

Stig Munk-Nielsen

List of Publications by Year in descending order

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Version: 2024-02-01

130
papers

2,720
citations

361413

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h-index

254184

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all docs

135
docs citations

135
times ranked

1855
citing authors

#	ARTICLE	IF	CITATIONS
1	Parasitic Capacitance Modeling of Inductors Without Using the Floating Voltage Potential of Core. IEEE Transactions on Industrial Electronics, 2022, 69, 3214-3222.	7.9	14
2	Development of a current source resonant inverter for high current MHz induction heating. IET Power Electronics, 2022, 15, 1-10.	2.1	9
3	Rethinking Basic Assumptions for Modeling Parasitic Capacitance in Inductors. IEEE Transactions on Power Electronics, 2022, 37, 8281-8289.	7.9	20
4	An enhanced single gate driven voltage-balanced SiC MOSFET stack topology suitable for high-voltage low-power applications. IET Power Electronics, 2022, 15, 251-262.	2.1	4
5	Short-Circuit Characteristic of Single Gate Driven SiC MOSFET Stack and Its Improvement With Strong Antishort Circuit Fault Capabilities. IEEE Transactions on Power Electronics, 2022, 37, 13577-13586.	7.9	3
6	A Comparative Study on Parasitic Capacitance in Inductors With Series or Parallel Windings. IEEE Transactions on Power Electronics, 2022, 37, 15140-15151.	7.9	7
7	Four-switch Class-PN Power Amplifier for High Power Handling Capability in Wireless Power Transfer. , 2022, , .		4
8	Transient Performance Improvement of Digital Average Current Controlled Multiphase Interleaved Buck Converter. , 2022, , .		1
9	Testing Requirements and Control Strategies of Next-Generation Grid Emulator: A Review. , 2022, , .		4
10	Physics-Based Modeling of Parasitic Capacitance in Medium-Voltage Filter Inductors. IEEE Transactions on Power Electronics, 2021, 36, 829-843.	7.9	37
11	Behavioral Modeling and Analysis of Ground Current in Medium-Voltage Inductors. IEEE Transactions on Power Electronics, 2021, 36, 1236-1241.	7.9	16
12	Mitigation measures of the electric field in the medium-voltage power module: Effect of voltage types and recommendations for designers. High Voltage, 2021, 6, 836-849.	4.7	6
13	Parasitic Capacitance Modeling of Copper-Foiled Medium-Voltage Filter Inductors Considering Fringe Electrical Field. IEEE Transactions on Power Electronics, 2021, 36, 8181-8192.	7.9	15
14	Evaluation of <i>in situ</i> Thermomechanical Stress-Strain in Power Modules Using Laser Displacement Sensors. IEEE Transactions on Power Electronics, 2021, 36, 9411-9418.	7.9	10
15	Virtual Temperature Detection of Semiconductors in a Megawatt Field Converter. IEEE Transactions on Industrial Electronics, 2020, 67, 1305-1315.	7.9	7
16	Impact of Power Module Parasitic Capacitances on Medium-Voltage SiC MOSFETs Switching Transients. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 298-310.	5.4	48
17	How Can a Cutting-Edge Gallium Nitride High-Electron-Mobility Transistor Encounter Catastrophic Failure Within the Acceptable Temperature Range?. IEEE Transactions on Power Electronics, 2020, 35, 6711-6718.	7.9	7
18	Behavioral Modeling of Ground Current in Filter Inductors of Medium-Voltage SiC-MOSFET-Based Converters. , 2020, , .		4

#	ARTICLE	IF	CITATIONS
19	Demonstration of a 10 kV SiC MOSFET based Medium Voltage Power Stack. , 2020, , .		15
20	Overview of Digital Design and Finite-Element Analysis in Modern Power Electronic Packaging. IEEE Transactions on Power Electronics, 2020, 35, 10892-10905.	7.9	28
21	Analysis of cascaded silicon carbide MOSFETs using a single gate driver for medium voltage applications. IET Power Electronics, 2020, 13, 413-419.	2.1	9
22	High-frequency resonant operation of an integrated medium-voltage SiC MOSFET power module. IET Power Electronics, 2020, 13, 475-482.	2.1	7
23	Three-level PN cell for multilevel converters. IET Power Electronics, 2020, 13, 324-331.	2.1	1
24	Parametric transformer using PM inductors with saturation gap. IET Power Electronics, 2020, 13, 4581-4591.	2.1	0
25	Daisy Chain PN Cell for Multilevel Converter using GaN for High Power Density. , 2020, , .		2
26	Identification of the Terminal-to-Core Couplings in Filter Inductors by Using Double-Pulse-Test Setup. , 2020, , .		2
27	A Fast-Switching Integrated Full-Bridge Power Module Based on GaN eHEMT Devices. IEEE Transactions on Power Electronics, 2019, 34, 2494-2504.	7.9	61
28	Modeling and Design of a 1.2 pF Common-Mode Capacitance Transformer for Powering MV SiC MOSFETs Gate Drivers. , 2019, , .		11
29	Thermal Characteristics and Simulation of an Integrated GaN eHEMT Power Module. , 2019, , .		9
30	Loss Prediction of Medium Voltage Power Modules: Trade-offs between Accuracy and Complexity. , 2019, , .		11
31	Design of a High-Power Resonant Converter for DC Wind Turbines. IEEE Transactions on Power Electronics, 2019, 34, 6136-6154.	7.9	18
32	A High-Power, Medium-Voltage, Series-Resonant Converter for DC Wind Turbines. IEEE Transactions on Power Electronics, 2018, 33, 7455-7465.	7.9	18
33	Analysis of a High-Power, Resonant DC-DC Converter for DC Wind Turbines. IEEE Transactions on Power Electronics, 2018, 33, 7438-7454.	7.9	30
34	Converter Monitoring Unit for Retrofit of Wind Power Converters. IEEE Transactions on Power Electronics, 2018, 33, 4342-4351.	7.9	15
35	Bidirectional Operation of High Efficiency Isolated DC-DC Converter in Fuel Cell Telecom Back-up Systems. , 2018, , .		1
36	Monitoring Performance Indicators of PEM Fuel Cell Backup Power Systems. , 2018, , .		2

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37	Converter monitoring in a wind turbine application. Microelectronics Reliability, 2018, 88-90, 1008-1013.	1.7	3
38	Influence of Paralleling Dies and Paralleling Half-Bridges on Transient Current Distribution in Multichip Power Modules. IEEE Transactions on Power Electronics, 2018, 33, 6483-6487.	7.9	68
39	IR Camera Validation of IGBT Junction Temperature Measurement via Peak Gate Current. IEEE Transactions on Power Electronics, 2017, 32, 3099-3111.	7.9	75
40	Short-Circuit Degradation of 10-kV 10-A SiC MOSFET. IEEE Transactions on Power Electronics, 2017, 32, 9342-9354.	7.9	59
41	A Novel High Bandwidth Current Control Strategy for SiC mosfet Based Active Front-End Rectifiers Under Unbalanced Input Voltage Conditions. IEEE Transactions on Industrial Electronics, 2017, 64, 8310-8320.	7.9	8
42	Reliability Improvement of Power Converters by Means of Condition Monitoring of IGBT Modules. IEEE Transactions on Power Electronics, 2017, 32, 7990-7997.	7.9	139
43	Vce as early indicator of IGBT module failure mode. , 2017, , .		12
44	Discontinuous interleaving of parallel inverters for efficiency improvement. , 2017, , .		3
45	Line reactor for parallel-interleaved high power inverters. , 2017, , .		6
46	Performance analysis of commercial MOSFET packages in Class E converter operating at 2.56 MHz. , 2017, , .		1
47	Lifetime prognostics of hybrid backup power system: State-of-the-art. , 2017, , .		1
48	Gate driver with high common mode rejection and self turn-on mitigation for a 10 kV SiC MOSFET enabled MV converter. , 2017, , .		36
49	Switching current imbalance mitigation in power modules with parallel connected SiC MOSFETs. , 2017, , .		16
50	Power cycling test of a 650 V discrete GaN-on-Si power device with a laminated packaging embedding technology. , 2017, , .		11
51	Common mode current mitigation for medium voltage half bridge SiC modules. , 2017, , .		22
52	A novel DBC layout for current imbalance mitigation in SiC MOSFET multichip power modules. , 2016, , .		4
53	Effects of auxiliary source connections in multichip power module. , 2016, , .		4
54	Unbalanced voltage compensation in low voltage residential AC grids. , 2016, , .		1

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55	Prediction of short-circuit-related thermal stress in aged IGBT modules. , 2016, , .		3
56	Performance assessment of commercial gallium nitride-on-silicon discrete power devices with figure of merit. , 2016, , .		3
57	Development of a class D resonant power converter for radio frequency heating. , 2016, , .		0
58	New layout concepts in MW-scale IGBT modules for higher robustness during normal and abnormal operations. , 2016, , .		8
59	Modelling and control of three-phase grid-connected power supply with small DC-link capacitor for electrolysers. , 2016, , .		2
60	Voltage unbalance compensation with smart three-phase loads. , 2016, , .		9
61	Condition monitoring of IGBT module for reliability improvement of power converters. , 2016, , .		16
62	Effects and analysis of minimum pulse width limitation on adaptive DC voltage control of grid converters. , 2016, , .		2
63	A Novel DBC Layout for Current Imbalance Mitigation in SiC MOSFET Multichip Power Modules. IEEE Transactions on Power Electronics, 2016, 31, 8042-8045.	7.9	81
64	Short-circuit characterization of 10 kV 10A 4H-SiC MOSFET. , 2016, , .		20
65	Half Size Reduction of DC Output Filter Inductors With the Saturation-Gap Magnetic Bias Topology. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 382-392.	5.4	11
66	IGBT Junction Temperature Measurement via Peak Gate Current. IEEE Transactions on Power Electronics, 2016, 31, 3784-3793.	7.9	115
67	Influences of Device and Circuit Mismatches on Paralleling Silicon Carbide MOSFETs. IEEE Transactions on Power Electronics, 2016, 31, 621-634.	7.9	204
68	Current measurement method for characterization of fast switching power semiconductors with Silicon Steel Current Transformer. , 2015, , .		22
69	Online junction temperature measurement using peak gate current. , 2015, , .		28
70	Characterisation of 10 kV 10 A SiC MOSFET. , 2015, , .		5
71	Triple pulse tester " Efficient power loss characterization of power modules. , 2015, , .		3
72	Switching speed limitations of high power IGBT modules. , 2015, , .		4

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73	Control of SiC based front-end rectifier under unbalanced supply voltage. , 2015, , .		2
74	High efficiency electrolyser power supply for household hydrogen production and storage systems. , 2015, , .		6
75	Effect of dead-time in interleaved PWM for two parallel-connected inverters. , 2015, , .		3
76	Online chip temperature monitoring using $\frac{V_{ce}}{I_{load}}$ current and IR thermography. , 2015, , .		3
77	On-state voltage drop based power limit detection of IGBT inverters. , 2015, , .		7
78	Ageing monitoring in IGBT module under sinusoidal loading. Microelectronics Reliability, 2015, 55, 1945-1949.	1.7	9
79	Analysis and modelling of circulating current in two parallel-connected inverters. IET Power Electronics, 2015, 8, 1273-1283.	2.1	55
80	Design of low impedance busbar for 10 kV, 100A 4H-SiC MOSFET short-circuit tester using axial capacitors. , 2015, , .		12
81	An RCDD snubber for a bidirectional flyback converter. , 2015, , .		3
82	Enhanced DC-Link Capacitor Voltage Balancing Control of DC-AC Multilevel Multileg Converters. IEEE Transactions on Industrial Electronics, 2015, 62, 2663-2672.	7.9	48
83	Voltage ripple compensation for grid connected electrolyser power supply using small DC link capacitor. , 2014, , .		5
84	Design, analysis and simulation of magnetic biased inductors with saturation-gap. , 2014, , .		5
85	Test setup for accelerated test of high power IGBT modules with online monitoring of V_{ce} and V_{df} voltage during converter operation. , 2014, , .		10
86	Circuit mismatch influence on performance of paralleling silicon carbide MOSFETs. , 2014, , .		35
87	SiC MOSFETs based split output half bridge inverter: Current commutation mechanism and efficiency analysis. , 2014, , .		13
88	Online junction temperature measurement via internal gate resistance during turn-on. , 2014, , .		33
89	Improving Power Converter Reliability: Online Monitoring of High-Power IGBT Modules. IEEE Industrial Electronics Magazine, 2014, 8, 40-50.	2.6	97
90	Detail study of SiC MOSFET switching characteristics. , 2014, , .		12

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91	Dynamic performance of grid converters using adaptive DC voltage control. , 2014, , .		1
92	Method for introducing bias magnetization in ungaped cores: “The Saturation-Cap”; , 2014, , .		5
93	5kW phase-shifted full-bridge converter with current doubler using normally-off SiC JFETs designed for 98% efficiency. , 2013, , .		4
94	A review on real time physical measurement techniques and their attempt to predict wear-out status of IGBT. , 2013, , .		61
95	Efficiency and cost comparison of Si IGBT and SiC JFET isolated DC/DC converters. , 2013, , .		8
96	Overmodulation of \$n\$-Level Three-Leg DCâ€AC Diode-Clamped Converters With Comprehensive Capacitor Voltage Balance. IEEE Transactions on Industrial Electronics, 2013, 60, 1872-1883.	7.9	39
97	Design of Neutral-Point Voltage Controller of a Three-Level NPC Inverter With Small DC-Link Capacitors. IEEE Transactions on Industrial Electronics, 2013, 60, 1861-1871.	7.9	150
98	An Active Damping Technique for Small DC-Link Capacitor Based Drive System. IEEE Transactions on Industrial Informatics, 2013, 9, 848-858.	11.3	85
99	Robust control of boost PFC converter using adaptive PLL for line synchronization. , 2013, , .		7
100	Efficiency and reliability improvement in wind turbine converters by grid converter adaptive control. , 2013, , .		4
101	Serializing off-the-shelf MOSFETs by magnetically coupling their gate electrodes. , 2013, , .		2
102	A real time V_{ce} measurement issues for high power IGBT module in converter operation. , 2013, , .		0
103	Innovative use of power integrated modules for DC power supplies. , 2013, , .		2
104	Simple DCM or CRM analog peak current controller for HV capacitor charge-discharge applications. , 2013, , .		1
105	High performance current controller for particle accelerator magnets supply. , 2013, , .		0
106	Online V_{ce} measurement method for wear-out monitoring of high power IGBT modules. , 2013, , .		79
107	EMI performance comparison of two-level and three-level inverters in small dc-link capacitors based motor drives. , 2012, , .		5
108	Neutral-point voltage dynamic model of three-level NPC inverter for reactive load. , 2012, , .		1

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109	Current-voltage model of LED light sources. , 2012, , .		2
110	Power Capability Investigation Based on Electrothermal Models of Press-Pack IGBT Three-Level NPC and ANPC VSCs for Multimegawatt Wind Turbines. IEEE Transactions on Power Electronics, 2012, 27, 3195-3206.	7.9	106
111	Effect of voltage sags on digitally controlled line connected switched-mode power supplies. , 2012, , .		1
112	Power density investigations for the large wind turbines' grid-side press-pack IGBT 3L-NPC-VSCs. , 2012, , .		6
113	Steady-state analysis of dead-time effect on bidirectional buck converters. , 2012, , .		4
114	Energy harvesting cycles of Dielectric ElectroActive Polymer Generators. , 2012, , .		2
115	A carrier-based approach for overmodulation of three-level neutral-point-clamped inverter with zero neutral-point current. , 2012, , .		5
116	Neutral-point current modeling and control for Neutral-Point Clamped three-level converter drive with small DC-link capacitors. , 2011, , .		16
117	Converter Structure-Based Power Loss and Static Thermal Modeling of The Press-Pack IGBT Three-Level ANPC VSC Applied to Multi-MW Wind Turbines. IEEE Transactions on Industry Applications, 2011, 47, 2505-2515.	4.9	53
118	High output LED-based profile lighting fixture. , 2011, , .		6
119	Power density investigation on the press-pack IGBT 3L-HB-VSCs applied to large. , 2011, , .		5
120	A new modular multilevel converter with integrated energy storage. , 2011, , .		103
121	Digital fuzzy logic and PI control of phase-shifted full-bridge current-doubler converter. , 2011, , .		5
122	Innovative measuring system for wear-out indication of high power IGBT modules. , 2011, , .		33
123	Closed loop control of active damped small DC-link capacitor based drive. , 2010, , .		10
124	Converter structure-based power loss and static thermal modeling of the press-pack IGBT-based three-level ANPC and HB VSCs applied to Multi-MW wind turbines. , 2010, , .		6
125	Led spectral and power characteristics under hybrid PWM/AM dimming strategy. , 2010, , .		38
126	A single leg switched PWM method for three-phase H-Bridge Voltage Source Converters. , 2009, , .		1

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127	Comparative study on paralleled vs. scaled dc-dc converters in high voltage gain applications. , 2008, , .		20
128	A single switch dual output non-isolated boost converter. IEEE Applied Power Electronics Conference and Exposition, 2008, , .	0.0	8
129	Multilevel converters for UPS applications: comparison and implementation.. , 2007, , .		13
130	50 W Resonant SMPS with coreless transformer for AM radio application. , 0, , .		3