solar Energy, 2009, 83, 1177-1185.	2.9	34
22	Intermittency and variability of daily solar irradiation. Atmospheric Research, 2014, 143, 313-327.	1.8	33
23	The influence of location on solar photo-Fenton: Process performance, photoreactor scaling-up and treatment cost. Renewable Energy, 2020, 145, 1890-1900.	4.3	32
24	Estimation of global daily irradiation in complex topography zones using digital elevation models and meteosat images: Comparison of the results. Energy Conversion and Management, 2009, 50, 2233-2238.	4.4	31
25	Analysis of satellite derived solar irradiance in islands with site adaptation techniques for improving the uncertainty. Renewable Energy, 2019, 135, 98-107.	4.3	29
26	Experimental and Analytical Study on Pool Scrubbing Under JET Injection Regime. Nuclear Technology, 1997, 120, 95-109.	0.7	28
27	Spatial variability and clustering of global solar irradiation in Vietnam from sunshine duration measurements. Renewable and Sustainable Energy Reviews, 2015, 42, 1326-1334.	8.2	28
28	Comparative analysis of long-term solar resource and CSP production for bankability. Renewable Energy, 2016, 90, 38-45.	4.3	27
29	Modeling water vapor impacts on the solar irradiance reaching the receiver of a solar tower plant by means of artificial neural networks. Solar Energy, 2018, 169, 34-39.	2.9	27
30	Solar global horizontal and direct normal irradiation maps in Spain derived from geostationary satellites. Journal of Atmospheric and Solar-Terrestrial Physics, 2015, 130-131, 81-88.	0.6	26
31	On the use of reference modules as irradiance sensor for monitoring and modelling rooftop PV systems. Renewable Energy, 2017, 106, 186-191.	4.3	26
32	Experimental investigation and modeling of photovoltaic soiling loss as a function of environmental variables: A case study of semi-arid climate. Solar Energy Materials and Solar Cells, 2021, 221, 110874.	3.0	26
33	Impact of atmospheric aerosol loads on Concentrating Solar Power production in arid-desert sites. Solar Energy, 2015, 115, 621-631.	2.9	24
34	Physicochemical characterization of soiling from photovoltaic facilities in arid locations in the Atacama Desert. Solar Energy, 2019, 187, 47-56.	2.9	23
35	Economic Effect of Dust Particles on Photovoltaic Plant Production. Energies, 2020, 13, 6376.	1.6	22
36	Angstrom turbidity and ozone column estimations from spectral solar irradiance in a semi-desertic environment in Spain. Solar Energy, 2009, 83, 257-263.	2.9	21

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37	Analysis of the influences of uncertainties in input variables on the outcomes of the Heliosat-2 method. Solar Energy, 2009, 83, 1731-1741.	2.9	21
38	Impact of DNI forecasting on CSP tower plant power production. Renewable Energy, 2019, 138, 368-377.	4.3	21
39	Solar extinction measurement system based on digital cameras. Application to solar tower plants. Renewable Energy, 2018, 125, 648-654.	4.3	19
40	Microstructural analysis of the PV module cementation process at the Solar Platform of the Atacama Desert. Solar Energy Materials and Solar Cells, 2021, 227, 111109.	3.0	19
41	Iterative filtering of ground data for qualifying statistical models for solar irradiance estimation from satellite data. Solar Energy, 2006, 80, 240-247.	2.9	18
42	Angular dependence of the albedo estimated in models for solar radiation derived from geostationary satellites. Solar Energy, 2013, 93, 256-266.	2.9	18
43	Improving daily output of global to direct solar irradiance models with ground measurements. Journal of Renewable and Sustainable Energy, 2013, 5, .	0.8	18
44	Site-Adaptation of Modeled Solar Radiation Data: The SiteAdapt Procedure. Remote Sensing, 2020, 12, 2127.	1.8	18
45	Revision of ground albedo estimation in Heliosat scheme for deriving solar radiation from SEVIRI HRV channel of Meteosat satellite. Solar Energy, 2012, 86, 275-282.	2.9	17
46	A through analysis of solar irradiation measurements in the region of Arica Parinacota, Chile. Renewable Energy, 2017, 112, 197-208.	4.3	17
47	Hydrogen removal from LWR containments by catalytic-coated thermal insulation elements (THINCAT). Nuclear Engineering and Design, 2003, 221, 137-149.	0.8	16
48	Atmospheric extinction levels of solar radiation at Plataforma Solar de AlmerÃa. Application to solar thermal electric plants. Energy, 2018, 145, 400-407.	4.5	16
49	Solar extinction map in Chile for applications in solar power tower plants, comparison with other places from sunbelt and impact on LCOE. Renewable Energy, 2021, 170, 197-211.	4.3	16
50	Modeling soiling losses for rooftop PV systems in suburban areas with nearby forest in Madrid. Renewable Energy, 2021, 178, 420-428.	4.3	16
51	Analysis of solar tower plant performance influenced by atmospheric attenuation at different temporal resolutions related to aerosol optical depth. Solar Energy, 2017, 157, 803-810.	2.9	15
52	One year of solar extinction measurements at Plataforma Solar de AlmerÃa. Application to solar tower plants. Renewable Energy, 2019, 136, 1002-1011.	4.3	15
53	Typical Meteorological Year methodologies applied to solar spectral irradiance for PV applications. Energy, 2020, 190, 116453.	4.5	15
54	Modeling monthly mean variation of the solar global irradiation. Journal of Atmospheric and Solar-Terrestrial Physics, 2015, 122, 108-118.	0.6	14

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55	Potential for photogenerated current for silicon based photovoltaic modules in the Atacama Desert. Solar Energy, 2017, 144, 580-593.	2.9	14
56	Diagnosis of a Lambertian target in solar context. Measurement: Journal of the International Measurement Confederation, 2018, 119, 265-269.	2.5	14
57	Intra-hour energy potential forecasting in a central solar power plant receiver combining Meteosat images and atmospheric extinction. Energy, 2019, 188, 116034.	4.5	14
58	Analysis on the long-term relationship between DNI and CSP yield production for different technologies. Solar Energy, 2017, 155, 1121-1129.	2.9	13
59	Atmospheric extinction levels of solar radiation using aerosol optical thickness satellite data. Validation methodology with measurement system. Renewable Energy, 2020, 149, 1120-1132.	4.3	13
60	Modeling solar extinction using artificial neural networks. Application to solar tower plants. Energy, 2020, 199, 117432.	4.5	13
61	Solar Radiation Derived from Satellite Images. , 0, , 449-462.		13
62	Management and Exploitation of Solar Resource Knowledge. , 2010, , .		13
63	Assessment of PV Module Temperature Models for Building-Integrated Photovoltaics (BIPV). Sustainability, 2022, 14, 1500.	1.6	13
64	Modeling I-V curves of photovoltaic modules at indoor and outdoor conditions by using the Lambert function. Energy Conversion and Management, 2019, 195, 1004-1011.	4.4	12
65	Influence of Pollen on Solar Photovoltaic Energy: Literature Review and Experimental Testing with Pollen. Applied Sciences (Switzerland), 2020, 10, 4733.	1.3	12
66	Markov processes and Zipf's law in daily solar irradiation at earth's surface. Journal of Atmospheric and Solar-Terrestrial Physics, 2014, 107, 42-47.	0.6	11
67	Review and validation of Solar Thermal Electricity potential methodologies. Energy Conversion and Management, 2016, 126, 42-50.	4.4	11
68	Fuzzy inference systems applied to the daily ultraviolet radiation evaluation (295â€“385 nm) from daily global radiation. Solar Energy, 2003, 75, 447-454.	2.9	10
69	Towards downscaling of aerosol gridded dataset for improving solar resource assessment, an application to Spain. Renewable Energy, 2014, 71, 534-544.	4.3	10
70	A comparative study of the impact of horizontal-to-tilted solar irradiance conversion in modelling small PV array performance. Journal of Renewable and Sustainable Energy, 2016, 8, 053501.	0.8	10
71	The use of ANN and conventional solar-plant meteorological variables to estimate atmospheric horizontal extinction. Journal of Cleaner Production, 2021, 285, 125395.	4.6	10
72	Impact of a Saharan dust intrusion over southern Spain on DNI estimation with sky cameras. Atmospheric Environment, 2017, 170, 279-289.	1.9	9

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73	Photovoltaic generation on vertical faÃ§ades in urban context from open satellite-derived solar resource data. Solar Energy, 2021, 224, 1396-1405.	2.9	9
74	Solar Resources Mapping. Green Energy and Technology, 2019, , .	0.4	8
75	Soiling forecasting of solar plants: A combined heuristic approach and autoregressive model. Energy, 2022, 239, 122442.	4.5	8
76	Solar Radiation Modeling from Satellite Imagery. Green Energy and Technology, 2019, , 183-197.	0.4	7
77	Incidence angle and diffuse radiation adaptation of soiling ratio measurements of indirect optical soiling sensors. Journal of Renewable and Sustainable Energy, 2021, 13, .	0.8	7
78	Assessment and improvement of modeling the atmospheric attenuation based on aerosol optical depth information with applicability to solar tower plants. Energy, 2020, 208, 118399.	4.5	6
79	Sunbelt spectra comparison with standard ASTM G173: The Chilean case. AIP Conference Proceedings, 2018, , .	0.3	5
80	Advances in aerosol optical depth evaluation from broadband direct normal irradiance measurements. Solar Energy, 2021, 221, 206-217.	2.9	5
81	Modelling the performance of rooftop photovoltaic systems under urban Mediterranean outdoor conditions. Journal of Renewable and Sustainable Energy, 2016, 8, .	0.8	4
82	Evolution of the aerosol extinction coefficient at 100â€...m above ground during an episode of Saharan dust intrusion as derived from data registered by a ceilometer in AlmerÃa (SE Spain). AIP Conference Proceedings, 2018, , .	0.3	4
83	Editorial for the Special Issue â€œSolar Radiation, Modeling, and Remote Sensingâ€. Remote Sensing, 2019, 11, 1198.	1.8	4
84	Proposal and Evaluation of Subordinate Standard Solar Irradiance Spectra with a Focus on Air Mass Effects. , 2017, , .		4
85	Analysis of the Local Factors that Influence the Cementation of Soil and Effects on PV Generation at the Plataforma Solar Del Desierto De Atacama, Chile. , 2019, , .		4
86	Soiling loss characterization for Photovoltaics in buildings: A systematic analysis for the Madrid region. Journal of Cleaner Production, 2022, 332, 130041.	4.6	4
87	Nowcasting System Based on Sky Camera Images to Predict the Solar Flux on the Receiver of a Concentrated Solar Plant. Remote Sensing, 2022, 14, 1602.	1.8	4
88	On the modelling capabilities to simulate aerosol behaviour in the PHEBUS-FP containment: Lessons learned from FPT0 test. Journal of Aerosol Science, 1996, 27, S459-S460.	1.8	3
89	Stochastic model to describe atmospheric attenuation from yearly global solar irradiation. Atmospheric Research, 2015, 153, 209-216.	1.8	3
90	Modelling atmospheric attenuation at different AOD time-scales in yield performance of solar tower plants. AIP Conference Proceedings, 2018, , .	0.3	3

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91	Quality Assurance of Solar Radiation Measurements. Green Energy and Technology, 2019, , 99-135.	0.4	3
92	Temporal and spatial variability analysis of the solar radiation in a region affected by the intertropical convergence zone. Meteorological Applications, 2020, 27, e1824.	0.9	3
93	BIPV Modeling with Artificial Neural Networks: Towards a BIPV Digital Twin. Energies, 2022, 15, 4173.	1.6	3
94	Estimation of visibility from spectral irradiance using artificial neural networks. AIP Conference Proceedings, 2018, , .	0.3	2
95	Solar Power Plant Performance. Green Energy and Technology, 2019, , 283-300.	0.4	2
96	Design of a Low-Cost Multiplexer for the Study of the Impact of Soiling on PV Panel Performance. Energies, 2021, 14, 4186.	1.6	2
97	Comparison and analysis of two measurement systems of horizontal atmospheric extinction of solar radiation. Atmospheric Environment, 2021, 261, 118608.	1.9	2
98	Characterization of PV Soiling Losses in Urban Mediterranean Environment. , 2019, , .		2
99	Interannual variation of measured atmospheric solar radiation extinction levels. Sustainable Energy Technologies and Assessments, 2022, 51, 101991.	1.7	2
100	Fundamentals: Quantities, Definitions, and Units. Green Energy and Technology, 2019, , 1-14.	0.4	1
101	Field Quality Control of Spectral Solar Irradiance Measurements by Comparison with Broadband Measurements. Sustainability, 2021, 13, 10585.	1.6	1
102	Sampling Design Optimization of Ground Radiometric Stations. Green Energy and Technology, 2019, , 253-281.	0.4	1
103	Modelling Clear SKY DNI Under Extreme Aerosol Loading: the Case of a Saharan Outbreak in South-East Spain. , 2016, , .		1
104	The Influence of Sahara Dust Particles in the Direct Normal Irradiance Estimation Through a Total SKY Camera. , 2016, , .		1
105	Assessment of Daily Atmospheric Turbidity Databases Using Aerosol Optical Depth and Direct Normal Irradiance Measurements. , 2016, , .		1
106	Analysis of the Chemical Behavior of Iodine in the Suppression Tank of the LOFT Facility During Experiment LP-FP-2 with IODE and IMPAIR-2/M. Nuclear Technology, 1994, 106, 168-176.	0.7	0
107	Aerosol behaviour in small vessels: An interpretation of FAL-ISP-1 test by using contain code. Journal of Aerosol Science, 1995, 26, S705-S706.	1.8	0
108	Measurement and Experimental Testing of Models for the Estimation of HourlySolar Radiation on Vertical Surfaces at Mexico City. International Journal of Engineering and Technology(UAE), 2018, 7, 129.	0.2	0

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109	Acquisition and Analysis of Meteorological Data. Green Energy and Technology, 2018, , 3-39.	0.4	0
110	Basics on Mapping Solar Radiation Gridded Data. Green Energy and Technology, 2019, , 243-252.	0.4	0
111	Validation of GHI and DHI Predictions from GFS and MACC Model in the Middle East. , 2016, , .		0
112	AnÃ¡lisis de Largo Plazo de la GeneraciÃ³n ElÃ©ctrica en Plantas Solares TÃ©rmicas de ConcentraciÃ³n. Revista TÃ©cnica EnergÃa, 2019, 12, .	0.2	0
113	Solar Radiation Gridded Satellite data comparison in Gran Canaria Island. Renewable Energy and Power Quality Journal, 0, 1, 793-796.	0.2	0
114	IEA PVPS Task 16 â€“ Solar Resource for High Penetration and Large Scale Applications. , 2019, , .		0
115	Method and System for Accessing PV Resource Data from the NSRDB. , 2019, , .		0
116	Relevance Analysis of Atmospheric Variables in the Production of an Experimental PV Power Plant Considering Dust Deposition in the Mediterranean Coast. , 2019, , .		0
117	Effect of Cloudiness on Solar Radiation Forecasting. , 2019, , .		0