

# Juan Manuel Rivas Davila

## List of Publications by Year in descending order

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125  
papers

3,248  
citations

236925

25  
h-index

223800

46  
g-index

125  
all docs

125  
docs citations

125  
times ranked

1530  
citing authors

#	ARTICLE	IF	CITATIONS
1	Opportunities and Challenges in Very High Frequency Power Conversion. , 2009, , .		357
2	Very-High-Frequency Resonant Boost Converters. IEEE Transactions on Power Electronics, 2009, 24, 1654-1665.	7.9	223
3	A High-Frequency Resonant Inverter Topology With Low-Voltage Stress. IEEE Transactions on Power Electronics, 2008, 23, 1759-1771.	7.9	200
4	Resistance Compression Networks for Radio-Frequency Power Conversion. IEEE Transactions on Power Electronics, 2007, 22, 41-53.	7.9	198
5	High-Frequency Resonant SEPIC Converter With Wide Input and Output Voltage Ranges. IEEE Transactions on Power Electronics, 2012, 27, 189-200.	7.9	138
6	A Very High Frequency DC-DC Converter Based on a Class $\text{m}\Phi\text{m}^2$ Resonant Inverter. IEEE Transactions on Power Electronics, 2011, 26, 2980-2992.	7.9	132
7	C <sub>OSS</sub> Losses in 600 V GaN Power Semiconductors in Soft-Switched, High- and Very-High-Frequency Power Converters. IEEE Transactions on Power Electronics, 2018, 33, 10748-10763.	7.9	123
8	Design Considerations for Very High Frequency dc-dc Converters. , 0, , .		118
9	New Architectures for Radio-Frequency DC-DC Power Conversion. IEEE Transactions on Power Electronics, 2006, 21, 380-393.	7.9	109
10	High-Frequency, High-Power Resonant Inverter With eGaN FET for Wireless Power Transfer. IEEE Transactions on Power Electronics, 2018, 33, 1890-1896.	7.9	86
11	Active Power Device Selection in High- and Very-High-Frequency Power Converters. IEEE Transactions on Power Electronics, 2019, 34, 6818-6833.	7.9	64
12	3-D-Printed Air-Core Inductors for High-Frequency Power Converters. IEEE Transactions on Power Electronics, 2016, 31, 52-64.	7.9	59
13	A 500 W push-pull dc-dc power converter with a 30 MHz switching frequency. , 2010, , .		52
14	A High-Frequency Resonant Inverter Topology with Low Voltage Stress. , 2007, , .		46
15	Very High Frequency Resonant Boost Converters. , 2007, , .		45
16	A very high frequency dc-dc converter based on a class $\infty$ resonant inverter. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	45
17	A Hybrid Cockcroft-Walton/Dickson Multiplier for High Voltage Generation. IEEE Transactions on Power Electronics, 2020, 35, 2714-2723.	7.9	45
18	6.78-MHz Wireless Power Transfer With Self-Resonant Coils at 95% DC-DC Efficiency. IEEE Transactions on Power Electronics, 2021, 36, 2456-2460.	7.9	43

#	ARTICLE	IF	CITATIONS
19	Cascode GaN/SiC: A Wide-Bandgap Heterogenous Power Device for High-Frequency Applications. IEEE Transactions on Power Electronics, 2020, 35, 6340-6349.	7.9	40
20	Performance Improvement of Alternators With Switched-Mode Rectifiers. IEEE Transactions on Energy Conversion, 2004, 19, 561-568.	5.2	35
21	On the Techniques to Utilize SiC Power Devices in High- and Very High-Frequency Power Converters. IEEE Transactions on Power Electronics, 2019, 34, 12181-12192.	7.9	33
22	13.56 MHz High Density DC-DC Converter With PCB Inductors. IEEE Transactions on Power Electronics, 2015, 30, 4291-4301.	7.9	32
23	Implementing an Impedance Compression Network to Compensate for Misalignments in a Wireless Power Transfer System. IEEE Transactions on Power Electronics, 2019, 34, 4173-4184.	7.9	32
24	Optimized Design of Multi-MHz Frequency Isolated Auxiliary Power Supply for Gate Drivers in Medium-Voltage Converters. IEEE Transactions on Power Electronics, 2020, 35, 9494-9509.	7.9	32
25	Duty Cycle and Frequency Modulations in Class-E DC-DC Converters for a Wide Range of Input and Output Voltages. IEEE Transactions on Power Electronics, 2018, 33, 10524-10538.	7.9	31
26	27.12 MHz large voltage gain resonant converter with low voltage stress. , 2013, , .		30
27	Optimized Resonators for Piezoelectric Power Conversion. IEEE Open Journal of Power Electronics, 2021, 2, 212-224.	5.7	30
28	$C_{OSS}$ Measurements for Superjunction MOSFETs: Limitations and Opportunities. IEEE Transactions on Electron Devices, 2019, 66, 578-584.	3.0	29
29	Push-Pull Class $\Phi_{ext\{2\}}$ RF Power Amplifier. IEEE Transactions on Power Electronics, 2020, 35, 10515-10531.	7.9	29
30	A Wide-Input-Range High-Efficiency Step-Down Power Factor Correction Converter Using a Variable Frequency Multiplier Technique. IEEE Transactions on Power Electronics, 2018, 33, 9399-9411.	7.9	28
31	Performance evaluation of diodes in 27.12 MHz Class-D resonant rectifiers under high voltage and high slew rate conditions. , 2014, , .		27
32	Power loss of GaN transistor reverse diodes in a high frequency high voltage resonant rectifier. , 2017, , .		27
33	Single-Turn Air-Core Coils for High-Frequency Inductive Wireless Power Transfer. IEEE Transactions on Power Electronics, 2020, 35, 2917-2932.	7.9	27
34	Comparison of SiC and eGaN devices in a 6.78 MHz 2.2 kW resonant inverter for wireless power transfer. , 2016, , .		26
35	13.56 MHz 1.3 kW resonant converter with GaN FET for wireless power transfer. , 2015, , .		23
36	Output Capacitance Loss Characterization of Silicon Carbide Schottky Diodes. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 865-878.	5.4	23

#	ARTICLE	IF	CITATIONS
37	New architectures for radio-frequency DC/DC power conversion. , 0, , .		21
38	Effect of Class 2 Ceramic Capacitor Variations on Switched-Capacitor and Resonant Switched-Capacitor Converters. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 2268-2275.	5.4	21
39	Lightweight High Voltage Generator for Untethered Electrodeposited Perching of Micro Air Vehicles. IEEE Robotics and Automation Letters, 2020, 5, 4485-4492.	5.1	21
40	The Impact of Multi-MHz Switching Frequencies on Dynamic On-Resistance in GaN-on-Si HEMTs. IEEE Open Journal of Power Electronics, 2020, 1, 210-215.	5.7	20
41	A Multiresonant Gate Driver for High-Frequency Resonant Converters. IEEE Transactions on Industrial Electronics, 2020, 67, 1405-1414.	7.9	18
42	Output capacitance losses in 600 V GaN power semiconductors with large voltage swings at high- and very-high-frequencies. , 2017, , .		16
43	A Wide Input Range Isolated Stacked Resonant Switched-Capacitor dc-dc Converter for High Conversion Ratios. , 2018, , .		16
44	Design and Fabrication of Three-Dimensional Printed Air-Core Transformers for High-Frequency Power Applications. IEEE Transactions on Power Electronics, 2020, 35, 8472-8489.	7.9	15
45	Resistance Compression Networks for Resonant Power Conversion. , 0, , .		14
46	13.56 MHz high voltage multi-level resonant DC-DC converter. , 2015, , .		14
47	27.12 MHz isolated high voltage gain multi-level resonant DC-DC converter. , 2015, , .		14
48	Designing a 40.68 MHz power-combining resonant inverter with eGaN FETs for plasma generation. , 2018, , .		14
49	On the Optimization of a Class-E Power Amplifier With GaN HEMTs at Megahertz Operation. IEEE Transactions on Power Electronics, 2020, 35, 4009-4023.	7.9	14
50	13.56 MHz high density dc-dc converter with PCB inductors. , 2013, , .		13
51	A unified model for high-power, air-core toroidal PCB inductors. , 2017, , .		13
52	Vacuum Testing of a Miniaturized Switch Mode Amplifier Powering an Electrothermal Plasma Micro-Thruster. Frontiers in Physics, 2017, 5, .	2.1	13
53	Small- and Large-Signal Dynamic Output Capacitance and Energy Loss in GaN-on-Si Power HEMTs. IEEE Transactions on Electron Devices, 2021, 68, 1819-1826.	3.0	13
54	1.7 kW 6.78 MHz Wireless Power Transfer with Air-Core Coils at 95.7% DC-DC Efficiency. , 2021, , .		13

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55	Evaluation of a 900 V SiC MOSFET in a 13.56 MHz 2 kW resonant inverter for wireless power transfer. , 2016, , .		12
56	Low-Mass RF Power Inverter for CubeSat Applications Using 3-D Printed Inductors. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2017, 5, 880-890.	5.4	12
57	An Integrated RF Power Delivery and Plasma Micro-Thruster System for Nano-Satellites. Frontiers in Physics, 2018, 6, .	2.1	12
58	Cascode GaN/SiC Power Device for MHz Switching. , 2019, , .		12
59	A High-Frequency Resonant Converter Based on the Class Phi2 Inverter for Wireless Power Transfer. , 2014, , .		11
60	27.12MHz GaN resonant power converter with PCB embedded resonant air core inductors and capacitors. , 2015, , .		11
61	27.12MHz GaN Bi-directional resonant power converter. , 2015, , .		11
62	An Investigation into the Causes of C<sub>OSS</sub> Losses in GaN-on-Si HEMTs. , 2019, , .		11
63	Origins of Soft-Switching<i>C</i><sub>oss</sub> Losses in SiC Power MOSFETs and Diodes for Resonant Converter Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 4082-4095.	5.4	11
64	A multi-resonant gate driver for Very-High-Frequency (VHF) resonant converters. , 2017, , .		10
65	Inductorless Soft Switching DC-DC Converter with an Optimized Piezoelectric Resonator. , 2020, , .		10
66	A Method to Eliminate Discrete Inductors in a Class-E Inverter Used in Wireless Power Transfer Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 2167-2178.	5.4	9
67	Decentralized Carrier Phase Shifting for Optimal Harmonic Minimization in Asymmetric Parallel-Connected Inverters. IEEE Transactions on Power Electronics, 2021, 36, 5915-5925.	7.9	9
68	Fixed-Frequency Control of Piezoelectric Resonator DC-DC Converters for Spurious Mode Avoidance. IEEE Open Journal of Power Electronics, 2021, 2, 582-590.	5.7	9
69	A Study on Off-State Losses in Silicon-Carbide Schottky Diodes. , 2018, , .		8
70	Design of a 13.56 MHz dc-to-dc resonant converter using an impedance compression network to mitigate misalignments in a wireless power transfer system. , 2018, , .		8
71	Miniature High-Voltage DC-DC Power Converters for Space and Micro-Robotic Applications. , 2019, , .		8
72	Wideband PPT Class \$Phi_2\$ Inverter Using Phase-Switched Impedance Modulation and Reactance Compensation. IEEE Transactions on Industrial Electronics, 2022, 69, 5724-5734.	7.9	8

#	ARTICLE	IF	CITATIONS
73	Piezoelectric Resonator Second Harmonic Cancellation in Class $\hat{I}$ <sub>2</sub> Inverters. , 2021, , .		8
74	High frequency resonant SEPIC converter with wide input and output voltage ranges. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	7
75	Low mass RF power inverter for cubesat plasma thruster using 3D printed inductors. , 2016, , .		7
76	Isolated resonant DC-DC converters with a loosely coupled transformer. , 2017, , .		7
77	60 V-to-35 kV input-parallel output-series DC-DC converter using multi-level class-DE rectifiers. , 2018, , .		7
78	Effect of Class 2 Ceramic Capacitance Variations on Switched Capacitor and Resonant Switched Capacitor Converters. , 2018, , .		6
79	Coss losses in silicon superjunction MOSFETs across constructions and generations. , 2018, , .		6
80	A Compact 45 V-to-54 kV Modular DC-DC Converter. , 2019, , .		6
81	High-Frequency Bidirectional Resonant Converter for High Conversion Ratio and Variable Load Operation. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 1983-1993.	5.4	6
82	Design and Optimization of 6.78 MHz Wireless Power Transfer with Self-Resonant Coils. , 2020, , .		6
83	Performance improvement of alternators with switched-mode rectifiers. , 0, , .		5
84	3D printed air core inductors for high frequency power converters. , 2014, , .		5
85	Universal line input power factor preregulator using VFX technique. , 2017, , .		5
86	Considerations for Active Power Device Selection in High- and Very-High-Frequency Power Converters. , 2018, , .		5
87	Demonstration of GaN Impact Ionization Avalanche Transit-Time (IMPATT) Diode. , 2020, , .		5
88	Modular ON/OFF and Phase-Shifting for High-Speed Radio Frequency Power Modulation. IEEE Open Journal of Power Electronics, 2020, 1, 393-406.	5.7	5
89	Class E Power Amplifier with Piezoelectric Resonator Output Branch. , 2021, , .		5
90	Implementing an impedance compression network to correct misalignment in a wireless power transfer system. , 2017, , .		4

#	ARTICLE	IF	CITATIONS
91	A portable electrostatic precipitator to reduce respiratory death in rural environments. , 2017, , .		4
92	High-Frequency Bidirectional Resonant Converter for High Conversion Ratio and Variable Load Operation. , 2018, , .		4
93	Design of a GaN-Based, Inductor-less, Wireless Power Transfer System at 40.68 MHz. , 2018, , .		4
94	Real-time Selective Harmonic Minimization Using a Hybrid Analog/Digital Computing Method. IEEE Transactions on Power Electronics, 2022, 37, 5078-5088.	7.9	4
95	Class DE Switch-Mode Power Amplifier Using GaN Power HEMTs: High-Efficiency Power Amplifier for 13.56 MHz. IEEE Microwave Magazine, 2022, 23, 72-79.	0.8	4
96	MRI Compatible DC Modulator for an Envelope Tracking Transmitter. , 2019, , .		3
97	Compact Fast-Switching DC and Resonant RF Drivers for a Dual-Mode Imaging and HIFU 2D CMUT Array. , 2019, , .		3
98	A Simple Method to Combine the Output Power From Multiple Class-E Power Amplifiers. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 2245-2253.	5.4	3
99	Plasma-fixated nitrogen as fertilizer for turf grass. RSC Advances, 2021, 11, 37886-37895.	3.6	3
100	Inductance cancellation in RF resonant power converters. , 2016, , .		2
101	Resonant bi-polar DC pulse power supply for electroporation applications. , 2016, , .		2
102	Powernet for distributed energy resource networks. , 2016, , .		2
103	FPGA-based Dynamic Duty Cycle and Frequency Controller for a Class-E2 DC-DC Converter. , 2018, , .		2
104	High-Frequency Resonant Converter with Synchronous Rectification for High Conversion Ratio and Variable Load Operation. , 2018, , .		2
105	3-D Printed Air-Core Toroidal Transformer for High-Frequency Power Conversion. , 2019, , .		2
106	On the Optimal Input Voltage of a Class-E Power Amplifier with GaN HEMTs at MHz Frequency Operation. , 2019, , .		2
107	A physical investigation of large-signal dynamic output capacitance and energy loss in GaN-on-Si power HEMTs at high-frequency applications. , 2020, , .		2
108	1 kW MHz Wideband Class E Power Amplifier. , 2021, , .		2

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109	A design methodology for class-D resonant rectifier with parallel LC tank. , 2016, , .		1
110	A compact RF power inverter with reduced EMI for a CubeSat electrothermal micro-thruster. , 2017, , .		1
111	Estimating the Reliability of Series-Connected Schottky Diodes for High-Frequency Rectification. , 2018, , .		1
112	Low-Loss Gate Driving Techniques of the Cascode GaN/SiC Power Device at High Frequencies. , 2019, , .		1
113	Empirical Circuit Model for Output Capacitance Losses in Silicon Carbide Power Devices. , 2019, , .		1
114	Gate Drive for Very Fast Resonant Conversion using SiC Switch. , 2019, , .		1
115	Low-Ripple High-Voltage DC Generation Using a Serially Segmented Multiphase Voltage Multiplier. , 2020, , .		1
116	Time and voltage domain load models for appliance-level grid edge simulation and control. Electric Power Systems Research, 2021, 190, 106750.	3.6	1
117	1 kW, Multi-MHz Wireless Charging for Electric Transportation. , 2020, , .		1
118	1 kW MHz Wideband Class E Power Amplifier. IEEE Open Journal of Power Electronics, 2022, 3, 84-92.	5.7	1
119	A High Frequency Resonant Gate Driver for SiC MOSFETs. , 2021, , .		1
120	The "Smart Dim Fuse": A new approach to load control as a distributed energy resource. , 2017, , .		0
121	Substrate Bias Effect on E-Mode GaN-on-Si HEMT Cos <sup>2</sup> Losses. , 2018, , .		0
122	Real-time Selective Harmonic Minimization using Hybrid Analog/Digital Computing. , 2021, , .		0
123	Wideband Class $\hat{1}2$ Power Amplifier for HF Applications. , 2021, , .		0
124	Reverse Recovery Testing of Small-Signal Schottky Diodes. , 2021, , .		0
125	A Novel High-Efficiency Three-Phase Multilevel PV Inverter with Reduced DC-Link Capacitance. IEEE Transactions on Industrial Electronics, 2022, , 1-11.	7.9	0