

Jose I Leon

List of Publications by Year in descending order

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128
papers

17,079
citations

87723

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131
all docs

131
docs citations

131
times ranked

8227
citing authors

#	ARTICLE	IF	CITATIONS
1	Power-Electronic Systems for the Grid Integration of Renewable Energy Sources: A Survey. IEEE Transactions on Industrial Electronics, 2006, 53, 1002-1016.	5.2	3,182
2	Recent Advances and Industrial Applications of Multilevel Converters. IEEE Transactions on Industrial Electronics, 2010, 57, 2553-2580.	5.2	3,160
3	The age of multilevel converters arrives. IEEE Industrial Electronics Magazine, 2008, 2, 28-39.	2.3	1,630
4	Multilevel Converters: An Enabling Technology for High-Power Applications. Proceedings of the IEEE, 2009, 97, 1786-1817.	16.4	970
5	Grid-Connected Photovoltaic Systems: An Overview of Recent Research and Emerging PV Converter Technology. IEEE Industrial Electronics Magazine, 2015, 9, 47-61.	2.3	926
6	Model Predictive Control: A Review of Its Applications in Power Electronics. IEEE Industrial Electronics Magazine, 2014, 8, 16-31.	2.3	894
7	Guidelines for weighting factors design in Model Predictive Control of power converters and drives. , 2009, , .		490
8	The Essential Role and the Continuous Evolution of Modulation Techniques for Voltage-Source Inverters in the Past, Present, and Future Power Electronics. IEEE Transactions on Industrial Electronics, 2016, 63, 2688-2701.	5.2	343
9	Multilevel Converters: Control and Modulation Techniques for Their Operation and Industrial Applications. Proceedings of the IEEE, 2017, 105, 2066-2081.	16.4	328
10	Predictive Optimal Switching Sequence Direct Power Control for Grid-Connected Power Converters. IEEE Transactions on Industrial Electronics, 2015, 62, 2010-2020.	5.2	302
11	A Flexible Selective Harmonic Mitigation Technique to Meet Grid Codes in Three-Level PWM Converters. IEEE Transactions on Industrial Electronics, 2007, 54, 3022-3029.	5.2	207
12	Selective Harmonic Mitigation Technique for High-Power Converters. IEEE Transactions on Industrial Electronics, 2010, 57, 2315-2323.	5.2	201
13	Modeling Strategy for Back-to-Back Three-Level Converters Applied to High-Power Wind Turbines. IEEE Transactions on Industrial Electronics, 2006, 53, 1483-1491.	5.2	191
14	Cascaded H-bridge multilevel converter multistring topology for large scale photovoltaic systems. , 2011, , .		181
15	High-Performance Motor Drives. IEEE Industrial Electronics Magazine, 2011, 5, 6-26.	2.3	179
16	A Model-Based Direct Power Control for Three-Phase Power Converters. IEEE Transactions on Industrial Electronics, 2008, 55, 1647-1657.	5.2	168
17	A Five-Level Inverter Topology with Single-DC Supply by Cascading a Flying Capacitor Inverter and an H-Bridge. IEEE Transactions on Power Electronics, 2012, 27, 3505-3512.	5.4	166
18	Selective Harmonic Mitigation Technique for Cascaded H-Bridge Converters With Nonequal DC Link Voltages. IEEE Transactions on Industrial Electronics, 2013, 60, 1963-1971.	5.2	152

#	ARTICLE	IF	CITATIONS
19	Seventeen-Level Inverter Formed by Cascading Flying Capacitor and Floating Capacitor H-Bridges. IEEE Transactions on Power Electronics, 2015, 30, 3471-3478.	5.4	140
20	Model Predictive Control with constant switching frequency using a Discrete Space Vector Modulation with virtual state vectors. , 2009, , .		137
21	Solar Photovoltaic and Thermal Energy Systems: Current Technology and Future Trends. Proceedings of the IEEE, 2017, 105, 2132-2146.	16.4	136
22	Adaptive Vectorial Filter for Grid Synchronization of Power Converters Under Unbalanced and/or Distorted Grid Conditions. IEEE Transactions on Industrial Electronics, 2014, 61, 1355-1367.	5.2	130
23	Model Predictive Control for Single-Phase NPC Converters Based on Optimal Switching Sequences. IEEE Transactions on Industrial Electronics, 2016, 63, 7533-7541.	5.2	130
24	Three-dimensional space vector modulation in abc coordinates for four-leg voltage source converters. IEEE Power Electronics Letters, 2003, 1, 104-109.	1.1	125
25	DC-Voltage-Ratio Control Strategy for Multilevel Cascaded Converters Fed With a Single DC Source. IEEE Transactions on Industrial Electronics, 2009, 56, 2513-2521.	5.2	125
26	Feed-Forward Space Vector Modulation for Single-Phase Multilevel Cascaded Converters With Any DC Voltage Ratio. IEEE Transactions on Industrial Electronics, 2009, 56, 315-325.	5.2	122
27	Observer-Based Adaptive Sliding Mode Control of NPC Converters: An RBF Neural Network Approach. IEEE Transactions on Power Electronics, 2019, 34, 3831-3841.	5.4	122
28	Analysis of the Power Balance in the Cells of a Multilevel Cascaded H-Bridge Converter. IEEE Transactions on Industrial Electronics, 2010, 57, 2287-2296.	5.2	115
29	Multidimensional Modulation Technique for Cascaded Multilevel Converters. IEEE Transactions on Industrial Electronics, 2011, 58, 412-420.	5.2	110
30	Conventional Space-Vector Modulation Techniques Versus the Single-Phase Modulator for Multilevel Converters. IEEE Transactions on Industrial Electronics, 2010, 57, 2473-2482.	5.2	95
31	Switching Frequency Regulation for FCS-MPC Based on a Period Control Approach. IEEE Transactions on Industrial Electronics, 2018, 65, 5764-5773.	5.2	92
32	Simple Unified Approach to Develop a Time-Domain Modulation Strategy for Single-Phase Multilevel Converters. IEEE Transactions on Industrial Electronics, 2008, 55, 3239-3248.	5.2	89
33	A 3-D space vector modulation generalized algorithm for multilevel converters. IEEE Power Electronics Letters, 2003, 1, 110-114.	1.1	87
34	Model Based Adaptive Direct Power Control for Three-Level NPC Converters. IEEE Transactions on Industrial Informatics, 2013, 9, 1148-1157.	7.2	85
35	Variable-Angle Phase-Shifted PWM for Multilevel Three-Cell Cascaded H-Bridge Converters. IEEE Transactions on Industrial Electronics, 2017, 64, 3619-3628.	5.2	84
36	DC-Link Voltage-Balancing Strategy Based on Optimal Switching Sequence Model Predictive Control for Single-Phase H-NPC Converters. IEEE Transactions on Industrial Electronics, 2020, 67, 7410-7420.	5.2	82

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37	Three-Dimensional Feedforward Space Vector Modulation Applied to Multilevel Diode-Clamped Converters. IEEE Transactions on Industrial Electronics, 2009, 56, 101-109.	5.2	76
38	Sliding Mode Control of Grid-Connected Neutral-Point-Clamped Converters Via High-Gain Observer. IEEE Transactions on Industrial Electronics, 2022, 69, 4010-4021.	5.2	59
39	Unidimensional Modulation Technique for Cascaded Multilevel Converters. IEEE Transactions on Industrial Electronics, 2009, 56, 2981-2986.	5.2	54
40	Power Routing: A New Paradigm for Maintenance Scheduling. IEEE Industrial Electronics Magazine, 2020, 14, 33-45.	2.3	41
41	Binary Search Based Flexible Power Point Tracking Algorithm for Photovoltaic Systems. IEEE Transactions on Industrial Electronics, 2021, 68, 5909-5920.	5.2	39
42	Advanced Control Strategies for DC-DC Buck Converters With Parametric Uncertainties via Experimental Evaluation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 5257-5267.	3.5	38
43	Prediction Model With Harmonic Load Current Components for FCS-MPC of an Uninterruptible Power Supply. IEEE Transactions on Power Electronics, 2022, 37, 322-331.	5.4	37
44	A Three-Level Common-Mode Voltage Eliminated Inverter With Single DC Supply Using Flying Capacitor Inverter and Cascaded H-Bridge. IEEE Transactions on Power Electronics, 2014, 29, 1402-1409.	5.4	36
45	Reduced common-mode voltage operation of a new seven-level hybrid multilevel inverter topology with a single DC voltage source. IET Power Electronics, 2016, 9, 519-528.	1.5	34
46	Observer-Based Sliding-Mode Control for Grid-Connected Power Converters Under Unbalanced Grid Conditions. IEEE Transactions on Industrial Electronics, 2022, 69, 517-527.	5.2	33
47	DC Solid State Transformer Based on Three-Level Power Module for Interconnecting MV and LV DC Distribution Systems. IEEE Transactions on Power Electronics, 2021, 36, 1563-1577.	5.4	32
48	Multilevel Multiphase Feedforward Space-Vector Modulation Technique. IEEE Transactions on Industrial Electronics, 2010, 57, 2066-2075.	5.2	31
49	High-Performance Second-Order Sliding Mode Control for NPC Converters. IEEE Transactions on Industrial Informatics, 2020, 16, 5345-5356.	7.2	31
50	A SVM-3D generalized algorithm for multilevel converters. , 0, , .		30
51	Generalized Harmonic Control for CHB Converters With Unbalanced Cells Operation. IEEE Transactions on Industrial Electronics, 2020, 67, 9039-9047.	5.2	29
52	Adaptive Second-Order Sliding Mode Control for Grid-Connected NPC Converters With Enhanced Disturbance Rejection. IEEE Transactions on Power Electronics, 2022, 37, 206-220.	5.4	29
53	Model predictive control based selective harmonic mitigation technique for multilevel cascaded H-bridge converters. , 2011, , .		28
54	Applications and Modulation Methods for Modular Converters Enabling Unequal Cell Power Sharing: Carrier Variable-Angle Phase-Displacement Modulation Methods. IEEE Industrial Electronics Magazine, 2022, 16, 19-30.	2.3	28

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55	Hybrid Energy Storage Systems: Concepts, Advantages, and Applications. IEEE Industrial Electronics Magazine, 2021, 15, 74-88.	2.3	28
56	Variable-Angle PS-PWM Technique for Multilevel Cascaded H-Bridge Converters With Large Number of Power Cells. IEEE Transactions on Industrial Electronics, 2021, 68, 6773-6783.	5.2	28
57	Recent advances on Energy Storage Systems. , 2011, , .		27
58	Improved Harmonic Performance of Cascaded H-Bridge Converters With Thermal Control. IEEE Transactions on Industrial Electronics, 2019, 66, 4982-4991.	5.2	26
59	FCS-MPC and observer design for a VSI with output LC filter and sinusoidal output currents. , 2017, , .		24
60	Model Predictive Control of Modular Multilevel Converters Using Quadratic Programming. IEEE Transactions on Power Electronics, 2021, 36, 7012-7025.	5.4	24
61	New Space Vector Modulation Technique for Single-Phase Multilevel Converters. , 2007, , .		21
62	DC-link capacitors voltage balancing in multilevel four-leg diode-clamped converters. , 2005, , .		20
63	Sampling-Time Harmonic Control for Cascaded H-Bridge Converters With Thermal Control. IEEE Transactions on Industrial Electronics, 2020, 67, 2776-2785.	5.2	19
64	Controller design for a single-phase two-cell multilevel cascade H-bridge converter. , 2008, , .		18
65	Adaptive Control for Three-Phase Power Converters With Disturbance Rejection Performance. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2021, 51, 674-685.	5.9	18
66	Fuzzy Sliding-Mode Control for Three-Level NPC AFE Rectifiers: A Chattering Alleviation Approach. IEEE Transactions on Power Electronics, 2022, 37, 11704-11715.	5.4	18
67	Implementation of a closed loop SHMPWM technique for three level converters. , 2008, , .		17
68	Simple modulator with voltage balancing control for the hybrid five-level flying-capacitor based ANPC converter. , 2011, , .		17
69	Variable Rounding Level Control Method for Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2021, 36, 4791-4801.	5.4	17
70	K-Best Sphere Decoding Algorithm for Long Prediction Horizon FCS-MPC. IEEE Transactions on Industrial Electronics, 2022, 69, 7571-7581.	5.2	17
71	Power electronic converters and control techniques in AC microgrids. , 2017, , .		16
72	Common-Mode Voltage Mitigation of Dual Three-Phase Voltage Source Inverters in a Motor Drive Application. IEEE Access, 2021, 9, 67477-67487.	2.6	16

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73	Recent advances in high-power industrial applications. , 2010, , .		15
74	Basic Control Principles in Power Electronics. , 2018, , 31-68.		15
75	Selective harmonic mitigation technique for multilevel cascaded H-bridge converters. , 2009, , .		14
76	Adaptive phase-shifted PWM for multilevel cascaded H-bridge converters with large number of power cells. , 2017, , .		14
77	Discontinuous-PWM Method for Multilevel N -Cell Cascaded H-Bridge Converters. IEEE Transactions on Industrial Electronics, 2021, 68, 7996-8005.	5.2	14
78	Two-dimensional modulation technique with dc voltage control for single-phase two-cell cascaded converters. , 2010, , .		13
79	Efficient FFSoc Prototyping of FCS-MPC for Three-Phase Voltage Source Inverters. Energies, 2020, 13, 1074.	1.6	13
80	Optimized Direct Power Control Strategy using Output Regulation Subspaces and Pulse Width Modulation. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	12
81	New trends and topologies for high power industrial applications: The multilevel converters solution. , 2009, , .		12
82	Integral Sliding-Mode Control-Based Direct Power Control for Three-Level NPC Converters. Energies, 2020, 13, 227.	1.6	12
83	Comparison between FS-MPC control strategy for an UPS inverter application in α - β and abc frames. , 2010, , .		11
84	A Predictive Capacitor Voltage Control of a Hybrid Cascaded Multilevel Inverter With a Single DC-Link and Reduced Common-Mode Voltage Operation. IEEE Transactions on Industrial Electronics, 2016, 63, 5285-5292.	5.2	11
85	Power Devices Aging Equalization of Interleaved DC-DC Boost Converters via Power Routing. IEEE Journal of Emerging and Selected Topics in Industrial Electronics, 2020, 1, 91-101.	3.0	10
86	Common-Mode Voltage Mitigation Technique in Motor Drive Applications by Applying a Sampling-Time Adaptive Multi-Carrier PWM Method. IEEE Access, 2021, 9, 56115-56126.	2.6	10
87	Parallel Sphere Decoding Algorithm for Long-Prediction-Horizon FCS-MPC. IEEE Transactions on Power Electronics, 2022, 37, 7896-7906.	5.4	10
88	Predictive direct power control for grid connected power converters with dc-link voltage dynamic reference design. , 2015, , .		9
89	A hybrid multilevel inverter scheme for induction motor drives and grid-tied applications using a single DC-link. , 2015, , .		8
90	A hybrid seven level inverter topology with a single DC supply and reduced switch count. , 2015, , .		8

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91	Real-Time Selective Harmonic Mitigation Technique for Power Converters Based on the Exchange Market Algorithm. <i>Energies</i> , 2020, 13, 1659.	1.6	8
92	Fuzzy Logic System-Based Sliding-Mode Control for Three-Level NPC Converters. <i>IEEE Transactions on Transportation Electrification</i> , 2022, 8, 3307-3319.	5.3	8
93	Power Device Lifetime Extension of Dc-Dc Interleaved Converters via Power Routing. , 2018, , .		7
94	Closed-loop active thermal control via power routing of parallel DC-DC converters. , 2018, , .		7
95	A Generalized Predictive control for T-type power inverters with output LC filter. , 2015, , .		6
96	Selective harmonic mitigation technique based on the exchange market algorithm for high-power applications. , 2017, , .		6
97	Capacitor Lifetime Extension of Interleaved DC-DC Converters for Multistring PV Systems. <i>IEEE Transactions on Industrial Electronics</i> , 2023, 70, 4854-4864.	5.2	6
98	A new three phase multilevel inverter with reduced number of switching power devices with Common Mode Voltage elimination. , 2016, , .		5
99	Flexible Harmonic Control for Three-Level Selective Harmonic Modulation Using the Exchange Market Algorithm. , 2018, , .		5
100	A High-Gain Observer-Based Adaptive Super-Twisting Algorithm for DC-Link Voltage Control of NPC Converters. <i>Energies</i> , 2020, 13, 1110.	1.6	5
101	Simple and advanced three dimensional spacevector modulation algorithm for four-leg multilevel converters topology. , 0, , .		4
102	New State Vectors Selection Using Space Vector Modulation in Three Dimensional Control Regions for Multilevel Converters. , 2006, , .		4
103	Two-dimensional modulation technique for multilevel cascaded H-bridge converters. , 2009, , .		4
104	Novel modulator for the hybrid two-cell flying-capacitor based ANPC converter. , 2011, , .		4
105	Common-mode voltage eliminated three-level inverter using a three-level flying-capacitor inverter and cascaded H-Bridge. , 2012, , .		4
106	Introduction to the Special Section on Modulation Techniques for DC-to-AC Power Converters. <i>IEEE Transactions on Industrial Electronics</i> , 2013, 60, 1859-1860.	5.2	4
107	Adaptive phase-shifted PWM for multilevel cascaded H-bridge converters for balanced or unbalanced operation. , 2015, , .		4
108	Variable-angle interleaved DC-DC converters. , 2016, , .		4

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109	Finite Control Set Model Predictive Control with an Output Current Observer in the dq-Synchronous Reference Frame for an Uninterruptible Power Supply System. , 2019, , .		4
110	FS-MPC Method for MMCs with Large Number of Submodules with Reduced Computational Cost. , 2020, , .		4
111	Simple Control Algorithm to Balance the DC-Link Voltage in Multilevel Four-Leg Four-Wire Diode Clamped Converters. , 2006, , .		3
112	A simple and low cost modulation technique for single-phase multilevel cascade converters based on geometrical considerations. , 2008, , .		3
113	A seventeen-level inverter with a single DC-link for motor drives. , 2013, , .		3
114	FCS-MPC and Observer Design in the dq Synchronous Frame: An Experimental Validation. , 2020, , .		3
115	Event-Triggered Continuous Control Set-Model Predictive Control for Three-Phase Power Converters. , 2021, , .		3
116	Optimized Phase-Shift Control for dc-link Current Minimization in Automotive Multi Converter Applications. , 2021, , .		3
117	Space vector modulation for multilevel single-phase cascade converters avoiding the negative effects of the DC voltage unbalance. , 2008, , .		2
118	How power electronics contribute to the current energy arena. , 2013, , .		2
119	Loss Evaluation of Cascaded H-bridge and Modular Multilevel Converter for Motor Drive Applications. , 2018, , .		2
120	A simple model predictive control strategy aiming at enhancing the performance of modular multilevel converters. , 2017, , .		1
121	Generating the Arm Voltage References of Modular Multilevel Converters Employing Predictive Technique. , 2018, , .		1
122	Improving the operation of the modular multilevel converters with model predictive control. , 2018, , .		1
123	Cost-effective Design of Modular Multilevel Converter Employing Full-bridge Submodules. , 2019, , .		1
124	Parallel Interleaved Three-level Inverters Operation with Continuous and Discontinuous PWM Methods. , 2021, , .		1
125	The Influence of MPPT Algorithms in the Lifespan of the Capacitor Across the PV Array. IEEE Access, 2022, 10, 40945-40952.	2.6	1
126	Educational software interface for power electronic applications. , 2010, , .		0

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127	Educational hardware/software interface for power electronic applications. , 2012, , .		0
128	Common-Mode Voltage Harmonic Reduction in Variable Speed Drives Applying a Variable-Angle Carrier Phase-Displacement PWM Method. Energies, 2021, 14, 2929.	1.6	0