Roberto Cardenas-Dobson

List of Publications by Year
in descending order

147	7,058	81743	66788
papers	citations	39 h-index	78 g-index

148	148	148	4187
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Distributed Predictive Secondary Control for Imbalance Sharing in AC Microgrids. IEEE Transactions on Smart Grid, 2022, 13, 20-37.	6.2	21
2	Continuous Set Model Predictive Control for Energy Management of Modular Multilevel Matrix Converters. IEEE Transactions on Power Electronics, 2022, 37, 5731-5748.	5.4	8
3	Cyber-Attacks in Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2022, 37, 8488-8501.	5.4	21
4	An Overview of Four-Leg Converters: Topologies, Modulations, Control and Applications. IEEE Access, 2022, 10, 61277-61325.	2.6	11
5	A Consensus-Based Secondary Control Strategy for Hybrid AC/DC Microgrids With Experimental Validation. IEEE Transactions on Power Electronics, 2021, 36, 5971-5984.	5.4	35
6	Predictive Optimal Switching Sequence Direct Power Control for Grid-Tied 3L-NPC Converters. IEEE Transactions on Industrial Electronics, 2021, 68, 8561-8571.	5.2	23
7	Multi-Objective Finite-Time Control for the Interlinking Converter on Hybrid AC/DC Microgrids. IEEE Access, 2021, 9, 116183-116193.	2.6	3
8	Experimental Validation of a Nested Control System to Balance the Cell Capacitor Voltages in Hybrid MMCs. IEEE Access, 2021, 9, 21965-21985.	2.6	6
9	A Power Loss Ride Through Control Strategy for Variable Speed Drives based on the Modular Multilevel Matrix Converter. , 2021, , .		1
10	Circulating Current Control for the Modular Multilevel Matrix Converter Based on Model Predictive Control. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 6069-6085.	3.7	15
11	Back To Back Modular Multilevel Converter with Dynamic Hybrid Link For High Performance Drive. , 2021, , .		0
12	Experimental Performance Evaluation of a Distributed Secondary Control Strategy for Hybrid ac/dc-Microgrids in the Event of Communication Loss/Delay. , 2021, , .		0
13	A Vector Control Strategy to Eliminate Active Power Oscillations in Four-Leg Grid-Connected Converters Under Unbalanced Voltages. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 1728-1738.	3.7	16
14	Distributed Predictive Control for Frequency and Voltage Regulation in Microgrids. IEEE Transactions on Smart Grid, 2020, 11, 1319-1329.	6.2	44
15	Distributed Control Strategy Based on a Consensus Algorithm and on the Conservative Power Theory for Imbalance and Harmonic Sharing in 4-Wire Microgrids. IEEE Transactions on Smart Grid, 2020, 11, 1604-1619.	6.2	46
16	Cooperative Regulation of Imbalances in Three-Phase Four-Wire Microgrids Using Single-Phase Droop Control and Secondary Control Algorithms. IEEE Transactions on Power Electronics, 2020, 35, 1978-1992.	5.4	35
17	An Overview of Applications of the Modular Multilevel Matrix Converter. Energies, 2020, 13, 5546.	1.6	28
18	Distributed Control Strategies for Microgrids: An Overview. IEEE Access, 2020, 8, 193412-193448.	2.6	178

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19	Single-Phase Consensus-Based Control for Regulating Voltage and Sharing Unbalanced Currents in 3-Wire Isolated AC Microgrids. IEEE Access, 2020, 8, 164882-164898.	2.6	20
20	An Overview of Modelling Techniques and Control Strategies for Modular Multilevel Matrix Converters. Energies, 2020, 13, 4678.	1.6	21
21	Experimental Hybrid AC/DC-Microgrid Prototype for Laboratory Research. , 2020, , .		6
22	Solid State Transformers: Concepts, Classification, and Control. Energies, 2020, 13, 2319.	1.6	45
23	Particle-Filtering-Based Prognostics for the State of Maximum Power Available in Lithium-Ion Batteries at Electromobility Applications. IEEE Transactions on Vehicular Technology, 2020, 69, 7187-7200.	3.9	12
24	Control of a Modular Multilevel Matrix Converter for Unified Power Flow Controller Applications. Energies, 2020, 13, 953.	1.6	9
25	Modular Multilevel Converter Based Topology for High-Speed, Low-Voltage Electric Drives. IEEE Transactions on Industry Applications, 2020, 56, 5202-5211.	3.3	6
26	Design and Implementation of a Low-Cost Real-Time Control Platform for Power Electronics Applications. Energies, 2020, 13, 1527.	1.6	17
27	Improved Modular Multilevel Converter topology for low voltage variable speed drives. , 2020, , .		0
28	Finite-Time Second-Order Cooperative Control for the Economic Dispatch in DC Microgrids. , 2020, , .		2
29	Distributed Control Strategy Based on a Consensus Algorithm for the Inter-cell and Inter-cluster Voltage Balancing of a Cascaded H-Bridge Based STATCOM. , 2020, , .		7
30	Model-Predictive-Control-Based Capacitor Voltage Balancing Strategies for Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2019, 66, 2432-2443.	5.2	33
31	Vector control strategies to enable equal frequency operation of the modular multilevel matrix converter. Journal of Engineering, 2019, 2019, 4214-4219.	0.6	9
32	Control and operation of the MMCâ€based drive with reduced capacitor voltage fluctuations. Journal of Engineering, 2019, 2019, 3618-3623.	0.6	2
33	Control of a Double Fed Induction Generator based Wind Energy Conversion System equipped with a Modular Multilevel Matrix Converter. , 2019, , .		4
34	Small-Signal Modelling and Stability Assessment of Phase-Locked Loops in Weak Grids. Energies, 2019, 12, 1227.	1.6	13
35	Computationally Efficient Cascaded Optimal Switching Sequence MPC for Grid-Connected Three-Level NPC Converters. IEEE Transactions on Power Electronics, 2019, 34, 12464-12475.	5.4	76
36	A Design Methodology of Multiresonant Controllers for High Performance 400 Hz Ground Power Units. IEEE Transactions on Industrial Electronics, 2019, 66, 6549-6559.	5.2	16

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37	Pareto-based modulated model predictive control strategy for power converter applications. Electric Power Systems Research, 2019, 171, 158-174.	2.1	8
38	A Novel Topology and Control System for Interconnected Wave Energy Converters (IWECs). , 2019, , .		0
39	Effects of a Variable dc-Port Voltage on the Half-Bridge-Based Modular Multilevel Converter for Drive Systems. , 2019, , .		0
40	A Novel Distributed Secondary Control Strategy Applied to Hybrid AC/DC Microgrids. , 2019, , .		1
41	A Parallel Fast Delayed Signal Cancellation PLL for Unbalanced and Distorted Grid Applications. , 2019, , .		0
42	Predictive Voltage Control Operating at Fixed Switching Frequency of a Neutral-Point Clamped Converter. , 2019, , .		0
43	Hybrid Transformers with Virtual Inertia for Future Distribution Networks. , 2019, , .		5
44	Predictive-based Modulation Schemes for the Hybrid Modular Multilevel Converter. , 2019, , .		2
45	A multilevel chain-link topology for low voltage, variable frequency applications. , 2019, , .		5
46	Vector Control of a Modular Multilevel Matrix Converter Operating Over the Full Output-Frequency Range. IEEE Transactions on Industrial Electronics, 2019, 66, 5102-5114.	5.2	33
47	A Control Algorithm Based on the Conservative Power Theory for Cooperative Sharing of Imbalances in Four-Wire Systems. IEEE Transactions on Power Electronics, 2019, 34, 5325-5339.	5.4	31
48	An Integrated Converter and Machine Control System for MMC-Based High-Power Drives. IEEE Transactions on Industrial Electronics, 2019, 66, 2343-2354.	5.2	33
49	Enhanced Circulating-current Control for the Modular Multilevel Matrix Converter Based on Model Predictive Control. , 2019, , .		5
50	Methodology for Microgrid/Smart Farm Systems: Case of Study Applied to Indigenous Mapuche Communities. Advances in Intelligent Systems and Computing, 2019, , 89-105.	0.5	1
51	Finite-Set Model-Predictive Control Strategies for a 3L-NPC Inverter Operating With Fixed Switching Frequency. IEEE Transactions on Industrial Electronics, 2018, 65, 3954-3965.	5.2	204
52	Fast Delayed Signal Cancellation based PLL for unbalanced grid conditions. , 2018, , .		3
53	Phase-Shifted Model Predictive Control of a Three-Level Active-NPC Converter. , 2018, , .		6
54	Predictive Control Strategy for an Induction Machine fed by a 3L-NPC Converter with Fixed Switching Frequency and Improved Tracking Error. , 2018, , .		2

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55	Control of modular multilevel cascade converters for offshore wind energy generation and transmission. , 2018, , .		12
56	Experimental Evaluation of a CPT-Based Four-Leg Active Power Compensator for Distributed Generation. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2017, 5, 747-759.	3.7	48
57	An Enhanced dq-Based Vector Control System for Modular Multilevel Converters Feeding Variable-Speed Drives. IEEE Transactions on Industrial Electronics, 2017, 64, 2620-2630.	5.2	62
58	Guest Editorial Control and Grid Integration of MW-Range Wind and Solar Energy Conversion Systems. IEEE Transactions on Industrial Electronics, 2017, 64, 8786-8789.	5.2	7
59	Control of Wind Energy Conversion Systems Based on the Modular Multilevel Matrix Converter. IEEE Transactions on Industrial Electronics, 2017, 64, 8799-8810.	5.2	94
60	Permanent Magnet Synchronous Generator WECS based on a four-level double star converter. , 2017, , .		2
61	A Simplified Space-Vector Modulation Algorithm for Four-Leg NPC Converters. IEEE Transactions on Power Electronics, 2017, 32, 8371-8380.	5.4	20
62	Experimental Parameter Extraction in the Single-Diode Photovoltaic Model via a Reduced-Space Search. IEEE Transactions on Industrial Electronics, 2017, 64, 1468-1476.	5.2	82
63	A New Space-Vector-Modulation Algorithm for a Three-Level Four-Leg NPC Inverter. IEEE Transactions on Energy Conversion, 2017, 32, 23-35.	3.7	32
64	Closed loop vector control of the modular multilevel matrix converter for equal input-output operating frequencies. , 2017, , .		3
65	Control strategies for modular multilevel converters driving cage machines. , 2017, , .		3
66	A solid state transformer based on a three-phase to single-phase Modular Multilevel Converter for power distribution networks. , 2017, , .		16
67	A novel Capacitor Voltage Balancing strategy for Modular Multilevel Converters. , 2017, , .		2
68	Active power angle droop control per phase for unbalanced 4-wire microgrids. , 2017, , .		8
69	Modelling and control of the modular multilevel converter in back to back configuration for high power induction machine drives. , 2016, , .		16
70	Modelling and control of the Modular Multilevel Matrix Converter and its application to Wind Energy Conversion Systems. , 2016, , .		25
71	Vector control of an open-ended winding induction machine based on a two-output indirect matrix converter. EPE Journal (European Power Electronics and Drives Journal), 2016, 26, 104-112.	0.7	1
72	Active power oscillation elimination in 4-leg grid-connected converters under unbalanced network conditions. , 2016, , .		2

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73	The application of the modular multilevel matrix converter in high-power wind turbines. , 2016, , .		8
74	Improved control strategy of the modular multilevel converter for high power drive applications in low frequency operation. , 2016, , .		16
75	Resonant control system for lowâ€voltage rideâ€through in wind energy conversion systems. IET Power Electronics, 2016, 9, 1297-1305.	1.5	42
76	Model Predictive Torque Control for Torque Ripple Compensation in Variable-Speed PMSMs. IEEE Transactions on Industrial Electronics, 2016, 63, 4584-4592.	5.2	108
77	Particle-filtering-based estimation of maximum available power state in Lithium-Ion batteries. Applied Energy, 2016, 161, 349-363.	5.1	96
78	Secondary Control Strategies for Frequency Restoration in Islanded Microgrids With Consideration of Communication Delays. IEEE Transactions on Smart Grid, 2016, 7, 1430-1441.	6.2	254
79	Resonant control system for a 7-leg back-to-back converter for interfacing variable speed generators to 4-wire loads. , 2015, , .		2
80	Dual three-phase PMSG based wind energy conversion system using 9-switch dual converter. , 2015, , .		14
81	Self-Tuning Resonant Control of a Seven-Leg Back-to-Back Converter for Interfacing Variable-Speed Generators to Four-Wire Loads. IEEE Transactions on Industrial Electronics, 2015, 62, 4618-4629.	5.2	23
82	A novel LVRT control strategy for Modular Multilevel Matrix Converter based high-power Wind Energy Conversion Systems. , 2015, , .		22
83	Model Predictive Control of Modular Multilevel Matrix Converter. , 2015, , .		19
84	Balancing energy and low frequency operation of the Modular Multilevel Converter in Back to Back configuration. , 2015, , .		7
85	Fast Convergence Delayed Signal Cancellation Method for Sequence Component Separation. IEEE Transactions on Power Delivery, 2015, 30, 2055-2057.	2.9	34
86	Control of a Four-Leg Converter for the Operation of a DFIG Feeding Stand-Alone Unbalanced Loads. IEEE Transactions on Industrial Electronics, 2015, 62, 4630-4640.	5.2	36
87	Fuzzy modelling for the state-of-charge estimation of lead-acid batteries. Journal of Power Sources, 2015, 274, 355-366.	4.0	89
88	3â€Phase 4â€wire matrix converterâ€based voltage sag/swell generator to test lowâ€voltage ride through in wind energy conversion systems. IET Power Electronics, 2014, 7, 3116-3125.	1.5	12
89	Analysis of synchronous and stationary reference frame control strategies to fulfill LVRT requirements in Wind Energy Conversion Systems. , 2014, , .		10
90	Dual current control strategy to fulfill LVRT requirements in WECS. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2014, 33, 1665-1677.	0.5	4

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91	4-wire Matrix Converter based voltage sag/swell generator to test LVRT in renewable energy systems. , 2014, , .		1
92	Control strategy of a dual-inverter system for an open-end winding induction machine based on indirect matrix converter. , 2014, , .		4
93	Control of an open-end winding induction machine via a two-output indirect matrix converter. , 2014, , .		2
94	Indirect matrix converter modulation strategies for open-end winding induction machine. IEEE Latin America Transactions, 2014, 12, 395-401.	1.2	16
95	Control of a wind generation system based on a Brushless Doubly-Fed Induction Generator fed by a matrix converter. Electric Power Systems Research, 2013, 103, 49-60.	2.1	29
96	Switching strategies for an indirect matrix converter fed open-end load. , 2013, , .		7
97	A Cascade Multilevel Frequency Changing Converter for High-Power Applications. IEEE Transactions on Industrial Electronics, 2013, 60, 2118-2130.	5.2	42
98	A repetitive control system for four-leg matrix converters feeding non-linear loads. Electric Power Systems Research, 2013, 104, 18-27.	2.1	17
99	Current control and capacitor balancing for 4-leg NPC converters using finite set model predictive control. , 2013, , .		9
100	Overview of control systems for the operation of DFIGs in wind energy applications. , 2013, , .		301
101	3D-SVM algorithm and capacitor voltage balancing in a 4-leg NPC converter operating under unbalanced and non-linear loads. , 2013, , .		5
102	The application of resonant controller to fulfill LVRT requirements in grid connected VSI. , 2013, , .		1
103	Introduction to the Special Section on Control and Grid Integration of Wind Energy Systems - Part II. IEEE Transactions on Industrial Electronics, 2013, 60, 2774-2775.	5.2	7
104	Overview of Control Systems for the Operation of DFIGs in Wind Energy Applications. IEEE Transactions on Industrial Electronics, 2013, 60, 2776-2798.	5.2	576
105	Introduction to the Special Section on Control and Grid Integration of Wind Energy Systemsâ€"Part I. IEEE Transactions on Industrial Electronics, 2013, 60, 2358-2359.	5.2	5
106	Common mode voltage and zero sequence current reduction in an open-end load fed by a two output indirect matrix converter. , 2013, , .		8
107	Matrix converter based Voltage Sag Generator to test LVRT capability in renewable energy systems. , 2013, , .		3
108	Analysis and Experimental Validation of Control Systems for Four-Leg Matrix Converter Applications. IEEE Transactions on Industrial Electronics, 2012, 59, 141-153.	5.2	30

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109	4-leg matrix converter interface for a variable-speed diesel generation system. , 2012, , .		4
110	Design and experimental validation of a dual mode VSI control system for a micro-grid with multiple generators. , 2012, , .		3
111	The Application of Resonant Controllers to Four-Leg Matrix Converters Feeding Unbalanced or Nonlinear Loads. IEEE Transactions on Power Electronics, 2012, 27, 1120-1129.	5.4	63
112	Control of a matrix converter for the operation of autonomous systems. Renewable Energy, 2012, 43, 343-353.	4.3	22
113	Analytical and Experimental Evaluation of a WECS Based on a Cage Induction Generator Fed by a Matrix Converter. IEEE Transactions on Energy Conversion, 2011, 26, 204-215.	3.7	39
114	Control of a Doubly Fed Induction Generator via an Indirect Matrix Converter With Changing DC Voltage. IEEE Transactions on Industrial Electronics, 2011, 58, 4664-4674.	5.2	79
115	Overview of Multi-MW Wind Turbines and Wind Parks. IEEE Transactions on Industrial Electronics, 2011, 58, 1081-1095.	5.2	726
116	Experimental Validation of a Space-Vector-Modulation Algorithm for Four-Leg Matrix Converters. IEEE Transactions on Industrial Electronics, 2011, 58, 1282-1293.	5.2	57
117	Resonant controllers for 4-leg matrix converters. , 2010, , .		9
118	A space vector modulation algorithm for 4-leg matrix converters. , 2010, , .		5
119	Control strategy for a Doubly-Fed Induction Generator feeding an unbalanced grid or stand-alone load. Electric Power Systems Research, 2009, 79, 355-364.	2.1	66
120	Stability Analysis of a Wind Energy Conversion System Based on a Doubly Fed Induction Generator Fed by a Matrix Converter. IEEE Transactions on Industrial Electronics, 2009, 56, 4194-4206.	5.2	111
121	Control of the Reactive Power Supplied by a Matrix Converter. IEEE Transactions on Energy Conversion, 2009, 24, 301-303.	3.7	16
122	Sensorless Control for a Switched Reluctance Wind Generator, Based on Current Slopes and Neural Networks. IEEE Transactions on Industrial Electronics, 2009, 56, 817-825.	5.2	98
123	Control of the Reactive Power Supplied by a WECS Based on an Induction Generator Fed by a Matrix Converter. IEEE Transactions on Industrial Electronics, 2009, 56, 429-438.	5.2	112
124	A Topology for Multiple Generation System With Doubly Fed Induction Machines and Indirect Matrix Converter. IEEE Transactions on Industrial Electronics, 2009, 56, 4181-4193.	5.2	71
125	Sensorless Control of Doubly-Fed Induction Generators Using a Rotor-Current-Based MRAS Observer. IEEE Transactions on Industrial Electronics, 2008, 55, 330-339.	5.2	219
126	Windâ€“Diesel Generation Using Doubly Fed Induction Machines. IEEE Transactions on Energy Conversion, 2008, 23, 202-214.	3.7	118

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127	MRAS Observers for Sensorless Control of Doubly-Fed Induction Generators. IEEE Transactions on Power Electronics, 2008, 23, 1075-1084.	5.4	189
128	Reactive power capability of WECS based on matrix converter. Electronics Letters, 2008, 44, 674.	0.5	9
129	Application of indirect matrix converters to variable speed doubly fed induction generators. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	10
130	Control System for Unbalanced Operation of Stand-Alone Doubly Fed Induction Generators. IEEE Transactions on Energy Conversion, 2007, 22, 544-545.	3.7	109
131	Vector Control of Front-End Converters for Variable-Speed Windâ€“Diesel Systems. IEEE Transactions on Industrial Electronics, 2006, 53, 1127-1136.	5.2	60
132	Power Smoothing Using a Switched Reluctance Machine Driving a Flywheel. IEEE Transactions on Energy Conversion, 2006, 21, 294-295.	3.7	15
133	Power Smoothing Using a Flywheel Driven by a Switched Reluctance Machine. IEEE Transactions on Industrial Electronics, 2006, 53, 1086-1093.	5.2	77
134	Control of a Switched Reluctance Generator for Variable-Speed Wind Energy Applications. IEEE Transactions on Energy Conversion, 2005, 20, 781-791.	3.7	236
135	MRAS Observer for Sensorless Control of Standalone Doubly Fed Induction Generators. IEEE Transactions on Energy Conversion, 2005, 20, 710-718.	3.7	233
136	Rotor current based MRAS observer for doubly-fed induction machines. Electronics Letters, 2004, 40, 769.	0.5	27
137	Sensorless Vector Control of Induction Machines for Variable-Speed Wind Energy Applications. IEEE Transactions on Energy Conversion, 2004, 19, 196-205.	3.7	244
138	Power Smoothing in Wind Generation Systems Using a Sensorless Vector Controlled Induction Machine Driving a Flywheel. IEEE Transactions on Energy Conversion, 2004, 19, 206-216.	3.7	124
139	Control Strategies for Power Smoothing Using a Flywheel Driven by a Sensorless Vector-Controlled Induction Machine Operating in a Wide Speed Range. IEEE Transactions on Industrial Electronics, 2004, 51, 603-614.	5.2	95
140	MRAS Observer for Doubly Fed Induction Machines. IEEE Transactions on Energy Conversion, 2004, 19, 467-468.	3.7	64
141	Sensorless control strategy for power smoothing in wind-diesel applications. Electronics Letters, 2002, 38, 1402.	0.5	1
142	Control strategies for enhanced power smoothing in wind energy systems using a flywheel driven by a vector-controlled induction machine. IEEE Transactions on Industrial Electronics, 2001, 48, 625-635.	5.2	108
143	Control strategy for power smoothing using vector controlled induction machine and flywheel. Electronics Letters, 2000, 36, 765.	0.5	8
144	Switched reluctance generators for wind energy applications. , 0, , .		71

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145	Vector controlled induction machines for stand-alone wind energy applications. , 0, , .		46
146	A cage induction generator using back to back PWM converters for variable speed grid connected wind energy system. , 0, , .		62
147	Sensorless control of a doubly- fed induction generator for stand alone operation. , 0, , .		28