

# Dezso Sera

## List of Publications by Year in descending order

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135  
papers

5,230  
citations

186265

28  
h-index

133252

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.	2.5	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.	2.5	421
4	Optimized Maximum Power Point Tracker for Fast-Changing Environmental Conditions. IEEE Transactions on Industrial Electronics, 2008, 55, 2629-2637.	7.9	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.	7.9	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.	5.4	145
7	Delta Power Control Strategy for Multistring Grid-Connected PV Inverters. IEEE Transactions on Industry Applications, 2017, 53, 3862-3870.	4.9	117
8	Investigation of wind speed cooling effect on PV panels in windy locations. Renewable Energy, 2016, 90, 283-290.	8.9	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.	2.5	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.	4.9	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.	6.1	90
16	Analysis and Modeling of Interharmonics From Grid-Connected Photovoltaic Systems. IEEE Transactions on Power Electronics, 2018, 33, 8353-8364.	7.9	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.	7.9	78

#	ARTICLE	IF	CITATIONS
19	Comparative Study of Ramp-Rate Control Algorithms for PV with Energy Storage Systems. Energies, 2019, 12, 1342.	3.1	78
20	Spread Spectrum Modulation by Using Asymmetric-Carrier Random PWM. IEEE Transactions on Industrial Electronics, 2012, 59, 3710-3718.	7.9	65
21	A Dual-Discrete Model Predictive Control-Based MPPT for PV Systems. IEEE Transactions on Power Electronics, 2019, 34, 9686-9697.	7.9	63
22	Coupled thermal model of photovoltaic-thermoelectric hybrid panel for sample cities in Europe. Renewable Energy, 2016, 99, 127-135.	8.9	62
23	Mission Profile-Oriented Control for Reliability and Lifetime of Photovoltaic Inverters. IEEE Transactions on Industry Applications, 2020, 56, 601-610.	4.9	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.	5.2	53
26	Review of mismatch mitigation techniques for PV modules. IET Renewable Power Generation, 2019, 13, 2035-2050.	3.1	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.	7.9	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.	2.5	42
30	Large Photovoltaic Power Plants Integration: A Review of Challenges and Solutions. Energies, 2019, 12, 3798.	3.1	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.	2.5	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.	11.3	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.	8.8	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.	8.1	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.	4.9	36
39	Enhancing PV Inverter Reliability With Battery System Control Strategy. CPSS Transactions on Power Electronics and Applications, 2018, 3, 93-101.	4.4	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.	8.1	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.	2.5	26
44	Flat tie-line power scheduling control of grid-connected hybrid microgrids. Applied Energy, 2018, 210, 786-799.	10.1	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.	4.9	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.	3.1	18

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55	Three-phase Photovoltaic Systems: Structures, Topologies, and Control. <i>Electric Power Components and Systems</i> , 2015, 43, 1364-1375.	1.8	17
56	Arm Power Control of the Modular Multilevel Converter in Photovoltaic Applications. <i>Energies</i> , 2019, 12, 1620.	3.1	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. <i>IEEE Transactions on Industrial Electronics</i> , 2020, 67, 6483-6493.	7.9	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. <i>IEEE Transactions on Industrial Electronics</i> , 2021, 68, 8231-8240.	7.9	14
62	Optimum Sizing of Photovoltaic and Energy Storage Systems for Powering Green Base Stations in Cellular Networks. <i>Energies</i> , 2021, 14, 1895.	3.1	14
63	Evaluation of Interconnection Configuration Schemes for PV Modules with Switched-Inductor Converters under Partial Shading Conditions. <i>Energies</i> , 2019, 12, 2802.	3.1	13
64	A Cascaded H-Bridge With Integrated Boosting Circuit. <i>IEEE Transactions on Power Electronics</i> , 2021, 36, 18-22.	7.9	13
65	Dynamic Performance of Maximum Power Point Trackers in TEG Systems Under Rapidly Changing Temperature Conditions. <i>Journal of Electronic Materials</i> , 2016, 45, 1309-1315.	2.2	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. <i>Energies</i> , 2019, 12, 4601.	3.1	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. <i>Electronics (Switzerland)</i> , 2022, 11, 1424.	3.1	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.	2.5	9
76	Method for Estimation and Correction of Perspective Distortion of Electroluminescence Images of Photovoltaic Panels. IEEE Journal of Photovoltaics, 2020, 10, 1797-1802.	2.5	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.	7.9	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.	4.9	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.	1.8	7
85	Condition Monitoring in Photovoltaic Systems by Semi-Supervised Machine Learning. Energies, 2020, 13, 584.	3.1	7
86	Effect of Battery Degradation on the Probabilistic Optimal Operation of Renewable-Based Microgrids. Electricity, 2022, 3, 53-74.	2.8	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. Thermal Science, 2018, 22, 887-896.	1.1	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. Energies, 2021, 14, 6975.	3.1	6
94	In-Situ Measurement of Power Loss for Crystalline Silicon Modules Undergoing Thermal Cycling and Mechanical Loading Stress Testing. Energies, 2021, 14, 72.	3.1	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. Energies, 2019, 12, 799.	3.1	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. Energies, 2020, 13, 2619.	3.1	4
104	Dispatchable High-Power Wind Turbine Based on a Multilevel Converter With Modular Structure and Hybrid Energy Storage Integration. IEEE Access, 2021, 9, 152878-152891.	4.2	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.	3.1	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.	0.4	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.	3.1	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.	0.5	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