

# Dezso Sera

## List of Publications by Year in descending order

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135  
papers

5,230  
citations

186209

28  
h-index

133188

59  
g-index

135  
all docs

135  
docs citations

135  
times ranked

4223  
citing authors

#	ARTICLE	IF	CITATIONS
1	On the Perturb-and-Observe and Incremental Conductance MPPT Methods for PV Systems. IEEE Journal of Photovoltaics, 2013, 3, 1070-1078.	1.5	629
2	PV panel model based on datasheet values. , 2007, , .		543
3	Local Reactive Power Control Methods for Overvoltage Prevention of Distributed Solar Inverters in Low-Voltage Grids. IEEE Journal of Photovoltaics, 2011, 1, 174-182.	1.5	421
4	Optimized Maximum Power Point Tracker for Fast-Changing Environmental Conditions. IEEE Transactions on Industrial Electronics, 2008, 55, 2629-2637.	5.2	352
5	Lifetime Evaluation of Grid-Connected PV Inverters Considering Panel Degradation Rates and Installation Sites. IEEE Transactions on Power Electronics, 2018, 33, 1225-1236.	5.4	152
6	Frequency Support Functions in Large PV Power Plants With Active Power Reserves. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2014, 2, 849-858.	3.7	145
7	Delta Power Control Strategy for Multistring Grid-Connected PV Inverters. IEEE Transactions on Industry Applications, 2017, 53, 3862-3870.	3.3	117
8	Investigation of wind speed cooling effect on PV panels in windy locations. Renewable Energy, 2016, 90, 283-290.	4.3	110
9	Improved MPPT method for rapidly changing environmental conditions. , 2006, , .		104
10	An Optimization Method for Designing Large PV Plants. IEEE Journal of Photovoltaics, 2013, 3, 814-822.	1.5	101
11	Improved MPPT Algorithms for Rapidly Changing Environmental Conditions. , 2006, , .		100
12	Overview of recent Grid Codes for PV power integration. , 2012, , .		96
13	On the Impacts of PV Array Sizing on the Inverter Reliability and Lifetime. IEEE Transactions on Industry Applications, 2018, 54, 3656-3667.	3.3	95
14	Clustered PV inverters in LV networks: An overview of impacts and comparison of voltage control strategies. , 2009, , .		94
15	Diagnostic method for photovoltaic systems based on light $I_{sc}$ measurements. Solar Energy, 2015, 119, 29-44.	2.9	90
16	Analysis and Modeling of Interharmonics From Grid-Connected Photovoltaic Systems. IEEE Transactions on Power Electronics, 2018, 33, 8353-8364.	5.4	83
17	Evaluation of the voltage support strategies for the low voltage grid connected PV generators. , 2010, , .		81
18	Discrete Model-Predictive-Control-Based Maximum Power Point Tracking for PV Systems: Overview and Evaluation. IEEE Transactions on Power Electronics, 2018, 33, 7273-7287.	5.4	78

#	ARTICLE	IF	CITATIONS
19	Comparative Study of Ramp-Rate Control Algorithms for PV with Energy Storage Systems. Energies, 2019, 12, 1342.	1.6	78
20	Spread Spectrum Modulation by Using Asymmetric-Carrier Random PWM. IEEE Transactions on Industrial Electronics, 2012, 59, 3710-3718.	5.2	65
21	A Dual-Discrete Model Predictive Control-Based MPPT for PV Systems. IEEE Transactions on Power Electronics, 2019, 34, 9686-9697.	5.4	63
22	Coupled thermal model of photovoltaic-thermoelectric hybrid panel for sample cities in Europe. Renewable Energy, 2016, 99, 127-135.	4.3	62
23	Mission Profile-Oriented Control for Reliability and Lifetime of Photovoltaic Inverters. IEEE Transactions on Industry Applications, 2020, 56, 601-610.	3.3	58
24	PV inverter test setup for European efficiency, static and dynamic MPPT efficiency evaluation. , 2008, , .		56
25	Performance Analysis of Medium-Voltage Grid Integration of PV Plant Using Modular Multilevel Converter. IEEE Transactions on Energy Conversion, 2019, 34, 1731-1740.	3.7	53
26	Review of mismatch mitigation techniques for PV modules. IET Renewable Power Generation, 2019, 13, 2035-2050.	1.7	46
27	A Direct Maximum Power Point Tracking Method for Single-Phase Grid-Connected PV Inverters. IEEE Transactions on Power Electronics, 2018, 33, 8961-8971.	5.4	44
28	Photovoltaic module diagnostics by series resistance monitoring and temperature and rated power estimation. , 2008, , .		42
29	Drone-Based Daylight Electroluminescence Imaging of PV Modules. IEEE Journal of Photovoltaics, 2020, 10, 872-877.	1.5	42
30	Large Photovoltaic Power Plants Integration: A Review of Challenges and Solutions. Energies, 2019, 12, 3798.	1.6	41
31	Multiple-Power-Sample Based P&O MPPT for Fast-Changing Irradiance Conditions for a Simple Implementation. IEEE Journal of Photovoltaics, 2020, 10, 1481-1488.	1.5	41
32	Power Electronics and Control of Renewable Energy Systems. , 2007, , .		40
33	Optimal Design of Photovoltaic Systems Using High Time-Resolution Meteorological Data. IEEE Transactions on Industrial Informatics, 2014, 10, 2270-2279.	7.2	40
34	Optimized Maximum Power Point Tracker for fast changing environmental conditions. , 2008, , .		39
35	Power Ramp Limitation Capabilities of Large PV Power Plants With Active Power Reserves. IEEE Transactions on Sustainable Energy, 2017, 8, 573-581.	5.9	39
36	Temperature-dependency analysis and correction methods of <i>in situ</i> power-loss estimation for crystalline silicon modules undergoing potential-induced degradation stress testing. Progress in Photovoltaics: Research and Applications, 2015, 23, 1536-1549.	4.4	38

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37	Improved voltage regulation strategies by PV inverters in LV rural networks. , 2012, , .		36
38	Resonance Reduction for AC Drives With Small Capacitance in the DC Link. IEEE Transactions on Industry Applications, 2017, 53, 3814-3820.	3.3	36
39	Enhancing PV Inverter Reliability With Battery System Control Strategy. CPSS Transactions on Power Electronics and Applications, 2018, 3, 93-101.	2.9	36
40	Low-cost digital implementation of proportional-resonant current controllers for PV inverter applications using delta operator. , 2005, , .		33
41	Fault identification in crystalline silicon PV modules by complementary analysis of the light and dark currentâ€“voltage characteristics. Progress in Photovoltaics: Research and Applications, 2016, 24, 517-532.	4.4	28
42	Detection of increased series losses in PV arrays using Fuzzy Inference Systems. , 2012, , .		26
43	Solar Cell Cracks and Finger Failure Detection Using Statistical Parameters of Electroluminescence Images and Machine Learning. Applied Sciences (Switzerland), 2020, 10, 8834.	1.3	26
44	Flat tie-line power scheduling control of grid-connected hybrid microgrids. Applied Energy, 2018, 210, 786-799.	5.1	25
45	Cascaded Multilevel PV Inverter With Improved Harmonic Performance During Power Imbalance Between Power Cells. IEEE Transactions on Industry Applications, 2020, 56, 2788-2798.	3.3	25
46	Enhanced local grid voltage support method for high penetration of distributed generators. , 2011, , .		24
47	Quantifying solar cell cracks in photovoltaic modules by electroluminescence imaging. , 2015, , .		24
48	Interharmonics from grid-connected PV systems: Mechanism and mitigation. , 2017, , .		23
49	Photovoltaic array condition monitoring based on online regression of performance model. , 2013, , .		22
50	Automatic detection and evaluation of solar cell micro-cracks in electroluminescence images using matched filters. , 2016, , .		20
51	Machine learning prediction of defect types for electroluminescence images of photovoltaic panels. , 2019, , .		19
52	Improved MPPT Algorithms for Rapidly Changing Environmental Conditions. , 2006, , .		18
53	Robust series resistance estimation for diagnostics of photovoltaic modules. , 2009, , .		18
54	Solar Cell Capacitance Determination Based on an RLC Resonant Circuit. Energies, 2018, 11, 672.	1.6	18

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55	Three-phase Photovoltaic Systems: Structures, Topologies, and Control. Electric Power Components and Systems, 2015, 43, 1364-1375.	1.0	17
56	Arm Power Control of the Modular Multilevel Converter in Photovoltaic Applications. Energies, 2019, 12, 1620.	1.6	17
57	Detection of potential induced degradation in c-Si PV panels using electrical impedance spectroscopy. , 2016, , .		16
58	Dual-Input Quasi-Z-Source PV Inverter: Dynamic Modeling, Design, and Control. IEEE Transactions on Industrial Electronics, 2020, 67, 6483-6493.	5.2	16
59	Partial shadowing detection based on equivalent thermal voltage monitoring for PV module diagnostics. , 2009, , .		15
60	Impacts of PV array sizing on PV inverter lifetime and reliability. , 2017, , .		14
61	A Reduced Power Switches Count Multilevel Converter-Based Photovoltaic System With Integrated Energy Storage. IEEE Transactions on Industrial Electronics, 2021, 68, 8231-8240.	5.2	14
62	Optimum Sizing of Photovoltaic and Energy Storage Systems for Powering Green Base Stations in Cellular Networks. Energies, 2021, 14, 1895.	1.6	14
63	Evaluation of Interconnection Configuration Schemes for PV Modules with Switched-Inductor Converters under Partial Shading Conditions. Energies, 2019, 12, 2802.	1.6	13
64	A Cascaded H-Bridge With Integrated Boosting Circuit. IEEE Transactions on Power Electronics, 2021, 36, 18-22.	5.4	13
65	Dynamic Performance of Maximum Power Point Trackers in TEG Systems Under Rapidly Changing Temperature Conditions. Journal of Electronic Materials, 2016, 45, 1309-1315.	1.0	12
66	A practical optimization method for designing large PV plants. , 2011, , .		11
67	Grid integration of PV power based on PHIL testing using different interface algorithms. , 2013, , .		11
68	Development of outdoor luminescence imaging for drone-based PV array inspection. , 2017, , .		11
69	PV Module-Level CHB Inverter with Integrated Battery Energy Storage System. Energies, 2019, 12, 4601.	1.6	11
70	Delta power control strategy for multi-string grid-connected PV inverters. , 2016, , .		10
71	Stochastic Optimal Strategy for Power Management in Interconnected Multi-Microgrid Systems. Electronics (Switzerland), 2022, 11, 1424.	1.8	10
72	Implementation of PLL and FLL trackers for signals with high harmonic content and low sampling frequency. , 2014, , .		9

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73	Resonance reduction for AC drives with small capacitance in the DC link. , 2016, , .		9
74	Multilevel DC-Link Converter-Based Photovoltaic System with Integrated Energy Storage. , 2018, , .		9
75	Advancements in Photovoltaic Cell and System Technologies. International Journal of Photoenergy, 2019, 2019, 1-2.	1.4	9
76	Method for Estimation and Correction of Perspective Distortion of Electroluminescence Images of Photovoltaic Panels. IEEE Journal of Photovoltaics, 2020, 10, 1797-1802.	1.5	9
77	Medium-Voltage Converter Solution With Modular Multilevel Structure and Decentralized Energy Storage Integration for High-Power Wind Turbines. IEEE Transactions on Power Electronics, 2021, 36, 12954-12967.	5.4	9
78	Low-cost, high flexibility I&#x2013;V curve tracer for photovoltaic modules. , 2010, , .		8
79	Benchmark networks for grid integration impact studies of large PV plants. , 2013, , .		8
80	Model Predictive-Based Direct Battery Control in PV Fed Quasi Z-Source Inverters. , 2018, , .		8
81	An overview of supercapacitors for integrated PV â€“ energy storage panels. , 2021, , .		8
82	Optimum Sizing of Photovoltaic-Battery Power Supply for Drone-Based Cellular Networks. Drones, 2021, 5, 138.	2.7	8
83	A low-disturbance diagnostic function integrated in the PV arrays' MPPT algorithm. , 2011, , .		7
84	Comparative Assessment of PV Plant Performance Models Considering Climate Effects. Electric Power Components and Systems, 2017, 45, 1381-1392.	1.0	7
85	Condition Monitoring in Photovoltaic Systems by Semi-Supervised Machine Learning. Energies, 2020, 13, 584.	1.6	7
86	Effect of Battery Degradation on the Probabilistic Optimal Operation of Renewable-Based Microgrids. Electricity, 2022, 3, 53-74.	1.4	7
87	Leakage current measurement in transformerless PV inverters. , 2012, , .		6
88	Lifetime evaluation of PV inverters considering panel degradation rates and installation sites. , 2017, , .		6
89	SNR Study of Outdoor Electroluminescence Images under High Sun Irradiation. , 2018, , .		6
90	Correcting for Perspective Distortion in Electroluminescence Images of Photovoltaic Panels. , 2018, , .		6

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91	Comparison of the reactive control strategies in low voltage network with photovoltaic generation and storage. <i>Thermal Science</i> , 2018, 22, 887-896.	0.5	6
92	Model Predictive Control of Cascaded Multilevel Battery Assisted Quasi Z-Source PV Inverter with Reduced Computational Effort. , 2019, , .		6
93	Design and Implementation of a New Cuk-Based Step-Up DC-DC Converter. <i>Energies</i> , 2021, 14, 6975.	1.6	6
94	In-Situ Measurement of Power Loss for Crystalline Silicon Modules Undergoing Thermal Cycling and Mechanical Loading Stress Testing. <i>Energies</i> , 2021, 14, 72.	1.6	6
95	Power ramp limitation and frequency support in large scale PVPPs without storage. , 2013, , .		5
96	Remote and centralized monitoring of PV power plants. , 2014, , .		5
97	Investigation of extra power loss sharing among photovoltaic inverters caused by reactive power management in distribution networks. , 2014, , .		5
98	Reliability Assessment of PV Inverters with Battery Systems Considering PV Self-Consumption and Battery Sizing. , 2018, , .		5
99	Outdoor electroluminescence acquisition using a movable testbed. , 2018, , .		4
100	Harmonics Mitigation in Cascaded Multilevel PV Inverters During Power Imbalance Between Cells. , 2019, , .		4
101	Case Study of Residential PV Power and Battery Storage with the Danish Flexible Pricing Scheme. <i>Energies</i> , 2019, 12, 799.	1.6	4
102	Test Platform for Rapid Prototyping of Digital Control for Power Electronic Converters. , 2019, , .		4
103	Modular Multilevel Converter for Photovoltaic Application with High Energy Yield under Uneven Irradiance. <i>Energies</i> , 2020, 13, 2619.	1.6	4
104	Dispatchable High-Power Wind Turbine Based on a Multilevel Converter With Modular Structure and Hybrid Energy Storage Integration. <i>IEEE Access</i> , 2021, 9, 152878-152891.	2.6	4
105	Unified analytical equation for theoretical determination of the harmonic components of modern PWM strategies. , 2011, , .		3
106	Firefighter safety for PV systems: Overview of future requirements and protection systems. , 2013, , .		3
107	Influence of resolution of the input data on distributed generation integration studies. , 2014, , .		3
108	Efficiency improvement of pumped storage system for MW scale off-grid PV plants. , 2015, , .		3

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109	Enhancement of Electroluminescence images for fault detection in photovoltaic panels. , 2018, , .		3
110	Mission Profile-Oriented Control for Reliability and Lifetime of Photovoltaic Inverters. , 2018, , .		3
111	Frequency Adaptive Digital Filter Implementation of Proportional-Resonant Controller for Inverter Applications. , 2018, , .		3
112	Switched-Capacitor-Inductor-based Differential Power Converter for Solar PV Modules. , 2019, , .		3
113	A Simple Mismatch Mitigating Partial Power Processing Converter for Solar PV Modules. Energies, 2021, 14, 2308.	1.6	3
114	A Low-Computational High-Performance Model Predictive Control of Single Phase Battery Assisted Quasi Z-Source PV Inverters. , 2019, , .		3
115	High flexibility and low cost digital implementation for modern PWM strategies. , 2011, , .		2
116	Development of an intelligent maximum power point tracker using an advanced PV system test platform. , 2013, , .		2
117	Firefighter Safety for PV Systems: A Solution for the Protection of Emergency Responders from Hazardous dc Voltage. IEEE Industry Applications Magazine, 2015, 21, 75-84.	0.3	2
118	Development and implementation of a PV performance monitoring system based on inverter measurements. , 2016, , .		2
119	Test Platform for Photovoltaic Systems with Integrated Battery Energy Storage Applications. , 2018, , .		2
120	A Shadow Tolerant Configuration for PV Integration to Grid using Modular Multilevel Converter. , 2018, , .		2
121	Performance Benchmark of Bypassing Techniques for Photovoltaic Modules. , 2019, , .		2
122	A Photovoltaic Module Diagnostic Setup for Lock-in Electroluminescence Imaging. , 2019, , .		2
123	Reconfigurable Distributed Power Electronics Technique for Solar PV Systems. Electronics (Switzerland), 2021, 10, 1121.	1.8	2
124	Sizing Of Hybrid Supercapacitors For Off-Grid PV Applications. , 2021, , .		2
125	A reactive power control strategy for distributed solar inverters in low voltage rural distribution grids without communication infrastructure. , 2011, , .		1
126	Distributed control of PV strings with module integrated converters in presence of a central MPPT. , 2014, , .		1

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127	Automatic Detection of Inactive Solar Cell Cracks in Electroluminescence Images. , 2017, , .		1
128	Sub-Module Level Differential Power Processing for Parallel-Connected Architecture in Photovoltaic Systems. , 2019, , .		1
129	Photovoltaic System in Progress: A Survey of Recent Development. Communications in Computer and Information Science, 2014, , 239-250.	0.4	1
130	Demand response planning for day-ahead energy management of CHP-equipped consumers. , 2022, , .		1
131	Thermoelectric generator emulator for MPPT testing. , 2015, , .		0
132	Novel field test design for acquisition of DC and AC parameters during service. , 2016, , .		0
133	Improvement of Ventilation Drive System with Solar Power and a Voltage Level Based Control Structure. , 2018, , .		0
134	Intrinsic-Capacitance-based Differential Power Processing for Photovoltaic Modules. , 2020, , .		0
135	High-Power Medium-Voltage Wind Turbine Driven by Converter Solution with Modular Multilevel Structure and Decentralized Battery Integration Operating in Both Grid-Following and Grid-Forming Modes. , 2021, , .		0