Enrique Romero-Cadaval

List of Publications by Year
in descending order

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166 papers	3,541 citations	361296 20 h-index	161767 54 g-index
171 all docs	171 docs citations	171 times ranked	2771 citing authors

#	Article	IF	Citations
1	Isolated High-Frequency Link PFC Rectifier With High Step-Down Factor and Reduced Energy Circulation. IEEE Journal of Emerging and Selected Topics in Industrial Electronics, 2022, 3, 788-796.	3.0	12
2	Transactive Energy: Power Electronics Challenges. IEEE Power Electronics Magazine, 2022, 9, 20-32.	0.6	10
3	Three-Level T-Type Quasi-Z Source PV Grid-Tied Inverter With Active Power Filter Functionality Under Distorted Grid Voltage. IEEE Access, 2022, 10, 44503-44516.	2.6	11
4	Improved Operation Strategy for the High Voltage Input Stage of a Multi-Port Smart Transformer. Energies, 2022, 15, 3778.	1.6	2
5	Single-Phase String Solar qZS-based Inverter: Example of Multi-Objective Optimization Design. IEEE Transactions on Industry Applications, 2021, 57, 3120-3130.	3.3	18
6	A New Approach to the PWM Modulation for the Multiphase Matrix Converters Supplying Loads with Open-End Winding. Energies, 2021, 14, 466.	1.6	1
7	Electric Vehicle Charging Infrastructure: From Grid to Battery. IEEE Industrial Electronics Magazine, 2021, 15, 37-51.	2.3	130
8	Improved Three-Phase Integrated Charger Converter Connected to Single-Phase Grid With Torque Cancellation. IEEE Access, 2021, 9, 108266-108275.	2.6	5
9	The Conceptual Research over Low-Switching Modulation Strategy for Matrix Converters with the Coupled Reactors. Energies, 2021, 14, 675.	1.6	0
10	A Comprehensive Control Strategy for Multibus Nanogrids With Power Exchange Between Prosumers. IEEE Access, 2021, 9, 104281-104293.	2.6	5
11	Modulation strategy and control of Modular Cascade H-Bridge Converters as Input-side of a Multi-port Smart Transformer. , 2021, , .		2
12	Power-Flow-Based Secondary Control for Autonomous Droop-Controlled AC Nanogrids With Peer-to-Peer Energy Trading. IEEE Access, 2021, 9, 22339-22350.	2.6	18
13	Grid-Connected Three-Phase 3L-T-type qZS Inverter for Renewable Energy. , 2020, , .		2
14	Quasi-Z Source T-Type Power Converter for PV Based Commercial and Industrial Nanogrids with Active Functions Strategy. Electronics (Switzerland), 2020, 9, 1233.	1.8	1
15	Analysis of Skin Effect in Single Wire Resistance by Finite Element Methods. , 2020, , .		6
16	Control and operation of a threeâ€phase local energy router for prosumers in a smart community. IET Renewable Power Generation, 2020, 14, 560-570.	1.7	18
17	Secondary Control for Storage Power Converters in Isolated Nanogrids to Allow Peer-to-Peer Power Sharing. Electronics (Switzerland), 2020, 9, 140.	1.8	7
18	Determination of wire resistance caused by skin effect using modified 3D finite element model. Electrical Engineering, 2020, 102, 1513-1520.	1.2	0

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19	Improvements on a Sensorless Scheme for a Surface-Mounted Permanent Magnet Synchronous Motor Using Very Low Voltage Injection. Energies, 2020, 13, 2732.	1.6	9
20	Demand and Storage Management in a Prosumer Nanogrid Based on Energy Forecasting. Electronics (Switzerland), 2020, 9, 363.	1.8	6
21	Per-Unit Hysteresis and Eddy Loss Method Based on 3D Finite Elements for Non-Symmetric Toroidal Magnetic. IEEE Access, 2020, 8, 34919-34928.	2.6	1
22	Novel Space Vector Pulsewidth Modulation Strategies for Single-Phase Three-Level NPC Impedance-Source Inverters. IEEE Transactions on Power Electronics, 2019, 34, 4820-4830.	5.4	29
23	Improvements on the Carrier-Based Control Method for a Three-Level T-Type, Quasi-Impedance-Source Inverter. Electronics (Switzerland), 2019, 8, 677.	1.8	8
24	Photovoltaic Power Converter Management in Unbalanced Low Voltage Networks with Ancillary Services Support. Energies, 2019, 12, 972.	1.6	13
25	Advantages of Minimizing Energy Exchange Instead of Energy Cost in Prosumer Microgrids. Energies, 2019, 12, 719.	1.6	29
26	Efficiency Map Comparison of Induction and Synchronous Reluctance Motors. , 2019, , .		24
27	Comprehensive Comparative Analysis of Impedance-Source Networks for DC and AC Application. Electronics (Switzerland), 2019, 8, 405.	1.8	19
28	Grid-Connected Single-Phase 3L-T-type qZS Inverter for Renewable Energy. , 2019, , .		2
29	Analysis of Bidirectional Buck/Boost Converter for Energy Storage System. , 2019, , .		0
30	Efficiency Study of the Single-Phase Solar qZS-based Inverter. , 2019, , .		3
31	Control Strategy for Electric Vehicle Charging Station Power Converters with Active Functions. Energies, 2019, 12, 3971.	1.6	16
32	Optimal Charge/Discharge Scheduling of Batteries in Microgrids of Prosumers. IEEE Transactions on Energy Conversion, 2019, 34, 468-477.	3.7	64
33	Smart Community Electric Energy Micro-Storage Systems With Active Functions. IEEE Transactions on Industry Applications, 2018, 54, 1975-1982.	3.3	18
34	Carrier Level-Shifted Based Control Method for the PWM 3L-T-Type qZS Inverter With Capacitor Imbalance Compensation. IEEE Transactions on Industrial Electronics, 2018, 65, 8297-8306.	5.2	50
35	Improved Forecasting-Based Battery Energy Management Strategy for Prosumer Systems. , 2018, , .		1
36	Single-Phase Three-Level qZ-Source Inverter Connected to the Grid with Battery Storage and Active Power Decoupling Function. , 2018, , .		1

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37	Buck-Boost Unfolder Inverter as a Novel Solution for Single-Phase PV Systems. , 2018, , .		6
38	Resilient Energy Harvesting System for Independent Monitoring Nodes. IFIP Advances in Information and Communication Technology, 2018, , 274-281.	0.5	0
39	Efficiency and loss distribution analysis of the 3L-Active NPC qZS inverter. , 2018, , .		3
40	Single-phase qZS-based PV inverter with integrated battery storage for distributed energy generation. , 2018, , .		4
41	Novel quasi-Z-source derived inverter with unfolding circuit and battery storage. , 2018, , .		2
42	Noise, Vibration and Harshness on a Permanent Magnet Synchronous Motor for a Remote Laboratory. IFIP Advances in Information and Communication Technology, 2017, , 382-389.	0.5	0
43	Active power flow strategies for bidirectional Energy Storage Units in smart communities. , 2017, , .		0
44	Passive power decoupling approach for three-level single-phase impedance Source Inverter based on resonant and PID controllers. , 2017, , .		11
45	Evaluation of losses in three-level neutral-point-clamped and T-type quasi-Z-source inverters with modified carrier based modulation method. , 2017, , .		1
46	Electric vehicle monitoring system by using MATLAB/App Designer. , 2017, , .		7
47	Three-level single-phase quasi-Z source inverter with active power decoupling circuit. , 2017, , .		7
48	Controlling a battery energy storage system to support residential photovoltaic installations. , 2017, , .		2
49	Energy management strategy to coordinate batteries and ultracapacitors of a hybrid energy storage system in a residential prosumer installation. , 2017, , .		7
50	Maximum boost control for interleaved single-phase Quasi-Z-Source inverter. , 2017, , .		12
51	Interleaved single-phase quasi-Z-source inverter with special modulation technique. , 2017, , .		10
52	Modified DQ control approach for three-phase inverter. , 2017, , .		3
53	A Smart Power Electronic Multiconverter for the Residential Sector. Sensors, 2017, 17, 1217.	2.1	16
54	Active, Reactive and Harmonic Control for Distributed Energy Micro-Storage Systems in Smart Communities Homes. Energies, 2017, 10, 448.	1.6	8

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55	Comprehensive study of the benefits of integrating a sharing energy strategy between prosumers. , 2017, , .		2
56	Software design to calculate and simulate the mechanical response of electromechanical lifts. Journal of Physics: Conference Series, 2016, 721, 012009.	0.3	0
57	Hysteresis current control with distributed shootâ€through states for impedance source inverters. International Journal of Circuit Theory and Applications, 2016, 44, 783-797.	1.3	10
58	Mining sequential patterns to efficiently manage Energy Storage Systems within smart home buildings. Journal of Ambient Intelligence and Smart Environments, 2016, 8, 287-300.	0.8	2
59	Control scheme of a Three-Phase Three-Level NPC qZ-Source inverter with LCL filter for RES applications. , 2016, , .		7
60	A cooperative converter for managing low-voltage energy storage systems. , 2016, , .		1
61	A grid-connected PV system based on a four wire dual-buck inverter with ancillary services support. , 2016, , .		3
62	Review of Novel Topologies for PV Applications. IFIP Advances in Information and Communication Technology, 2016, , 369-377.	0.5	0
63	Comparison of Impedance-Source Networks for Two and Multilevel Buckâ€"Boost Inverter Applications. IEEE Transactions on Power Electronics, 2016, 31, 7564-7579.	5.4	95
64	Local energy micro-storage systems in smart communities with active, reactive and harmonic control. , 2016, , .		2
65	Single-phase 3L PR controlled qZS inverter connected to the distorted grid. , 2016, , .		8
66	Active and reactive power control strategies for electric vehicles in smart grids. , 2016, , .		4
67	Photovoltaic inverter with smart grid functions. , 2016, , .		2
68	Three-level three-phase quasi-Z-source neutral-point-clamped inverter with novel modulation technique for photovoltaic application. Electric Power Systems Research, 2016, 130, 10-21.	2.1	69
69	New Operation Strategy for a Grid-Connected Three-Phase Three-Level NPC qZS Inverter Based on Power Losses. Elektronika Ir Elektrotechnika, 2016, 22, .	0.4	1
70	Gridâ€connected photovoltaic power plants for helping node voltage regulation. IET Renewable Power Generation, 2015, 9, 236-244.	1.7	27
71	Using Plug-in Electric Vehicles to Implement Ancillary Services in Smart Distribution Grids. Power Systems, 2015, , 309-349.	0.3	2
72	Design and evaluation of a base module of active power electronic transformer. , 2015, , .		1

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73	Single phase threeâ€level neutralâ€pointâ€clamped quasiâ€Zâ€source inverter. IET Power Electronics, 2015, 8, 1-10.	1.5	156
74	Simulation study of the grid-connected single-phase impedance-sourced NPC inverter with different control methods. , 2015, , .		9
75	Code development of a DSP-FPGA based control platform for power electronics applications. , 2015, , .		0
76	Grid-Connected Photovoltaic Plants: An Alternative Energy Source, Replacing Conventional Sources. IEEE Industrial Electronics Magazine, 2015, 9, 18-32.	2.3	98
77	Analysis of Causes and Effects of Harmonic Distortion in Electric Power Systems and Solutions to Comply with International Standards Regarding Power Quality. IFIP Advances in Information and Communication Technology, 2015, , 357-364.	0.5	2
78	Three-phase three-level neutral-point-clamped qZ source inverter with active filtering capabilities. , 2015, , .		4
79	Operation strategy and shoot-through indirect control method for three-phase Z-souree inverters. , 2015, , .		0
80	Supraharmonics from power electronics converters. , 2015, , .		32
81	Single-phase power electronics transformer with active functions for smart grid. , 2015, , .		2
82	Overview of plug-in electric vehicles as providers of ancillary services. , 2015, , .		15
83	Carrier based modulation with capacitor balancing for three-level neutral-point-clamped qZS inverter. , 2015, , .		5
84	A novel active battery equalization control with on-line unhealthy cell detection and cell change decision. Journal of Power Sources, 2015, 299, 356-370.	4.0	82
85	Voltage Distortion Approach for Output Filter Design for Off-Grid and Grid-Connected PWM Inverters. Journal of Power Electronics, 2015, 15, 278-287.	0.9	29
86	Distributed smart metering by using power electronics systems. , 2014, , .		1
87	Battery Equalization Control Based on the Shunt Transistor Method. Electrical, Control and Communication Engineering, 2014, 7, 20-27.	0.4	4
88	A battery cell balancing method with linear mode bypass current control. , 2014, , .		3
89	P and Q control strategy for single phase Z/qZ source inverter based on d-q frame. , 2014, , .		2
90	Electric vehicle multiport fast charger based on the concept of active power electronic transformer. , 2014, , .		4

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91	Experimental tests of High Impedance Faults in MV rural distribution network. , 2014, , .		4
92	Design of a simple modular active power electronic transformer. , 2014, , .		3
93	New hysteresis current control for grid connected single-phase three-level quasi-Z-source inverter. , 2014, , .		4
94	Point of common coupling voltage regulation with photovoltaic power plant infrastructures. , 2014, , .		4
95	Grid reactive power compensation by using electric vehicles. , 2014, , .		27
96	Grid-connected PV plants. Power quality and technical requirements. , 2014, , .		19
97	Hybrid low-power Wind Generation and PV gridconnected system with HPC, PC and MPPT control. , 2014, , .		1
98	Battery equalization active methods. Journal of Power Sources, 2014, 246, 934-949.	4.0	432
99	Power converter interfaces for electrochemical energy storage systems â€“ A review. Energy Conversion and Management, 2014, 86, 453-475.	4.4	211
100	Generic Losses Model for Traditional Inverters and Neutral Point Clamped Inverters. Elektronika Ir Elektrotechnika, 2014, 20, .	0.4	7
101	PWM for Single Phase 3L Z/qZ-Source Inverter with Balanced Power Losses. Elektronika Ir Elektrotechnika, 2014, 20, .	0.4	11
102	Distributed Smart Metering by Using Power Electronics Systems. IFIP Advances in Information and Communication Technology, 2014, , 289-296.	0.5	0
103	An Innovator Nonintrusive Method for Disaggregating and Identifying Two Simultaneous Household Loads. IFIP Advances in Information and Communication Technology, 2014, , 297-304.	0.5	0
104	Grid-connected PV system based on a single-phase three-level qZS inverter. , 2013, , .		1
105	Supercapacitor energy storage system for attenuating and conditioning power from photovoltaic generation plants. , 2013, , .		2
106	Comparison of three MPPT algorithms for three-level neutral-point-clamped qz-source inverter. , 2013, , .		13
107	Cooperative operation of inverters for grid-connected photovoltaic generation systems. Electric Power Systems Research, 2013, 96, 47-55.	2.1	8
108	Low-power home PV systems with MPPT and PC control modes. , 2013, , .		22

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109	Active functions implementation in smart inverters for distributed energy resources. , 2013, , .		12
110	Grid-Connected Photovoltaic Generation Plants: Components and Operation. IEEE Industrial Electronics Magazine, 2013, 7, 6-20.	2.3	380
111	Output filter design for grid connected single phase three-level quasi-Z-source inverter. , 2013, , .		4
112	Three-Level Neutral-Point-Clamped Quasi-Z-Source Inverter with Maximum Power Point Tracking forÂPhotovoltaic Systems. IFIP Advances in Information and Communication Technology, 2013, , 334-342.	0.5	13
113	Active power electronic transformer as a power conditioner for nonlinear loads. , 2013, , .		4
114	Active power electronic transformer based on modular building blocks. , 2013, , .		2
115	Active Battery Balancing for Battery Packs. Electrical, Control and Communication Engineering, 2013, 2, 40-46.	0.4	11
116	Cooperative converter for improving the performance of gridâ€connected photovoltaic power plants. IET Renewable Power Generation, 2013, 7, 110-117.	1.7	12
117	A standard-based software infrastructure to support weather forecasting in distributed energy systems. , 2013, , .		0
118	Experimental Investigation of high frequency 3L-NPC qZS inverter for photovoltaic application. , 2013, , .		19
119	Optimized energy consumption management for residential applications controlled by a Local Energy Management Unit. , 2013, , .		2
120	Low-power wind generation grid-connected system with MPPT and PC control. , 2013, , .		0
121	Failure analysis of inverter based anti-islanding systems in photovoltaic islanding events. , 2013, , .		2
122	Active power injection control of a photovoltaic system through ultracapacitor storage. , 2013, , .		3
123	Issues and improvements of hardware/software co-design sensorless implementation in a permanent magnet synchronous motor using Veristand. , 2013, , .		2
124	PSCAD/EMTDC model for photovoltaic modules with MPPT based on manufacturer specifications. , 2013, , .		5
125	Community and Residential Energy Storage in Smart Grids. IFIP Advances in Information and Communication Technology, 2013, , 315-322.	0.5	3
126	Simulation of Grid Connected Three-Level Neutral-Point-Clamped qZS Inverter using PSCAD. Electrical, Control and Communication Engineering, 2013, 2, 14-19.	0.4	8

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127	PV Array Emulator for Testing Commercial PV Inverters. Elektronika Ir Elektrotechnika, 2013, 19, .	0.4	18
128	Local Energy Management Unit for Residential Applications. Elektronika Ir Elektrotechnika, 2013, 19, .	0.4	3
129	Development of a Photovoltaic Array Emulator in a Real Time Control Environment Using xPC Target. IFIP Advances in Information and Communication Technology, 2013, , 325-333.	0.5	3
130	Intelligent Energy Management System for Residential and Community Applications. IFIP Advances in Information and Communication Technology, 2013, , 307-314.	0.5	1
131	Three-phase single stage photovoltaic inverter with active filtering capabilities. , 2012, , .		13
132	Comparison of two power flow control strategies for photovoltaic inverters. , 2012, , .		9
133	A novel nonintrusive load monitoring system based on the S-Transform. , 2012, , .		18
134	Simulation Study of Different Modulation Techniques for Three-Level Quasi-Z-Source Inverter. Electrical, Control and Communication Engineering, 2012, 1, 11-17.	0.4	8
135	Effect of controller coefficients and converter switching frequency on performance and efficiency of electric drives used in electrical vehicles. International Journal of Vehicle Design, 2012, 58, 325.	0.1	3
136	State of the art of active power electronic transformers for smart grids. , 2012, , .		13
137	CCM operation analysis of the single-phase three-level quasi-Z-source inverter. , 2012, , .		22
138	Single phase three-level quasi-z-source inverter with a new boost modulation technique. , 2012, , .		29
139	Electric vehicle battery charger for smart grids. Electric Power Systems Research, 2012, 90, 18-29.	2.1	78
140	ESTRATEGIA PARA LA CORRECION GLOBAL DE LA CALIDAD EN REDES DE DISTRIBUCION. Dyna (Spain), 2012, 87, 354-360.	0.1	0
141	Integration of active power filters in a harmonic load flow algorithm for optimizing location and strategy. , 2011, , .		4
142	Analysis and optimization of sinusoidal Voltage Source Inverter losses for variable output power applications. , 2011, , .		6
143	Three-phase bidirectional battery charger for smart electric vehicles. , 2011, , .		22
144	A new criterion for selecting the inductors of an Active Power Line Conditioner. , 2011, , .		5

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145	Three-phase regenerative electronic load to test shunt power conditioners. , 2011, , .		8
146	Hybrid Multiconverter Conditioner Topology for High-Power Applications. IEEE Transactions on Industrial Electronics, 2011, 58, 2283-2292.	5.2	36
147	Optimization of Losses in Permanent Magnet Synchronous Motors for Electric Vehicle Application. International Federation for Information Processing, 2011, , 502-509.	0.4	1
148	Hall-Effect Based Semi-Fast AC On-Board Charging Equipment for Electric Vehicles. Sensors, 2011, 11, 9313-9326.	2.1	17
149	Cooperative converters in power electronic systems. , 2010, , .		9
150	Power injection system for photovoltaic plants based on a multiconverter topology with DC-link capacitor voltage balancing. , 2010, , .		4
151	Three-phase PWM sinusoidal current rectifier with power conditioning capability. , 2009, , .		2
152	Comparison of controllers for a three-phase Phase Locked Loop system under distorted conditions. , 2009, , .		8
153	Quality meter of electric power systems based on IEEE Standard 1459-2000. , 2009, , .		8
154	Power Injection System for Grid-Connected Photovoltaic Generation Systems Based on Two Collaborative Voltage Source Inverters. IEEE Transactions on Industrial Electronics, 2009, 56, 4389-4398.	5.2	49
155	Overview of medium scale energy storage systems. , 2009, , .		27
156	Power injection system for photovoltaic generation plants with active filtering capability. , 2009, , .		3
157	Editorial [general conference information and history]. , 2009, , .		0
158	A novel Fundamental Voltage Synchronization control strategy for shunt single-phase and three-phase active power filters. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	3
159	Novel method for synchronization to disturbed three-phase and single-phase systems. , 2007, , .		20
160	Hybrid Power Line Conditioner Based on Two Parallel Converters Topology. , 2007, , .		4
161	Power Injection Control System and Experimental Model based on Manufacturer Characteristic Curves for a Photovoltaic Generation System. , 2007, , .		12
162	Comparison of Control Strategies for Shunt Active Power Filters in Three-Phase Four-Wire Systems. IEEE Transactions on Power Electronics, 2007, 22, 229-236.	5.4	456

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163	PI vs Fractional PI for the Control of a Shunt Active Power Filter. , 2007, , .		1
164	A Modified Switching Signal Generation Technique to Minimize the RMS Tracking Error in Active Filters. IEEE Transactions on Power Electronics, 2005, 20, 1118-1124.	5.4	7
165	Analysis of the Electromagnetic Behaviour of a Variable-Waveform-Supplied Iron Core Inductor, Modelled with Finite Elements. , 2005, , 167-172.		0
166	Active power line conditioner based on two parallel converters topology. , 0, , .		10