Kai Sun

List of Publications by Year in Descending Order

130 papers	4,325 citations	27 h-index	64 g-index
168 ext. papers	5,587 ext. citations	6.3 avg, IF	5.91 L-index

#	Paper	IF	Citations
130	Lithium-ion batteries under pulsed current operation to stabilize future grids. *Cell Reports Physical Science*, **2022**, 3, 100708	6.1	5
129	. *IEEE Transactions on Power Electronics*, **2022**, 37, 920-931	7.2	3
128	Bridge-to-Bridge Independent Control Method for Dual-Active-Bridge Interlinking Converter. *IEEE Transactions on Power Electronics*, **2022**, 1-1	7.2	
127	Priority-driven Self-optimizing Power Control Scheme for Interlinking Converters of Hybrid AC/DC Microgrid Clusters in Decentralized Manner. *IEEE Transactions on Power Electronics*, **2021**, 1-1	7.2	3
126	A Hybrid Compensation Scheme for the Gate Drive Delay in CLLC Converters. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2021**, 9, 1119-1132	5.6	3
125	Multilevel Energy Management of a DC Microgrid Based on Virtual-Battery Model Considering Voltage Regulation and Economic Optimization. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2021**, 9, 2881-2895	5.6	3
124	. *IEEE Transactions on Smart Grid*, **2021**, 12, 141-156	10.7	8
123	Model Predictive Power Control of Grid-Connected Quasi Single-Stage Converters for High-Efficiency Low-Voltage ESS Integration. *IEEE Transactions on Industrial Electronics*, **2021**, 1-1	8.9	3
122	A Battery Charging Method with Natural Synchronous Rectification Features for Full-bridge CLLC Converters. *IEEE Transactions on Power Electronics*, **2021**, 1-1	7.2	5
121	Multi-Port DC-AC Converter with Differential Power Processing DC-DC Converter and Flexible Power Control for Battery ESS Integrated PV Systems. *IEEE Transactions on Industrial Electronics*, **2021**, 1-1	8.9	5
120	Design and Optimization of the Insulation of Medium-voltage Medium-frequency Transformers for Solid-state Transformers. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2021**, 1-1	5.6	3
119	A Constant Current Control Method with Improved Dynamic Performance for CLLC Converters. *IEEE Transactions on Power Electronics*, **2021**, 1-1	7.2	3
118	Parameter Identification of the Series Inductance in DAB Converters. *IEEE Transactions on Power Electronics*, **2021**, 36, 7395-7399	7.2	7
117	Virtual SVPWM-Based Flexible Power Control for Dual-DC-Port DCAC Converters in PVBattery Hybrid Systems. *IEEE Transactions on Power Electronics*, **2021**, 36, 11431-11443	7.2	7
116	Hybrid Connected Unified Power Quality Conditioner Integrating Distributed Generation With Reduced Power Capacity and Enhanced Conversion Efficiency. *IEEE Transactions on Industrial Electronics*, **2021**, 68, 12340-12352	8.9	6
115	An Improved Decentralized Control of Cascaded Inverters with Robust Stability against Grid-Voltage Variation. *IEEE Transactions on Energy Conversion*, **2021**, 1-1	5.4	1
114	A Neural Network-Based Power Control Method for Direct-Drive Wave Energy Converters in Irregular Waves. *IEEE Transactions on Sustainable Energy*, **2020**, 11, 2962-2971	8.2	5

113	Optimization of Cell Voltage and Circulating Current With Zero-Mean Current Command Injection in Modular Multilevel Converters. *IEEE Transactions on Industrial Electronics*, **2020**, 67, 9429-9438	8.9	1
112	. *IEEE Transactions on Smart Grid*, **2020**, 11, 2816-2831	10.7	3
111	Quasi-Two-Stage Multifunctional Photovoltaic Inverter With Power Quality Control and Enhanced Conversion Efficiency. *IEEE Transactions on Power Electronics*, **2020**, 35, 7073-7085	7.2	12
110	Discontinuous Bi-tri Logic SPWM for Current Source Converter with Optimized Zero-state Replacement **2020**,		7
109	Modulation Induced Current Imbalance and Its Sensorless Control of a GaN-Based Four-Phase DCDC Power Amplifier. *IEEE Transactions on Industrial Electronics*, **2020**, 67, 1520-1531	8.9	3
108	A Unified State-Space Modeling Method for a Phase-Shift Controlled Bidirectional Dual-Active Half-Bridge Converter. *IEEE Transactions on Power Electronics*, **2020**, 35, 3254-3265	7.2	16
107	Impact on ZVS Operation by Splitting Inductance to Both Sides of Transformer for 1-MHz GaN Based DAB Converter. *IEEE Transactions on Power Electronics*, **2020**, 35, 11988-12002	7.2	14
106	Topologies for Reduction of Second Harmonic Ripple in Battery Energy Storage Systems **2019**,		1
105	Bi-Directional Grid-Connected Modular Multilevel Converters With Direct Digital Control and D- Processes. *IEEE Transactions on Power Electronics*, **2019**, 34, 11290-11299	7.2	1
104	Adaptive protection combined with machine learning for microgrids. *IET Generation, Transmission and Distribution*, **2019**, 13, 770-779	2.5	56
103	Analysis and Control of Three-Phase Modular Multilevel Converters Under the Single Arm Fault Condition. *IEEE Transactions on Power Electronics*, **2019**, 34, 8293-8298	7.2	11
102	A Non-Segmented PSpice Model of SiC mosfet With Temperature-Dependent Parameters. *IEEE Transactions on Power Electronics*, **2019**, 34, 4603-4612	7.2	27
101	Dual-Voltage-Rectifier-Based Single-Phase ACDC Converters With Dual DC Bus and Voltage-Sigma Architecture for Variable DC Output Applications. *IEEE Transactions on Power Electronics*, **2019**, 34, 4208-4222	7.2	3
100	A High Efficiency Quasi-Single-Stage Unified Power Quality Conditioner Integrating Distributed Generation **2019**,		1
99	A Temperature-dependent PSpice Short-circuit Model of SiC MOSFET **2019**,		3
98	Space Vector Modulation Method for Simultaneous Common Mode Voltage and Circulating Current Reduction in Parallel Three-Level Inverters. *IEEE Transactions on Power Electronics*, **2019**, 34, 3053-3066	7.2	22
97	A Flexible Power Control for PV-Battery Hybrid System Using Cascaded H-Bridge Converters. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2019**, 7, 2184-2195	5.6	18
96	A Three-Port Converter Based Distributed DC Grid Connected PV System With Autonomous Output Voltage Sharing Control. *IEEE Transactions on Power Electronics*, **2019**, 34, 325-339	7.2	30

95	A Distributed Power Control of Series-Connected Module-Integrated Inverters for PV Grid-Tied Applications. *IEEE Transactions on Power Electronics*, **2018**, 33, 7698-7707	7.2	40
94	Active Power Oscillation Cancelation With Peak Current Sharing in Parallel Interfacing Converters Under Unbalanced Voltage. *IEEE Transactions on Power Electronics*, **2018**, 33, 10200-10214	7.2	11
93	Three-Level Bidirectional DCDC Converter With an Auxiliary Inductor in Adaptive Working Mode for Full-Operation Zero-Voltage Switching. *IEEE Transactions on Power Electronics*, **2018**, 33, 8537-8552	7.2	15
92	Analysis and design of enhanced DFT-based controller for selective harmonic compensation in active power filters **2018**,		2
91	A Capacitor Voltage Balancing Control Method for Five-Level Full-Bridge Grid-Tied Inverters Without Split-Capacitor Voltage Sampling. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2018**, 6, 2042-2052	5.6	8
90	Parallel Three-Phase Interfacing Converters Operation Under Unbalanced Voltage in Hybrid AC/DC Microgrid. *IEEE Transactions on Smart Grid*, **2018**, 9, 1310-1322	10.7	22
89	Active Power Quality Improvement Strategy for Grid-Connected Microgrid Based on Hierarchical Control. *IEEE Transactions on Smart Grid*, **2018**, 9, 3486-3495	10.7	27
88	. *IEEE Transactions on Industrial Electronics*, **2018**, 65, 699-708	8.9	21
87	Modeling and Decoupled Control of a BuckBoost and Stacked Dual Half-Bridge Integrated Bidirectional DCDC Converter. *IEEE Transactions on Power Electronics*, **2018**, 33, 3534-3551	7.2	11
86	An Improved Modulation Scheme of Current-Fed Bidirectional DCDC Converters For Loss Reduction. *IEEE Transactions on Power Electronics*, **2018**, 33, 4441-4457	7.2	39
85	Two-stage transformerless dual-buck PV grid-connected inverters with high efficiency. *Chinese Journal of Electrical Engineering*, **2018**, 4, 36-42	4	11
84	Improved Modulation Mechanism of Parallel-Operated T-Type Three-Level PWM Rectifiers for Neutral-Point Potential Balancing and Circulating Current Suppression. *IEEE Transactions on Power Electronics*, **2018**, 33, 7466-7479	7.2	39
83	A Hybrid Control Strategy to Support Voltage in Industrial Active Distribution Networks. *IEEE Transactions on Power Delivery*, **2018**, 33, 2590-2602	4.3	4
82	A Multi-Port Bidirectional Power Conversion System for Reversible Solid Oxide Fuel Cell Applications **2018**,		5
81	Comparison of High Power DC-DC Converters for Photovoltaic Generation Integrated into Medium Voltage DC Grids **2018**,		1
80	Unified state-space modeling method for dual-active-bridge converters considering bidirectional phase shift **2018**,		2
79	Distributed autonomous voltage balancing control for a modular IPOS DC grid-connected renewable power system **2018**,		5
78	A phase-shift-based synchronous rectification scheme for bi-directional high-step-down CLLC resonant converters **2018**,		8

77	. *IEEE Transactions on Power Electronics*, **2017**, 32, 3128-3142	7.2	62
76	Parallel Operation of Bidirectional Interfacing Converters in a Hybrid AC/DC Microgrid Under Unbalanced Grid Voltage Conditions. *IEEE Transactions on Power Electronics*, **2017**, 32, 1872-1884	7.2	64
75	. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2017**, 5, 995-1007	5.6	35
74	A three-port converter based DC grid-connected PV system with autonomous output voltage sharing control **2017**,		5
73	Three-level dual active bridge with auxiliary inductor for wide zero voltage switching for energy storage system in DC microgrid **2017**,		1
72	A photovoltaic generation system based on wide voltage-gain DC-DC converter and differential power processors for DC microgrids. *Chinese Journal of Electrical Engineering*, **2017**, 3, 84-95	4	21
71	Instantaneous power calculation based on intrinsic frequency of single-phase virtual synchronous generator. *Journal of Modern Power Systems and Clean Energy*, **2017**, 5, 970-978	4	3
70	Generation and demand scheduling for a grid-connected hybrid microgrid considering price-based incentives **2017**,		6
69	PCC voltage power quality restoring strategy based on the droop controlled grid-connecting microgrid. *Journal of Engineering*, **2017**, 2017, 1399-1403	0.7	4
68	A non-segmented PSpice model of SiC MOSFETs **2017**,		2
67	Studies on the clustered voltage balancing mechanism for cascaded H-bridge STATCOM **2016**,		6
66	Improved ZVS Three-Level DCDC Converter With Reduced Circulating Loss. *IEEE Transactions on Power Electronics*, **2016**, 31, 6394-6404	7.2	23
65	A systematic topology generation method for dual-buck inverters **2016**,		6
64	Three level DC-DC converter based on cascaded dual half-bridge converter for circulating loss reduction **2016**,		3
63	Cost effective capacitor voltage balancing control for five-level grid-tied inverters **2016**,		2
62	Impedance-based stability analysis of single-phase inverter connected to weak grid with voltage feed-forward control **2016**,		8
61	Performance evaluation of a non-isolated bidirectional three-port power converter for energy storage applications **2016**,		5
60	A crossed pack-to-cell equalizer based on quasi-resonant LC converter with adaptive fuzzy logic equalization control for series-connected lithium-ion battery strings **2015**,		18

59	A grid-tied photovoltaic generation system based on series-connected module integrated inverters with adjustable power factor **2015**,		11
58	A harmonic current suppression control strategy for droop-controlled inverter connected to the distorted grid **2015**,		3
57	A High Step-Down Multiple Output Converter With Wide Input Voltage Range Based on Quasi Two-Stage Architecture and Dual-Output LLC Resonant Converter. *IEEE Transactions on Power Electronics*, **2015**, 30, 1793-1796	7.2	31
56	Double-Quadrant State-of-Charge-Based Droop Control Method for Distributed Energy Storage Systems in Autonomous DC Microgrids. *IEEE Transactions on Smart Grid*, **2015**, 6, 147-157	10.7	198
55	A PV generation system based on centralized-distributed structure and cascaded power balancing mechanism for DC microgrids **2015**,		2
54	Parallel operation of bi-directional interfacing converters in a hybrid AC/DC microgrid under unbalanced grid conditions **2015**,		5
53	A SiC-based T-type three-phase three-level gridtied inverter **2015**,		5
52	. *IEEE Transactions on Power Electronics*, **2015**, 1-1	7.2	31
51	. *IEEE Transactions on Industrial Electronics*, **2014**, 61, 2804-2815	8.9	430
50	Improved Modeling of Medium Voltage SiC MOSFET Within Wide Temperature Range. *IEEE Transactions on Power Electronics*, **2014**, 29, 2229-2237	7.2	75
49	Droop-control-based state-of-charge balancing method for charging and discharging process in autonomous DC microgrids **2014**,		12
48	A System-Level Control Strategy of Photovoltaic Grid-Tied Generation Systems for European Efficiency Enhancement. *IEEE Transactions on Power Electronics*, **2014**, 29, 3445-3453	7.2	34
47	A full-bridge three-port converter for renewable energy application **2014**,		14
46	Evaluation of Power Conditioning Architectures for Energy Production Enhancement in Thermoelectric Generator Systems. *Journal of Electronic Materials*, **2014**, 43, 1567-1573	1.9	5
45	A Power Conditioning Stage Based on Analog-Circuit MPPT Control and a Superbuck Converter for Thermoelectric Generators in Spacecraft Power Systems. *Journal of Electronic Materials*, **2014**, 43, 2287-2292	1.9	6
44	Virtual impedance based stability improvement for DC microgrids with constant power loads **2014**,		15
43	A specific analysis model of three-level NPC inverter fed adjustable speed drive system with high accuracy **2014**,		3
42	Capacitor voltage balancing of a three-level bi-directional buck-boost converter for battery energy storage system **2014**,		5

41	H6 Transformerless Full-Bridge PV Grid-Tied Inverters. *IEEE Transactions on Power Electronics*, **2014**, 29, 1229-1238	7.2	233
40	An Improved Droop Control Method for DC Microgrids Based on Low Bandwidth Communication With DC Bus Voltage Restoration and Enhanced Current Sharing Accuracy. *IEEE Transactions on Power Electronics*, **2014**, 29, 1800-1812	7.2	582
39	. *IEEE Transactions on Smart Grid*, **2014**, 5, 683-692	10.7	252
38	A TEG Efficiency Booster with BuckBoost Conversion. *Journal of Electronic Materials*, **2013**, 42, 1737-1744	1.9	11
37	An optimized common mode voltage reduction PWM strategy for T-type three phase three level photovoltaic grid-tied inverter **2013**,		5
36	Topology Derivation of Nonisolated Three-Port DCDC Converters From DIC and DOC. *IEEE Transactions on Power Electronics*, **2013**, 28, 3297-3307	7.2	146
35	Distributed secondary control for dc microgrid applications with enhanced current sharing accuracy **2013**,		4
34	A Family of Neutral Point Clamped Full-Bridge Topologies for Transformerless Photovoltaic Grid-Tied Inverters. *IEEE Transactions on Power Electronics*, **2013**, 28, 730-739	7.2	212
33	Evaluation of High Step-Up Power Electronics Stages in Thermoelectric Generator Systems. *Journal of Electronic Materials*, **2013**, 42, 2157-2164	1.9	5
32	Hybrid centralized-distributed power conditioning system for thermoelectric generator with high energy efficiency **2013**,		4
31	Online Identification of Permanent Magnet Flux Based on Extended Kalman Filter for IPMSM Drive With Position Sensorless Control. *IEEE Transactions on Industrial Electronics*, **2012**, 59, 4169-4178	8.9	169
30	A high efficiency step-up DC-DC converter for thermoelectric generator with wide input voltage range **2012**,		5
29	SoC-based dynamic power sharing method with AC-bus voltage restoration for microgrid applications **2012**,		22
28	SoC-based droop method for distributed energy storage in DC microgrid applications **2012**,		43
27	Resonance propagation of parallel-operated DC-AC converters with LCL filters **2012**,		8
26	Full-Bridge Three-Port Converters With Wide Input Voltage Range for Renewable Power Systems. *IEEE Transactions on Power Electronics*, **2012**, 27, 3965-3974	7.2	98
25	A Thermoelectric Generation System and Its Power Electronics Stage. *Journal of Electronic Materials*, **2012**, 41, 1043-1050	1.9	22
24	A transformation method from conventional three phases full-bridge topology to conergy NPC topology **2011**,		7

23	. *IEEE Transactions on Power Electronics*, **2011**, 26, 3032-3045	7.2	396
22	A Modular Grid-Connected Photovoltaic Generation System Based on DC Bus. *IEEE Transactions on Power Electronics*, **2011**, 26, 523-531	7.2	174
21	Power control of DC microgrid using DC bus signaling **2011**,		40
20	A family of non-isolated three-port converters for stand-alone renewable power system **2011**,		3
19	A three-port half-bridge converter with synchronous rectification for renewable energy application **2011**,		10
18	Control of parallel-connected bidirectional AC-DC converters in stationary frame for microgrid application **2011**,		16
17	Permanent magnet flux identification of IPMSM based on EKF with speed sensorless control **2010**,		1
16	An Overmodulation Method for PWM-Inverter-Fed IPMSM Drive With Single Current Sensor. *IEEE Transactions on Industrial Electronics*, **2010**, 57, 3395-3404	8.9	57
15	Single current sensor control for PWM inverter fed AC motor drives under over-modulation mode **2009**,		1
14	Analysis and control of input power factor in indirect matrix converter **2009**,		14
13	High efficiency hybrid cascade inverter for photovoltaic generation **2009**,		3
12	Control strategy of PMSM drive in high speed operation for air-condition compressor **2008**,		2
11	RB-IGBT gate drive circuit and its application in two-stage matrix converter. *IEEE Applied Power Electronics Conference and Exposition*, **2008**,		6
10	A Novel Commutation Method of Matrix Converter Fed Induction Motor Drive Using RB-IGBT. *IEEE Transactions on Industry Applications*, **2007**, 43, 777-786	4.3	22
9	An Improved Matrix Converter Fed Induction Motor Vector Control Drive with Output Voltage Error Cancellation. *IEEE Applied Power Electronics Conference and Exposition*, **2007**,		1
8	A nonlinear robust controller for matrix converter fed induction motor drives **2005**,		3
7	A novel commutation method of matrix converter fed induction motor drive using RB-IGBT		1
6	Application of matrix converter in auxiliary drive system for diesel locomotives		2

List of Publications

5	A novel method to enhance the voltage transfer ratio of matrix converter	3
4	A novel method to enhance the voltage transfer ratio of matrix converter	1
3	Combined control of matrix converter fed induction motor drive system	2
2	Speed control of induction motors using a nonlinear auto-disturbance rejection controller	1
1	Design of matrix converter with bidirectional switches	1