

Daniel J Costinett

List of Publications by Year in descending order

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3434
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#	ARTICLE	IF	CITATIONS
1	Review of Commercial GaN Power Devices and GaN-Based Converter Design Challenges. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 707-719.	5.4	786
2	Low-Power Far-Field Wireless Powering for Wireless Sensors. Proceedings of the IEEE, 2013, 101, 1397-1409.	21.3	200
3	Temperature-Dependent Short-Circuit Capability of Silicon Carbide Power MOSFETs. IEEE Transactions on Power Electronics, 2016, 31, 1555-1566.	7.9	200
4	Design and Control for High Efficiency in High Step-Down Dual Active Bridge Converters Operating at High Switching Frequency. IEEE Transactions on Power Electronics, 2013, 28, 3931-3940.	7.9	199
5	Active Balancing System for Electric Vehicles With Incorporated Low-Voltage Bus. IEEE Transactions on Power Electronics, 2016, 31, 7887-7895.	7.9	152
6	Evaluation of Switching Performance of SiC Devices in PWM Inverter-Fed Induction Motor Drives. IEEE Transactions on Power Electronics, 2015, 30, 5701-5711.	7.9	134
7	Investigation of Gallium Nitride Devices in High-Frequency LLC Resonant Converters. IEEE Transactions on Power Electronics, 2017, 32, 571-583.	7.9	130
8	Circuit-Oriented Treatment of Nonlinear Capacitances in Switched-Mode Power Supplies. IEEE Transactions on Power Electronics, 2015, 30, 985-995.	7.9	121
9	Review of Power Electronics Components at Cryogenic Temperatures. IEEE Transactions on Power Electronics, 2020, 35, 5144-5156.	7.9	103
10	Intelligent Gate Drive for Fast Switching and Crosstalk Suppression of SiC Devices. IEEE Transactions on Power Electronics, 2017, 32, 9319-9332.	7.9	93
11	GaN-FET based dual active bridge DC-DC converter. , 2011, , .		85
12	A high temperature silicon carbide mosfet power module with integrated silicon-on-insulator-based gate drive. IEEE Transactions on Power Electronics, 2015, 30, 1432-1445.	7.9	85
13	Characterization of an enhancement-mode 650-V GaN HFET. , 2015, , .		82
14	Design and Implementation of a GaN-Based, 100-kHz, 102-W/in ³ Single-Phase Inverter. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 824-840.	5.4	75
15	GaN-Based Dual-Mode Wireless Power Transfer Using Multifrequency Programmed Pulse Width Modulation. IEEE Transactions on Industrial Electronics, 2017, 64, 9165-9176.	7.9	74
16	Capacitor-Clamped, Three-level GaN-Based DC-DC Converter With Dual Voltage Outputs for Battery Charger Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 841-853.	5.4	61
17	Online Junction Temperature Monitoring Using Intelligent Gate Drive for SiC Power Devices. IEEE Transactions on Power Electronics, 2019, 34, 7922-7932.	7.9	57
18	Development of High-Power High Switching Frequency Cryogenically Cooled Inverter for Aircraft Applications. IEEE Transactions on Power Electronics, 2020, 35, 5670-5682.	7.9	53

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19	Cross conduction analysis for enhancement-mode 650-V GaN HFETs in a phase-leg topology. , 2015, , .		46
20	Active gate driver for fast switching and cross-talk suppression of SiC devices in a phase-leg configuration. , 2015, , .		41
21	High precision gate signal timing control based active voltage balancing scheme for series-connected fast switching field-effect transistors. , 2018, , .		38
22	A Modulation Compensation Scheme to Reduce Input Current Distortion in GaN-Based High Switching Frequency Three-Phase Three-Level Vienna-Type Rectifiers. IEEE Transactions on Power Electronics, 2018, 33, 283-298.	7.9	38
23	Discrete-time small-signal modeling of a 1 MHz efficiency-optimized dual active bridge converter with varying load. , 2012, , .		37
24	Characterization of 1.2 kV SiC Power MOSFETs at Cryogenic Temperatures. , 2018, , .		37
25	A triple active bridge DC-DC converter capable of achieving full-range ZVS. , 2016, , .		36
26	Review of Electrical Architectures and Power Requirements for Automated Vehicles. , 2018, , .		35
27	A High-Efficiency GaN-Based Single-Stage 6.78 MHz Transmitter for Wireless Power Transfer Applications. IEEE Transactions on Power Electronics, 2019, 34, 7677-7692.	7.9	35
28	Common source inductance introduced self-turn-on in MOSFET turn-off transient. , 2017, , .		34
29	Model-Based Dead Time Optimization for Voltage-Source Converters Utilizing Silicon Carbide Semiconductors. IEEE Transactions on Power Electronics, 2017, 32, 8833-8844.	7.9	34
30	Characterization and Failure Analysis of 650-V Enhancement-Mode GaN HEMT for Cryogenically Cooled Power Electronics. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 66-76.	5.4	34
31	Accurate ZVS boundary in high switching frequency LLC converter. , 2016, , .		33
32	Active balancing system for electric vehicles with incorporated low voltage bus. , 2014, , .		32
33	Temperature-dependent turn-on loss analysis for GaN HFETs. , 2016, , .		30
34	Simple Digital Pulse Width Modulator Under 100Åps Resolution Using General-Purpose FPGAs. IEEE Transactions on Power Electronics, 2013, 28, 4466-4472.	7.9	29
35	Understanding the limitations and impact factors of wide bandgap devices' high switching-speed capability in a voltage source converter. , 2014, , .		28
36	Characterization of high-voltage high-speed switching power semiconductors for high frequency cryogenically-cooled application. , 2017, , .		28

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37	Far-Field RF-Powered Variable Duty Cycle Wireless Sensor Platform. IEEE Transactions on Circuits and Systems II: Express Briefs, 2011, 58, 822-826.	3.0	26
38	Modeling, Analysis, and Reduction of Harmonics in Paralleled and Interleaved Three-Level Neutral Point Clamped Inverters With Space Vector Modulation. IEEE Transactions on Power Electronics, 2020, 35, 4411-4425.	7.9	26
39	A 6.6-kW High-Frequency Wireless Power Transfer System for Electric Vehicle Charging Using Multilayer Nonuniform Self-Resonant Coil at MHz. IEEE Transactions on Power Electronics, 2022, 37, 4842-4856.	7.9	26
40	Charging Electric Vehicle Batteries: Wired and Wireless Power Transfer: Exploring EV charging technologies. IEEE Power Electronics Magazine, 2022, 9, 14-29.	0.7	26
41	Circuit-oriented modeling of nonlinear device capacitances in switched mode power converters. , 2012, , .		25
42	Automatic voltage and dead time control for efficiency optimization in a Dual Active Bridge converter. , 2012, , .		25
43	Analysis and design of a series self-resonant coil for wireless power transfer. , 2018, , .		22
44	Characterization of 650 V Enhancement-mode GaN HEMT at Cryogenic Temperatures. , 2018, , .		22
45	Inherent volt-second balancing of magnetic devices in zero-voltage switched power converters. , 2013, , .		21
46	Inductor Design and ZVS Control for a GaN-Based High Efficiency CRM Totem-Pole PFC Converter. , 2019, , .		21
47	Discrete time modeling of output disturbances in the dual active bridge converter. , 2014, , .		20
48	Dead-time optimization of SiC devices for voltage source converter. , 2015, , .		19
49	Integrated DC-DC converter design for Electric Vehicle powertrains. , 2016, , .		19
50	Effects of Junction Capacitances and Commutation Loops Associated With Line-Frequency Devices in Three-Level AC/DC Converters. IEEE Transactions on Power Electronics, 2019, 34, 6155-6170.	7.9	19
51	Core Characterization and Inductor Design Investigation at Low Temperature. , 2018, , .		18
52	SiC MOSFET Versus Si Super Junction MOSFET-Switching Loss Comparison in Different Switching Cell Configurations. , 2018, , .		18
53	Analysis of a GaN-Based CRM Totem-Pole PFC Converter Considering Current Sensing Delay. , 2019, , .		18
54	A high-frequency resonant gate driver for enhancement-mode GaN power devices. , 2015, , .		17

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55	A GaN-based 100 W two-stage wireless power transmitter with inherent current source output. , 2016, , .		17
56	Reduced order discrete time modeling of ZVS transition dynamics in the dual active bridge converter. , 2015, , .		16
57	Online junction temperature monitoring using turn-off delay time for silicon carbide power devices. , 2016, , .		16
58	Impacts of High Frequency, High di/dt, dv/dt Environment on Sensing Quality of GaN Based Converters and Their Mitigation. CPSS Transactions on Power Electronics and Applications, 2018, 3, 301-312.	4.4	16
59	Frequency Synchronization and Control for a 6.78 MHz WPT Active Rectifier. , 2018, , .		16
60	MW-Class Cryogenically-Cooled Inverter for Electric Aircraft Applications. , 2019, , .		16
61	Modeling and Mitigation of Multiloops Related Device Overvoltage in Three-Level Active Neutral Point Clamped Converter. IEEE Transactions on Power Electronics, 2020, 35, 7947-7959.	7.9	16
62	Methodology of Low Inductance Busbar Design for Three-Level Converters. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 3468-3478.	5.4	16
63	Investigation of Cost-effective SiC Based Hybrid Switch and Improved Inductor Design Procedure for Boost Converter in Electrical Vehicles Application. , 0, , .		15
64	Load-Dependent Soft-Switching Method of Half-Bridge Current Doubler for High-Voltage Point-of-Load Converter in Data Center Power Supplies. IEEE Transactions on Power Electronics, 2017, 32, 2925-2938.	7.9	15
65	Systematic Design of a 100-W 6.78-MHz Wireless Charging Station Covering Multiple Devices and a Large Charging Area. IEEE Transactions on Power Electronics, 2022, 37, 4877-4889.	7.9	15
66	Wide bandgap power devices based high efficiency power converters for data center application. , 2014, , .		14
67	Two phase interleaved ISOP connected high step down ratio phase shift full bridge DC/DC converter with GaN FETs. , 2015, , .		14
68	Multi-Commutation Loop Induced Over-voltage Issue on Non-active Switches in Fast Switching Speed Three-Level Active Neutral Point Clamped Phase Leg. , 2018, , .		14
69	Winding Scheme With Fractional Layer for Differential-Mode Toroidal Inductor. IEEE Transactions on Industrial Electronics, 2020, 67, 1592-1604.	7.9	14
70	Comprehensive Design for 6.78 MHz Wireless Power Transfer Systems. , 2018, , .		13
71	Design of Low Inductance Busbar for 500 kVA Three-Level ANPC Converter. , 2019, , .		13
72	Characterization and Modeling of a SiC MOSFET's Turn-On Overvoltage. , 2018, , .		12

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73	Investigation of Fourth-leg for Common-mode Noise Reduction in Three-level Neutral Point Clamped Inverter Fed Motor Drive. , 2019, , .		12
74	A GaN-based synchronous rectifier for WPT receivers with reduced THD. , 2016, , .		11
75	A Simple Control to Reduce Device Over-Voltage Caused by Non-Active Switch Loop in Three-Level ANPC Converters. , 2019, , .		11
76	Coupled Inductor Design for Interleaved Three-level Active Neutral Point Clamped Inverters Considering EMI Noise Reduction. , 2019, , .		11
77	Analytical Analysis of Ac and Dc Side Harmonics of Three-level Active Neutral Point Clamped Inverter with Space Vector Modulation. , 2019, , .		11
78	A New Hands-On Course in Characterization of Wide-Bandgap Devices. IEEE Transactions on Power Electronics, 2019, 34, 9392-9403.	7.9	11
79	Evaluation of switching performance of SiC devices in PWM inverter fed induction motor drives. , 2014, , .		10
80	Dead-time optimization for SiC based voltage source converters using online condition monitoring. , 2017, , .		10
81	Hybrid buck converter optimization and comparison for smart phone integrated battery chargers. , 2018, , .		10
82	Current Source Gate Drive to Reduce Switching Loss for SiC MOSFETs. , 2019, , .		10
83	Multi-layer Non-uniform Series Self-resonant Coil for Wireless Power Transfer. , 2019, , .		10
84	Online condition monitoring of SiC devices using intelligent gate drive for converter performance improvement. , 2016, , .		9
85	A dual-mode wireless power transfer system using multi-frequency programmed pulse width modulation. , 2016, , .		9
86	Decoupling of interaction between WBC converter and motor load for switching performance improvement. , 2016, , .		9
87	A single stage AC/RF converter for wireless power transfer applications. , 2017, , .		9
88	Noise mitigation and delay compensation in high frequency dual current programmed mode control. , 2018, , .		9
89	Design and Implementation of a Bipolar-Unipolar Switched Boundary Current Mode (BCM) Control GaN-Based Single-Phase Inverter. , 2019, , .		9
90	A GaN-Based CRM Totem-Pole PFC Converter with Fast Dynamic Response and Noise Immunity for a Multi-Receiver WPT System. , 2020, , .		9

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91	Investigation of Gallium Nitride devices benefits on LLC resonant DC-DC converter. , 2015, , .		8
92	Characterization of Wide Bandgap Device for Cryogenically-Cooled Power Electronics in Aircraft Applications. , 2018, , .		8
93	Gate Drive Technology Evaluation and Development to Maximize Switching Speed of SiC Discrete Devices and Power Modules in Hard Switching Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 4160-4172.	5.4	8
94	Capacitive Coupling in EMI Filters Containing T-Shaped Joint: Mechanism, Effects, and Mitigation. IEEE Transactions on Power Electronics, 2020, 35, 2534-2547.	7.9	8
95	Mitigation of Current Distortion for GaN-Based CRM Totem-Pole PFC Rectifier With ZVS Control. IEEE Open Journal of Power Electronics, 2021, 2, 290-303.	5.7	8
96	A High Frequency Wireless Power Transfer System for Electric Vehicle Charging Using Multi-layer Nonuniform Self-resonant Coil at MHz. , 2020, , .		8
97	Investigation of soft-switching behavior of 600 V cascode GaN HEMT. , 2014, , .		7
98	A compensation scheme to reduce input current distortion in a GaN based 450 kHz three-phase Vienna type PFC. , 2016, , .		7
99	Modeling a 6.78 MHz synchronous WPT rectifier with reduced THD. , 2017, , .		7
100	Simple Digital Pulse Width Modulator with 60 picoseconds resolution using a low-cost FPGA. , 2012, , .		6
101	Comparison of reverse recovery behavior of silicon and wide bandgap diodes in high frequency power converters. , 2013, , .		6
102	Realization of high speed switching of SiC power devices in voltage source converters. , 2015, , .		6
103	Operating mode transition control of a SiC integrated DC DC powertrain charger for electric vehicles. , 2017, , .		6
104	Zero Sequence Circulating Current Analysis and Reduction in Paralleled Three-level Active Neutral Point Clamped Inverters. , 2018, , .		6
105	Discrete Time Synchronization Modeling for Active Rectifiers in Wireless Power Transfer Systems. , 2019, , .		6
106	Transmitter Coil Design for Multi-load Wireless Power Transfer Systems. , 2020, , .		6
107	Simulation and characterization of GaN HEMT in high-frequency switched-mode power converters. , 2012, , .		5
108	A single-phase dual frequency inverter based on multi-frequency selective harmonic elimination. , 2016, , .		5

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109	Soft switching for half bridge current doubler for high voltage point of load converter in data center power supplies. , 2016, , .		5
110	5V-to-4V integrated buck converter for battery charging applications with an on-chip decoupling capacitor. , 2017, , .		5
111	Online condition monitoring based dead-time compensation for high frequency SiC voltage source inverter. , 2018, , .		5
112	Characterization and Modeling of a SiC MOSFET's Turn-Off Overvoltage. Materials Science Forum, 0, 924, 827-831.	0.3	5
113	A Seven-Level Switched Capacitor AC-DC Rectifier for Fast Wireless Charging. , 2018, , .		5
114	Common-mode noise reduction with impedance balancing in DC-fed motor drives. , 2018, , .		5
115	Converter Analysis Using Discrete Time State-Space Modeling. , 2019, , .		5
116	Multilevel Switched-Capacitor AC-DC Step-Down Rectifier for Wireless Charging With Reduced Conduction Loss and Harmonic Content. IEEE Transactions on Power Electronics, 2022, 37, 8669-8681.	7.9	5
117	High-order eigenstate calculation of arbitrary quantum structures. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 235201.	2.1	4
118	A high temperature silicon carbide MOSFET power module with integrated silicon-on-insulator based gate drive. , 2014, , .		4
119	Efficiency impact of MOSFET output junction capacitance on a high step down ratio phase shift full bridge DC/DC converter. , 2015, , .		4
120	A DC controller for continuous variable series reactors (CVSRs). , 2015, , .		4
121	Dual-output, three-level GaN-based dc-dc converter for battery charger applications. , 2016, , .		4
122	Comparison of 60V GaN and Si Devices for Class D Audio Applications. , 2018, , .		4
123	Direct 400 Vdc to 1 Vdc power conversion with input series output parallel connection for data center power supplies. , 2018, , .		4
124	Design of a Single Controller for Multiple Paralleled Inverters. , 2019, , .		4
125	Stability Analysis and Efficiency Optimization of an Inductive Power Transfer System With a Constant Power Load. IEEE Access, 2020, 8, 209762-209775.	4.2	4
126	Design of a Resonant Reactive Shielding Coil for Wireless Power Transfer System. , 2021, , .		4

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127	Development of a board-level integrated silicon carbide MOSFET power module for high temperature application. , 2015, , .		3
128	Modeling Dual Active Bridge Converter Considering the Effect of Magnetizing Inductance for Electric Vehicle Application. , 2018, , .		3
129	A GaN-Based 6.78 MHz Single-Stage Transmitter with Constant Output Current for Wireless Power Transfer. , 2018, , .		3
130	Voltage Slope-sensing Based Zero Voltage Switching Detection for 6.78 MHz Wireless Power Transfer Application. , 2019, , .		3
131	Delay Mitigation in High Frequency Dual Current Programmed Mode Control GaN-Based ZVS Inverter. , 2019, , .		3
132	A Variable Frequency ZVS Control of a Three-level Buck without Zero Crossing Detection for Wide-Range Output Voltage Battery Chargers. , 2019, , .		3
133	Design and Evaluation of a Multilevel Switched Capacitor Rectifier for Wireless Fast Charging. , 2019, , .		3
134	Control of SiC Based Integrated DC-DC Powertrain Charger for Electric Vehicles. , 2020, , .		3
135	Active Rectifier Design and Synchronization Control for 6.78 MHz Wireless Power Transfer. , 2020, , .		3
136	Steady-State Convergence of Discrete Time State-Space Modeling with State-Dependent Switching. , 2020, , .		3
137	A silicon carbide integrated circuit implementing nonlinear-carrier control for boost converter applications. , 2016, , .		2
138	A sampling scheme for three-phase high switching frequency and speed converter. , 2018, , .		2
139	Common-mode inductor saturation analysis and design optimization based on spectrum concept. , 2018, , .		2
140	A single-stage 6.78 MHz transmitter with the improved light load efficiency for wireless power transfer applications. , 2018, , .		2
141	Modeling of Multi-Loops Related Device Turn-On Overvoltage in 3L-ANPC Converters. , 2019, , .		2
142	Analysis of Circulating Harmonic Currents in Paralleled Three Level ANPC Inverters using SVM. , 2019, , .		2
143	Harmonic Analysis of Common-mode Reduction Modulation for Three-level Inverter. , 2019, , .		2
144	Modeling and Analysis of Zero Common-mode Voltage Modulation with Dead-Time for Three-Level Inverter. , 2020, , .		2

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145	A framework to share courses among universities: The case of a course on power electronics for electric vehicles. , 2014, , .		1
146	Optimization of GaN-based ultra-low power boost converter in far-field energy harvesting. , 2016, , .		1
147	A phase-shift dual-frequency selective harmonic elimination for multiple AC loads in a full bridge inverter configuration. , 2017, , .		1
148	Modeling high current integrated power converters. , 2017, , .		1
149	Capacitive Coupling in T-Shape Related EMI Filters: Mechanism, Effects, and Mitigation. , 2018, , .		1
150	Extra Device Capacitance in Three-level Converters and Loss Re-evaluation via Conventional DPT Data. , 2018, , .		1
151	ZVS Analysis of a GaN-Based Series-Parallel Dual Transformer LLC Resonant Converter. , 2019, , .		1
152	Wide-Range Stability of Concurrent Load Regulation and Frequency Synchronization for a 7-Level Switched Capacitor WPT Rectifier. , 2021, , .		1
153	Dual-Loop Frequency Synchronization and Load Regulation using a Discrete Time Model for a 7-Level Switched Capacitor WPT Rectifier. , 2020, , .		1
154	Grid synchronization using fixed filtering with magnitude and phase compensation. , 2014, , .		0
155	Current Jump Mechanism and Suppression in Paralleled Three-level Inverters with Space Vector Modulation. , 2020, , .		0
156	Improved Lifetime of GaN-Based Single Phase PV Inverter Using Dynamic Hardware Allocation. , 2021, , .		0