

# 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	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
2	Battery equalization active methods. Journal of Power Sources, 2014, 246, 934-949.	4.0	432
3	Grid-Connected Photovoltaic Generation Plants: Components and Operation. IEEE Industrial Electronics Magazine, 2013, 7, 6-20.	2.3	380
4	Power converter interfaces for electrochemical energy storage systems – A review. Energy Conversion and Management, 2014, 86, 453-475.	4.4	211
5	Single phase three-level neutral-point-clamped quasi-Z-source inverter. IET Power Electronics, 2015, 8, 1-10.	1.5	156
6	Electric Vehicle Charging Infrastructure: From Grid to Battery. IEEE Industrial Electronics Magazine, 2021, 15, 37-51.	2.3	130
7	Grid-Connected Photovoltaic Plants: An Alternative Energy Source, Replacing Conventional Sources. IEEE Industrial Electronics Magazine, 2015, 9, 18-32.	2.3	98
8	Comparison of Impedance-Source Networks for Two and Multilevel Buck-Boost Inverter Applications. IEEE Transactions on Power Electronics, 2016, 31, 7564-7579.	5.4	95
9	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
10	Electric vehicle battery charger for smart grids. Electric Power Systems Research, 2012, 90, 18-29.	2.1	78
11	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
12	Optimal Charge/Discharge Scheduling of Batteries in Microgrids of Prosumers. IEEE Transactions on Energy Conversion, 2019, 34, 468-477.	3.7	64
13	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
14	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
15	Hybrid Multiconverter Conditioner Topology for High-Power Applications. IEEE Transactions on Industrial Electronics, 2011, 58, 2283-2292.	5.2	36
16	Supraharmonics from power electronics converters. , 2015, , .		32
17	Single phase three-level quasi-z-source inverter with a new boost modulation technique. , 2012, , .		29
18	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

#	ARTICLE	IF	CITATIONS
19	Advantages of Minimizing Energy Exchange Instead of Energy Cost in Prosumer Microgrids. <i>Energies</i> , 2019, 12, 719.	1.6	29
20	Voltage Distortion Approach for Output Filter Design for Off-Grid and Grid-Connected PWM Inverters. <i>Journal of Power Electronics</i> , 2015, 15, 278-287.	0.9	29
21	Overview of medium scale energy storage systems. , 2009, , .		27
22	Grid reactive power compensation by using electric vehicles. , 2014, , .		27
23	Grid-connected photovoltaic power plants for helping node voltage regulation. <i>IET Renewable Power Generation</i> , 2015, 9, 236-244.	1.7	27
24	Efficiency Map Comparison of Induction and Synchronous Reluctance Motors. , 2019, , .		24
25	Three-phase bidirectional battery charger for smart electric vehicles. , 2011, , .		22
26	CCM operation analysis of the single-phase three-level quasi-Z-source inverter. , 2012, , .		22
27	Low-power home PV systems with MPPT and PC control modes. , 2013, , .		22
28	Novel method for synchronization to disturbed three-phase and single-phase systems. , 2007, , .		20
29	Experimental Investigation of high frequency 3L-NPC qZS inverter for photovoltaic application. , 2013, , .		19
30	Grid-connected PV plants. Power quality and technical requirements. , 2014, , .		19
31	Comprehensive Comparative Analysis of Impedance-Source Networks for DC and AC Application. <i>Electronics (Switzerland)</i> , 2019, 8, 405.	1.8	19
32	A novel nonintrusive load monitoring system based on the S-Transform. , 2012, , .		18
33	Smart Community Electric Energy Micro-Storage Systems With Active Functions. <i>IEEE Transactions on Industry Applications</i> , 2018, 54, 1975-1982.	3.3	18
34	Control and operation of a three-phase local energy router for prosumers in a smart community. <i>IET Renewable Power Generation</i> , 2020, 14, 560-570.	1.7	18
35	Single-Phase String Solar qZS-based Inverter: Example of Multi-Objective Optimization Design. <i>IEEE Transactions on Industry Applications</i> , 2021, 57, 3120-3130.	3.3	18
36	Power-Flow-Based Secondary Control for Autonomous Droop-Controlled AC Nanogrids With Peer-to-Peer Energy Trading. <i>IEEE Access</i> , 2021, 9, 22339-22350.	2.6	18

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37	PV Array Emulator for Testing Commercial PV Inverters. Elektronika Ir Elektrotechnika, 2013, 19, .	0.4	18
38	Hall-Effect Based Semi-Fast AC On-Board Charging Equipment for Electric Vehicles. Sensors, 2011, 11, 9313-9326.	2.1	17
39	A Smart Power Electronic Multiconverter for the Residential Sector. Sensors, 2017, 17, 1217.	2.1	16
40	Control Strategy for Electric Vehicle Charging Station Power Converters with Active Functions. Energies, 2019, 12, 3971.	1.6	16
41	Overview of plug-in electric vehicles as providers of ancillary services. , 2015, , .		15
42	Three-phase single stage photovoltaic inverter with active filtering capabilities. , 2012, , .		13
43	State of the art of active power electronic transformers for smart grids. , 2012, , .		13
44	Comparison of three MPPT algorithms for three-level neutral-point-clamped qz-source inverter. , 2013, , .		13
45	Three-Level Neutral-Point-Clamped Quasi-Z-Source Inverter with Maximum Power Point Tracking for Photovoltaic Systems. IFIP Advances in Information and Communication Technology, 2013, , 334-342.	0.5	13
46	Photovoltaic Power Converter Management in Unbalanced Low Voltage Networks with Ancillary Services Support. Energies, 2019, 12, 972.	1.6	13
47	Power Injection Control System and Experimental Model based on Manufacturer Characteristic Curves for a Photovoltaic Generation System. , 2007, , .		12
48	Active functions implementation in smart inverters for distributed energy resources. , 2013, , .		12
49	Cooperative converter for improving the performance of grid-connected photovoltaic power plants. IET Renewable Power Generation, 2013, 7, 110-117.	1.7	12
50	Maximum boost control for interleaved single-phase Quasi-Z-Source inverter. , 2017, , .		12
51	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
52	Active Battery Balancing for Battery Packs. Electrical, Control and Communication Engineering, 2013, 2, 40-46.	0.4	11
53	Passive power decoupling approach for three-level single-phase impedance Source Inverter based on resonant and PID controllers. , 2017, , .		11
54	PWM for Single Phase 3L Z/qZ-Source Inverter with Balanced Power Losses. Elektronika Ir Elektrotechnika, 2014, 20, .	0.4	11

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55	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
56	Active power line conditioner based on two parallel converters topology. , 0, , .		10
57	Hysteresis current control with distributed shoot-through states for impedance source inverters. International Journal of Circuit Theory and Applications, 2016, 44, 783-797.	1.3	10
58	Interleaved single-phase quasi-Z-source inverter with special modulation technique. , 2017, , .		10
59	Transactive Energy: Power Electronics Challenges. IEEE Power Electronics Magazine, 2022, 9, 20-32.	0.6	10
60	Cooperative converters in power electronic systems. , 2010, , .		9
61	Comparison of two power flow control strategies for photovoltaic inverters. , 2012, , .		9
62	Simulation study of the grid-connected single-phase impedance-sourced NPC inverter with different control methods. , 2015, , .		9
63	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
64	Comparison of controllers for a three-phase Phase Locked Loop system under distorted conditions. , 2009, , .		8
65	Quality meter of electric power systems based on IEEE Standard 1459-2000. , 2009, , .		8
66	Three-phase regenerative electronic load to test shunt power conditioners. , 2011, , .		8
67	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
68	Cooperative operation of inverters for grid-connected photovoltaic generation systems. Electric Power Systems Research, 2013, 96, 47-55.	2.1	8
69	Single-phase 3L PR controlled qZS inverter connected to the distorted grid. , 2016, , .		8
70	Active, Reactive and Harmonic Control for Distributed Energy Micro-Storage Systems in Smart Communities Homes. Energies, 2017, 10, 448.	1.6	8
71	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
72	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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73	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
74	Control scheme of a Three-Phase Three-Level NPC qZ-Source inverter with LCL filter for RES applications. , 2016, , .		7
75	Electric vehicle monitoring system by using MATLAB/App Designer. , 2017, , .		7
76	Three-level single-phase quasi-Z source inverter with active power decoupling circuit. , 2017, , .		7
77	Energy management strategy to coordinate batteries and ultracapacitors of a hybrid energy storage system in a residential prosumer installation. , 2017, , .		7
78	Secondary Control for Storage Power Converters in Isolated Nanogrids to Allow Peer-to-Peer Power Sharing. Electronics (Switzerland), 2020, 9, 140.	1.8	7
79	Generic Losses Model for Traditional Inverters and Neutral Point Clamped Inverters. Elektronika Ir Elektrotehnika, 2014, 20, .	0.4	7
80	Analysis and optimization of sinusoidal Voltage Source Inverter losses for variable output power applications. , 2011, , .		6
81	Buck-Boost Unfolder Inverter as a Novel Solution for Single-Phase PV Systems. , 2018, , .		6
82	Analysis of Skin Effect in Single Wire Resistance by Finite Element Methods. , 2020, , .		6
83	Demand and Storage Management in a Prosumer Nanogrid Based on Energy Forecasting. Electronics (Switzerland), 2020, 9, 363.	1.8	6
84	A new criterion for selecting the inductors of an Active Power Line Conditioner. , 2011, , .		5
85	PSCAD/EMTDC model for photovoltaic modules with MPPT based on manufacturer specifications. , 2013, , .		5
86	Carrier based modulation with capacitor balancing for three-level neutral-point-clamped qZS inverter. , 2015, , .		5
87	Improved Three-Phase Integrated Charger Converter Connected to Single-Phase Grid With Torque Cancellation. IEEE Access, 2021, 9, 108266-108275.	2.6	5
88	A Comprehensive Control Strategy for Multibus Nanogrids With Power Exchange Between Prosumers. IEEE Access, 2021, 9, 104281-104293.	2.6	5
89	Hybrid Power Line Conditioner Based on Two Parallel Converters Topology. , 2007, , .		4
90	Power injection system for photovoltaic plants based on a multiconverter topology with DC-link capacitor voltage balancing. , 2010, , .		4

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91	Integration of active power filters in a harmonic load flow algorithm for optimizing location and strategy. , 2011, , .		4
92	Output filter design for grid connected single phase three-level quasi-Z-source inverter. , 2013, , .		4
93	Active power electronic transformer as a power conditioner for nonlinear loads. , 2013, , .		4
94	Battery Equalization Control Based on the Shunt Transistor Method. Electrical, Control and Communication Engineering, 2014, 7, 20-27.	0.4	4
95	Electric vehicle multiport fast charger based on the concept of active power electronic transformer. , 2014, , .		4
96	Experimental tests of High Impedance Faults in MV rural distribution network. , 2014, , .		4
97	New hysteresis current control for grid connected single-phase three-level quasi-Z-source inverter. , 2014, , .		4
98	Point of common coupling voltage regulation with photovoltaic power plant infrastructures. , 2014, , .		4
99	Three-phase three-level neutral-point-clamped qZ source inverter with active filtering capabilities. , 2015, , .		4
100	Active and reactive power control strategies for electric vehicles in smart grids. , 2016, , .		4
101	Single-phase qZS-based PV inverter with integrated battery storage for distributed energy generation. , 2018, , .		4
102	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
103	Power injection system for photovoltaic generation plants with active filtering capability. , 2009, , .		3
104	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
105	Active power injection control of a photovoltaic system through ultracapacitor storage. , 2013, , .		3
106	A battery cell balancing method with linear mode bypass current control. , 2014, , .		3
107	Design of a simple modular active power electronic transformer. , 2014, , .		3
108	A grid-connected PV system based on a four wire dual-buck inverter with ancillary services support. , 2016, , .		3

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109	Modified DQ control approach for three-phase inverter. , 2017, , .		3
110	Efficiency and loss distribution analysis of the 3L-Active NPC qZS inverter. , 2018, , .		3
111	Efficiency Study of the Single-Phase Solar qZS-based Inverter. , 2019, , .		3
112	Community and Residential Energy Storage in Smart Grids. IFIP Advances in Information and Communication Technology, 2013, , 315-322.	0.5	3
113	Local Energy Management Unit for Residential Applications. Elektronika Ir Elektrotechnika, 2013, 19, .	0.4	3
114	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
115	Three-phase PWM sinusoidal current rectifier with power conditioning capability. , 2009, , .		2
116	Supercapacitor energy storage system for attenuating and conditioning power from photovoltaic generation plants. , 2013, , .		2
117	Active power electronic transformer based on modular building blocks. , 2013, , .		2
118	Optimized energy consumption management for residential applications controlled by a Local Energy Management Unit. , 2013, , .		2
119	Failure analysis of inverter based anti-islanding systems in photovoltaic islanding events. , 2013, , .		2
120	Issues and improvements of hardware/software co-design sensorless implementation in a permanent magnet synchronous motor using Veristand. , 2013, , .		2
121	P and Q control strategy for single phase Z/qZ source inverter based on d-q frame. , 2014, , .		2
122	Using Plug-in Electric Vehicles to Implement Ancillary Services in Smart Distribution Grids. Power Systems, 2015, , 309-349.	0.3	2
123	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
124	Single-phase power electronics transformer with active functions for smart grid. , 2015, , .		2
125	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
126	Local energy micro-storage systems in smart communities with active, reactive and harmonic control. , 2016, , .		2



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127	Photovoltaic inverter with smart grid functions. , 2016, , .		2
128	Controlling a battery energy storage system to support residential photovoltaic installations. , 2017, , .		2
129	Comprehensive study of the benefits of integrating a sharing energy strategy between prosumers. , 2017, , .		2
130	Novel quasi-Z-source derived inverter with unfolding circuit and battery storage. , 2018, , .		2
131	Grid-Connected Single-Phase 3L-T-type qZS Inverter for Renewable Energy. , 2019, , .		2
132	Grid-Connected Three-Phase 3L-T-type qZS Inverter for Renewable Energy. , 2020, , .		2
133	Modulation strategy and control of Modular Cascade H-Bridge Converters as Input-side of a Multi-port Smart Transformer. , 2021, , .		2
134	Improved Operation Strategy for the High Voltage Input Stage of a Multi-Port Smart Transformer. Energies, 2022, 15, 3778.	1.6	2
135	Optimization of Losses in Permanent Magnet Synchronous Motors for Electric Vehicle Application. International Federation for Information Processing, 2011, , 502-509.	0.4	1
136	Grid-connected PV system based on a single-phase three-level qZS inverter. , 2013, , .		1
137	Distributed smart metering by using power electronics systems. , 2014, , .		1
138	Hybrid low-power Wind Generation and PV gridconnected system with HPC, PC and MPPT control. , 2014, , .		1
139	Design and evaluation of a base module of active power electronic transformer. , 2015, , .		1
140	A cooperative converter for managing low-voltage energy storage systems. , 2016, , .		1
141	Evaluation of losses in three-level neutral-point-clamped and T-type quasi-Z-source inverters with modified carrier based modulation method. , 2017, , .		1
142	Improved Forecasting-Based Battery Energy Management Strategy for Prosumer Systems. , 2018, , .		1
143	Single-Phase Three-Level qZ-Source Inverter Connected to the Grid with Battery Storage and Active Power Decoupling Function. , 2018, , .		1
144	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

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145	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
146	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
147	PI vs Fractional PI for the Control of a Shunt Active Power Filter. , 2007, , .		1
148	Intelligent Energy Management System for Residential and Community Applications. IFIP Advances in Information and Communication Technology, 2013, , 307-314.	0.5	1
149	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
150	Editorial [general conference information and history]. , 2009, , .		0
151	A standard-based software infrastructure to support weather forecasting in distributed energy systems. , 2013, , .		0
152	Low-power wind generation grid-connected system with MPPT and PC control. , 2013, , .		0
153	Code development of a DSP-FPGA based control platform for power electronics applications. , 2015, , .		0
154	Operation strategy and shoot-through indirect control method for three-phase Z-source inverters. , 2015, , .		0
155	Software design to calculate and simulate the mechanical response of electromechanical lifts. Journal of Physics: Conference Series, 2016, 721, 012009.	0.3	0
156	Review of Novel Topologies for PV Applications. IFIP Advances in Information and Communication Technology, 2016, , 369-377.	0.5	0
157	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
158	Active power flow strategies for bidirectional Energy Storage Units in smart communities. , 2017, , .		0
159	Resilient Energy Harvesting System for Independent Monitoring Nodes. IFIP Advances in Information and Communication Technology, 2018, , 274-281.	0.5	0
160	Analysis of Bidirectional Buck/Boost Converter for Energy Storage System. , 2019, , .		0
161	Determination of wire resistance caused by skin effect using modified 3D finite element model. Electrical Engineering, 2020, 102, 1513-1520.	1.2	0
162	The Conceptual Research over Low-Switching Modulation Strategy for Matrix Converters with the Coupled Reactors. Energies, 2021, 14, 675.	1.6	0

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163	Analysis of the Electromagnetic Behaviour of a Variable-Waveform-Supplied Iron Core Inductor, Modelled with Finite Elements. , 2005, , 167-172.		0
164	ESTRATEGIA PARA LA CORRECCION GLOBAL DE LA CALIDAD EN REDES DE DISTRIBUCION. Dyna (Spain), 2012, 87, 354-360.	0.1	0
165	Distributed Smart Metering by Using Power Electronics Systems. IFIP Advances in Information and Communication Technology, 2014, , 289-296.	0.5	0
166	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