Angel de Castro

List of Publications by Year
in descending order

73 papers	1,441 citations	430442 18 h-index	360668 35 g-index
73 all docs	73 docs citations	73 times ranked	1042 citing authors

#	Article	IF	Citations
1	Analysis of the aliasing effect caused in hardware-in-the-loop when reading PWM inputs of power converters. International Journal of Electrical Power and Energy Systems, 2022, 136, 107678.	3.3	10
2	Asynchronous and Decoupled HIL Simulation of a DC Nanogrid. Electronics (Switzerland), 2022, 11, 2045.	1.8	1
3	Comparison of Different Design Alternatives for Hardware-in-the-Loop of Power Converters. Electronics (Switzerland), 2021, 10, 926.	1.8	22
4	Hardware-in-the-Loop and Digital Control Techniques Applied to Single-Phase PFC Converters. Electronics (Switzerland), 2021, 10, 1563.	1.8	14
5	The Necessity of Resetting Memory in Adamsâ€"Bashforth Method for Real-Time Simulation of Switching Converters. IEEE Transactions on Power Electronics, 2021, 36, 6175-6178.	5.4	6
6	Word length selection method for HIL power converter models. International Journal of Electrical Power and Energy Systems, 2021, 129, 106721.	3.3	10
7	Modeling of Deadtime Events in Power Converters with Half-Bridge Modules for a Highly Accurate Hardware-in-the-Loop Fixed Point Implementation in FPGA. Applied Sciences (Switzerland), 2021, 11, 6490.	1.3	5
8	Improved Polygon Method for HIL Simulations in Real Time. , 2021, , .		0
9	Evaluation of the Different Numerical Formats for HIL Models of Power Converters after the Adoption of VHDL-2008 by Xilinx. Electronics (Switzerland), 2021, 10, 1952.	1.8	4
10	Strategies for choosing an appropriate numerical method for FPGA-based HIL. International Journal of Electrical Power and Energy Systems, 2021, 132, 107186.	3.3	13
11	Design and Implementation of Two Hybrid High Frequency DPWMs Using Delay Blocks on FPGAs. IEEE Transactions on Power Electronics, 2021, 36, 14567-14578.	5.4	4
12	Universal fixedâ€point digital controller for control theory studies. Computer Applications in Engineering Education, 2021, 29, 1208-1222.	2.2	1
13	Emulator of a Boost Converter for Educational Purposes. Electronics (Switzerland), 2020, 9, 1883.	1.8	8
14	LOCOFloat: A Low-Cost Floating-Point Format for FPGAs.: Application to HIL Simulators. Electronics (Switzerland), 2020, 9, 81.	1.8	5
15	Real-Time Hardware in the Loop Simulation Methodology for Power Converters Using LabVIEW FPGA. Energies, 2020, 13, 373.	1.6	35
16	A Comparison of Filtering Approaches Using Low-Speed DACs for Hardware-in-the-Loop Implemented in FPGAs. Electronics (Switzerland), 2019, 8, 1116.	1.8	6
17	An Application of the Hardened Floating-Point Cores on HIL Simulations. , 2019, , .		0
18	Analysis of Resolution in Feedback Signals for Hardware-in-the-Loop Models of Power Converters. Electronics (Switzerland), 2019, 8, 1527.	1.8	9

#	Article	IF	Citations
19	Comparison of Power Converter Models with Losses for Hardware-in-the-Loop Using Different Numerical Formats. Electronics (Switzerland), 2019, 8, 1255.	1.8	13
20	AC Mains Synchronization Loop for Precalculated- Based PFC Converters Using the Output Voltage Measure. Electronics (Switzerland), 2019, 8, 4.	1.8	4
21	Parametrizable Fixed-Point Arithmetic for HIL With Small Simulation Steps. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 2467-2475.	3.7	12
22	Handling input voltage frequency variations in power factor correctors with pre-calculated duty cycles. Electrical Engineering, 2018, 100, 27-38.	1.2	3
23	Exploring the Limits of Floating-Point Resolution for Hardware-In-the-Loop Implemented with FPGAs. Electronics (Switzerland), 2018, 7, 219.	1.8	13
24	Comparison of Numerical Methods for Hardware-In-the-Loop Simulation of Switched-Mode Power Supplies. , 2018, , .		7
25	Impact of the hardened floating-point cores on HIL technology. Electric Power Systems Research, 2018, 165, 53-59.	2.1	9
26	Development of an online platform for hardware-based laboratories in Engineering studies. , 2016, , .		0
27	HALO4: Horizontal Angle Localization and Orientation System with 4 Receivers and Based on Ultrasounds. Journal of Intelligent and Robotic Systems: Theory and Applications, 2016, 82, 595-607.	2.0	0
28	Hardware-in-the-loop using parametrizable fixed point notation. , 2016, , .		2
29	NafisNav: An indoor navigation algorithm for embedded systems and based on grid maps. , 2015, , .		2
30	Path length comparison in grid maps of planning algorithms: HCTNav, A∗ and Dijkstra. , 2014, , .		7
31	Angle localization and orientation system with 4 receivers and based on audible sound signals. , 2014, , .		1
32	Resolution Analysis of Switching Converter Models for Hardware-in-the-Loop. IEEE Transactions on Industrial Informatics, 2014, 10, 1162-1170.	7.2	25
33	Comparison of AC mains synchronization methods when using precalculated duty cycles in Power Factor Correction. , 2014, , .		2
34	Single ADC Digital PFC Controller Using Precalculated Duty Cycles. IEEE Transactions on Power Electronics, 2014, 29, 996-1005.	5.4	25
35	Handling input voltage frequency variations in power factor correctors with precalculated duty cycles. , 2014, , .		2
36	Universal Digital Controller for Boost CCM Power Factor Correction Stages Based on Current Rebuilding Concept. IEEE Transactions on Power Electronics, 2014, 29, 3818-3829.	5.4	49

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37	ALO4: Angle Localization and Orientation System with Four Receivers. International Journal of Advanced Robotic Systems, 2014, 11, 152.	1.3	2
38	ALO: An ultrasound system for localization and orientation based on angles. Microelectronics Journal, 2013, 44, 959-967.	1.1	12
39	Modeling of power converters for debugging digital controllers through FPGA emulation. , 2013, , .		4
40	Single ADC single loop power factor correction using pre-calculated duty cycles. , 2013, , .		1
41	HCTNav: A Path Planning Algorithm for Low-Cost Autonomous Robot Navigation in Indoor Environments. ISPRS International Journal of Geo-Information, 2013, 2, 729-748.	1.4	22
42	Simplified Occupancy Grid Indoor Mapping Optimized for Low-Cost Robots. ISPRS International Journal of Geo-Information, 2013, 2, 959-977.	1.4	20
43	High-resolution error compensation in continuous conduction mode power factor correction stage without current sensor. , 2012, , .		3
44	A Comparison of Simulation and Hardware-in-the- Loop Alternatives for Digital Control of Power Converters. IEEE Transactions on Industrial Informatics, 2012, 8, 491-500.	7.2	63
45	Current error compensation for current-sensorless power factor corrector stage in continuous conduction mode. , 2012, , .		14
46	Autonomous indoor ultrasonic positioning system based on a low-cost conditioning circuit. Measurement: Journal of the International Measurement Confederation, 2012, 45, 276-283.	2.5	30
47	Comparison of Phase-shifters for Multiphase Power Converters. IETE Journal of Research, 2011, 57, 42.	1.8	2
48	A mobile biometric system-on-token system for signing digital transactions. IEEE Security and Privacy, 2010, 8, 13-19.	1.5	9
49	FPGA-based embedded system for ultrasonic positioning. , 2010, , .		5
50	Autotuning digital controller for current sensorless power factor corrector stage in continuous conduction mode. , 2010, , .		12
51	Power Factor Correction Without Current Sensor Based on Digital Current Rebuilding. IEEE Transactions on Power Electronics, 2010, 25, 1527-1536.	5.4	67
52	Course on Digital Electronics Oriented to Describing Systems in VHDL. IEEE Transactions on Industrial Electronics, 2010, 57, 3308-3316.	5.2	9
53	High Resolution FPGA DPWM Based on Variable Clock Phase Shifting. IEEE Transactions on Power Electronics, 2010, 25, 1115-1119.	5.4	42
54	Pre-calculated duty cycle control implemented in FPGA for power factor correction. , 2009, , .		11

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55	Current Self-Balance Mechanism in Multiphase Buck Converter. IEEE Transactions on Power Electronics, 2009, 24, 1600-1606.	5.4	44
56	Low cost indoor ultrasonic positioning implemented in FPGA. , 2009, , .		9
57	Current Sensorless Power Factor Correction based on Digital Current Rebuilding. , 2009, , .		2
58	Performance of an Open Multi-Agent Remote Sensing Architecture Based on XML-RPC in Low-Profile Embedded Systems. Advances in Intelligent and Soft Computing, 2009, , 520-528.	0.2	0
59	FPGA-Based Digital Pulsewidth Modulator With Time Resolution Under 2 ns. IEEE Transactions on Power Electronics, 2008, 23, 3135-3141.	5.4	75
60	Correction to â€œDigital-control-based solution to the effect of nonidealities of the inductors in multiphase convertersâ€. IEEE Transactions on Power Electronics, 2008, 23, 511-511.	5.4	0
61	Open and Reconfigurable System on Chip Architecture with Hardware and Software Preprocessing Capabilities Used for Remote Image Acquisition. , 2008, , .		0
62	Digital-Control-Based Solution to the Effect of Nonidealities of the Inductors in Multiphase Converters. IEEE Transactions on Power Electronics, 2007, 22, 2155-2163.	5.4	40
63	High Resolution Pulse Width Modulators in FPGA. , 2007, , .		11
64	A digital system to emulate wireless networks. IET Computers and Digital Techniques, 2007, 1, 444.	0.9	0
65	A Reconfigurable Fpga-Based Architecture for Modular Nodes in Wireless Sensor Networks. , 2007, , .		28
66	FPGA based Digital Pulse Width Modulator with Time Resolution under 2 ns. IEEE Applied Power Electronics Conference and Exposition, 2007, , .	0.0	27
67	Analysis of the Buck Converter for Scaling the Supply Voltage of Digital Circuits. IEEE Transactions on Power Electronics, 2007, 22, 2432-2443.	5.4	49
68	Automotive DC-DC bidirectional converter made with many interleaved buck stages. IEEE Transactions on Power Electronics, 2006, 21, 578-586.	5.4	330
69	A Hardware Library for Sensors/Actuators Interfaces in Sensor Networks. , 2006, , .		7
70	Concurrent and simple digital controller of an AC/DC converter with power factor correction based on an FPGA. IEEE Transactions on Power Electronics, 2003, 18, 334-343.	5.4	122
71	Digital Control in Multi-Phase D.C.-D.C. Converters. EPE Journal (European Power Electronics and) Tj ETQq1 1 0.784314 rgBT /Overlock	0.7	4
72	Custom hardware IEEE 1451.2 implementation for smart transducers. , 0, , .		3

#	Article	IF	Citations
73	An automotive 16 phases DC-DC converter. , 0, , .		33