JesÃºs Acero

List of Publications by Year
in descending order

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140 papers	3,657 citations	136950 32 h-index	149698 56 g-index
140 all docs	140 docs citations	140 times ranked	1298 citing authors

#	Article	IF	Citations
1	Load-Adaptive Control Algorithm of Half-Bridge Series Resonant Inverter for Domestic Induction Heating. IEEE Transactions on Industrial Electronics, 2009, 56, 3106-3116.	7.9	200
2	Asymmetrical Voltage-Cancellation Control for Full-Bridge Series Resonant Inverters. IEEE Transactions on Power Electronics, 2004, 19, 461-469.	7.9	197
3	Domestic Induction Appliances. IEEE Industry Applications Magazine, 2010, 16, 39-47.	0.4	164
4	Efficiency-Oriented Design of ZVS Half-Bridge Series Resonant Inverter With Variable Frequency Duty Cycle Control. IEEE Transactions on Power Electronics, 2010, 25, 1671-1674.	7.9	158
5	Frequency-dependent resistance in Litz-wire planar windings for domestic induction heating appliances. IEEE Transactions on Power Electronics, 2006, 21, 856-866.	7.9	144
6	Induction Heating Appliances: Toward More Flexible Cooking Surfaces. IEEE Industrial Electronics Magazine, 2013, 7, 35-47.	2.6	133
7	Analysis of the Mutual Inductance of Planar-Lumped Inductive Power Transfer Systems. IEEE Transactions on Industrial Electronics, 2013, 60, 410-420.	7.9	128
8	Series-Resonant Multiinverter for Multiple Induction Heaters. IEEE Transactions on Power Electronics, 2010, 25, 2860-2868.	7.9	115
9	FPGA Implementation of a Switching Frequency Modulation Circuit for EMI Reduction in Resonant Inverters for Induction Heating Appliances. IEEE Transactions on Industrial Electronics, 2008, 55, 11-20.	7.9	94
10	A comparative study of resonant inverter topologies used in induction cookers. , 0, , .		82
11	Analytical equivalent impedance for a planar circular induction heating system. IEEE Transactions on Magnetics, 2006, 42, 84-86.	2.1	81
12	Analysis and Optimization of the Efficiency of Induction Heating Applications With Litz-Wire Planar and Solenoidal Coils. IEEE Transactions on Power Electronics, 2016, 31, 5089-5101.	7.9	81
13	Simple resistance calculation in litz-wire planar windings for induction cooking appliances. IEEE Transactions on Magnetics, 2005, 41, 1280-1288.	2.1	80
14	Series Resonant Multiinverter with Discontinuous-Mode Control for Improved Light-Load Operation. IEEE Transactions on Industrial Electronics, 2011, 58, 5163-5171.	7.9	78
15	Computational Modeling of Two Partly Coupled Coils Supplied by a Double Half-Bridge Resonant Inverter for Induction Heating Appliances. IEEE Transactions on Industrial Electronics, 2013, 60, 3092-3105.	7.9	76
16	Quantitative Evaluation of Induction Efficiency in Domestic Induction Heating Applications. IEEE Transactions on Magnetics, 2013, 49, 1382-1389.	2.1	73
17	Modeling of Planar Spiral Inductors Between Two Multilayer Media for Induction Heating Applications. IEEE Transactions on Magnetics, 2006, 42, 3719-3729.	2.1	70
18	Multiple-Output Resonant Matrix Converter for Multiple Induction Heaters. IEEE Transactions on Industry Applications, 2012, 48, 1387-1396.	4.9	66

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19	AC Power Losses Model for Planar Windings With Rectangular Cross-Sectional Conductors. IEEE Transactions on Power Electronics, 2014, 29, 23-28.	7.9	61
20	Analysis and Modeling of Planar Concentric Windings Forming Adaptable-Diameter Burners for Induction Heating Appliances. IEEE Transactions on Power Electronics, 2011, 26, 1546-1558.	7.9	59
21	Series resonant inverter with selective harmonic operation applied to all-metal domestic induction heating. IET Power Electronics, 2011, 4, 587.	2.1	58
22	FPGA-Based Power Measuring for Induction Heating Appliances Using Sigmaâ€“Delta A/D Conversion. IEEE Transactions on Industrial Electronics, 2007, 54, 1843-1852.	7.9	57
23	The domestic induction heating appliance: An overview of recent research. IEEE Applied Power Electronics Conference and Exposition, 2008, , .	0.0	54
24	Efficiency Optimization in ZVS Series Resonant Inverters With Asymmetrical Voltage-Cancellation Control. IEEE Transactions on Power Electronics, 2005, 20, 1036-1044.	7.9	52
25	An FPGA-Based Digital Modulator for Full- or Half-Bridge Inverter Control. IEEE Transactions on Power Electronics, 2006, 21, 1479-1483.	7.9	45
26	TM-TE DECOMPOSITION OF POWER LOSSES IN MULTI-STRANDED LITZ-WIRES USED IN ELECTRONIC DEVICES. Progress in Electromagnetics Research, 2012, 123, 83-103.	4.4	45
27	Frequency-Dependent Resistance of Planar Coils in Printed Circuit Board With Litz Structure. IEEE Transactions on Magnetics, 2014, 50, 1-9.	2.1	45
28	Mutual Impedance of Small Ring-Type Coils for Multiwinding Induction Heating Appliances. IEEE Transactions on Power Electronics, 2013, 28, 1025-1035.	7.9	44
29	Comparative study and simulation of optimal converter topologies for SMES systems. IEEE Transactions on Applied Superconductivity, 1995, 5, 254-257.	1.7	35
30	Phase-shift control of dual half-bridge inverter feeding coupled loads for induction heating purposes. Electronics Letters, 2011, 47, 670.	1.0	34
31	Power Measurement by Output-Current Integration in Series Resonant Inverters. IEEE Transactions on Industrial Electronics, 2009, 56, 559-567.	7.9	33
32	Resonant inverter topologies for three concentric planar windings applied to domestic induction heating. Electronics Letters, 2010, 46, 1225.	1.0	33
33	Design and Implementation of PCB Inductors With Litz-Wire Structure for Conventional-Size Large-Signal Domestic Induction Heating Applications. IEEE Transactions on Industry Applications, 2015, 51, 2434-2442.	4.9	33
34	Frequency-dependent modelling of domestic induction heating systems using numerical methods for accurate time-domain simulation. IET Power Electronics, 2012, 5, 1291.	2.1	32
35	Inductive Sensor for Temperature Measurement in Induction Heating Applications. IEEE Sensors Journal, 2012, 12, 996-1003.	4.7	32
36	Magnetic vector potential based model for eddy-current loss calculation in round-wire planar windings. IEEE Transactions on Magnetics, 2006, 42, 2152-2158.	2.1	31

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37	Versatile High-Frequency Inverter Module for Large-Signal Inductive Loads Characterization Up to 1.5 MHz and 7 kW. IEEE Transactions on Power Electronics, 2008, 23, 75-87.	7.9	28
38	Temperature Influence on Equivalent Impedance and Efficiency of Inductor Systems for Domestic Induction Heating Appliances. IEEE Applied Power Electronics Conference and Exposition, 2007, , .	0.0	26
39	A Flexible Cooking Zone Composed of Partially Overlapped Inductors. IEEE Transactions on Industrial Electronics, 2018, 65, 7762-7771.	7.9	25
40	Current limiter based on melt processed YBCO bulk superconductors. IEEE Transactions on Applied Superconductivity, 1995, 5, 1071-1074.	1.7	24
41	Educational opportunities based on the university-industry synergies in an open innovation framework. European Journal of Engineering Education, 2012, 37, 15-28.	2.3	23
42	Phaseâ€shift modulation in double halfâ€bridge inverter with common resonant capacitor for induction heating appliances. IET Power Electronics, 2015, 8, 1128-1136.	2.1	23
43	Improved Performance of Half-Bridge Series Resonant Inverter for Induction Heating with Discontinuous Mode Control. IEEE Applied Power Electronics Conference and Exposition, 2007, , .	0.0	22
44	Electromagnetic induction of planar windings with cylindrical symmetry between two half-spaces. Journal of Applied Physics, 2008, 103, .	2.5	22
45	Induction Heating Adaptation of a Different-Sized Load With Matching Secondary Inductor to Achieve Uniform Heating and Enhance Vertical Displacement. IEEE Transactions on Power Electronics, 2021, 36, 6929-6942.	7.9	21
46	Enhancement of induction heating performance by sandwiched planar windings. Electronics Letters, 2006, 42, 241.	1.0	20
47	Embedded Ring-Type Inductors Modeling With Application to Induction Heating Systems. IEEE Transactions on Magnetics, 2009, 45, 5333-5343.	2.1	20
48	Design and implementation of PCB inductors with litz-wire structure for conventional-size large-signal domestic induction heating applications. , 2014, , .		20
49	A new dynamic electrical model of domestic induction heating loads. IEEE Applied Power Electronics Conference and Exposition, 2008, , .	0.0	18
50	A model of losses in twisted-multistranded wires for planar windings used in domestic induction heating appliances. IEEE Applied Power Electronics Conference and Exposition, 2007, , .	0.0	16
51	COUPLING IMPEDANCE BETWEEN PLANAR COILS INSIDE A LAYERED MEDIA. Progress in Electromagnetics Research, 2011, 112, 381-396.	4.4	16
52	Design and Optimization of Small Inductors on Extra-Thin PCB for Flexible Cooking Surfaces. IEEE Transactions on Industry Applications, 2017, 53, 371-379.	4.9	15
53	Adapting of Non-Metallic Cookware for Induction Heating Technology via Thin-Layer Non-Magnetic Conductive Coatings. IEEE Access, 2020, 8, 11219-11227.	4.2	15
54	Analytical Formulation of Copper Loss of Litz Wire With Multiple Levels of Twisting Using Measurable Parameters. IEEE Transactions on Industry Applications, 2021, 57, 2407-2420.	4.9	15

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55	EMI improvements using the switching frequency modulation in a resonant inverter for domestic induction heating appliances. , 0, , .		14
56	Modeling Mutual Impedances of Loaded Non-Coaxial Inductors for Induction Heating Applications. IEEE Transactions on Magnetics, 2008, 44, 4115-4118.	2.1	14
57	Magnetizable Concrete Flux Concentrators for Wireless Inductive Power Transfer Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 2696-2706.	5.4	14
58	Analysis and Modeling of the Forces Exerted on the Cookware in Induction Heating Applications. IEEE Access, 2020, 8, 131178-131187.	4.2	13
59	Resonant Inverter Topology for All-Metal Domestic Induction Heating. , 2007, , .		12
60	Multiple-output resonant inverter topology for multi-inductor loads. , 2010, , .		12
61	Identification of the material properties used in domestic induction heating appliances for system-level simulation and design purposes. , 2010, , .		12
62	Multiple-output resonant matrix converter for multiple-inductive-load systems. , 2011, , .		12
63	Normal-Mode Decomposition of Surface Power Distribution in Multiple-Coil Induction Heating Systems. IEEE Transactions on Magnetics, 2016, 52, 1-8.	2.1	12
64	Modeling of domestic induction heating systems with non-linear saturable loads. , 2017, , .		12
65	3D Finite Element Simulation of Litz Wires with Multilevel Bundle Structure. , 2018, , .		12
66	An electromagnetic-based model for calculating the efficiency in domestic induction heating appliances. , 0, , .		11
67	Methods and procedures for accurate induction heating load measurement and characterization. , 2007, , .		11
68	A model of the equivalent impedance of the coupled winding-load system for a domestic induction heating application. , 2007, , .		11
69	Series resonant multi-inverter with discontinuous-mode control for improved light-load operation. , 2010, , .		11
70	Practical issues when calculating AC losses for magnetic devices in PCB implementations. , 2012, , .		11
71	Printed circuit board implementation of small inductors for domestic induction heating applications using a planar litz wire structure. , 2013, , .		11
72	FEA-Based Model of Elliptic Coils of Rectangular Cross Section. IEEE Transactions on Magnetics, 2014, 50, 1-7.	2.1	11

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73	Analytical solution of the induced currents in multilayer cylindrical conductors under external electromagnetic sources. Applied Mathematical Modelling, 2016, 40, 10667-10678.	4.2	11
74	Analysis and design of tubular coils for wireless inductive power transfer systems. , 2017, , .		11
75	Comparing simulation alternatives of FPGA-based controllers for switching converters. , 2007, , .		10
76	A recursive methodology for modelling multi-stranded wires with multilevel helix structure. Applied Mathematical Modelling, 2020, 83, 76-89.	4.2	10
77	Design methodology of high performance domestic induction heating systems under worktop. IET Power Electronics, 2020, 13, 300-306.	2.1	10
78	Power measuring in two-output resonant inverters for induction cooking appliances. , 0, , .		9
79	Frequency-dependent resistance in Litz-wire planar windings for all-metal domestic induction heating appliances. , 0, , .		9
80	Interference Emission Estimation of Domestic Induction Cookers Based on Finite-Element Simulation. IEEE Transactions on Electromagnetic Compatibility, 2016, 58, 993-999.	2.2	9
81	Nonplanar Overlapped Inductors Applied to Domestic Induction Heating Appliances. IEEE Transactions on Industrial Electronics, 2019, 66, 6916-6924.	7.9	9
82	Minimization of vias in PCB implementations of planar coils with litz-wire structure. , 2015, , .		8
83	Performance Evaluation of Graphite Thin Slabs for Induction Heating Domestic Applications. IEEE Transactions on Industry Applications, 2015, 51, 2398-2404.	4.9	8
84	Simple Fully Analytical Copper Loss Model of Litz Wire Made of Strands Twisted in Multiple Levels. , 2019, , .		8
85	Dual 1.5-MHz 3.5-kW versatile half-bridge series-resonant inverter module for inductive load characterization. IEEE Applied Power Electronics Conference and Exposition, 2007, , .	0.0	7
86	FEA tool based model of partly coupled coils used in domestic induction cookers. , 2011, , .		7
87	Loss analysis of multistranded twisted wires by using 3D-FEA simulation. , 2014, , .		7
88	Using Mixed-Signal Simulation to Design a Digital Power Measurement System for Induction Heating Home Appliances. , 2007, , .		6
89	Experimental setup for inductive efficiency measurements of domestic induction systems based on energy balance. , 2010, , .		6
90	A dynamic equivalent network model of the skin effect. , 2013, , .		6

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91	First selfâ€resonant frequency of power inductors based on approximated corrected stray capacitances. IET Power Electronics, 2021, 14, 257-267.	2.1	6
92	Loss Analysis and Optimization of Round-wire Planar Windings for Domestic Induction Heating Appliances. , 0, , .		5
93	Comparator-less digital implementation of AC-coupled A/D converters. Electronics Letters, 2009, 45, 537.	1.0	5
94	Educational reconfigurable platform for courses on power electronics. , 2010, , .		5
95	First harmonic equivalent impedance of coupled inductive loads for induction heating applications. , 2012, , .		5
96	Inductor System Evaluation for Simultaneous Wireless Energy Transfer and Induction Heating. , 2018, , .		5
97	Experimental characterization of materials with controlled Curie temperature for domestic induction heating applications. , 2021, , .		5
98	Pulse delay control strategy for improved power control and efficiency in multiple resonant load systems. , 2011, , .		4
99	An application of the impedance boundary condition for the design of coils used in domestic induction heating systems. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2011, 30, 1616-1625.	0.9	4
100	Equivalence among strands in PCB litz-wire inductors applied to domestic induction heating. International Journal of Applied Electromagnetics and Mechanics, 2017, 53, S129-S137.	0.6	4
101	Magnetic Circuit Design for Power Electronics. , 2018, , 571-589.		4
102	Design of a Three Inductor System with One Externally Fed for an Inductively Coupled Heating Application. , 2019, , .		4
103	Modeling and Calculation of the Efficiency for Low-cost Round-wire Planar Windings in Domestic Induction Heating Applications. , 2007, , .		3
104	Efficiency model of planar loaded twisted-wire windings in a magnetic substrate for domestic induction heating appliances. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	3
105	Bridging the gap between research and teaching: An application example in power electronics education. , 2011, , .		3
106	Passive network equivalent of an induction system for domestic cookers applications based on FEA tool simulation. , 2011, , .		3
107	Efficiency improvement of domestic induction appliances using variable inductor-load distance. , 2012, , .		3
108	Optimized 4-coil inductor system arrangement for induction heating appliances. , 2015, , .		3

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109	Design and Implementation of a Test-Bench for Efficiency Measurement of Domestic Induction Heating Appliances. Energies, 2016, 9, 636.	3.1	3
110	Mathematical description of PCB-adapted litz wire geometry for automated layout generation of WPT coils. , 2017, , .		3
111	High power density PCB coil array applied to domestic induction heating appliances. , 2018, , .		3
112	An analysis of electromagnetic forces on cooking vessels used in domestic induction heating appliances oriented to identify the properties of materials. , 2019, , .		3
113	An Inductive Power Transfer System Case Study: Large Gap in Low Power Wireless Power Supply. , 2020, , .		3
114	A VHDL electrothermal modeling of power electronic circuits. , 0, , .		2
115	High Frequency Pulse Density Modulation for cost-effective and efficient multiple induction-heater architectures. , 2011, , .		2
116	PCB multi-track coils for domestic induction heating applications. , 2012, , .		2
117	Elliptic flat-type inductor for low-cost flexible active surface implementations of domestic induction heating appliances. , 2013, , .		2
118	Upgrading of double seriesâ€resonant halfâ€bridge inverter to improve efficiency. Electronics Letters, 2013, 49, 1091-1092.	1.0	2
119	Design and optimization of small inductors on extra-thin PCB for flexible cooking surfaces. , 2015, , .		2
120	Design of efficient loads for domestic induction heating applications by means of non-magnetic thin metallic layers. , 2016, , .		2
121	EMI Reduction Via Resonator Coils in Glassless Integrated Domestic Induction Systems. IEEE Access, 2021, 9, 128147-128156.	4.2	2
122	Induction Heating of Two Magnetically Independent Loads With a Single Transmitter. IEEE Transactions on Power Electronics, 2022, 37, 3391-3402.	7.9	2
123	High frequency inverter design for large-signal characterization of domestic induction heating load. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	1
124	Controlled-resistance loads for induction heating applications using thin non-magnetic metallic layers. Electronics Letters, 2007, 43, 461.	1.0	1
125	Word length selection method based on mixed simulation for digital PID controllers implemented in FPGA. , 2008, , .		1
126	Modeling of adaptable-diameter burners formed by concentric planar windings for domestic induction heating applications. , 2010, , .		1

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127	Analysis of the coupling between small ring-type coils used in adaptable-size burners for domestic induction heating hobs. , 2011, , .		1
128	Educational activities and results obtained from a University-Industry collaborative framework experience. , 2011, , .		1
129	Analysis of Winding Loss and optimization of Inductive Power Transfer Coils. , 2020, , .		1
130	Large-Signal Electrical Parameter Characterization in Inductive Power Transfer Systems. , 2021, , .		1
131	Domestic induction heating system with standard primary inductor for reduced-size and high distance cookware. , 2021, , .		1
132	A Graduate Magnetic Design Course in a Power Electronics-Oriented Curriculum. IEEE Transactions on Education, 2021, 64, 223-232.	2.4	1
133	Induction Heating Cookers: A Path Towards Decarbonization Using Energy Saving Cookers. , 2022, , .		1
134	An application example to gain an insight into the electromagnetic quasistatic approach concept for graduate students. , 2011, , .		0
135	Synthesized voice videos for reusable learning objects. , 2013, , .		0
136	Performance evaluation of graphite thin slabs for induction heating domestic applications. , 2014, , .		0
137	Assymmetric duty-cycle phase-shift modulation for power management in double half-bridge inverter with partly coupled inductive loads. , 2016, , .		0
138	Calculation of losses in PCB windings for multi-coil contactless charging systems. , 2016, , .		0
139	Power losses in flux concentrators of inductor systems for induction cooktops. , 2017, , .		0
140	Double Inverter with Common Resonant Capacitor for Elliptical Coil Induction Heating Devic. , 2021, , .		0