Pedro M Rodrigo

List of Publications by Year
in descending order

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62 papers	1,441 citations	279487 23 h-index	329751 37 g-index
62 all docs	62 docs citations	62 times ranked	972 citing authors

#	Article	IF	Citations
1	Calculation of the cell temperature of a high concentrator photovoltaic (HCPV) module: A study and comparison of different methods. Solar Energy Materials and Solar Cells, 2014, 121, 144-151.	3.0	87
2	Performance and economic limits of passively cooled hybrid thermoelectric generator-concentrator photovoltaic modules. Applied Energy, 2019, 238, 1150-1162.	5.1	83
3	Models for the electrical characterization of high concentration photovoltaic cells and modules: A review. Renewable and Sustainable Energy Reviews, 2013, 26, 752-760.	8.2	80
4	Classification of methods for annual energy harvesting calculations of photovoltaic generators. Energy Conversion and Management, 2014, 78, 527-536.	4.4	78
5	An Outdoor Navigation System for Blind Pedestrians Using GPS and Tactile-Foot Feedback. Applied Sciences (Switzerland), 2018, 8, 578.	1.3	68
6	Relation between the cell temperature of a HCPV module and atmospheric parameters. Solar Energy Materials and Solar Cells, 2012, 105, 322-327.	3.0	67
7	Estimating the maximum power of a High Concentrator Photovoltaic (HCPV) module using an Artificial Neural Network. Energy, 2013, 53, 165-172.	4.5	63
8	Review of methods for the calculation of cell temperature in high concentration photovoltaic modules for electrical characterization. Renewable and Sustainable Energy Reviews, 2014, 38, 478-488.	8.2	59
9	Quantification of the spectral coupling of atmosphere and photovoltaic system performance: Indexes, methods and impact on energy harvesting. Solar Energy Materials and Solar Cells, 2017, 163, 73-90.	3.0	56
10	Control algorithms applied to active solar tracking systems: A review. Solar Energy, 2020, 212, 203-219.	2.9	49
11	Model for the prediction of the maximum power of a high concentrator photovoltaic module. Solar Energy, 2013, 97, 12-18.	2.9	48
12	Feasibility of flat-plate heat-sinks using microscale solar cells up to 10,000 suns concentrations. Solar Energy, 2019, 181, 361-371.	2.9	44
13	A model based on artificial neuronal network for the prediction of the maximum power of a low concentration photovoltaic module for building integration. Solar Energy, 2014, 100, 148-158.	2.9	42
14	A simple accurate model for the calculation of shading power losses in photovoltaic generators. Solar Energy, 2013, 93, 322-333.	2.9	40
15	A method for estimating cell temperature at the maximum power point of a HCPV module under actual operating conditions. Solar Energy Materials and Solar Cells, 2014, 124, 159-165.	3.0	37
16	DC/AC conversion efficiency of grid-connected photovoltaic inverters in central Mexico. Solar Energy, 2016, 139, 650-665.	2.9	36
17	A simplified method for estimating direct normal solar irradiation from global horizontal irradiation useful for CPV applications. Renewable and Sustainable Energy Reviews, 2012, 16, 5529-5534.	8.2	29
18	Model for estimating the energy yield of a high concentrator photovoltaic system. Energy, 2015, 87, 77-85.	4.5	28

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19	Generation of ambient temperature hourly time series for some Spanish locations by artificial neural networks. Renewable Energy, 2013, 51, 285-291.	4.3	27
20	Optimum cleaning schedule of photovoltaic systems based on levelised cost of energy and case study in central Mexico. Solar Energy, 2020, 209, 11-20.	2.9	27
21	Global energy assessment of the potential of photovoltaics for greenhouse farming. Applied Energy, 2022, 309, 118474.	5.1	26
22	Analysis of electrical mismatches in high-concentrator photovoltaic power plants with distributed inverter configurations. Energy, 2016, 107, 374-387.	4.5	24
23	Comparative study of methods for the extraction of concentrator photovoltaic module parameters. Solar Energy, 2016, 137, 413-423.	2.9	23
24	Outdoor measurement of high concentration photovoltaic receivers operating with partial shading on the primary optics. Energy, 2013, 61, 583-588.	4.5	21
25	Performance Analysis of Models for Calculating the Maximum Power of High Concentrator Photovoltaic Modules. IEEE Journal of Photovoltaics, 2015, 5, 947-955.	1.5	18
26	Determination of the currentâ€“voltage characteristics of concentrator systems by using different adapted conventional techniques. Energy, 2016, 101, 146-160.	4.5	18
27	Quantifying the effect of air temperature in CPV modules under outdoor conditions. AIP Conference Proceedings, 2012, , .	0.3	17
28	A new method for estimating angular, spectral and low irradiance losses in photovoltaic systems using an artificial neural network model in combination with the Osterwald model. Solar Energy Materials and Solar Cells, 2012, 96, 186-194.	3.0	17
29	Annual Energy Harvesting of Passively Cooled Hybrid Thermoelectric Generator-Concentrator Photovoltaic Modules. IEEE Journal of Photovoltaics, 2019, 9, 1652-1660.	1.5	17
30	Optimum Array Spacing in Grid-Connected Photovoltaic Systems considering Technical and Economic Factors. International Journal of Photoenergy, 2019, 2019, 1-14.	1.4	17
31	Optimum sizing of the inverter for maximizing the energy yield in state-of-the-art high-concentrator photovoltaic systems. Solar Energy, 2018, 171, 728-739.	2.9	15
32	Experimental characterisation of irradiance and spectral non-uniformity and its impact on multi-junction solar cells: Refractive vs. reflective optics. Solar Energy Materials and Solar Cells, 2021, 225, 111061.	3.0	15
33	Analysis of high concentrator photovoltaic modules in outdoor conditions: Influence of direct normal irradiance, air temperature, and air mass. Journal of Renewable and Sustainable Energy, 2014, 6, .	0.8	14
34	The High-Concentrator Photovoltaic Module. Green Energy and Technology, 2015, , 115-151.	0.4	14
35	A methodology for the electrical characterization of shaded high concentrator photovoltaic modules. Energy, 2015, 89, 768-777.	4.5	12
36	Efficiency improvement of passively cooled micro-scale hybrid CPV-TEG systems at ultra-high concentration levels. Energy Conversion and Management, 2021, 244, 114521.	4.4	12

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37	Fractional derivative-based performance analysis of hybrid thermoelectric generator-concentrator photovoltaic system. Applied Thermal Engineering, 2021, 193, 116984.	3.0	11
38	Optimum capacity of the inverters in concentrator photovoltaic power plants with emphasis on shading impact. Energy, 2019, 187, 115964.	4.5	10
39	Energetic analysis of simplified 2-position and 3-position North-South horizontal single-axis sun tracking concepts. Solar Energy, 2017, 157, 244-250.	2.9	9
40	Development and Testing of a Single-Axis Photovoltaic Sun Tracker through the Internet of Things. Energies, 2020, 13, 2547.	1.6	9
41	Characterization of the Spectral Matching Ratio and the Z-Parameter From Atmospheric Variables for CPV Spectral Evaluation. IEEE Journal of Photovoltaics, 2017, 7, 1802-1809.	1.5	8
42	Comparative assessment of simplified indexes for the spectral characterisation of photovoltaic systems. Measurement: Journal of the International Measurement Confederation, 2019, 133, 1-8.	2.5	8
43	Balancing the shading impact in utility-scale dual-axis tracking concentrator photovoltaic power plants. Energy, 2020, 210, 118490.	4.5	8
44	Effect of non-uniformity on concentrator multi-junction solar cells equipped with refractive secondary optics under shading conditions. Energy, 2022, 238, 122044.	4.5	8
45	CPV Systems. , 2018, , 931-985.		5
46	Spectral-matching-ratio modelling based on ANNs and atmospheric parameters for the electrical characterization of multi-junction concentrator PV systems. Energy, 2018, 156, 409-417.	4.5	5
47	Calculation of cell temperature in a HCPV module using V<inf>oc</inf>. , 2013, , .		4
48	Design and Evaluation of an Eye Disease Simulator. IEEE Latin America Transactions, 2015, 13, 2734-2741.	1.2	4
49	A method for the outdoor thermal characterisation of high-concentrator photovoltaic modules alternative to the IEC 62670-3 standard. Energy, 2018, 148, 159-168.	4.5	4
50	Artificial neural networks for the generation of direct normal solar annual irradiance synthetic series. , 2012, , .		3
51	Calculation of direct normal irradiation from global horizontal irradiation. , 2012, , .		3
52	Computer-Based System for Simulating Visual Impairments. IETE Journal of Research, 2016, 62, 833-841.	1.8	3
53	Improving the profitability of grid-connected photovoltaic systems by sizing optimization. , 2017, , .		3
54	High-performance 4096Ã— ultra-high CPV module based on multiple concentrator units and optical guides. Optics Letters, 2021, 46, 4188.	1.7	3

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55	Videocasts applied to the teaching of power supplies. , 2012, , .		2
56	Shading in High-Concentrator Photovoltaic Power Plants. Green Energy and Technology, 2015, , 177-208.	0.4	1
57	Feasibility of Flat-Plate Heat-Sinks for Ultra-High Concentrations (> 2000 Suns) Using Microscale Solar Cells. , 2018, , .		1
58	Finite element analysis of cooling mechanism by flat heat-sinks in ultra-high CPV systems. AIP Conference Proceedings, 2019, , .	0.3	1
59	Pilot scheme of a tutorial action plan for industrial engineering students. , 2012, , .		0
60	Influence of ground cover ratio on optimum inverter size in CPV plants. AIP Conference Proceedings, 2018, , .	0.3	0
61	Modelling and potential of hybrid micro-scaling multi-junction solar cell and thermoelectric generator. , 2021, , .		0
62	Fuel-cell power conversion system based on double dual topologies. International Journal of Hydrogen Energy, 2022, , .	3.8	0