Javier Calvente

List of Publications by Year
in descending order

91 papers	2,196 citations	218592 26 h-index	254106 43 g-index
92 all docs	92 docs citations	92 times ranked	1598 citing authors

#	Article	IF	Citations
1	A Fast Current-Based MPPT Technique Employing Sliding Mode Control. IEEE Transactions on Industrial Electronics, 2013, 60, 1168-1178.	5.2	190
2	Perturb and Observe MPPT algorithm with a current controller based on the sliding mode. International Journal of Electrical Power and Energy Systems, 2013, 44, 346-356.	3.3	132
3	A Noninverting Buckâ€“Boost DCâ€“DC Switching Converter With High Efficiency and Wide Bandwidth. IEEE Transactions on Power Electronics, 2011, 26, 2490-2503.	5.4	110
4	Current-Mode Control of a Coupled-Inductor Buckâ€“Boost DCâ€“DC Switching Converter. IEEE Transactions on Power Electronics, 2012, 27, 2536-2549.	5.4	82
5	Sliding and fuzzy control of a boost converter using an 8-bit microcontroller. IET Electric Power Applications, 2004, 151, 5.	1.4	76
6	Two-Loop Digital Sliding Mode Control of DCâ€“DC Power Converters Based on Predictive Interpolation. IEEE Transactions on Industrial Electronics, 2011, 58, 2491-2501.	5.2	76
7	Analysis of a bidirectional coupled-inductor Cuk converter operating in sliding mode. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1998, 45, 355-363.	0.1	74
8	Identification of a Proton-Exchange Membrane Fuel Cellâ€™s Model Parameters by Means of an Evolution Strategy. IEEE Transactions on Industrial Informatics, 2015, 11, 548-559.	7.2	74
9	Using Magnetic Coupling to Eliminate Right Half-Plane Zeros in Boost Converters. IEEE Power Electronics Letters, 2004, 2, 58-62.	1.1	69
10	Hysteretic Transition Method for Avoiding the Dead-Zone Effect and Subharmonics in a Noninverting Buckâ€“Boost Converter. IEEE Transactions on Power Electronics, 2015, 30, 3418-3430.	5.4	67
11	Dynamics and Stability Issues of a Single-Inductor Dual-Switching DCâ€“DC Converter. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 415-426.	3.5	61
12	Synthesis of loss-free resistors based on sliding-mode control and its applications in power processing. Control Engineering Practice, 2013, 21, 689-699.	3.2	60
13	An Efficiency Comparison of Fuel-Cell Hybrid Systems Based on the Versatile Buckâ€“Boost Converter. IEEE Transactions on Power Electronics, 2018, 33, 1237-1246.	5.4	47
14	Large-signal modeling and simulation of switching DC-DC converters. IEEE Transactions on Power Electronics, 1997, 12, 485-494.	5.4	45
15	Fast Transitions Between Current Control Loops of the Coupled-Inductor Buckâ€“Boost DCâ€“DC Switching Converter. IEEE Transactions on Power Electronics, 2013, 28, 3648-3652.	5.4	45
16	Minimizing the effects of shadowing in a PV module by means of active voltage sharing. , 2010, , .		42
17	Mathematical analysis of hybrid topologies efficiency for PEM fuel cell power systems design. International Journal of Electrical Power and Energy Systems, 2010, 32, 1049-1061.	3.3	41
18	An$H_infty $Control Strategy for Switching Converters in Sliding-Mode Current Control. IEEE Transactions on Power Electronics, 2006, 21, 553-556.	5.4	40

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19	Interleaved Converters Based on Sliding-Mode Control in a Ring Configuration. IEEE Transactions on Circuits and Systems I: Regular Papers, 2011, 58, 2566-2577.	3.5	40
20	Energy Management of a Fuel-Cell Serialâ€“Parallel Hybrid System. IEEE Transactions on Industrial Electronics, 2015, 62, 5227-5235.	5.2	40
21	Zero dynamics-based design of damping networks for switching converters. IEEE Transactions on Aerospace and Electronic Systems, 2003, 39, 1292-1303.	2.6	39
22	Design of AC–DC PFC High-Order Converters With Regulated Output Current for Low-Power Applications. IEEE Transactions on Power Electronics, 2016, 31, 2012-2025.	5.4	37
23	Asymmetrical Interleaved DC/DC Switching Converters for Photovoltaic and Fuel Cell Applicationsâ€"Part 1: Circuit Generation, Analysis and Design. Energies, 2012, 5, 4590-4623.	1.6	34
24	Fuel cell emulator for oxygen excess ratio estimation on power electronics applications. Computers and Electrical Engineering, 2012, 38, 926-937.	3.0	34
25	Analysis of a Self-Oscillating Bidirectional DCâ€“DC Converter in Battery Energy Storage Applications. IEEE Transactions on Power Delivery, 2012, 27, 1292-1300.	2.9	29
26	Simplified Mathematical Model for Calculating the Oxygen Excess Ratio of a PEM Fuel Cell System in Real-Time Applications. IEEE Transactions on Industrial Electronics, 2014, 61, 2816-2825.	5.2	29
27	Why is sliding mode control methodology needed for power converters?. , 2010, , .		28
28	Soft Switching Bidirectional Converter for Battery Discharging-Charging. , 0, , .		27
29	Classification and synthesis of power gyrators. IET Electric Power Applications, 2006, 153, 802.	1.4	26
30	Fast-Scale Stability Analysis of a DCâ€“DC Boost Converter With a Constant Power Load. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 549-558.	3.7	26
31	Stability analysis of a single inductor dual switching dcâ€“dc converter. Mathematics and Computers in Simulation, 2006, 71, 256-269.	2.4	24
32	Bidirectional High-Efficiency Nonisolated Step-Up Battery Regulator. IEEE Transactions on Aerospace and Electronic Systems, 2011, 47, 2230-2239.	2.6	24
33	Direct digital design of a sliding modeâ€based control of a PWM synchronous buck converter. IET Power Electronics, 2017, 10, 1714-1720.	1.5	24
34	Multisampled Digital Average Current Controls of the Versatile Buckâ€“Boost Converter. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 879-890.	3.7	24
35	Static and Dynamic Currentâ€“Voltage Modeling of a Proton Exchange Membrane Fuel Cell Using an Inputâ€“Output Diffusive Approach. IEEE Transactions on Industrial Electronics, 2016, 63, 1003-1015.	5.2	23
36	Energy Management DC System Based on Current-Controlled Buck-Boost Modules. IEEE Transactions on Smart Grid, 2014, 5, 2644-2653.	6.2	21

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37	Inherent DCM operation of the asymmetrical interleaved dual buck-boost. , 0, , .		20
38	HM/PWM Seamless Control of a Bidirectional Buckâ€“Boost Converter for a Photovoltaic Application. IEEE Transactions on Power Electronics, 2019, 34, 2887-2899.	5.4	19
39	Compensating networks for sliding-mode control. , 0, , .		18
40	Design of photovoltaic-based current sources for maximum power transfer by means of power gyrators. IET Power Electronics, 2011, 4, 674.	1.5	18
41	Sliding-Mode Control of DC-DC Switching Converters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 1910-1916.	0.4	17
42	Dynamic optimization of bidirectional topologies for battery charge/discharge in satellites. , 0, , .		16
43	Bidirectional Coupled Inductors Step-up Converter for Battery Discharging-Charging. , 0, , .		12
44	Asymmetrical Interleaved DC/DC Switching Converters for Photovoltaic and Fuel Cell Applicationsâ€"Part 2: Control-Oriented Models. Energies, 2013, 6, 5570-5596.	1.6	12
45	LQR control of an asymmetrical interleaved boost converter working in inherent DCM. , 2005, , .		10
46	A fast current-based MPPT technique based on sliding mode control. , 2011, , .		10
47	Synthesis of power gyrators operating at constant switching frequency. IET Electric Power Applications, 2006, 153, 842.	1.4	9
48	Prediction of subharmonic oscillation in switching regulators: from a slope to a ripple standpoint. International Journal of Electronics, 2016, 103, 2090-2109.	0.9	9
49	Coupled inductors design of the bidirectional nonâ€inverting buckâ€“boost converter for highâ€voltage applications. IET Power Electronics, 2020, 13, 3188-3198.	1.5	9
50	Low frequency multilevel inverters for renewable energy systems. , 2005, , .		8
51	Bidirectional High-Power High-Efficiency non-isolated step-up DC-DC Converter. , 0, , .		8
52	A Bidirectional Versatile Buckâ€“Boost Converter Driver for Electric Vehicle Applications. Sensors, 2021, 21, 5712.	2.1	8
53	Self-oscillating interleaved boost regulator with loss free resistor characteristic. , 0, , .		8
54	Design of a sinusoidal current source using a sliding-mode-controlled asymmetrical full-bridge multilevel converter. IET Power Electronics, 2008, 1, 203.	1.5	7

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55	A Review of the Main Power Electronics' Advances in Order to Ensure Efficient Operation and Durability of PEMFCs. Automatika, 2012, 53, 184-198.	1.2	7
56	Boundaries of Subharmonic Oscillations Associated With Filtering Effects of Controllers and Current Sensors in Switched Converters Under CMC. IEEE Transactions on Industrial Electronics, 2016, 63, 4826-4837.	5.2	7
57	A Large-Signal Model for a Peak Current Mode Controlled Boost Converter With Constant Power Loads. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 559-568.	3.7	7
58	Subharmonics, bifurcations and chaos in a sliding-mode controlled boost switching regulator. , 0, , .		6
59	Synthesis of PWM-based power gyrators. , 2005, , .		6
60	Multisampled average current control of switching power converters. , 2015, , .		6
61	Design of a bidirectional DC/DC converter with coupled inductor for an electric vehicle application. , 2017, , .		6
62	Design of Current Programmed Switching Converters Using Sliding-Mode Control Theory. Energies, 2018, 11, 2034.	1.6	6
63	Input voltage sliding mode control of the versatile buck-boost converter for photovoltaic applications. , 2015, , .		5
64	Small Signal Modelling for Variable Frequency Control With Maximum Efficiency Point Tracking of DAB Converter. IEEE Access, 2021, 9, 85289-85299.	2.6	5
65	Fuel Cell Power Output Using a LQR Controlled AIDB Converter. , 2007, , .		4
66	Simulator of a PEM fuel-cell stack based on a dynamic model. , 2009, , .		4
67	Digital current control of the versatile buck-boost converter for photovoltaic applications. , 2017, , .		4
68	Digital Control of a Buck Converter Based on Input-Output Linearization. An Interpretation Using Discrete-Time Sliding Control Theory. Energies, 2019, 12, 2738.	1.6	4
69	Analysis of Non-Minimum Phase System for AC/DC Battery Charger Power Factor Correction Converter. Applied Sciences (Switzerland), 2022, 12, 868.	1.3	4
70	Simulation-Oriented Continuous Model of Hysteretic Controlled DC-to-DC Converters. , 2007, , .		3
71	Predictive Digital Sliding-Mode Current Control. , 2007, , .		3
72	ADC Quantization Effects in Two-Loop Digital Current Controlled DC-DC Power Converters: Analysis and Design Guidelines. Applied Sciences (Switzerland), 2020, 10, 7179.	1.3	3

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73	Large-signal analysis and simulation of switching regulators. , 0, , .		2
74	Push-pull switching power amplifier with sliding-mode control. , 0, , .		2
75	Self-oscillating boost converter with output filter for ideal load regulation. , 0, , .		2
76	Design of locally stable sliding modes in bidirectional switching converters. , 0, , .		2
77	Improving the perturb and observe Maximum Power Point Tracking by using Sliding Mode control. , 2011, , .		2
78	Reactivation System for Proton-Exchange Membrane Fuel-Cells. Energies, 2012, 5, 2404-2423.	1.6	2
79	Effects of non-ideal current sensing on subharmonic oscillation boundary in DC-DC switching converters under CMC. , 2013, , .		2
80	Sliding Mode Control of a Ćuk converter with variable hysteresis width for HBLEDs applications. , 2014, , .		2
81	DC transformer based on the versatile DC-DC noninverting buck-boost converter for fuel cell emulation. , 2017, , .		2
82	Sliding-mode control of a boost converter feeding a buck converter operating as a constant power load. , 2017, , .		2
83	Novel autonomous current mode one-cycle controller for PFC AC-DC pre-regulators. , 0, , .		1
84	Three Dimensional Discrete Map for a Single Inductor Current Mode Controlled Dual Switching DC-DC Converter. , 2006, , .		1
85	Predictive one-cycle current control of a boost converter. , 2012, , .		1
86	Energy management of a fuel cell serial-parallel hybrid system. , 2014, , .		1
87	Direct digital design of a proportional robust control based on sliding for dual active bridge converters. , 2019, , .		1
88	Symmetrical power supply for 42 v automotive applications. Facta Universitatis - Series Electronics and Energetics, 2004, 17, 365-376.	0.6	1
89	A novel control strategy to improve the power factor of a Ćuk converter for HBLEDs application. , 2013, , .		0
90	Step-Up and Step-Down Converter Integrated With Motor Inverter for Powertrain Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 285-296.	3.7	0

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91	Three Dimensional Discrete Map for a Single Inductor Current Mode Controlled Dual Switching DC-DC Converter. , 2006, , .		0