Filippo Spertino

List of Publications by Year
in descending order

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164	4,728	126858	118793
papers	citations	33 h-index	62 g-index

166	166	166	3777
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Introductionâ€"Advances and Challenges in Active Distribution Systems. Lecture Notes in Electrical Engineering, 2022, , 1-42.	0.3	3
2	Neighboring-Pixel-Based Maximum Power Point Tracking Algorithm for Partially Shaded Photovoltaic (PV) Systems. Electronics (Switzerland), 2022, 11, 359.	1.8	3
3	Assessing the role of fluctuating renewables in energy transition: Methodologies and tools. Applied Energy, 2022, 314, 118968.	5.1	15
4	Efficient MPP Tracking of Photovoltaic (PV) Array Through Modified Boost Converter With Simple SMC Voltage Regulator. IEEE Transactions on Sustainable Energy, 2022, 13, 1790-1801.	5.9	18
5	An Innovative Technique for Energy Assessment of a Highly Efficient Photovoltaic Module. Solar, 2022, 2, 321-333.	0.9	1
6	Voltage control in low voltage grids with independent operation of on-load tap changer and distributed photovoltaic inverters. Electric Power Systems Research, 2022, 211, 108187.	2.1	5
7	Module Level Electronic Circuit Based PV Array for Identification and Reconfiguration of Bypass Modules. IEEE Transactions on Energy Conversion, 2021, 36, 380-389.	3.7	18
8	Maintenance Activity, Reliability, Availability, and Related Energy Losses in Ten Operating Photovoltaic Systems up to 1.8 MW. IEEE Transactions on Industry Applications, 2021, 57, 83-93.	3.3	26
9	Energy Evaluation of a PV-Based Test Facility for Assessing Future Self-Sufficient Buildings. Energies, 2021, 14, 329.	1.6	15
10	Reliability Analysis and Repair Activity for the Components of 350 kW Inverters in a Large Scale Grid-Connected Photovoltaic System. Electronics (Switzerland), 2021, 10, 564.	1.8	19
11	Self-Consumption and Self-Sufficiency in Photovoltaic Systems: Effect of Grid Limitation and Storage Installation. Energies, 2021, 14, 1591.	1.6	45
12	A New Configuration of Paralleled Modular ANPC Multilevel Converter Controlled by an Improved Modulation Method for 1 MHz, 1 MW EV Charger. IEEE Transactions on Industry Applications, 2021, 57, 3164-3178.	3.3	29
13	An Innovative Correction Method of Wind Speed for Efficiency Evaluation of Wind Turbines. Acta IMEKO (2012), 2021, 10, 46.	0.4	13
14	A Multilevel 30-Sided Space Vector Structure With Congruent Triangles and Timing Calculation Using Only Sampled Reference Voltages. IEEE Transactions on Industrial Electronics, 2021, 68, 7884-7894.	5.2	4
15	Synergistic freshwater and electricity production using passive membrane distillation and waste heat recovered from camouflaged photovoltaic modules. Journal of Cleaner Production, 2021, 318, 128464.	4.6	21
16	Energetic-Environmental-Economic Feasibility and Impact Assessment of Grid-Connected Photovoltaic System in Wastewater Treatment Plant: Case Study. Energies, 2021, 14, 100.	1.6	13
17	A Novel MPPT Technique Based on Mutual Coordination between Two PV Modules/Arrays. Energies, 2021, 14, 6996.	1.6	6
18	An Innovative Method to Evaluate the Real Performance of Wind Turbines With Respect to the Manufacturer Power Curve: Case Study from Mauritania. , 2021, , .		2

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19	Statistical Validation and Power Modelling of Hourly Profiles for a Large-Scale Photovoltaic Plant Portfolio. , 2021, , .		2
20	Long Term Wind Turbine Performance Analysis Through SCADA Data: A Case Study. , 2021, , .		5
21	Subhour Simulation of a Microgrid of All-Electric nZEBs Based on Italian Market Rules. , 2020, , .		2
22	Benefits of On-Load Tap Changers Coordinated Operation for Voltage Control in Low Voltage Grids with High Photovoltaic Penetration. , 2020, , .		4
23	23-level Single DC Source Hybrid PUC (H-PUC) Converter Topology With Reduced Number of Components: Real-Time Implementation With Model Predictive Control. IEEE Open Journal of the Industrial Electronics Society, 2020, 1, 127-137.	4.8	38
24	E-learning of Electrical Engineering Subjects in the Context of the EU-Mong Educational Project. , 2020, , .		2
25	Determination of Second-Life Battery Capacity and Load Rating for a Standalone E-Bike Charging Station Powered by Hybrid Renewable Energy System. , 2020, , .		1
26	Particle Swarm Optimization â€“ Model Predictive Control for Microgrid Energy Management. , 2020, , .		3
27	Constant Switching Frequency Hierarchical Deadbeat Predictive Direct Power Controller with Dynamic Power Estimator for 3L-ANPC AFE Rectifier for EV Charger Applications. , 2020, , .		5
28	A Novel Procedure to Adjust the Equivalent Circuit Parameters of Photovoltaic Modules under Shading. , 2020, , .		9
29	Forecast-Based V2G Aggregation Model for Day-Ahead and Real-Time Operations. , 2020, , .		14
30	Theoretical and Numerical Study of a Photovoltaic System with Active Fluid Cooling by a Fully-Coupled 3D Thermal and Electric Model. Energies, 2020, 13, 852.	1.6	8
31	Vehicle-to-Home Usage Scenarios for Self-Consumption Improvement of a Residential Prosumer With Photovoltaic Roof. IEEE Transactions on Industry Applications, 2020, 56, 2945-2956.	3.3	29
32	An Implementation of Solar PV Array Based Multifunctional EV Charger. IEEE Transactions on Industry Applications, 2020, , 1-1.	3.3	55
33	Innovative Laboratories for Teaching on Photovoltaic Generation in Higher Education. , 2020, , .		1
34	Experimental Evidence of PID Effect on CIGS Photovoltaic Modules. Energies, 2020, 13, 537.	1.6	22
35	GI-Based Control Scheme for Single-Stage Grid Interfaced SECS for Power Quality Improvement. IEEE Transactions on Industry Applications, 2019, 55, 869-881.	3.3	24
36	Revised Perturb and Observe Approach For Maximum Power Point Tracking Of Photovoltaic Module Using Finite Control Set Model Predictive Control. , 2019, , .		6

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37	Improved Restricted Control Set Model Predictive Control (iRCS-MPC) Based Maximum Power Point Tracking of Photovoltaic Module. IEEE Access, 2019, 7, 149422-149432.	2.6	16
38	Maintenance Activity, Reliability Analysis and Related Energy Losses in Five Operating Photovoltaic Plants. , 2019, , .		12
39	Toward the Complete Self-Sufficiency of an nZEBs Microgrid by Photovoltaic Generators and Heat Pumps: Methods and Applications. IEEE Transactions on Industry Applications, 2019, 55, 7028-7040.	3.3	33
40	A Five-Level Inverter Scheme with Increased Linear Modulation Range. , 2019, , .		0
41	State of the Art of Electricity Generation (2007-2017). E3S Web of Conferences, 2019, 119, 00019.	0.2	0
42	Solar energy, wind energy and storage for the electricity grid of today and tomorrow. E3S Web of Conferences, 2019, 119, 00020.	0.2	0
43	Realization and Use of an IR Camera for Laboratory and On-field Electroluminescence Inspections of Silicon Photovoltaic Modules. , 2019, , .		7
44	Improvement of Self-Sufficiency for an Innovative Nearly Zero Energy Building by Photovoltaic Generators. , 2019, , .		10
45	Optimized Based Algorithm First Order Sliding Mode Control for Grid-Connected Packed E-Cell (PEC) Inverter. , 2019, , .		36
46	Low Frequency Finite Set Model Predictive Control for Seven-Level Modified Packed U-Cell Rectifier. , 2019, , .		26
47	Quality Check during Manufacturing of Custom Photovoltaic Modules with Back-Contact Cells. , 2019, , .		1
48	Voltage Control in Low-Voltage Grids Using Distributed Photovoltaic Converters and Centralized Devices. IEEE Transactions on Industry Applications, 2019, 55, 225-237.	3.3	35
49	Lyapunov-Based Model Predictive Control of a PUC7 Grid-Connected Multilevel Inverter. IEEE Transactions on Industrial Electronics, 2019, 66, 7012-7021.	5.2	51
50	In-field monitoring of eight photovoltaic plants: degradation rate along seven years of continuous operation. Acta IMEKO (2012), 2019, 7, 75.	0.4	10
51	Detection of Typical Defects in Silicon Photovoltaic Modules and Application for Plants with Distributed MPPT Configuration. Energies, 2019, 12, 4547.	1.6	21
52	A Direct PWM Voltage Controller of MPPT & Sizing of DC Loads for Photovoltaic System. IEEE Transactions on Energy Conversion, 2018, 33, 991-1001.	3.7	7
53	An Efficient and Cost-Effective Hybrid MPPT Method for a Photovoltaic Flyback Microinverter. IEEE Transactions on Sustainable Energy, 2018, 9, 1137-1144.	5.9	52
54	Closed-Form Modulation of a Dual-Active-Bridge Based Capacitorless Charger for Electric Vehicles. , 2018, , .		3

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55	Technical Solutions and Standards Upgrade for Photovoltaic Systems Operated Over 1500 Vdc. , 2018, , .		6
56	Variable Parameters for a Single Exponential Model of Photovoltaic Modules in Crystalline-Silicon. Energies, 2018, 11, 2138.	1.6	10
57	Self-Consumption Improvement for a Nanogrid with Photovoltaic and Vehicle-to-Home Technologies. , 2018, , .		6
58	Improved Voltage Controlled Three Phase Voltage Source Inverter Using Model Predictive Control for Standalone System. , 2018, , .		10
59	Harmonic distortion and unbalance analysis in multi-inverter photovoltaic systems. , 2018, , .		9
60	MPPT technique based on improved evaluation of photovoltaic parameters for uniformly irradiated photovoltaic array. Electric Power Systems Research, 2017, 145, 248-263.	2.1	22
61	PV system integration in buildings: An energy and economic case study. , 2017, , .		7
62	Uncertainty issues in the experimental assessment of degradation rate of power ratings in photovoltaic modules. Measurement: Journal of the International Measurement Confederation, 2017, 111, 432-440.	2.5	15
63	A hybrid maximum power point tracking method for photovoltaic applications with reduced offline measurements. , 2017, , .		9
64	Development and assessment of a solar home system to cover cooking and lighting needs in developing regions as a better alternative for existing practices. Solar Energy, 2017, 155, 7-17.	2.9	27
65	Assessment of unbalance and distortion components in three-phase systems with harmonics and interharmonics. Electric Power Systems Research, 2017, 147, 201-212.	2.1	19
66	Simulation of sun tracking system for point focus fresnel collector. , 2017, , .		1
67	An MPPT technique for unshaded/shaded photovoltaic array based on transient evolution of series capacitor. Solar Energy, 2017, 157, 377-389.	2.9	18
68	Voltage control in low voltage grids: A comparison between the use of distributed photovoltaic converters or centralized devices. , 2017, , .		9
69	A Single-Stage Stand-Alone Photovoltaic Energy System With High Tracking Efficiency. IEEE Transactions on Sustainable Energy, 2017, 8, 755-762.	5.9	40
70	A Stability and Accuracy Validation Method for Multirate Digital Simulation. IEEE Transactions on Industrial Informatics, 2017, 13, 512-519.	7.2	14
71	Finite element simulation of hydro generators with rotor inter turn short circuit. , 2017, , .		11
72	Experimental investigations to characterize power quality of AC supplied thermoelectric refrigerators. , 2017, , .		2

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73	How much is the advisable self-sufficiency of aggregated prosumers with photovoltaic-wind power and storage to avoid grid upgrades?. , 2017, , .		7
74	Maximization of Self-Sufficiency with Grid Constraints: PV Generators, Wind Turbines and Storage to Feed Tertiary Sector Users. , 2017, , .		4
75	Comparison between isolated and non-isolated DC/DC converters for bidirectional EV chargers. , 2017, , .		20
76	Ground currents in a photovoltaic power plant: Theoretical approach and experimental tests. , 2017, , .		2
77	Error Assessment of Solar Irradiance Forecasts and AC Power from Energy Conversion Model in Grid-Connected Photovoltaic Systems. Energies, 2016, 9, 8.	1.6	19
78	Renewable sources with storage for cost-effective solutions to supply commercial loads. , 2016, , .		13
79	Carrier based PWM for even power distribution in cascaded H-bridge multilevel inverters within single power cycle. , 2016, , .		10
80	A short-term spatio-temporal approach for Photovoltaic power forecasting. , 2016, , .		9
81	Compressive Spatio-Temporal Forecasting of Meteorological Quantities and Photovoltaic Power. IEEE Transactions on Sustainable Energy, 2016, 7, 1295-1305.	5.9	63
82	Thermalâ€“electrical model for energy estimation of a water cooled photovoltaic module. Solar Energy, 2016, 133, 119-140.	2.9	38
83	Power Quality Enhancement Using DSTATCOM in Distributed Power Generation System. IEEE Transactions on Industry Applications, 2016, 52, 5203-5212.	3.3	60
84	Modeling and optimal operation of a university campus microgrid. , 2016, , .		9
85	A method for obtaining the I-V curve of photovoltaic arrays from module voltages and its applications for MPP tracking. Solar Energy, 2016, 139, 489-505.	2.9	28
86	Best compromise of net power gain in a cooled photovoltaic system. , 2016, , .		8
87	Optimal size of photovoltaic systems with storage for office and residential loads in the Italian net-billing scheme. , 2016, , .		9
88	Real-Time Simulation-Based Multisolver Decoupling Technique for Complex Power-Electronics Circuits. IEEE Transactions on Power Delivery, 2016, 31, 2313-2321.	2.9	27
89	Converter Design for a Railway Voltage Booster Using Two Simulators. , 2015, , .		0
90	Probabilistic Harmonic Power Flow Calculations with Uncertain and Correlated Data. , 2015, , 95-154.		0

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91	Supraharmonics: Concepts and experimental results on photovoltaic systems. , 2015, , .		15
92	Choice of the most suitable wind turbine in the installation site: A case study. , 2015, , .		9
93	Pulsed Injection Braking for EV Power Train: Fault Tolerant Application for Hybrid and Electric Vehicle (HEV - EV). , 2015, , .		2
94	Electricity consumption assessment and PV system integration in grid-connected office buildings. , 2015, , .		6
95	A distribution grid tied multifunctional SPV system operating with control approach based on decoupled adaptive neural network. , 2015, , .		5
96	Performance enhancement of a flyback photovoltaic inverter using hybrid maximum power point tracking. , 2015, , .		5
97	Micro-multigeneration modelling and operational assessment for residential applications. , 2015, , .		1
98	Matching between electric generation and load: Hybrid PV-wind system and tertiary-sector users. , 2015, , .		9
99	Neural Network Controller to Manage the Power Flow of a Hybrid Source for Electric Vehicles. , 2015, , .		14
100	A power and energy procedure in operating photovoltaic systems to quantify the losses according to the causes. Solar Energy, 2015, 118, 313-326.	2.9	47
101	Capacitor charging method for Iâ€“V curve tracer and MPPT in photovoltaic systems. Solar Energy, 2015, 119, 461-473.	2.9	83
102	A New Sensorless Hybrid MPPT Algorithm Based on Fractional Short-Circuit Current Measurement and P&O MPPT. IEEE Transactions on Sustainable Energy, 2015, 6, 1426-1434.	5.9	313
103	Single-Phase Power Generation Employing VFC for Stand-Alone Three-Phase Doubly Wound Asynchronous Generator. IEEE Transactions on Industry Applications, 2015, 51, 4785-4796.	3.3	2
104	Power Factor Correction in Bridgeless-Luo Converter-Fed BLDC Motor Drive. IEEE Transactions on Industry Applications, 2015, 51, 1179-1188.	3.3	73
105	An experimental procedure to check the performance degradation on-site in grid-connected photovoltaic systems. , 2014, , .		11
106	Real-time simulation of modular multilevel converter on FPGA with sub-microsecond time-step. , 2014, , .		5
107	A Network Tearing Technique for FPGA-Based Real-Time Simulation of Power Converters. IEEE Transactions on Industrial Electronics, 2014, , 1-1.	5.2	44
108	Control of Reduced-Rating Dynamic Voltage Restorer With a Battery Energy Storage System. IEEE Transactions on Industry Applications, 2014, 50, 1295-1303.	3.3	133

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109	A maximum power point tracking technique based on bypass diode mechanism for PV arrays under partial shading. Energy and Buildings, 2014, 73, 13-25.	3.1	68
110	Characterization of solar irradiance profiles for photovoltaic system studies through data rescaling in time and amplitude. , 2014, , .		4
111	Uncertainty analysis of degradation parameters estimated in long-term monitoring of photovoltaic plants. Measurement: Journal of the International Measurement Confederation, 2014, 55, 641-649.	2.5	12
112	Weather forecast-based power predictions and experimental results from photovoltaic systems. , 2014, , .		6
113	A single-phase transformerless active filter with reduced DC-link voltage. , 2014, , .		9
114	Power conditioning units in grid-connected photovoltaic systems: A comparison with different technologies and wide range of power ratings. Solar Energy, 2014, 108, 219-229.	2.9	51
115	Experimental Indicators of Current Unbalance in Building-Integrated Photovoltaic Systems. IEEE Journal of Photovoltaics, 2014, 4, 924-934.	1.5	25
116	Which are the constraints to the photovoltaic grid-parity in the main European markets?. Solar Energy, 2014, 105, 390-400.	2.9	47
117	â€œSRF Theory Revisitedâ€•to Control Self-Supported Dynamic Voltage Restorer (DVR) for Unbalanced and Nonlinear Loads. IEEE Transactions on Industry Applications, 2013, 49, 2330-2340.	3.3	157
118	PV Module Parameter Characterization From the Transient Charge of an External Capacitor. IEEE Journal of Photovoltaics, 2013, 3, 1325-1333.	1.5	42
119	On the performance of the double-diode model in estimating the maximum power point for different photovoltaic technologies. Measurement: Journal of the International Measurement Confederation, 2013, 46, 3549-3559.	2.5	44
120	Economic analysis of investment in the rooftop photovoltaic systems: A long-term research in the two main markets. Renewable and Sustainable Energy Reviews, 2013, 28, 531-540.	8.2	65
121	Monitoring and checking of performance in photovoltaic plants: A tool for design, installation and maintenance of grid-connected systems. Renewable Energy, 2013, 60, 722-732.	4.3	46
122	Power quality improved bridgeless converter based multiple output SMPS. , 2013, , .		1
123	Accurate measurements of solar irradiance for evaluation of photovoltaic power profiles. , 2013, , .		8
124	Variable step learning control algorithm for VSC based shunt compensator. , 2013, , .		1
125	A comparative study of adaptive control algorithms in Distribution Static Compensator. , 2013, , .		21
126	A Lyapunov-Function-Based Control for a Three-Phase Shunt Hybrid Active Filter. IEEE Transactions on Industrial Electronics, 2012, 59, 1418-1429.	5.2	185

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127	Three-Phase Current-Injection Rectifiers: Competitive Topologies for Power Factor Correction. IEEE Industrial Electronics Magazine, 2012, 6, 24-40.	2.3	30
128	Power factor correction and zero voltage regulation in distribution system using DSTATCOM. , 2012, , .		12
129	DFIG equivalent circuit and mismatch assessment between manufacturer and experimental power-wind speed curves. Renewable Energy, 2012, 48, 333-343.	4.3	17
130	Limits of Advisability for Masterâ€“Slave Configuration of DCâ€“AC Converters in Photovoltaic Systems. IEEE Journal of Photovoltaics, 2012, 2, 547-554.	1.5	23
131	A Novel Six-Band Hysteresis Control for the Packed U Cells Seven-Level Converter: Experimental Validation. IEEE Transactions on Industrial Electronics, 2012, 59, 3808-3816.	5.2	133
132	An advanced control algorithm for Series hybrid active filter adopting UPQC behavior. , 2012, , .		13
133	Implementation of adaptive filter based control algorithm for Distribution Static Compensator. , 2012, , .		13
134	A novel transformerless hybrid series active filter. , 2012, , .		18
135	Inverters for grid connection of photovoltaic systems and power quality: Case studies. , 2012, , .		15
136	Storage sizing procedure and experimental verification of stand-alone photovoltaic systems. , 2012, , .		8
137	Grid integration aspects of large solar PV installations: LVRT capability and reactive power/voltage support requirements. , 2011, , .		121
138	Sliding-Mode Robot Control With Exponential Reaching Law. IEEE Transactions on Industrial Electronics, 2011, 58, 600-610.	5.2	403
139	Packed U Cells Multilevel Converter Topology: Theoretical Study and Experimental Validation. IEEE Transactions on Industrial Electronics, 2011, 58, 1294-1306.	5.2	391
140	Non-linear Optimization Approach to Determine Parameters of Small Salient-pole Synchronous Machines from the Short-circuit Test. Electric Power Components and Systems, 2010, 38, 1076-1096.	1.0	0
141	Flexible synchronous PWM control of cascaded inverters for photovoltaic generation. , 2010, , .		1
142	Experimental assessment of the waveform distortion in grid-connected photovoltaic installations. Solar Energy, 2009, 83, 1026-1039.	2.9	98
143	DSP-Based Implementation of an LQR With Integral Action for a Three-Phase Three-Wire Shunt Active Power Filter. IEEE Transactions on Industrial Electronics, 2009, 56, 2821-2828.	5.2	91
144	Design, study, modeling and control of a modified Sheppard-Taylor PFC. , 2009, , .		4

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145	Protections impact on the availability of a wind power plant operating in real conditions. , 2009, , .		5
146	Electrical Impact of Photovoltaic Plant in Distributed Network. IEEE Transactions on Industry Applications, 2009, 45, 341-347.	3.3	118
147	Harmonic voltage distortion generated by grid-connected photovoltaic generators. , 2009, , .		1
148	An Efficient Approach to Design Discrete Packaging of BidirectionalResonant Power Switch for Matrix Converter Applications. IEEE Transactions on Power Electronics, 2008, 23, 2195-2200.	5.4	17
149	Small-signal averaged model and carrier-based linear control of a new Sheppard-Taylor-based PFC. , 2008, , .		7
150	Voltage and frequency controller for an autonomous micro hydro generating system. , 2008, , .		14
151	Sensorless Nonlinear Control of a Three-Phase/ Switch/ Level Vienna Rectifier Based on a Numerical Reconstruction of DC and AC Voltages. , 2008, , .		2
152	Transient Modeling of Squirrel-Cage Induction Machine Considering Air-Gap Flux Saturation Harmonics. IEEE Transactions on Industrial Electronics, 2008, 55, 2798-2809.	5.2	42
153	Operational characteristics of a 27-MW wind farm from experimental data. , 2008, , .		6
154	Electrical Impact of Photovoltaic Plant in Distributed Network. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	2
155	Performance of Grid-Connected Photovoltaic Systems in Fixed and Sun-Tracking Configurations. , 2007, , .		16
156	Averaged Model Based Control of a Sheppard-Taylor PFC with Nonlinearity Compensation. , 2007, , .		10
157	Application of the New Quasi-Linear Control Theory to the AC Current Shaping and DC Voltage Regulation of a Three-Phase boost-type AC/DC Vienna Converter Under Very Severe Operating Conditions. , 2007, , .		1
158	An Improved Control Algorithm for Active Filters. IEEE Transactions on Power Delivery, 2007, 22, 1009-1020.	2.9	67
159	Experimental Evaluation of Unbalance and Distortion Indicators in Three-Phase Systems with Neutral. , 2007, , .		9
160	Small-Signal Averaged Model and Carrier-Based Linear Control of a Sheppard-Taylor PFC. , 2007, , .		11
161	Photovoltaic applications. Journal of Materials Processing Technology, 2007, 181, 267-273.	3.1	27
162	Experimental Analysis of Wind Farms connected to the High Voltage Grid: the Viewpoint of Power Quality. , 2006, , .		9

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163	Characterisation and assessment of the harmonic emission of grid-connected photovoltaic systems. , 2005, , .		26
164	A Smart Battery Management System for Photovoltaic Plants in Households Based on Raw Production Forecast. , 0, , .		3