Pedro Alou

List of Publications by Year
in descending order

150 papers	2,922 citations	236833 25 h-index	254106 43 g-index
150 all docs	150 docs citations	150 times ranked	1842 citing authors

#	Article	IF	Citations
1	A Wireless Power Transfer System With Inverse Coupled Current Doubler Rectifier for High-Output Current Applications. IEEE Transactions on Industrial Electronics, 2022, 69, 4607-4616.	5.2	7
2	Self and Mutual Inductance Behavioral Modeling of Square-Shaped IPT Coils With Air Gap and Ferrite Core Plates. IEEE Access, 2022, 10, 7476-7488.	2.6	6
3	Forwardâ€“Flyback Converter With Cockcroftâ€“Walton Voltage Multiplier in DCM: Steady-State Analysis Considering the Parasitic Capacitances to Achieve the Optimal Valley-Switching Operation With 95.11% Efficiency at 3 kV/1.5 W. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 2351-2361.	3.7	1
4	Comparative Evaluation of the Two Multilevel Concepts With Full ZVS Operation Employing WBG Devices for Use in 1500-V PV Systems. IEEE Transactions on Industry Applications, 2022, 58, 3922-3935.	3.3	4
5	Control Design of a Single-Phase Inverter Operating With Multiple Modulation Strategies and Variable Switching Frequency. IEEE Transactions on Power Electronics, 2021, 36, 2407-2419.	5.4	11
6	Methodology for multi-die package semiconductor Thermal Model in a Dynamic Environment. , 2021, , .		1
7	Thermal Resistance Matrix Extraction from Finite-Element Analysis for High-Frequency Magnetic Components. Energies, 2021, 14, 3075.	1.6	5
8	ZVS Tank Optimization for Class-D Amplifiers in High Frequency WPT Applications. , 2021, , .		5
9	Modified VIENNA Rectifier III to Achieve ZVS in All Transitions: Analysis, Design, and Validation. IEEE Transactions on Power Electronics, 2021, 36, 13404-13422.	5.4	4
10	A Self-Adaptive Wireless Power Transfer System to Cancel the Reactance. IEEE Transactions on Industrial Electronics, 2021, 68, 12141-12151.	5.2	15
11	Analysis of a Wireless Power Transfer System with an Inverse Coupled Current Doubler Rectifier. , 2021, , .		0
12	Influence of DC/DC Stage on the Design of the Output Filter of the Inverter Stage in Two-Stage Grid-Connected PV Systems. , 2021, , .		3
13	Valley Current Control for the Flying Capacitor Voltage Balancing in the Three-Level Boost Converter with Variable Switching Frequency. , 2021, , .		2
14	Multi-Level, Partial Power Processing and WBG Devices - Future of 1500-V Photovoltaic Systems. , 2021, , .		1
15	Multimode Modulation With ZVS for a Single-Phase Single-Stage Inverter. IEEE Transactions on Power Electronics, 2020, 35, 5319-5330.	5.4	8
16	Design Methodology for Three-Phase Buck-Type and Boost-Type Rectifiers to Comply With the DO-160G Current Distortion Test. IEEE Transactions on Power Electronics, 2020, 35, 33-47.	5.4	9
17	Modeling and Analysis of Total Harmonic Distortion in Series-Series Wireless Power Transfer System for 6.78 MHz. , 2020, , .		2
18	Design Guidelines of Inductive Coils Using a Polymer Bonded Magnetic Composite for Inductive Power Transfer Systems in Electric Vehicles. IEEE Transactions on Power Electronics, 2020, 35, 7884-7893.	5.4	11

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19	System Linearity-Based Characterization of High-Frequency Multilevel DCâ€“DC Converters forS-Band EER Transmitters. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 4279-4296.	3.7	5
20	900-V SiC Based, Two-Phase Interleaved, Single Inductor, RSCC DC/DC Converter for Use in 1500VDC PV Application. , 2020, , .		1
21	Simplification of Thermal Networks for Magnetic Components in Space Power Electronics. Energies, 2020, 13, 2903.	1.6	4
22	Design of Inductive Power Transfer System With a Behavior of Voltage Source in Open-Loop Considering Wide Mutual Inductance Variation. IEEE Transactions on Power Electronics, 2020, 35, 11453-11462.	5.4	10
23	Derivation of a Single-Phase Single-Stage Inverter Based on Minimum Indirect Power. , 2020, , .		0
24	Energy Harvesting Comparison and Analysis in 1000V and 1500V Grid-Connected PV Systems. , 2020, , .		5
25	Revisiting "Partial Power Architectures" from the "Differential Power" Perspective. , 2019, , .		18
26	Highly Efficient, Full ZVS, Hybrid, Multilevel DC/DC Topology for Two-Stage Grid-Connected 1500-V PV System With Employed 900-V SiC Devices. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 811-832.	3.7	41
27	ZVS Auxiliary Circuit for a 10 kW Unregulated LLC Full-Bridge Operating at Resonant Frequency for Aircraft Application. Energies, 2019, 12, 1850.	1.6	8
28	900V SiC Based, Hybrid, Multilevel DC/DC Topology for 1500VDC PV Application. , 2019, , .		2
29	Ultraefficient Voltage Doubler Based on a GaN Resonant Switched-Capacitor Converter. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 622-635.	3.7	18
30	A Novel Self-adaptive Wireless Power Transfer System to Cancel the Reactance of the Series Resonant Tank and Deliver More Power. , 2019, , .		12
31	Nonlinear Control for DC Microgrids Enabling Efficient Renewable Power Integration and Ancillary Services for AC Grids. IEEE Transactions on Power Systems, 2019, 34, 5136-5146.	4.6	46
32	High-Efficiency High-Bandwidth Four-Quadrant Fully Digitally Controlled GaN-Based Tracking Power Supply System for Linear Power Amplifiers. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 664-678.	3.7	9
33	Energy-Buffered Single-Phase Inverter Operating in the Fundamental Limit of Indirect Power. , 2018, , .		10
34	Digital Variable Frequency Control of a Single-Phase Energy-Buffered Inverter with Multiple Modulation Strategies. , 2018, , .		2
35	ZVS transitions in Multi-Mode Single Stage Inverter. , 2018, , .		2
36	General Analysis of Switching Modes in a Dual Active Bridge with Triple Phase Shift Modulation. Energies, 2018, 11, 2419.	1.6	35

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37	Physics-Based Analytical Model for Input, Output, and Reverse Capacitance of a GaN HEMT With the Field-Plate Structure. IEEE Transactions on Power Electronics, 2017, 32, 2189-2202.	5.4	28
38	Highly efficient linear power amplifier for driving fast slew rate capacitive loads. , 2017, , .		3
39	Differential power as a metric to optimize power converters and architectures. , 2017, , .		26
40	A PLL control for self-tuning of parallel wireless power transfer receivers utilizing switch-mode gyrator emulated inductors. , 2017, , .		2
41	Development and Testing of a New Instrument for Researching on Cancer Treatment Technologies Based on Magnetic Hyperthermia. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 243-251.	3.7	4
42	The Design of a Multilevel Envelope Tracking Amplifier Based on a Multiphase Buck Converter. IEEE Transactions on Power Electronics, 2016, 31, 4611-4627.	5.4	30
43	Isolated Swiss-Forward Three-Phase Rectifier With Resonant Reset. IEEE Transactions on Power Electronics, 2016, 31, 4795-4808.	5.4	29
44	Design of Energy Control Method for Three-Phase Buck-Type Rectifier With Very Demanding Load Steps to Achieve Smooth Input Currents. IEEE Transactions on Power Electronics, 2016, 31, 3217-3226.	5.4	23
45	Overview, equivalences and design guidelines of v¹ concept: A voltage mode control that behaves as a current-mode with near time-optimal response. , 2015, , .		0
46	<inline-formula><tex-math notation="LaTeX">v^1</tex-math></inline-formula> Concept: Designing a Voltage-Mode Control as Current Mode With Near Time-Optimal Response for Buck-Type Converters. IEEE Transactions on Power Electronics, 2015, 30, 5829-5841.	5.4	26
47	Design-oriented stability criteria of a v² control compensated with inductor current of a boost converter for shipboard power systems. , 2015, , .		1
48	Accurate Analysis of Subharmonic Oscillations of <formula formulatype="inline"><tex Notation="TeX">V^2</tex></formula> and <formula formulatype="inline"><tex Notation="TeX">V^2I_c</tex></formula> Controls Applied to Buck Converter. IEEE Transactions on Power Electronics, 2015, 30, 1005-1018.	5.4	45
49	Multiphase Current-Controlled Buck Converter With Energy Recycling Output Impedance Correction Circuit (OICC). IEEE Transactions on Power Electronics, 2015, 30, 5207-5222.	5.4	23
50	Grid-Connected Forward Microinverter With Primary-Parallel Secondary-Series Transformer. IEEE Transactions on Power Electronics, 2015, 30, 4819-4830.	5.4	49
51	Improved transient response of controllers by synchronizing the modulator with the load step: application to v2ic. IEEE Transactions on Power Electronics, 2015, 30, 1577-1590.	5.4	20
52	Power converter topologies for a high performance transformer rectifier unit in aircraft applications. , 2014, , .		16
53	Energy-Based switches losses model for the optimization of PwrSoC buck converter. , 2014, , .		3
54	Design of energy control method for three-phase buck-type rectifier with very demanding load steps. , 2014, , .		0

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55	Theoretical Efficiency Limits of a Serial and Parallel Linear-Assisted Switching Converter as an Envelope Amplifier. IEEE Transactions on Power Electronics, 2014, 29, 719-728.	5.4	39
56	Filter Design Methodology and Application of GaN HEMTs in High-Frequency DC/DC Converter. IETE Journal of Research, 2014, 60, 240-248.	1.8	1
57	DC / DC converters as DC circuit-breakers in HVDC networks operation. , 2014, , .		4
58	Analysis of the effect of modulation delays on the size of the output capacitor. , 2014, , .		2
59	Design and optimization tool of a buck derived envelope amplifier for an EER RFPA. , 2014, , .		2
60	Comparison of the behavior of voltage mode, V² and V²I<inf>c</inf> control of a buck converter for a very fast and robust dynamic response. , 2014, , .		10
61	Forward micro-inverter with primary-parallel secondary-series multicore transformer. , 2014, , .		2
62	Power distribution in a 13 kW three-phase rectifier system: Impact on weight, volume and efficiency. , 2014, , .		5
63	An optimization algorithm to design fast and robust analog controls for Buck converters. , 2014, , .		4
64	Isolated Swiss-Forward three-phase rectifier for aircraft applications. , 2014, , .		20
65	The Ripple Cancellation Technique Applied to a Synchronous Buck Converter to Achieve a Very High Bandwidth and Very High Efficiency Envelope Amplifier. IEEE Transactions on Power Electronics, 2014, 29, 2892-2902.	5.4	34
66	Minimum Time Control for Multiphase Buck Converter: Analysis and Application. IEEE Transactions on Power Electronics, 2014, 29, 958-967.	5.4	62
67	An Overview of Fast DCâ€“DC Converters for Envelope Amplifier in RF Transmitters. IEEE Transactions on Power Electronics, 2013, 28, 4712-4722.	5.4	36
68	High efficiency power amplifier applying envelope elimination and restoration technique with a single stage envelope amplifier with ripple cancellation network. , 2013, , .		2
69	Advanced Control for Very Fast DC-DC Converters Based on Hysteresis of the ${C}_{out}$ Current. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 1052-1061.	3.5	34
70	Transformer-Coupled Converter for Voltage Modulation Techniques. IEEE Transactions on Power Electronics, 2013, 28, 2330-2342.	5.4	11
71	Comparison of Boost-Based MPPT Topologies for Space Applications. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 1091-1107.	2.6	14
72	Synchronous Buck Converter With Output Impedance Correction Circuit. IEEE Transactions on Power Electronics, 2013, 28, 3415-3427.	5.4	23

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73	DC transformer for DC/DC connection in HVDC network. , 2013, , .		48
74	Bidirectional multiple port dc/dc transformer based on a series resonant converter. , 2013, , .		17
75	Design and analysis of ripple-based controllers for buck converters based on discrete modeling and Floquet theory. , 2013, , .		11
76	Limits of the frequency response for the analysis of ripple-based controllers. , 2013, , .		0
77	Survey of architectures and optimizations for wide bandwidth envelope amplifier. , 2012, , .		6
78	Bidirectional Dual Active Bridge Series Resonant Converter with pulse modulation. , 2012, , .		28
79	Hysteretic Mixed-Signal Controller for High-Frequency DCâ€“DC Converters Operating at Constant Switching Frequency. IEEE Transactions on Power Electronics, 2012, 27, 2690-2696.	5.4	42
80	Envelope Amplifier Based on Switching Capacitors for High-Efficiency RF Amplifiers. IEEE Transactions on Power Electronics, 2012, 27, 1359-1368.	5.4	35
81	Optimal design of envelope amplifier based on linear-assisted buck converter. , 2012, , .		4
82	Efficient and Linear Power Amplifier Based on Envelope Elimination and Restoration. IEEE Transactions on Power Electronics, 2012, 27, 5-9.	5.4	30
83	Three-Level Cell Topology for a Multilevel Power Supply to Achieve High Efficiency Envelope Amplifier. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 2147-2160.	3.5	16
84	Analysis and optimized design of a distributed multi-stage EMC filter for an interleaved three-phase PWM-rectifier system for aircraft applications. , 2012, , .		8
85	New considerations in the input filter design of a three-phase buck-type PWM rectifier for aircraft applications. , 2011, , .		14
86	Multiphase Converter Based on Transformer Coupling. IEEE Transactions on Power Electronics, 2011, 26, 2956-2968.	5.4	5
87	Nonlinear Control for DCâ€“DC Converters Based on Hysteresis of the $C_{m OUT}$ Current With a Frequency Loop to Operate at Constant Frequency. IEEE Transactions on Industrial Electronics, 2011, 58, 1036-1043.	5.2	47
88	Serial or parallel linear-assisted switching converter as envelope amplifier: Optimization and comparison. , 2011, , .		7
89	Fast control technique based on peak current mode control of the output capacitor current. , 2010, , .		12
90	Modeling and simulation of a distributed power system for Avionic Application. , 2010, , .		5

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91	Core-less multiphase converter with transformer coupling. , 2010, , .		1
92	Switching capacities based envelope amplifier for high efficiency RF amplifiers. , 2010, , .		8
93	Multiple-output class E isolated dc-dc converter. , 2010, , .		3
94	Multilevel Power Supply for High-Efficiency RF Amplifiers. IEEE Transactions on Power Electronics, 2010, 25, 1078-1089.	5.4	111
95	High efficiency power amplifier based on envelope elimination and restoration technique. , 2010, , .		14
96	High efficiency power amplifier for high frequency radio transmitters. , 2010, , .		15
97	DC-DC transformer multiphase converter with transformer coupling for two-stage architecture. , 2010, , .		4
98	Power analog to digital converter for voltage scaling applications. , 2010, , .		3
99	Multilevel Power Supply for High Efficiency RF Amplifiers. , 2009, , .		20
100	Comparison of two different cell topologies for a multilevel power supply to achieve high efficiency envelope amplifier. , 2009, , .		8
101	A very fast control based on hysteresis of the C<inf>out</inf> current with a frequency loop to operate at constant frequency. , 2009, , .		8
102	Comparison of two multilevel architectures for envelope amplifier. , 2009, , .		3
103	Dynamic Analysis of a Boost Topology with Ripple Cancellation and Comparison with the Conventional Boost. , 2009, , .		2
104	Current Self-Balance Mechanism in Multiphase Buck Converter. IEEE Transactions on Power Electronics, 2009, 24, 1600-1606.	5.4	44
105	Design methodology of a non-invasive sensor to measure the current of the output capacitor for a very fast non-linear control. , 2009, , .		24
106	Dynamic Analysis of a Boost Converter With Ripple Cancellation Network by Model-Reduction Techniques. IEEE Transactions on Power Electronics, 2009, 24, 2769-2775.	5.4	24
107	Hybrid Wiener-Hammerstein Structure for Grey-Box Modeling of DC-DC Converters. , 2009, , .		38
108	Interleaved buck converter with variable number of active phases and a predictive current sharing scheme. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	17

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109	Design of Piezoelectric Transformers for Power Converters by Means of Analytical and Numerical Methods. IEEE Transactions on Industrial Electronics, 2008, 55, 79-88.	5.2	24
110	A DVS system based on the trade-off between energy savings and execution time. , 2008, , .		13
111	New control strategy for energy conversion based on coupled magnetic structures. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	6
112	Current self-balance mechanism in multiphase back converter. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	8
113	Analysis and design considerations for the right half -plane zero cancellation on a boost derived dc/dc converter. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	10
114	Analysis of the Internal Stability of Two Different Control Implementations of the Phase-Shifted Full-Bridge Resonant Converter. , 2007, , .		4
115	Average modeling and analysis of a Flyback with Active Clamp topology based on a very simple transformer. IEEE Applied Power Electronics Conference and Exposition, 2007, , .	0.0	12
116	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
117	Study of 3-D magnetic components by means of "double 2-D" methodology. IEEE Transactions on Industrial Electronics, 2003, 50, 183-192.	5.2	47
118	Low output voltage AC/DC converter with a new scheme of synchronous rectification that complies with IEC 1000-3-2 regulations. IEEE Transactions on Power Electronics, 2003, 18, 966-974.	5.4	7
119	Single phase power factor correction: a survey. IEEE Transactions on Power Electronics, 2003, 18, 749-755.	5.4	544
120	A simple single-switch single-stage AC/DC converter with fast output voltage regulation. IEEE Transactions on Power Electronics, 2002, 17, 163-171.	5.4	40
121	A new driving scheme for synchronous rectifiers: single winding self-driven synchronous rectification. IEEE Transactions on Power Electronics, 2001, 16, 803-811.	5.4	62
122	Design of a low output voltage DC/DC converter for telecom application with a new scheme for self-driven synchronous rectification. , 1999, , .		33
123	AC/DC converters with tight output voltage regulation and with a single control loop. , 1999, , .		7
124	An alternative to supply DC voltages with high power factor. IEEE Transactions on Industrial Electronics, 1999, 46, 703-709.	5.2	18
125	New driving scheme for self driven synchronous rectifiers. , 1999, , .		29
126	Design guidelines for a resonant reset forward converter with self-driven synchronous rectification. , 0, , .		6

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127	Characterization of windings coupling in multi-winding magnetic components. , 0, , .		4
128	Model of integrated magnetics by means of "double 2D" finite element analysis techniques. , 0, , .		22
129	A simple single-switch single-stage AC/DC power converter with fast output voltage regulation. , 0, , .		31
130	Test and design of switching mode regulators using the behavioral averaged PWM switch and a program for automatic regulator prototype generation. , 0, , .		0
131	High frequency resistance in flyback type transformers. , 0, , .		9
132	Simple AC/DC converters to meet IEC 1000-3-2. , 0, , .		19
133	Low output voltage AC/DC converter with a new scheme of synchronous rectification that complies with IEC 1000-3-2 regulations. , 0, , .		3
134	A high efficiency voltage regulator module with single winding self-driven synchronous rectification. , 0, , .		14
135	Influence of windings coupling in low-voltage DC/DC converters with single winding self-driven synchronous rectification. , 0, , .		8
136	Using parallel windings in planar magnetic components. , 0, , .		26
137	Power factor correction: a survey. , 0, , .		101
138	Multi-output half-bridge converter with self-driven synchronous rectification. , 0, , .		0
139	The future DC-DC converter as an enabler of low energy consumption systems with dynamic voltage scaling. , 0, , .		10
140	Comparison of different alternatives to drive piezoelectric transformers. , 0, , .		26
141	Interleaving of electrodes in piezoelectric transformers. , 0, , .		9
142	Universal input voltage AC/DC adapter. , 0, , .		1
143	Optimum control design of PWM-buck topologies to minimize output impedance. , 0, , .		26
144	Flyback with active clamp: a suitable topology for low power and very wide input voltage range applications. , 0, , .		38

#	Article	IF	Citations
145	New driving scheme for high-efficiency synchronous rectification in wide-input-voltage-range DC/DC converter has output current always flowing through a low-resistance switch. , 0, , .		1
146	Design concepts and guidelines for VRMs from a power stage perspective. , 0, , .		9
147	Experimental validation of an optimized piezoelectric transformer design with interleaving of electrodes. , 0, , .		3
148	Step by step multi-layer piezoelectric transformer design procedure. , 0, , .		0
149	High input voltage (48 V) multiphase VRM with feed-forward of the load current for fast dynamics. , 0, , .		4
150	Current fed push-pull topology with self driven synchronous rectification applied to low voltage. , 0, , .		1