Loreto Valenzuela

List of Publications by Year
in descending order

98 papers	3,656 citations	218381 26 h-index	133063 59 g-index
98 all docs	98 docs citations	98 times ranked	2251 citing authors

#	Article	IF	Citations
1	Parabolic-trough solar collectors and their applications. Renewable and Sustainable Energy Reviews, 2010, 14, 1695-1721.	8.2	865
2	Direct steam generation in parabolic troughs: Final results and conclusions of the DISS project. Energy, 2004, 29, 635-644.	4.5	205
3	A survey on control schemes for distributed solar collector fields. Part I: Modeling and basic control approaches. Solar Energy, 2007, 81, 1240-1251.	2.9	201
4	A survey on control schemes for distributed solar collector fields. Part II: Advanced control approaches. Solar Energy, 2007, 81, 1252-1272.	2.9	166
5	Applied research concerning the direct steam generation in parabolic troughs. Solar Energy, 2003, 74, 341-351.	2.9	162
6	Thermal analysis of solar receiver pipes with superheated steam. Applied Energy, 2013, 103, 73-84.	5.1	119
7	Optical and thermal performance of large-size parabolic-trough solar collectors from outdoor experiments: A test method and a case study. Energy, 2014, 70, 456-464.	4.5	116
8	Analysis of the experimental behaviour of a 100ÂkWth latent heat storage system for direct steam generation in solar thermal power plants. Applied Thermal Engineering, 2010, 30, 2643-2651.	3.0	107
9	Modeling direct steam generation in solar collectors with multiphase CFD. Applied Energy, 2014, 113, 1338-1348.	5.1	91
10	Control concepts for direct steam generation in parabolic troughs. Solar Energy, 2005, 78, 301-311.	2.9	88
11	The DISS Project: Direct Steam Generation in Parabolic Trough Systems. Operation and Maintenance Experience and Update on Project Status. Journal of Solar Energy Engineering, Transactions of the ASME, 2002, 124, 126-133.	1.1	84
12	Durability studies of solar reflectors: A review. Renewable and Sustainable Energy Reviews, 2016, 62, 453-467.	8.2	77
13	Feedback linearization control for a distributed solar collector field. Control Engineering Practice, 2007, 15, 1533-1544.	3.2	66
14	A quasi-dynamic simulation model for direct steam generation in parabolic troughs using TRNSYS. Applied Energy, 2016, 161, 133-142.	5.1	65
15	Modelling and simulation tools for direct steam generation in parabolic-trough solar collectors: A review. Renewable and Sustainable Energy Reviews, 2019, 113, 109226.	8.2	65
16	Thermal 3D model for Direct Solar Steam Generation under superheated conditions. Applied Energy, 2014, 132, 370-382.	5.1	60
17	Direct steam generation in solar boilers. IEEE Control Systems, 2004, 24, 15-29.	1.0	59
18	Control scheme for direct steam generation in parabolic troughs under recirculation operation mode. Solar Energy, 2006, 80, 1-17.	2.9	57

#	Article	IF	Citations
19	Optimized design of a Linear Fresnel reflector for solar process heat applications. Renewable Energy, 2019, 131, 1089-1106.	4.3	56
20	Modeling the dynamics of the multiphase fluid in the parabolic-trough solar steam generating systems. Energy Conversion and Management, 2014, 78, 393-404.	4.4	54
21	Reference governor optimization and control of a distributed solar collector field. European Journal of Operational Research, 2009, 193, 709-717.	3.5	49
22	Experimental and numerical study of a solar collector using phase change material as heat storage. Journal of Energy Storage, 2020, 27, 101133.	3.9	48
23	Impact of pressure losses in small-sized parabolic-trough collectors forÂdirect steam generation. Energy, 2013, 61, 502-512.	4.5	43
24	Uncertainty and global sensitivity analysis in the design of parabolic-trough direct steam generation plants for process heat applications. Applied Energy, 2014, 121, 233-244.	5.1	36
25	Simplified heat transfer model for parabolic trough solar collectors using supercritical CO2. Energy Conversion and Management, 2019, 196, 807-820.	4.4	34
26	A new concept of solar thermal power plants with large-aperture parabolic-trough collectors and sCO2 as working fluid. Energy Conversion and Management, 2019, 199, 112030.	4.4	31
27	FEEDBACK LINEARIZATION CONTROL FOR A DISTRIBUTED SOLAR COLLECTOR FIELD. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 356-361.	0.4	27
28	Thermal hydraulic RELAP5 model for a solar direct steam generation system based on parabolic trough collectors operating in once-through mode. Energy, 2017, 133, 796-807.	4.5	27
29	Study on shell-and-tube heat exchanger models with different degree of complexity for process simulation and control design. Applied Thermal Engineering, 2017, 124, 1425-1440.	3.0	27
30	Influence of the displacement of solar receiver tubes on the performance of a parabolic-trough collector. Energy, 2018, 159, 472-481.	4.5	26
31	Status and First Results of the DUKE Project â€" Component Qualification of New Receivers and Collectors. Energy Procedia, 2014, 49, 1766-1776.	1.8	25
32	Approaches to modelling a solar field for direct generation of industrial steam. Renewable Energy, 2017, 103, 666-681.	4.3	25
33	On-site parabolic-trough collector testing in solar thermal power plants: Experimental validation of a new approach developed for the IEC 62862-3-2 standard. Solar Energy, 2017, 155, 398-409.	2.9	23
34	Geometrical Assessment of Solar Concentrators using Close-range Photogrammetry. Energy Procedia, 2012, 30, 84-90.	1.8	22
35	Transient Models and Characteristics of Once-through Line Focus Systems. Energy Procedia, 2015, 69, 626-637.	1.8	20
36	Inverse Monte Carlo Ray-Tracing method (IMCRT) applied to line-focus reflectors. Solar Energy, 2016, 124, 184-197.	2.9	19

#	Article	IF	Citations
37	Steady-state and dynamic validation of a parabolic trough collector model using the ThermoCycle Modelica library. Solar Energy, 2018, 174, 866-877.	2.9	19
38	SMALL-SIZED parabolic-trough solar collectors: Development of a test loop and evaluation of testing conditions. Energy, 2018, 152, 401-415.	4.5	17
39	Optical efficiency measurement of solar receiver tubes: A testbed and case studies. Case Studies in Thermal Engineering, 2018, 12, 414-422.	2.8	16
40	Multilevel linguistic equation controller applied to a 1 MW/sub t/ solar power plant. , 1998, , .		14
41	Simulation and comparison between fixed and sliding-pressure strategies in parabolic-trough solar power plants with direct steam generation. Applied Thermal Engineering, 2017, 125, 735-745.	3.0	14
42	Theoretical Study of Direct Steam Generation in Two Parallel Pipes. Energy Procedia, 2014, 57, 2265-2274.	1.8	13
43	Design, Manufacturing and Characterization of Linear Fresnel Reflectorâ€™s Facets. Energies, 2019, 12, 2795.	1.6	13
44	Sensitivity Analysis of Saturated Steam Production in Parabolic Trough Collectors. Energy Procedia, 2012, 30, 765-774.	1.8	12
45	Design and experimental validation of a computational effective dynamic thermal energy storage tank model. Energy, 2018, 152, 840-857.	4.5	12
46	Uncertainty Study of Reflectance Measurements for Concentrating Solar Reflectors. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 7218-7232.	2.4	12
47	State of the art of performance evaluation methods for concentrating solar collectors. AIP Conference Proceedings, 2016, , .	0.3	11
48	Solar Thermal Collectors for Medium Temperature Applications: A Comprehensive Review and Updated Database. Energy Procedia, 2016, 91, 64-71.	1.8	11
49	Effects of reduced sulphur atmospheres on reflector materials for concentrating solar thermal applications. Corrosion Science, 2018, 133, 78-93.	3.0	11
50	Modeling of a small parabolic trough plant based in direct steam generation for cogeneration in the Chilean industrial sector. Energy Conversion and Management, 2018, 174, 88-100.	4.4	11
51	Influence of gaseous pollutants and their synergistic effects on the aging of reflector materials for concentrating solar thermal technologies. Solar Energy Materials and Solar Cells, 2019, 200, 109955.	3.0	11
52	Hierarchical Control of a Distributed Solar Collector Field. Lecture Notes in Computer Science, 2005, , 614-620.	1.0	10
53	Methodology for partial vacuum pressure and heat losses analysis of parabolic troughs receivers by infrared radiometry. Infrared Physics and Technology, 2019, 98, 341-353.	1.3	10
54	Analysis of a failure mechanism in parabolic troughs receivers due to bellows cap overirradiation. Engineering Failure Analysis, 2020, 111, 104491.	1.8	10

#	ARTICLE	IF	CITATIONS
55	The DISS Project: Direct Steam Generation in Parabolic Troughs â€" Operation and Maintenance Experience â€" Update on Project Status. , 2001, , .		10
56	Towards standardization of in-site parabolic trough collector testing in solar thermal power plants. AIP Conference Proceedings, 2016, , .	0.3	8
57	Degradation of concentrating solar thermal reflectors in acid rain atmospheres. Solar Energy Materials and Solar Cells, 2018, 186, 92-104.	3.0	8
58	A dynamic model for once-through direct steam generation in linear focus solar collectors. Renewable Energy, 2021, 163, 246-261.	4.3	8
59	Lifetime prediction model of reflector materials for concentrating solar thermal energies in corrosive environments. Solar Energy Materials and Solar Cells, 2021, 224, 110996.	3.0	8
60	Dimensioning a Small-Sized PTC Solar Field for Heating and Cooling of a Hotel in AlmerÃa (Spain). Energy Procedia, 2012, 30, 967-973.	1.8	7
61	Modified geometry of line-focus collectors with round absorbers by means of the inverse MCRT method. Solar Energy, 2016, 139, 608-621.	2.9	7
62	Control strategies in a thermal oil â€" Molten salt heat exchanger. AIP Conference Proceedings, 2016, , .	0.3	7
63	Analysis and potential of once-through steam generators in line focus systems â€" Final results of the DUKE project. AIP Conference Proceedings, 2016, , .	0.3	7
64	Test bench HEATREC for heat loss measurement on solar receiver tubes. AIP Conference Proceedings, 2016, , .	0.3	7
65	Durability Studies of Solar Reflectors Used in Concentrating Solar Thermal Technologies under Corrosive Sulfurous Atmospheres. Sustainability, 2018, 10, 3008.	1.6	7
66	Transient validation of RELAP5 model with the DISS facility in once through operation mode. AIP Conference Proceedings, 2016, , .	0.3	6
67	Standards for components in concentrating solar thermal power plants - status of the Spanish working group. AIP Conference Proceedings, 2016, , .	0.3	6
68	Three-dimensional thermal modelling and heat transfer analysis in the heat collector element of parabolic-trough solar collectors. Applied Thermal Engineering, 2021, 189, 116457.	3.0	6
69	Experimental Calibration of Heat Transfer and Thermal Losses in a Shell-and-Tube Heat Exchanger. , 2015, , .		6
70	PTTL â€" A Life-size Test Loop for Parabolic Trough Collectors. Energy Procedia, 2014, 49, 136-144.	1.8	5
71	Object-Oriented Modeling of a Multi-Pass Shell-and-Tube Heat Exchanger and its Application to Performance Evaluationâˆ—âˆ—This research has been funded by the EU 7thFramework Programme (Theme) Tj ETQq1 1 0.784314 rgBT Renewable Hybrid CSP Plant and the Spanish Ministry of Economy and Competitiveness through ERDF and PLAN E funds (C.N. SolarNOVA ICT-CEPU 2009-02).. IFAC-PapersOnLine, 2015, 48, 97-102.	0.5	5
72	On-site comparison of flowmeters installed in a parabolic-trough solar collector test facility. Measurement: Journal of the International Measurement Confederation, 2016, 92, 271-278.	2.5	5

#	Article	IF	Citations
73	Thermal energy storage concepts for direct steam generation (DSG) solar plants. , 2017, , 269-289.		5
74	A new TRNSYS component for parabolic trough collector simulation. International Journal of Sustainable Energy, 2018, 37, 209-229.	1.3	5
75	Explanatory Analysis of Data from a Distributed Solar Collector Field. Lecture Notes in Computer Science, 2005, , 621-626.	1.0	4
76	Qualification of silicone based HTF for parabolic trough collector applications. AIP Conference Proceedings, 2019, , .	0.3	4
77	Modeling and Hourly Time-Scale Characterization of the Main Energy Parameters of Parabolic-Trough Solar Thermal Power Plants Using a Simplified Quasi-Dynamic Model. Energies, 2021, 14, 221.	1.6	4
78	Design and Simulation of a Solar Field Coupled to a Cork Boiling Plant. Energy Procedia, 2014, 48, 1134-1143.	1.8	3
79	Inverse MCRT Method for Obtaining Solar Concentrators with Quasi-Planar Flux Distribution. Energy Procedia, 2015, 69, 208-217.	1.8	3
80	Parabolic trough receiver heat loss and optical efficiency round robin 2015/2016. AIP Conference Proceedings, 2017, , .	0.3	3
81	Harmonization of standards for parabolic trough collector testing in solar thermal power plants. AIP Conference Proceedings, 2017, , .	0.3	3
82	Advanced mirror concepts for concentrating solar thermal systems. , 2017, , 29-43.		3
83	Advanced Analysis of Corroded Solar Reflectors. Coatings, 2019, 9, 749.	1.2	3
84	Development of a Small-Sized Parabolic-Trough Collector. Final Results of Capsol Project. , 2011, , .		3
85	Analyzing Solar Power Plant Performance Through Data Mining. Journal of Solar Energy Engineering, Transactions of the ASME, 2008, 130, .	1.1	2
86	Heat losses model for standardized testing of receiver tubes for parabolic-troughs. AIP Conference Proceedings, 2018, , .	0.3	2
87	Test loop for inter-connections of parabolic trough collectors. AIP Conference Proceedings, 2018, , .	0.3	2
88	Corrosion on silvered-glass solar reflectors exposed to accelerated aging tests with polluting gases: A microscopic study. Corrosion Science, 2020, 176, 108928.	3.0	2
89	Yield Analysis of a Power Plant with Parabolic-Trough Collectors and Direct Steam Generation (DSG) Using a Quasi-Dynamic Simulation Model in TRNSYS. , 2016, , .		2
90	Pressure Losses in Small-Sized Parabolic-Trough Solar Fields for Industrial Process Heat. , 2011, , .		2

#	Article	IF	Citations
91	Compact system for fast on-line geometry characterization of facets for solar concentrators. AIP Conference Proceedings, 2022, , .	0.3	2
92	Numerical simulation and assessment of a 5 MWel hybrid system with a parabolic trough once-through steam generator coupled to biomass gasification. AIP Conference Proceedings, 2018, , .	0.3	1
93	Radiant emittance calculated by heat transfer analysis of a PTC receiver tested with vacuum versus measurement of an absorber sample using spectrophotometer. AIP Conference Proceedings, 2019, , .	0.3	1
94	Optimizing Design of a Linear Fresnel Reflector for Process Heat Supply. , 2016, , .		1
95	Modelling of a Small-Sized Parabolic-Trough Solar Collector Field for Process Heat in the Cork Industry. , 2011, , .		1
96	Object-oriented simulation model of a parabolic trough solar collector: Static and dynamic validation. AIP Conference Proceedings, 2017, , .	0.3	0
97	COLECTORES CILINDRO PARABÃ“LICO A PARTIR DE MATERIAL DE BAJO COSTO (ACERO INOXIDABLE) APLICADO A UN SISTEMA HÃBRIDO DE DESHIDRATADO. Dyna (Spain), 2016, 91, 96-102.	0.1	0
98	UV degradation of primary mirrors in outdoor exposure and accelerated aging. AIP Conference Proceedings, 2022, , .	0.3	0