

Khurram Afridi

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Design of High-Efficiency Matching Networks for Capacitive Wireless Power Transfer Systems. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 104-127.	5.4	37
2	High-Performance Multi-MHz Capacitive Wireless Power Transfer System for EV Charging Utilizing Interleaved-Foil Coupled Inductors. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 35-51.	5.4	48
3	Performance Enhancement of ICN-Based Single-Stage AC-DC Converters Using Reconfigurable Inverters. IEEE Transactions on Power Electronics, 2022, 37, 8217-8231.	7.9	3
4	The future of electric vehicle charging infrastructure. Nature Electronics, 2022, 5, 62-64.	26.0	5
5	A High-Power-Density High-Efficiency Soft-Switched Single-Phase Universal Input to 28-V Isolated AC-DC Converter Module Designed for Paralleled Operation. IEEE Transactions on Power Electronics, 2022, 37, 8262-8280.	7.9	5
6	Feedforward-Enhanced Feedback Control of Output Voltage of a GaN-Based High-Power-Density Single-Phase Transformer-Less Online UPS. , 2022, , .		3
7	Composite Hybrid Energy Storage System utilizing Capacitive Coupling for Hybrid and Electric Vehicles. , 2021, , .		3
8	Comparison of Large Air-Gap Inductive and Capacitive Wireless Power Transfer Systems. , 2021, , .		7
9	Optimized Design of High-Efficiency Immittance Matching Networks for Capacitive Wireless Power Transfer Systems. , 2021, , .		3
10	An Impedance Control Network based Single-Stage Universal-Input Isolated AC-DC Converter Utilizing Reconfigurable Inverters. , 2021, , .		6
11	A Large Air-Gap Multi-MHz Capacitive Wireless Power Transfer System Using Compact Charging Pads. , 2021, , .		10
12	A Single-Stage Isolated AC-DC Converter Based on the Impedance Control Network Architecture. IEEE Transactions on Power Electronics, 2021, 36, 10366-10382.	7.9	18
13	Beam power scale-up in micro-electromechanical systems based multi-beam ion accelerators. Review of Scientific Instruments, 2021, 92, 103301.	1.3	7
14	A New Approach to Steady-State Modeling, Analysis, and Design of Power Converters. IEEE Transactions on Power Electronics, 2021, 36, 12746-12768.	7.9	5
15	GaN-Based High-Power-Density AC-DC-AC Converter for Single-Phase Transformerless Online Uninterruptible Power Supply. IEEE Transactions on Power Electronics, 2021, 36, 13968-13984.	7.9	36
16	Control Strategies for Complete Soft-Switching of ICN Converters. , 2021, , .		4
17	Roadway Embeddable Multi-MHz Capacitive Wireless Charging System with Matching Network Realized using Wiring Parasitics. , 2021, , .		1
18	A Variable Compensation Inverter Rectifier (VCIR) based Approach to Compensate for Coupling Variations in Wireless Power Transfer Systems. , 2021, , .		0

#	ARTICLE	IF	CITATIONS
19	Control Techniques for a Current-Mode-Controlled Merged-Energy-Buffer-based Two-Stage Electrolytic-Free Offline LED Driver. , 2021, , .		0
20	Broadly-Applicable Accurate Analytical Steady-State Model for Class-E Inverters. , 2021, , .		7
21	An Active Voltage Balancing Strategy for Stacked-Inverter ICN Converters. , 2021, , .		0
22	Active Variable Reactance Rectifierâ€™A New Approach to Compensating for Coupling Variations in Wireless Power Transfer Systems. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 2022-2040.	5.4	28
23	A 3.75-kW High-Power-Transfer-Density Capacitive Wireless Charging System for EVs Utilizing Toroidal-Interleaved-Foil Coupled Inductors. , 2020, , .		13
24	High-Performance Single-Stage Universal-Input Isolated AC-DC Converter Utilizing an Impedance Control Network. , 2020, , .		7
25	A 27.12-MHz 10-kV Power Amplifier for Compact Particle Accelerators Utilizing an Optimized. , 2020, , .		3
26	Energy Density Enhancement of a Merged-Energy-Buffer-based Two-Stage AC-DC Converter. , 2020, , .		2
27	Challenges and Solutions to Passive Rectification in Multi-MHz Frequency Capacitive Wireless Power Transfer Systems for Electric Vehicle Charging. , 2020, , .		8
28	Reduced-Fringing-Field Multi-MHz Capacitive Wireless Power Transfer System Utilizing a Metasurface-based Coupler. , 2020, , .		9
29	Multi-MHz Multi-kV Power Amplifier for Compact Particle Accelerators. , 2020, , .		2
30	High-Performance Megahertz-Frequency Resonant DCâ€™DC Converter for Automotive LED Driver Applications. IEEE Transactions on Power Electronics, 2020, 35, 10396-10412.	7.9	24
31	A 50-MHz Multi-kV Power Amplifier for Ion-Beam Accelerator Utilizing an Optimized Toroidal Inductor. , 2020, , .		9
32	Control Strategy and Energy Density Enhancement Methodology for Merged Energy Buffer-based AC-DC Converters. , 2020, , .		1
33	Power Factor Enhancement of a Soft-Switched Common-Neutral Single-DC-Bus Power Converter. , 2020, , .		4
34	Theoretical Limits of Power Transfer in Capacitive Wireless Charging Systems. , 2020, , .		7
35	Closed-loop Control of a Dynamic Capacitive Wireless Power Transfer System. , 2019, , .		4
36	High-Efficiency High-Power-Transfer-Density Capacitive Wireless Power Transfer System for Electric Vehicle Charging Utilizing Semi-Toroidal Interleaved-Foil Coupled Inductors. , 2019, , .		23

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37	A High-Power-Density Electrolytic-Free Offline LED Driver Utilizing a Merged Energy Buffer Architecture. , 2019, , .		8
38	Control of a Merged-Energy-Buffer based Two-Stage Electrolytic-Free Offline LED Driver. , 2019, , .		6
39	A New Design Approach to Mitigating the Effect of Parasitics in Capacitive Wireless Power Transfer Systems for Electric Vehicle Charging. IEEE Transactions on Transportation Electrification, 2019, 5, 1040-1059.	7.8	79
40	Control of a GaN-Based High-Power-Density Single-Phase Online Uninterruptible Power Supply. , 2019, , .		6
41	E-Mobility " Advances and Challenges. IEEE Access, 2019, 7, 165226-165240.	4.2	45
42	High-Power-Density GaN-Based Single-Phase Online Uninterruptible Power Supply. , 2019, , .		2
43	A Multi-MHz Large Air-gap Capacitive Wireless Power Transfer System Utilizing an Active Variable Reactance Rectifier Suitable for Dynamic Electric Vehicle Charging. , 2019, , .		3
44	Closed-Loop Control of LCL-T Resonant DC-DC Converter Operating as Automotive LED Driver. , 2019, , .		5
45	Power Density and Efficiency Enhancement in ICN DC-DC Converters Using Topology Morphing Control. IEEE Transactions on Power Electronics, 2019, 34, 1881-1900.	7.9	12
46	Improved design optimization of efficient matching networks for capacitive wireless power transfer systems. , 2018, , .		15
47	Step-Down Impedance Control Network Resonant DC-DC Converter Utilizing an Enhanced Phase-Shift Control for Wide-Input-Range Operation. IEEE Transactions on Industry Applications, 2018, 54, 4523-4536.	4.9	26
48	Design and Evaluation of a Reconfigurable Stacked Active Bridge DC-DC Converter for Efficient Wide Load Range Operation. IEEE Transactions on Power Electronics, 2018, 33, 10428-10448.	7.9	18
49	A high-frequency inverter architecture for providing variable compensation in wireless power transfer systems. , 2018, , .		23
50	A Compact Electrolytic-Free Two-Stage Universal Input Offline LED Driver With Volume-Optimized SSC Energy Buffer. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2018, 6, 1116-1130.	5.4	20
51	GaN-Based High-Power-Density Electrolytic-Free Universal Input LED Driver. IEEE Transactions on Industry Applications, 2018, 54, 3890-3901.	4.9	19
52	Improved Design Optimization for High-Efficiency Matching Networks. IEEE Transactions on Power Electronics, 2018, 33, 37-50.	7.9	42
53	A Step-Superposition-Based Analysis Approach to Modeling Resonant Converters. IEEE Transactions on Power Electronics, 2018, 33, 7148-7165.	7.9	6
54	High-Performance Single-Stage Isolated 48V-to-1.8V Point-of-Load Converter Utilizing Impedance Control Network and Distributed Transformer. , 2018, , .		7

#	ARTICLE	IF	CITATIONS
55	High-Performance Capacitive Wireless Power Transfer System for Electric Vehicle Charging with Enhanced Coupling Plate Design. , 2018, , .		32
56	A High-Power-Density High-Efficiency Three-Level Buck Converter for Cellphone Battery Charging Applications. , 2018, , .		6
57	Multimode Topology Morphing Control of Impedance Control Network Resonant DC-DC Converters. , 2018, , .		0
58	Impact of Foreign Objects on the Performance of Capacitive Wireless Charging Systems for Electric Vehicles. , 2018, , .		9
59	A High-Frequency LCLC Network Based Resonant DC-DC Converter for Automotive LED Driver Applications. , 2018, , .		6
60	High-Performance 13.56-MHz Large Air-Gap Capacitive Wireless Power Transfer System for Electric Vehicle Charging. , 2018, , .		43
61	Kilowatt-scale large air-gap multi-modular capacitive wireless power transfer system for electric vehicle charging. , 2018, , .		41
62	Multitrack Power Conversion Architecture. IEEE Transactions on Power Electronics, 2017, 32, 325-340.	7.9	54
63	A control architecture for low current distortion in bridgeless boost power factor correction rectifiers. , 2017, , .		6
64	High-frequency ZVS Ąuk converter for automotive LED driver applications using planar integrated magnetics. , 2017, , .		9
65	High-Efficiency Impedance Control Network Resonant DCĀDC Converter With Optimized Startup Control. IEEE Transactions on Industry Applications, 2017, 53, 3880-3889.	4.9	13
66	Multi-objective optimization of capacitive wireless power transfer systems for electric vehicle charging. , 2017, , .		21
67	High-performance large air-gap capacitive wireless power transfer system for electric vehicle charging. , 2017, , .		53
68	Energy Density Enhancement of Stacked Switched Capacitor Energy Buffers Through Capacitance Ratio Optimization. IEEE Transactions on Power Electronics, 2017, 32, 6363-6380.	7.9	25
69	High-power-transfer-density capacitive wireless power transfer system for electric vehicle charging. , 2017, , .		52
70	GaN-based high-power-density electrolytic-free universal input LED driver. , 2017, , .		8
71	Closed-loop control of impedance control network resonant DC-DC converter. , 2017, , .		1
72	Single-stage isolated 48V-to-1.8V point-of-load converter utilizing an impedance control network and integrated magnetic structures. , 2017, , .		16

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73	Capacitive wireless powering for electric vehicles with near-field phased arrays. , 2017, , .		7
74	Active variable reactance rectifier â€” A new approach to compensating for coupling variations in wireless power transfer systems. , 2017, , .		20
75	Single-stage isolated 48V-to-1.8V point-of-load converter utilizing an impedance control network for wide input range operation. , 2017, , .		7
76	A very-high-power-transfer-density GaN-based capacitive wireless power transfer system. , 2017, , .		21
77	Applicability and limitations of an M2Spice-assisted â€œplanar-magnetics-in-the-circuitâ€•simulation approach. , 2016, , .		4
78	Improved design optimization approach for high efficiency matching networks. , 2016, , .		5
79	High power density impedance control network DC-DC converter utilizing an integrated magnetic structure. , 2016, , .		13
80	Step-down impedance control network resonant DC-DC converter utilizing an enhanced phase-shift control for wide-input-range operation. , 2016, , .		6
81	Design tradeoffs in a multi-modular capacitive wireless power transfer system. , 2016, , .		31
82	New design methodology for megahertz-frequency resonant dc-dc converters using impedance control network architecture. , 2016, , .		9
83	A high power density single-phase inverter using stacked switched capacitor energy buffer. , 2016, , .		13
84	Power density and efficiency enhancement in impedance control network resonant DC-DC converters using topology morphing control. , 2016, , .		7
85	Design of efficient matching networks for capacitive wireless power transfer systems. , 2016, , .		44
86	Near-field capacitive wireless power transfer array with external field cancellation. , 2016, , .		31
87	A compact electrolytic-free two-stage universal input offline LED driver. , 2016, , .		8
88	Variable Frequency Multiplier Technique for High-Efficiency Conversion Over a Wide Operating Range. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2016, 4, 335-343.	5.4	71
89	A Systematic Approach to Modeling Impedances and Current Distribution in Planar Magnetics. IEEE Transactions on Power Electronics, 2016, 31, 560-580.	7.9	83
90	A step-superposition based analysis approach to modeling resonant converters. , 2015, , .		6

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91	Impedance control network resonant step-down DC-DC converter architecture. , 2015, , .		19
92	Megahertz-frequency isolated resonant dc-dc converter using impedance control network for high-efficiency wide-range operation. , 2015, , .		13
93	Impedance Control Network Resonant dc-dc Converter for Wide-Range High-Efficiency Operation. IEEE Transactions on Power Electronics, 2015, , 1-1.	7.9	46
94	Improved capacitance ratio optimization methodology for stacked switched capacitor energy buffers. , 2015, , .		10
95	Investigation of power transfer density enhancement in large air-gap capacitive wireless power transfer systems. , 2015, , .		79
96	Impedance control network resonant dc-dc converter for wide-range high-efficiency operation. , 2015, , .		12
97	Design of Class E Resonant Rectifiers and Diode Evaluation for VHF Power Conversion. IEEE Transactions on Power Electronics, 2015, 30, 4960-4972.	7.9	55
98	High efficiency impedance control network resonant DC-DC converter with optimized startup control. , 2015, , .		10
99	High power transfer density and high efficiency 100 MHz capacitive wireless power transfer system. , 2015, , .		19
100	Enhanced-accuracy augmented state-space approach to steady-state modeling of resonant converters. , 2015, , .		12
101	A Multilevel Energy Buffer and Voltage Modulator for Grid-Interfaced Microinverters. IEEE Transactions on Power Electronics, 2015, 30, 1203-1219.	7.9	33
102	Design of Class E resonant rectifiers and diode evaluation for VHF power conversion. , 2014, , .		5
103	High Efficiency Resonant DC/DC Converter Utilizing a Resistance Compression Network. IEEE Transactions on Power Electronics, 2014, 29, 4126-4135.	7.9	54
104	Energy density enhancement of unipolar SSC energy buffers through capacitance ratio optimization. , 2014, , .		11
105	Enhanced Bipolar Stacked Switched Capacitor Energy Buffers. IEEE Transactions on Industry Applications, 2014, 50, 1141-1149.	4.9	28
106	An electrolytic-free offline LED driver with a ceramic-capacitor-based compact SSC energy buffer. , 2014, , .		19
107	Design of resistive-input class E resonant rectifiers for variable-power operation. , 2013, , .		11
108	Methodology for the optimal design of PEV charging systems with multiple chargers and distributed resources. , 2013, , .		1

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109	Optimal Design of Grid-Connected PEV Charging Systems With Integrated Distributed Resources. IEEE Transactions on Smart Grid, 2013, 4, 956-967.	9.0	47
110	Stacked Switched Capacitor Energy Buffer Architecture. IEEE Transactions on Power Electronics, 2013, 28, 5183-5195.	7.9	89
111	A multilevel energy buffer and voltage modulator for grid-interfaced micro-inverters. , 2013, , .		11
112	High efficiency resonant dc/dc converter utilizing a resistance compression network. , 2013, , .		11
113	Enhanced bipolar Stacked Switched Capacitor energy buffers. , 2012, , .		5
114	Stacked switched capacitor energy buffer architecture. , 2012, , .		3
115	Optimal design of grid-interfaced EV chargers with integrated generation. , 2012, , .		7
116	An empirical analysis of the hydropower portfolio in Pakistan. Energy Policy, 2012, 50, 228-241.	8.8	32