Roberto Cardenas-Dobson

List of Publications by Year
in descending order

147 papers	7,058 citations	81743 39 h-index	66788 78 g-index
148 all docs	148 docs citations	148 times ranked	4187 citing authors

#	Article	IF	Citations
1	Overview of Multi-MW Wind Turbines and Wind Parks. IEEE Transactions on Industrial Electronics, 2011, 58, 1081-1095.	5.2	726
2	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
3	Overview of control systems for the operation of DFIGs in wind energy applications. , 2013, , .		301
4	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
5	Sensorless Vector Control of Induction Machines for Variable-Speed Wind Energy Applications. IEEE Transactions on Energy Conversion, 2004, 19, 196-205.	3.7	244
6	Control of a Switched Reluctance Generator for Variable-Speed Wind Energy Applications. IEEE Transactions on Energy Conversion, 2005, 20, 781-791.	3.7	236
7	MRAS Observer for Sensorless Control of Standalone Doubly Fed Induction Generators. IEEE Transactions on Energy Conversion, 2005, 20, 710-718.	3.7	233
8	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
9	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
10	MRAS Observers for Sensorless Control of Doubly-Fed Induction Generators. IEEE Transactions on Power Electronics, 2008, 23, 1075-1084.	5.4	189
11	Distributed Control Strategies for Microgrids: An Overview. IEEE Access, 2020, 8, 193412-193448.	2.6	178
12	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
13	Wind–Diesel Generation Using Doubly Fed Induction Machines. IEEE Transactions on Energy Conversion, 2008, 23, 202-214.	3.7	118
14	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
15	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
16	Control System for Unbalanced Operation of Stand-Alone Doubly Fed Induction Generators. IEEE Transactions on Energy Conversion, 2007, 22, 544-545.	3.7	109
17	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
18	Model Predictive Torque Control for Torque Ripple Compensation in Variable-Speed PMSMs. IEEE Transactions on Industrial Electronics, 2016, 63, 4584-4592.	5.2	108

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19	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
20	Particle-filtering-based estimation of maximum available power state in Lithium-Ion batteries. Applied Energy, 2016, 161, 349-363.	5.1	96
21	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
22	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
23	Fuzzy modelling for the state-of-charge estimation of lead-acid batteries. Journal of Power Sources, 2015, 274, 355-366.	4.0	89
24	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
25	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
26	Power Smoothing Using a Flywheel Driven by a Switched Reluctance Machine. IEEE Transactions on Industrial Electronics, 2006, 53, 1086-1093.	5.2	77
27	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
28	Switched reluctance generators for wind energy applications. , 0, , .		71
29	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
30	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
31	MRAS Observer for Doubly Fed Induction Machines. IEEE Transactions on Energy Conversion, 2004, 19, 467-468.	3.7	64
32	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
33	A cage induction generator using back to back PWM converters for variable speed grid connected wind energy system. , 0, , .		62
34	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
35	Vector Control of Front-End Converters for Variable-Speed Wind–Diesel Systems. IEEE Transactions on Industrial Electronics, 2006, 53, 1127-1136.	5.2	60
36	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

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37	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
38	Vector controlled induction machines for stand-alone wind energy applications. , 0, , .		46
39	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
40	Solid State Transformers: Concepts, Classification, and Control. Energies, 2020, 13, 2319.	1.6	45
41	Distributed Predictive Control for Frequency and Voltage Regulation in Microgrids. IEEE Transactions on Smart Grid, 2020, 11, 1319-1329.	6.2	44
42	A Cascade Multilevel Frequency Changing Converter for High-Power Applications. IEEE Transactions on Industrial Electronics, 2013, 60, 2118-2130.	5.2	42
43	Resonant control system for lowâ€voltage rideâ€through in wind energy conversion systems. IET Power Electronics, 2016, 9, 1297-1305.	1.5	42
44	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
45	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
46	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
47	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
48	Fast Convergence Delayed Signal Cancellation Method for Sequence Component Separation. IEEE Transactions on Power Delivery, 2015, 30, 2055-2057.	2.9	34
49	Model-Predictive-Control-Based Capacitor Voltage Balancing Strategies for Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2019, 66, 2432-2443.	5.2	33
50	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
51	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
52	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
53	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
54	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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55	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
56	Sensorless control of a doubly- fed induction generator for stand alone operation. , 0, , .		28
57	An Overview of Applications of the Modular Multilevel Matrix Converter. Energies, 2020, 13, 5546.	1.6	28
58	Rotor current based MRAS observer for doubly-fed induction machines. Electronics Letters, 2004, 40, 769.	0.5	27
59	Modelling and control of the Modular Multilevel Matrix Converter and its application to Wind Energy Conversion Systems. , 2016, , .		25
60	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
61	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
62	Control of a matrix converter for the operation of autonomous systems. Renewable Energy, 2012, 43, 343-353.	4.3	22
63	A novel LVRT control strategy for Modular Multilevel Matrix Converter based high-power Wind Energy Conversion Systems. , 2015, , .		22
64	An Overview of Modelling Techniques and Control Strategies for Modular Multilevel Matrix Converters. Energies, 2020, 13, 4678.	1.6	21
65	Distributed Predictive Secondary Control for Imbalance Sharing in AC Microgrids. IEEE Transactions on Smart Grid, 2022, 13, 20-37.	6.2	21
66	Cyber-Attacks in Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2022, 37, 8488-8501.	5.4	21
67	A Simplified Space-Vector Modulation Algorithm for Four-Leg NPC Converters. IEEE Transactions on Power Electronics, 2017, 32, 8371-8380.	5.4	20
68	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
69	Model Predictive Control of Modular Multilevel Matrix Converter. , 2015, , .		19
70	A repetitive control system for four-leg matrix converters feeding non-linear loads. Electric Power Systems Research, 2013, 104, 18-27.	2.1	17
71	Design and Implementation of a Low-Cost Real-Time Control Platform for Power Electronics Applications. Energies, 2020, 13, 1527.	1.6	17
72	Control of the Reactive Power Supplied by a Matrix Converter. IEEE Transactions on Energy Conversion, 2009, 24, 301-303.	3.7	16

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73	Indirect matrix converter modulation strategies for open-end winding induction machine. IEEE Latin America Transactions, 2014, 12, 395-401.	1.2	16
74	Modelling and control of the modular multilevel converter in back to back configuration for high power induction machine drives. , 2016, , .		16
75	Improved control strategy of the modular multilevel converter for high power drive applications in low frequency operation. , 2016, , .		16
76	A solid state transformer based on a three-phase to single-phase Modular Multilevel Converter for power distribution networks. , 2017, , .		16
77	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
78	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
79	Power Smoothing Using a Switched Reluctance Machine Driving a Flywheel. IEEE Transactions on Energy Conversion, 2006, 21, 294-295.	3.7	15
80	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
81	Dual three-phase PMSG based wind energy conversion system using 9-switch dual converter. , 2015, , .		14
82	Small-Signal Modelling and Stability Assessment of Phase-Locked Loops in Weak Grids. Energies, 2019, 12, 1227.	1.6	13
83	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
84	Control of modular multilevel cascade converters for offshore wind energy generation and transmission. , 2018, , .		12
85	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
86	An Overview of Four-Leg Converters: Topologies, Modulations, Control and Applications. IEEE Access, 2022, 10, 61277-61325.	2.6	11
87	Application of indirect matrix converters to variable speed doubly fed induction generators. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	10
88	Analysis of synchronous and stationary reference frame control strategies to fulfill LVRT requirements in Wind Energy Conversion Systems. , 2014, , .		10
89	Reactive power capability of WECS based on matrix converter. Electronics Letters, 2008, 44, 674.	0.5	9
90	Resonant controllers for 4-leg matrix converters. , 2010, , .		9

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91	Current control and capacitor balancing for 4-leg NPC converters using finite set model predictive control. , 2013, , .		9
92	Vector control strategies to enable equal frequency operation of the modular multilevel matrix converter. Journal of Engineering, 2019, 2019, 4214-4219.	0.6	9
93	Control of a Modular Multilevel Matrix Converter for Unified Power Flow Controller Applications. Energies, 2020, 13, 953.	1.6	9
94	Control strategy for power smoothing using vector controlled induction machine and flywheel. Electronics Letters, 2000, 36, 765.	0.5	8
95	Common mode voltage and zero sequence current reduction in an open-end load fed by a two output indirect matrix converter. , 2013, , .		8
96	The application of the modular multilevel matrix converter in high-power wind turbines. , 2016, , .		8
97	Active power angle droop control per phase for unbalanced 4-wire microgrids. , 2017, , .		8
98	Pareto-based modulated model predictive control strategy for power converter applications. Electric Power Systems Research, 2019, 171, 158-174.	2.1	8
99	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
100	Switching strategies for an indirect matrix converter fed open-end load. , 2013, , .		7
101	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
102	Balancing energy and low frequency operation of the Modular Multilevel Converter in Back to Back configuration. , 2015, , .		7
103	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
104	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
105	Phase-Shifted Model Predictive Control of a Three-Level Active-NPC Converter. , 2018, , .		6
106	Experimental Hybrid AC/DC-Microgrid Prototype for Laboratory Research. , 2020, , .		6
107	Modular Multilevel Converter Based Topology for High-Speed, Low-Voltage Electric Drives. IEEE Transactions on Industry Applications, 2020, 56, 5202-5211.	3.3	6
108	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

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109	A space vector modulation algorithm for 4-leg matrix converters. , 2010, , .		5
110	3D-SVM algorithm and capacitor voltage balancing in a 4-leg NPC converter operating under unbalanced and non-linear loads. , 2013, , .		5
111	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
112	Hybrid Transformers with Virtual Inertia for Future Distribution Networks. , 2019, , .		5
113	A multilevel chain-link topology for low voltage, variable frequency applications. , 2019, , .		5
114	Enhanced Circulating-current Control for the Modular Multilevel Matrix Converter Based on Model Predictive Control. , 2019, , .		5
115	4-leg matrix converter interface for a variable-speed diesel generation system. , 2012, , .		4
116	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
117	Control strategy of a dual-inverter system for an open-end winding induction machine based on indirect matrix converter. , 2014, , .		4
118	Control of a Double Fed Induction Generator based Wind Energy Conversion System equipped with a Modular Multilevel Matrix Converter. , 2019, , .		4
119	Design and experimental validation of a dual mode VSI control system for a micro-grid with multiple generators. , 2012, , .		3
120	Matrix converter based Voltage Sag Generator to test LVRT capability in renewable energy systems. , 2013, , .		3
121	Closed loop vector control of the modular multilevel matrix converter for equal input-output operating frequencies. , 2017, , .		3
122	Control strategies for modular multilevel converters driving cage machines. , 2017, , .		3
123	Fast Delayed Signal Cancellation based PLL for unbalanced grid conditions. , 2018, , .		3
124	Multi-Objective Finite-Time Control for the Interlinking Converter on Hybrid AC/DC Microgrids. IEEE Access, 2021, 9, 116183-116193.	2.6	3
125	Control of an open-end winding induction machine via a two-output indirect matrix converter. , 2014, , .		2
126	Resonant control system for a 7-leg back-to-back converter for interfacing variable speed generators to 4-wire loads. , 2015, , .		2

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127	Active power oscillation elimination in 4-leg grid-connected converters under unbalanced network conditions. , 2016, , .		2
128	Permanent Magnet Synchronous Generator WECS based on a four-level double star converter. , 2017, , .		2
129	A novel Capacitor Voltage Balancing strategy for Modular Multilevel Converters. , 2017, , .		2
130	Predictive Control Strategy for an Induction Machine fed by a 3L-NPC Converter with Fixed Switching Frequency and Improved Tracking Error. , 2018, , .		2
131	Control and operation of the MMC-based drive with reduced capacitor voltage fluctuations. Journal of Engineering, 2019, 2019, 3618-3623.	0.6	2
132	Predictive-based Modulation Schemes for the Hybrid Modular Multilevel Converter. , 2019, , .		2
133	Finite-Time Second-Order Cooperative Control for the Economic Dispatch in DC Microgrids. , 2020, , .		2
134	Sensorless control strategy for power smoothing in wind-diesel applications. Electronics Letters, 2002, 38, 1402.	0.5	1
135	The application of resonant controller to fulfill LVRT requirements in grid connected VSI. , 2013, , .		1
136	4-wire Matrix Converter based voltage sag/swell generator to test LVRT in renewable energy systems. , 2014, , .		1
137	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
138	A Novel Distributed Secondary Control Strategy Applied to Hybrid AC/DC Microgrids. , 2019, , .		1
139	A Power Loss Ride Through Control Strategy for Variable Speed Drives based on the Modular Multilevel Matrix Converter. , 2021, , .		1
140	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
141	A Novel Topology and Control System for Interconnected Wave Energy Converters (IWECs). , 2019, , .		0
142	Effects of a Variable dc-Port Voltage on the Half-Bridge-Based Modular Multilevel Converter for Drive Systems. , 2019, , .		0
143	A Parallel Fast Delayed Signal Cancellation PLL for Unbalanced and Distorted Grid Applications. , 2019, , .		0
144	Predictive Voltage Control Operating at Fixed Switching Frequency of a Neutral-Point Clamped Converter. , 2019, , .		0

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145	Improved Modular Multilevel Converter topology for low voltage variable speed drives. , 2020, , .		0
146	Back To Back Modular Multilevel Converter with Dynamic Hybrid Link For High Performance Drive. , 2021, , .		0
147	Experimental Performance Evaluation of a Distributed Secondary Control Strategy for Hybrid ac/dc-Microgrids in the Event of Communication Loss/Delay. , 2021, , .		0