Marcelo A Perez

List of Publications by Year
in descending order

116 papers	7,478 citations	201575 27 h-index	233338 45 g-index
118 all docs	118 docs citations	118 times ranked	4346 citing authors

#	Article	IF	Citations
1	A Survey on Cascaded Multilevel Inverters. IEEE Transactions on Industrial Electronics, 2010, 57, 2197-2206.	5.2	1,888
2	Circuit Topologies, Modeling, Control Schemes, and Applications of Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2015, 30, 4-17.	5.4	1,129
3	Evolution of Topologies, Modeling, Control Schemes, and Applications of Modular Multilevel Converters. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2017, 5, 1631-1656.	3.7	411
4	Model Predictive Control: MPC's Role in the Evolution of Power Electronics. IEEE Industrial Electronics Magazine, 2015, 9, 8-21.	2.3	383
5	Analysis of Finite-Control-Set Model Predictive Current Control With Model Parameter Mismatch in a Three-Phase Inverter. IEEE Transactions on Industrial Electronics, 2016, 63, 3100-3107.	5.2	284
6	Powering the Future of Industry: High-Power Adjustable Speed Drive Topologies. IEEE Industry Applications Magazine, 2012, 18, 26-39.	0.3	268
7	Model Predictive Control of an AFE Rectifier With Dynamic References. IEEE Transactions on Power Electronics, 2012, 27, 3128-3136.	5.4	221
8	Predictive Control of ACâ€“AC Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2012, 59, 2832-2839.	5.2	202
9	Assessing Finite-Control-Set Model Predictive Control: A Comparison with a Linear Current Controller in Two-Level Voltage Source Inverters. IEEE Industrial Electronics Magazine, 2014, 8, 44-52.	2.3	189
10	High-Performance Motor Drives. IEEE Industrial Electronics Magazine, 2011, 5, 6-26.	2.3	179
11	Predictive Control Algorithm Technique for Multilevel Asymmetric Cascaded H-Bridge Inverters. IEEE Transactions on Industrial Electronics, 2008, 55, 4354-4361.	5.2	147
12	Modular Multilevel Converters: Recent Achievements and Challenges. IEEE Open Journal of the Industrial Electronics Society, 2021, 2, 224-239.	4.8	111
13	A Robust Phase-Locked Loop Algorithm to Synchronize Static-Power Converters With Polluted AC Systems. IEEE Transactions on Industrial Electronics, 2008, 55, 2185-2192.	5.2	110
14	Power Distribution in Hybrid Multi-cell Converter with Nearest Level Modulation. , 2007, , .		92
15	Experimental Validation of a Single DC Bus Cascaded H-Bridge Multilevel Inverter for Multistring Photovoltaic Systems. IEEE Transactions on Industrial Electronics, 2017, 64, 930-934.	5.2	91
16	Zero-Steady-State-Error Input-Current Controller for Regenerative Multilevel Converters Based on Single-Phase Cells. IEEE Transactions on Industrial Electronics, 2007, 54, 733-740.	5.2	82
17	DCâ€“DC MMC for HVdc Grid Interface of Utility-Scale Photovoltaic Conversion Systems. IEEE Transactions on Industrial Electronics, 2018, 65, 352-362.	5.2	79
18	Surveying Solid-State Transformer Structures and Controls: Providing Highly Efficient and Controllable Power Flow in Distribution Grids. IEEE Industrial Electronics Magazine, 2020, 14, 56-70.	2.3	76

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19	Decoupled Current Model and Control of Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2015, 62, 5382-5392.	5.2	74
20	Multi-modular cascaded DC-DC converter for HVDC grid connection of large-scale photovoltaic power systems. , 2013, , .		72
21	Modular multilevel converter for large-scale multistring photovoltaic energy conversion system. , 2013, , .		70
22	Robotics in Power Systems: Enabling a More Reliable and Safe Grid. IEEE Industrial Electronics Magazine, 2017, 11, 22-34.	2.3	66
23	Sliding Mode Control of the Modular Multilevel Converter. IEEE Transactions on Industrial Electronics, 2019, 66, 887-897.	5.2	64
24	Control of Arm Capacitor Voltages in Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2016, 31, 1774-1784.	5.4	56
25	High-Power Machine Drive, Using Nonredundant 27-Level Inverters and Active Front End Rectifiers. IEEE Transactions on Power Electronics, 2007, 22, 2527-2533.	5.4	48
26	Generalized modeling and simulation of a modular multilevel converter. , 2011, , .		46
27	Predictive control of DC-link voltage in an active-front-end rectifier. , 2011, , .		36
28	Visual-Based Positioning of Aerial Maintenance Platforms on Overhead Transmission Lines. Applied Sciences (Switzerland), 2019, 9, 165.	1.3	36
29	Decoupled current control of modular multilevel converter for HVDC applications. , 2012, , .		35
30	Model Predictive Control for Power Converters inÂa Distorted Three-Phase Power Supply. IEEE Transactions on Industrial Electronics, 2016, 63, 5838-5848.	5.2	35
31	Performance Evaluation of a Multicell Topology Implemented With Single-Phase Nonregenerative Cells Under Unbalanced Supply Voltages. IEEE Transactions on Industrial Electronics, 2007, 54, 2969-2978.	5.2	32
32	Switching loss analysis of modulation methods used in cascaded H-bridge multilevel converters. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	31
33	Modular multilevel converter with integrated storage for solar photovoltaic applications. , 2013, , .		31
34	Editorial Special Issue on Modular Multilevel Converters, 2015. IEEE Transactions on Power Electronics, 2015, 30, 1-3.	5.4	29
35	Optimization of photovoltaic solar power plant locations in northern Chile. Environmental Earth Sciences, 2017, 76, 1.	1.3	29
36	Modular multilevel cascaded converter based on current source H-bridges cells. , 2012, , .		28

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37	Voltage-Balancing Approach With Improved Harmonic Performance for Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2017, 32, 5878-5884.	5.4	28
38	Enhanced Predictive Control for a Wide Time-Variant Frequency Environment. IEEE Transactions on Industrial Electronics, 2016, 63, 5827-5837.	5.2	27
39	Finite control set MPC of an AFE rectifier with dynamic references. , 2010, , .		26
40	Switching loss analysis of modulation methods used in neutral point clamped converters. , 2009, , .		25
41	Model Predictive Control of Modular Multilevel Converters Using Quadratic Programming. IEEE Transactions on Power Electronics, 2021, 36, 7012-7025.	5.4	24
42	Stable Shortest Horizon FCS-MPC Output Voltage Control in Non-Minimum Phase Boost-Type Converters Based on Input-State Linearization. IEEE Transactions on Energy Conversion, 2021, 36, 1378-1391.	3.7	24
43	Power Electronics and Drives: Applications to Modern Ship Propulsion Systems. IEEE Industrial Electronics Magazine, 2020, 14, 106-122.	2.3	23
44	Finite States Model Predictive Control for Shunt Active Filters. , 2011, , .		22
45	DC voltage balance control in a modular multilevel cascaded converter. , 2012, , .		22
46	Design of a Cleaning Program for a PV Plant Based on Analysis of Energy Losses. IEEE Journal of Photovoltaics, 2015, 5, 1748-1756.	1.5	21
47	Vision based inspection of transmission lines using unmanned aerial vehicles. , 2016, , .		21
48	Predictive current control in a single phase PFC boost rectifier. , 2009, , .		18
49	Capacitor voltage ripple minimization in modular multilevel converters. , 2015, , .		18
50	Partial power DC-DC converter for photovoltaic microinverters. , 2016, , .		18
51	Modified staircase modulation with low input current distortion for multicell converters. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	17
52	Capacitor voltage balance of MMC converters in bidirectional power flow operation. , 2012, , .		17
53	Multiobjective Fuzzy Predictive Torque Control of an induction machine fed by a 3L-NPC inverter. , 2015, , .		17
54	Photovoltaic Modules Diagnosis Using Artificial Vision Techniques for Artifact Minimization. Energies, 2018, 11, 1688.	1.6	17

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55	Variable Rounding Level Control Method for Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2021, 36, 4791-4801.	5.4	17
56	Partial power DC-DC converter for photovoltaic two-stage string inverters. , 2016, , .		15
57	Configurations, Power Topologies and Applications of Hybrid Distribution Transformers. Energies, 2021, 14, 1215.	1.6	15
58	Predictive control of three-level active NPC converter with evenly energy losses distribution. , 2010, , .		14
59	Unlocking the Hidden Capacity of the Electrical Grid Through Smart Transformer and Smart Transmission. Proceedings of the IEEE, 2023, 111, 421-437.	16.4	14
60	Static power converter synchronization and control under varying frequency conditions. , 2012, , .		13
61	Series-connected T-type Inverters for single-phase grid-connected Photovoltaic Energy System. , 2013, , .		13
62	Five-Level T-type Cascade Converter for Rooftop Grid-Connected Photovoltaic Systems. Energies, 2019, 12, 1743.	1.6	13
63	A Robust PLL Algorithm to Synchronize Static Power Converters with Polluted AC Systems. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	12
64	Predictive frequency spectrum shaping of currents in a three phase inverter. , 2013, , .		12
65	A comprehensive comparison of modulation methods for MMC converters. , 2017, , .		11
66	High Power Synchronous Machine fed by a Cascaded Regenerative Inverter. , 2008, , .		10
67	Four-level medium voltage multilevel converter for high power applications. , 2013, , .		10
68	Decoupled capacitor voltage control of modular multilevel converters. , 2014, , .		10
69	Mechatronized maximum power point tracking for electric field energy harvesting sensor. AEU - International Journal of Electronics and Communications, 2019, 110, 152830.	1.7	10
70	FPGA-based predictive current control of a three-phase active front end rectifier. , 2009, , .		8
71	Sub-modular Power Optimizers Based on Partial Power Converters for Utility Scale PV Plants. , 2019, , .		8
72	Predictive control of a single-stage boost DC-AC photovoltaic microinverter. , 2016, , .		7

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73	Capacitor voltage ripple control based on decoupled power analysis in MMC. , 2017, , .		6
74	Capacitor voltage balancing method for modular multilevel converter with flying capacitor submodules. , 2017, , .		6
75	Shortest horizon FCS-MPC output voltage tracking in non-minimum phase boost-type converters. , 2019, , .		6
76	Modular multilevel converter based on current source H-bridge cells implemented with low cost reversing conducting IGCT. , 2013, , .		5
77	Discrete synchronism methods for polluted single phase and unbalanced three-phase systems. , 2014, , .		5
78	Analysis of short-term and long-term characteristics of PV power production. , 2014, , .		5
79	FS-model predictive control of microgrid interface converters for reactive power and harmonic compensation. , 2016, , .		5
80	Partial power converter for a two-stage photovoltaic cascaded string inverter. , 2017, , .		5
81	Distribution Network Hybrid Transformer for Load Current and Grid Voltage Compensation. , 2019, , .		5
82	Hybrid Transformers with Virtual Inertia for Future Distribution Networks. , 2019, , .		5
83	Modeling and Control of a Hybrid Transformer based on a Cascaded H-bridge Multilevel Converter. , 2020, , .		5
84	Passivity-based PI control of switched power converters. , 2003, , .		4
85	On the Development of MCU-based ad hoc HW Interface Circuitry for Memristor Characterization. , 2020, , .		4
86	FS-MPC Method for MMCs with Large Number of Submodules with Reduced Computational Cost. , 2020, , .		4
87	Decoupled control of a three-phase to three-phase modular multilevel matrix converter. , 2013, , .		3
88	Control of MMC-HVDC transmission system operating with local variables. , 2014, , .		3
89	Reduced switching frequency operation of power converters using virtual model based MPC. , 2015, , .		3
90	Current Control of Interleaved DC-DC Converter in Continuous and Discontinuous Mode. , 2018, , .		3

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91	Control of Solid State Transformer based on Modular Multilevel Converters with Interconnecting Dual Active Bridges. , 2019, , .		3
92	A modified active and reactive direct power control strategy with disturbances minimization. , 2010, , .		2
93	Modular Multilevel Converter Machine Drive using current source H-bridges. , 2013, , .		2
94	Control of HVDC transmission system based on MMC with three-level flying capacitor submodule. , 2015, , .		2
95	Control of a multi-terminal DC transmission system based on local variables. , 2016, , .		2
96	Hierarchical control of the DC microgrid with improved reliability. , 2017, , .		2
97	Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2019, 66, 2204-2206.	5.2	2
98	Pareto Frontier of the Arm Energy Ripple and the Conduction Losses of a Modular Multilevel Converter. Energies, 2021, 14, 392.	1.6	2
99	A simple modulation scheme for a three-phase direct matrix converter. , 2012, , .		1
100	Asymmetric cascaded converter for solar PV applications. , 2014, , .		1
101	Design of a cleaning program for a PV plant based on the analysis of short-term and long-term effects. , 2015, , .		1
102	Resonant control for power converters connected to weak and micro grid systems with variant frequency. , 2016, , .		1
103	Fast maximum power point tracking algorithm based on switching signals modification. , 2017, , .		1
104	Cost based hierarchical control for the management of a DC microgrid. , 2017, , .		1
105	Dynamic matrix predictive control on DC-AC modular multilevel converter: Design, control and real-time simulation. , 2017, , .		1
106	Modeling of MMC-HVDC for grid integration applications. , 2017, , .		1
107	Circulating current control scheme for double-star winding induction motor drive based, ship propulsion system. , 2017, , .		1
108	Model of a permanent magnet linear generator. , 2019, , .		1

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109	A Virtual Synchronous Generator Strategy for a Grid-Connected qZSI. , 2019, , .		1
110	Analysis of sinusoidal current reference generation with flat instantaneous active power for unbalanced grids. , 2014, , .		0
111	Operating region of a three-phase quasi-Z-source inverter. , 2017, , .		0
112	Control of a multi-terminal DC transmission system with reduced power oscillation. , 2017, , .		0
113	Shipâ€˜s PTO / PTI Torque Field Oriented Control scheme, with optimization strategy, for EEDI index improvement. , 2018, , .		0
114	Frequency control of MMC-HVDC based on active and reactive power decoupling. , 2018, , .		0
115	Current Control of Interleaved DC-DC Converter Considering a Current Dependent Inductance. , 2019, , .		0
116	Modeling of cross-circulating currents in a MMC with parallel connected submodules in Solid State Transformers. , 2021, , .		0