

# Abdelali El Aroudi

## List of Publications by Year in descending order

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126  
papers

2,162  
citations

236612

25  
h-index

264894

42  
g-index

126  
all docs

126  
docs citations

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times ranked

1206  
citing authors

#	ARTICLE	IF	CITATIONS
1	BIFURCATIONS IN DC-DC SWITCHING CONVERTERS: REVIEW OF METHODS AND APPLICATIONS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2005, 15, 1549-1578.	0.7	125
2	Impedance Matching in Photovoltaic Systems Using Cascaded Boost Converters and Sliding-Mode Control. IEEE Transactions on Power Electronics, 2015, 30, 3185-3199.	5.4	122
3	A Noninverting Buck-Boost DC-DC Switching Converter With High Efficiency and Wide Bandwidth. IEEE Transactions on Power Electronics, 2011, 26, 2490-2503.	5.4	110
4	Hopf bifurcation and chaos from torus breakdown in a PWM voltage-controlled DC-DC boost converter. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1999, 46, 1374-1382.	0.1	100
5	Quasi-periodic route to chaos in a PWM voltage-controlled DC-DC boost converter. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 967-978.	0.1	93
6	A Review on Stability Analysis Methods for Switching Mode Power Converters. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2015, 5, 302-315.	2.7	82
7	Synthesis of Canonical Elements for Power Processing in DC Distribution Systems Using Cascaded Converters and Sliding-Mode Control. IEEE Transactions on Power Electronics, 2014, 29, 1366-1381.	5.4	73
8	A Ripple-Based Design-Oriented Approach for Predicting Fast-Scale Instability in DC-DC Switching Power Supplies. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 215-227.	3.5	69
9	A Design-Oriented Combined Approach for Bifurcation Prediction in Switched-Mode Power Converters. IEEE Transactions on Circuits and Systems II: Express Briefs, 2010, 57, 218-222.	2.2	68
10	Dynamics and Stability Issues of a Single-Inductor Dual-Switching DC-DC Converter. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 415-426.	3.5	61
11	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
12	Sliding-mode control of a boost converter under constant power loading conditions. IET Power Electronics, 2019, 12, 521-529.	1.5	52
13	Modeling of switching frequency instabilities in buck-based DC-AC bridge inverters. International Journal of Circuit Theory and Applications, 2011, 39, 175-193.	1.3	46
14	Discrete time model of a multi-cell dc/dc converter: Non linear approach. Mathematics and Computers in Simulation, 2006, 71, 310-319.	2.4	40
15	Modeling and Design Rules of a Two-Cell Buck Converter Under a Digital PWM Controller. IEEE Transactions on Power Electronics, 2008, 23, 859-870.	5.4	38
16	Poincaré maps modeling and local orbital stability analysis of discontinuous piecewise affine periodically driven systems. Nonlinear Dynamics, 2007, 50, 431-445.	2.7	37
17	Suppression of Line Frequency Instabilities in PFC AC-DC Power Supplies by Feedback Notch Filtering the Pre-Regulator Output Voltage. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 796-809.	3.5	37
18	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

#	ARTICLE	IF	CITATIONS
19	A New Approach for Accurate Prediction of Subharmonic Oscillation in Switching Regulatorsâ€™Part I: Mathematical Derivations. IEEE Transactions on Power Electronics, 2017, 32, 5651-5665.	5.4	35
20	Fixed Switching Frequency Digital Sliding-Mode Control of DC-DC Power Supplies Loaded by Constant Power Loads with Inrush Current Limitation Capability. Energies, 2019, 12, 1055.	1.6	33
21	Nonlinear Control for Output Voltage Regulation of a Boost Converter With a Constant Power Load. IEEE Transactions on Power Electronics, 2019, 34, 10381-10385.	5.4	30
22	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
23	Power Distribution Based on Gytrators. IEEE Transactions on Power Electronics, 2009, 24, 2907-2909.	5.4	27
24	PWM Nonlinear Control With Load Power Estimation for Output Voltage Regulation of a Boost Converter With Constant Power Load. IEEE Transactions on Power Electronics, 2021, 36, 2143-2153.	5.4	27
25	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
26	A REPRESENTATIVE DISCRETE-TIME MODEL FOR UNCOVERING SLOW AND FAST SCALE INSTABILITIES IN BOOST POWER FACTOR CORRECTION AC-DC PRE-REGULATORS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2008, 18, 3073-3092.	0.7	25
27	Prediction of Subharmonic Oscillation in Switching Converters Under Different Control Strategies. IEEE Transactions on Circuits and Systems II: Express Briefs, 2014, 61, 910-914.	2.2	23
28	INSTABILITIES IN DIGITALLY CONTROLLED VOLTAGE-MODE SYNCHRONOUS BUCK CONVERTER. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250012.	0.7	22
29	A New Approach for Accurate Prediction of Subharmonic Oscillation in Switching Regulatorsâ€™Part II: Case Studies. IEEE Transactions on Power Electronics, 2017, 32, 5835-5849.	5.4	22
30	STABILIZING A TWO-CELL DC-DC BUCK CONVERTER BY FIXED POINT INDUCED CONTROL. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2009, 19, 2043-2057.	0.7	19
31	Sliding-Mode Control of DC-DC Switching Converters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 1910-1916.	0.4	17
32	Sliding-mode control of a boost converter supplying a constant power load. IFAC-PapersOnLine, 2017, 50, 7807-7812.	0.5	17
33	Synthesis of Constant Power Loads Using Switching Converters Under Sliding-Mode Control. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 524-535.	3.5	16
34	A Cascaded Controller for a Grid-Tied Photovoltaic System With Three-Phase Half-Bridge Interleaved Buck Shunt Active Power Filter: Hybrid Control Strategy and Fuzzy Logic Approach. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2022, 12, 320-330.	2.7	16
35	Improved static and dynamic performances of a twoâ€“cell DCâ€“DC buck converter using a digital dynamic timeâ€“delayed control. International Journal of Circuit Theory and Applications, 2012, 40, 395-407.	1.3	15
36	Fastâ€“scale stability limits of a twoâ€“stage boost power converter. International Journal of Circuit Theory and Applications, 2016, 44, 1127-1141.	1.3	15

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37	Complex non-linear phenomena and stability analysis of interconnected power converters used in distributed power systems. IET Power Electronics, 2016, 9, 855-863.	1.5	15
38	Self-compensation of DC-DC converters under peak current mode control. Electronics Letters, 2017, 53, 345-347.	0.5	15
39	Analysis of Start-Up Response in a Digitally Controlled Boost Converter With Constant Power Load and Mitigation of Inrush Current Problems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 1276-1285.	3.5	15
40	Classification of Three-Phase Grid-Tied Microinverters in Photovoltaic Applications. Energies, 2020, 13, 2929.	1.6	15
41	Fault Tolerant Backstepping Control for Double-Stage Grid-Connected Photovoltaic Systems Using Cascaded H-Bridge Multilevel Inverters. , 2022, 6, 1406-1411.		15
42	High performance hysteresis modulation technique for high-order PFC circuits. Electronics Letters, 2014, 50, 113-114.	0.5	14
43	Analysis of Nonlinear Dynamics of a Quadratic Boost Converter Used for Maximum Power Point Tracking in a Grid-Interlinked PV System. Energies, 2019, 12, 61.	1.6	14
44	Limit cycle bifurcations in resonant LC power inverters under zero current switching strategy. Nonlinear Dynamics, 2018, 91, 1145-1161.	2.7	12
45	Advanced nonlinear controller of single-phase shunt active power filter interfacing solar photovoltaic source and electrical power grid. International Transactions on Electrical Energy Systems, 2021, 31, .	1.2	12
46	Characteristic curves for analysing limit cycle behaviour in switching convertors. Electronics Letters, 1999, 35, 687.	0.5	11
47	Analysis and design of a loss-free resistor based on a boost converter in PWM operation. , 2010, , .		11
48	A Comparison Between Static and Dynamic Performances of a Z-source and a Dual-Stage Boost Converter Under SMC for PV Energy Applications. Energy Procedia, 2013, 42, 587-596.	1.8	11
49	Sliding Mode Control of output-parallel-connected two-stage boost converters for PV systems. , 2014, , .		11
50	Avoiding instabilities in power electronic systems: toward an on-chip implementation. IET Power Electronics, 2017, 10, 1778-1787.	1.5	11
51	LQR control of an asymmetrical interleaved boost converter working in inherent DCM. , 2005, , .		10
52	A frequency domain approach for controlling chaos in switching converters. , 2010, , .		10
53	Multiple-Loop Control Design for a Single-Stage PV-Fed Grid-Tied Differential Boost Inverter. Applied Sciences (Switzerland), 2020, 10, 4808.	1.3	10
54	Piecewise Quadratic Slope Compensation Technique for DC-DC Switching Converters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 5574-5585.	3.5	10

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55	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
56	Improving the Dimming Performance of Low-Power Single-Stage AC-DC HBLED Drivers. IEEE Transactions on Industrial Electronics, 2017, 64, 5797-5806.	5.2	9
57	Coordinated control of parallel operated renewable-energy-based DC systems. IET Renewable Power Generation, 2018, 12, 1623-1632.	1.7	9
58	Modelling and Control of Modular DC-Nanogrids Based on Loss-Free Resistors. IEEE Access, 2020, 8, 33305-33317.	2.6	9
59	Sliding mode control of a high voltage DC-DC buck converter. , 0, , .		8
60	A Frequency Domain Approach for Controlling Fast-Scale Instabilities in Switching Power Converters. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2015, 25, 1550141.	0.7	8
61	Nonlinear Dynamic Modeling and Analysis of Self-Oscillating H-Bridge Parallel Resonant Converter Under Zero Current Switching Control: Unveiling Coexistence of Attractors. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1657-1667.	3.5	8
62	On the Coexistence of Multiple Limit Cycles in H-Bridge Wireless Power Transfer Systems With Zero Current Switching Control. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 1729-1739.	3.5	8
63	Combined Photovoltaic / Thermal Energy System for Stand-alone Operation. , 2007, , .		7
64	Optimizing the dynamics of a two-cell DC-DC buck converter by time delayed feedback control. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 4349-4364.	1.7	7
65	Large-signal modeling and stability analysis of two-cascaded boost converters connected to a PV panel under SMC with MPPT. , 2013, , .		7
66	A Combined Analytical-Numerical Methodology for Predicting Subharmonic Oscillation in H-Bridge Inverters Under Double Edge Modulation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 2341-2351.	3.5	7
67	Nonaveraged control-oriented modeling and relative stability analysis of DC-DC switching converters. International Journal of Circuit Theory and Applications, 2018, 46, 565-580.	1.3	7
68	Multi-Input Ąuk-Derived Buck-Boost Voltage Source Inverter for Photovoltaic Systems in Microgrid Applications. Energies, 2019, 12, 2007.	1.6	7
69	Suppression of Undesired Attractors in a Self-Oscillating H-Bridge Parallel Resonant Converters Under Zero Current Switching Control. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 692-696.	2.2	7
70	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
71	Modified Ąuk converter for high-performance power factor correction applications. IET Power Electronics, 2015, 8, 2058-2064.	1.5	6
72	Design of Current Programmed Switching Converters Using Sliding-Mode Control Theory. Energies, 2018, 11, 2034.	1.6	6

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73	Non-observable chaos in piecewise smooth systems. <i>Nonlinear Dynamics</i> , 2020, 99, 2031-2048.	2.7	6
74	Hourglass-shaped impedance network based nonelectrolytic capacitors high step-up converter with low voltage stress. <i>International Journal of Circuit Theory and Applications</i> , 2021, 49, 1147-1163.	1.3	6
75	Nonlinear Control Design and Stability Analysis of Single Phase Half Bridge Interleaved Buck Shunt Active Power Filter. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2022, 69, 2117-2128.	3.5	6
76	Control Design and Parameter Tuning for Islanded Microgrids by Combining Different Optimization Algorithms. <i>Energies</i> , 2022, 15, 3756.	1.6	6
77	Stability analysis of two-cell Buck converter driven DC motor with a discrete-time closed loop. , 2009, , .		5
78	Design of an LFR based on a SEPIC converter under sliding mode control for HBLEDs applications. , 2011, , .		5
79	Transient Voltage and Current Stresses Estimation of MMC-MTDC System via Discrete-Time Analysis. <i>IEEE Transactions on Power Delivery</i> , 2020, 35, 2821-2830.	2.9	5
80	Analytical Determination of Fast-Scale Instability Boundaries for Current Mode Controlled DC-DC Converters With CPL and Closed Voltage Loop. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2021, 11, 39-48.	2.7	5
81	Photovoltaic / thermal system for stand-alone operation. <i>Power Electronics Specialist Conference (PESC), IEEE</i> , 2008, , .	0.0	4
82	Notch filtering-based stabilization of PFC AC-DC pre-regulators. , 2010, , .		4
83	Unveiling nonlinear dynamics in resonant inductively coupled wireless power transfer. , 2014, , .		4
84	Digital Control of a Buck Converter Based on Input-Output Linearization. An Interpretation Using Discrete-Time Sliding Control Theory. <i>Energies</i> , 2019, 12, 2738.	1.6	4
85	Mitigating the Problem of Inrush Current in a Digital Sliding Mode Controlled Boost Converter Taking into Account Load and Inductor Nonlinearities and Propagation Delay in the Feedback Loop. , 2019, , .		4
86	Auto-Tuned Quadratic Slope Compensation for Current Mode Controlled DC-DC Converters. , 2020, , .		4
87	Fast-Scale Instability and Stabilization by Adaptive Slope Compensation of a PV-Fed Differential Boost Inverter. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 2106.	1.3	4
88	Map Optimization Fuzzy Logic Framework in Wind Turbine Site Selection with Application to the USA Wind Farms. <i>Energies</i> , 2021, 14, 6127.	1.6	4
89	Stability of DC-DC converters: A ripple based index approach. , 2008, , .		3
90	Demonstration of ripple-based index for predicting fast-scale instability in switching power converters. , 2009, , .		3

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91	Analysis of a modular one-phase PV inverter. , 2009, , .		3
92	A nonlinear time-varying map of a buck power-switching amplifier for wide band tracking applications. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2010, 29, 90-108.	0.5	3
93	Stability issues in cascade connected switching converters for DC microgrid applications. , 2013, , .		3
94	Nonlinear dynamics in a graphene nanostructured device for energy harvesting. , 2013, , .		3
95	Dynamic analysis of self-oscillating H-bridge inverters with state feedback. Journal of the Franklin Institute, 2020, 357, 494-521.	1.9	3
96	Non-visible transformations of chaotic attractors due to their ultra-low density in AC-DC power factor correction converters. Nonlinear Dynamics, 2020, 102, 2905-2924.	2.7	3
97	Fast Voltage-Based MPPT Control for High Gain Switched Inductor DC-DC Boost Converters. , 2020, , .		3
98	Analysis of Subharmonic Oscillation and Slope Compensation for a Differential Boost Inverter. Applied Sciences (Switzerland), 2020, 10, 5626.	1.3	3
99	Single-loop control scheme for electrolytic capacitor-less AC-DC rectifiers with PFC in continuous conduction mode. Electronics Letters, 2020, 56, 506-508.	0.5	3
100	Nonlinear Dynamics and Stability Analysis of a Three-Cell Flying Capacitor DC-DC Converter. Applied Sciences (Switzerland), 2021, 11, 1395.	1.3	3
101	Performance evaluation for an hourglass-shaped impedance-network-based high step-up converter in a photovoltaic system using PSIM © simulation. International Journal of Circuit Theory and Applications, 2021, 49, 2670-2685.	1.3	3
102	Ripple Based Index for Predicting Fast-Scale Instability of DC-DC Converters in CCM and DCM. , 2006, , .		2
103	Sliding Mode Control of a $\mu$ k converter with variable hysteresis width for HBLEDs applications. , 2014, , .		2
104	Discrete-time sliding mode control of SEPIC and $\mu$ k converters supplying HBLEDs. , 2014, , .		2
105	Sliding-mode control of a boost converter feeding a buck converter operating as a constant power load. , 2017, , .		2
106	Delay effects on the limit cycling behavior in resonant inverters with state feedback. Nonlinear Theory and Its Applications IEICE, 2019, 10, 337-356.	0.4	2
107	Analog-Mixed-Signal Simulation of DC-DC Boost-Based MPPT System Taking into Account Weather Conditions Variations. , 2019, , .		2
108	Analysis, Design, and Simulation of a Dual Active Bridge for PV-based Residential Nanogrids. , 2020, , .		2

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109	Replacing All ECs With NECs in Step-Up Convertersâ€”A Systematic Approach. IEEE Transactions on Power Electronics, 2022, 37, 31-36.	5.4	2
110	Novel autonomous current mode one-cycle controller for PFC AC-DC pre-regulators. , 0, , .		1
111	Ripple-based prediction of fast-scale instabilities in current mode controlled switching converters. , 2012, , .		1
112	Cascade connection of DC-DC switching converters by means of self-oscillating dc-transformers. , 2012, , .		1
113	Nonlinear Dynamics and Bifurcation Behavior of a 2-DOF Spring Resonator with End Stopper for Energy Harvesting. MATEC Web of Conferences, 2014, 16, 08006.	0.1	1
114	Subharmonic instability boundary in DC-AC H-bridge inverters with double edge PWM. , 2015, , .		1
115	Analytical multiâ€parametric stability boundaries of DCâ€DC buck converters under $V_{<sup>1</sup>}$ control concept. International Journal of Circuit Theory and Applications, 2017, 45, 1686-1700.	1.3	1
116	Power quality issues in single-stage AC-DC HBLED drivers at low power levels: Problems and solutions. , 2017, , .		1
117	Period Doubling Route to Chaos in Open Loop Boost Converters under Constant Power Loading and Discontinuous Conduction Mode Conditions. , 2020, , .		1
118	Nonlinear Dynamics of an Ambient Noise Driven Array of Coupled Graphene Nanostructured Devices for Energy Harvesting. MATEC Web of Conferences, 2014, 16, 01001.	0.1	1
119	Modeling a buck-based switching amplifier for sinusoid wide band tracking by using a nonlinear time varying map. , 2008, , .		0
120	A qualitative comparison of bifurcations in single-cell and two-cell buck converter. , 2009, , .		0
121	Unified prediction of slow and fast scale instabilities by means of complementary design-oriented models. , 2009, , .		0
122	Ripple-based approach for predicting fast-scale instability in multi-level converters. , 2010, , .		0
123	A novel control strategy to improve the power factor of a &#x0106;uk converter for HBLEDs application. , 2013, , .		0
124	Synthesis, Analysis, and Design of a DC-Nanogrid Using Cascaded Converters for Home Applications. , 2020, , .		0
125	Improvement of Extracted Power of Pole Mounted Solar Panels by Effective Cooling Using Aluminum Heat Sink under Hot Weather and Variable Wind Speed Conditions. Energies, 2020, 13, 3159.	1.6	0
126	Noise-induced and border-collision-induced bubbling. Physica D: Nonlinear Phenomena, 2022, 435, 133277.	1.3	0