# Kai Sun

## List of Publications by Citations



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|---|---|---|---|
| 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 | 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 |
| 129 | . *IEEE Transactions on Industrial Electronics*, **2014**, 61, 2804-2815 | 8.9 | 430 |
| 128 | . *IEEE Transactions on Power Electronics*, **2011**, 26, 3032-3045 | 7.2 | 396 |
| 127 | . *IEEE Transactions on Smart Grid*, **2014**, 5, 683-692 | 10.7 | 252 |
| 126 | H6 Transformerless Full-Bridge PV Grid-Tied Inverters. *IEEE Transactions on Power Electronics*, **2014**, 29, 1229-1238 | 7.2 | 233 |
| 125 | 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 |
| 124 | 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 |
| 123 | A Modular Grid-Connected Photovoltaic Generation System Based on DC Bus. *IEEE Transactions on Power Electronics*, **2011**, 26, 523-531 | 7.2 | 174 |
| 122 | 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 |
| 121 | Topology Derivation of Nonisolated Three-Port DC□DC Converters From DIC and DOC. *IEEE Transactions on Power Electronics*, **2013**, 28, 3297-3307 | 7.2 | 146 |
| 120 | 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 |
| 119 | Improved Modeling of Medium Voltage SiC MOSFET Within Wide Temperature Range. *IEEE Transactions on Power Electronics*, **2014**, 29, 2229-2237 | 7.2 | 75 |
| 118 | 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 |
| 117 | . *IEEE Transactions on Power Electronics*, **2017**, 32, 3128-3142 | 7.2 | 62 |
| 116 | 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 |
| 115 | Adaptive protection combined with machine learning for microgrids. *IET Generation, Transmission and Distribution*, **2019**, 13, 770-779 | 2.5 | 56 |
| 114 | SoC-based droop method for distributed energy storage in DC microgrid applications **2012**, | | 43 |

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| 113 | 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 |
| 112 | Power control of DC microgrid using DC bus signaling **2011**, | | 40 |
| 111 | An Improved Modulation Scheme of Current-Fed Bidirectional DC□DC Converters For Loss Reduction. *IEEE Transactions on Power Electronics*, **2018**, 33, 4441-4457 | 7.2 | 39 |
| 110 | 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 |
| 109 | . *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2017**, 5, 995-1007 | 5.6 | 35 |
| 108 | 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 |
| 107 | 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 |
| 106 | . *IEEE Transactions on Power Electronics*, **2015**, 1-1 | 7.2 | 31 |
| 105 | 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 |
| 104 | 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 |
| 103 | A Non-Segmented PSpice Model of SiC mosfet With Temperature-Dependent Parameters. *IEEE Transactions on Power Electronics*, **2019**, 34, 4603-4612 | 7.2 | 27 |
| 102 | Improved ZVS Three-Level DC□DC Converter With Reduced Circulating Loss. *IEEE Transactions on Power Electronics*, **2016**, 31, 6394-6404 | 7.2 | 23 |
| 101 | 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 |
| 100 | SoC-based dynamic power sharing method with AC-bus voltage restoration for microgrid applications **2012**, | | 22 |
| 99 | A Thermoelectric Generation System and Its Power Electronics Stage. *Journal of Electronic Materials*, **2012**, 41, 1043-1050 | 1.9 | 22 |
| 98 | 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 |
| 97 | 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 |
| 96 | . *IEEE Transactions on Industrial Electronics*, **2018**, 65, 699-708 | 8.9 | 21 |

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| 95 | 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 |
| 94 | 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 |
| 93 | 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 |
| 92 | Control of parallel-connected bidirectional AC-DC converters in stationary frame for microgrid application **2011**, | | 16 |
| 91 | 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 |
| 90 | 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 |
| 89 | Virtual impedance based stability improvement for DC microgrids with constant power loads **2014**, | | 15 |
| 88 | A full-bridge three-port converter for renewable energy application **2014**, | | 14 |
| 87 | Analysis and control of input power factor in indirect matrix converter **2009**, | | 14 |
| 86 | 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 |
| 85 | 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 |
| 84 | Droop-control-based state-of-charge balancing method for charging and discharging process in autonomous DC microgrids **2014**, | | 12 |
| 83 | 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 |
| 82 | A grid-tied photovoltaic generation system based on series-connected module integrated inverters with adjustable power factor **2015**, | | 11 |
| 81 | 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 |
| 80 | 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 |
| 79 | Two-stage transformerless dual-buck PV grid-connected inverters with high efficiency. *Chinese Journal of Electrical Engineering*, **2018**, 4, 36-42 | 4 | 11 |
| 78 | A TEG Efficiency Booster with BuckBoost Conversion. *Journal of Electronic Materials*, **2013**, 42, 1737-1744 | 1.9 | 11 |

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| 77 | A three-port half-bridge converter with synchronous rectification for renewable energy application **2011**, | | 10 |
| 76 | 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 |
| 75 | Resonance propagation of parallel-operated DC-AC converters with LCL filters **2012**, | | 8 |
| 74 | Impedance-based stability analysis of single-phase inverter connected to weak grid with voltage feed-forward control **2016**, | | 8 |
| 73 | . *IEEE Transactions on Smart Grid*, **2021**, 12, 141-156 | 10.7 | 8 |
| 72 | A phase-shift-based synchronous rectification scheme for bi-directional high-step-down CLLC resonant converters **2018**, | | 8 |
| 71 | A transformation method from conventional three phases full-bridge topology to conergy NPC topology **2011**, | | 7 |
| 70 | Discontinuous Bi-tri Logic SPWM for Current Source Converter with Optimized Zero-state Replacement **2020**, | | 7 |
| 69 | Parameter Identification of the Series Inductance in DAB Converters. *IEEE Transactions on Power Electronics*, **2021**, 36, 7395-7399 | 7.2 | 7 |
| 68 | Virtual SVPWM-Based Flexible Power Control for Dual-DC-Port DC–AC Converters in PV–Battery Hybrid Systems. *IEEE Transactions on Power Electronics*, **2021**, 36, 11431-11443 | 7.2 | 7 |
| 67 | Studies on the clustered voltage balancing mechanism for cascaded H-bridge STATCOM **2016**, | | 6 |
| 66 | 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 |
| 65 | Generation and demand scheduling for a grid-connected hybrid microgrid considering price-based incentives **2017**, | | 6 |
| 64 | RB-IGBT gate drive circuit and its application in two-stage matrix converter. *IEEE Applied Power Electronics Conference and Exposition*, **2008**, | | 6 |
| 63 | A systematic topology generation method for dual-buck inverters **2016**, | | 6 |
| 62 | 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 |
| 61 | A three-port converter based DC grid-connected PV system with autonomous output voltage sharing control **2017**, | | 5 |
| 60 | 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 |

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| 59 | Evaluation of Power Conditioning Architectures for Energy Production Enhancement in Thermoelectric Generator Systems. *Journal of Electronic Materials*, **2014**, 43, 1567-1573 | 1.9 | 5 |
| 58 | An optimized common mode voltage reduction PWM strategy for T-type three phase three level photovoltaic grid-tied inverter **2013**, | | 5 |
| 57 | Parallel operation of bi-directional interfacing converters in a hybrid AC/DC microgrid under unbalanced grid conditions **2015**, | | 5 |
| 56 | A SiC-based T-type three-phase three-level gridtied inverter **2015**, | | 5 |
| 55 | Capacitor voltage balancing of a three-level bi-directional buck-boost converter for battery energy storage system **2014**, | | 5 |
| 54 | A high efficiency step-up DC-DC converter for thermoelectric generator with wide input voltage range **2012**, | | 5 |
| 53 | Evaluation of High Step-Up Power Electronics Stages in Thermoelectric Generator Systems. *Journal of Electronic Materials*, **2013**, 42, 2157-2164 | 1.9 | 5 |
| 52 | Lithium-ion batteries under pulsed current operation to stabilize future grids. *Cell Reports Physical Science*, **2022**, 3, 100708 | 6.1 | 5 |
| 51 | Performance evaluation of a non-isolated bidirectional three-port power converter for energy storage applications **2016**, | | 5 |
| 50 | 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 |
| 49 | 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 |
| 48 | A Multi-Port Bidirectional Power Conversion System for Reversible Solid Oxide Fuel Cell Applications **2018**, | | 5 |
| 47 | Distributed autonomous voltage balancing control for a modular IPOS DC grid-connected renewable power system **2018**, | | 5 |
| 46 | A Hybrid Control Strategy to Support Voltage in Industrial Active Distribution Networks. *IEEE Transactions on Power Delivery*, **2018**, 33, 2590-2602 | 4.3 | 4 |
| 45 | Distributed secondary control for dc microgrid applications with enhanced current sharing accuracy **2013**, | | 4 |
| 44 | PCC voltage power quality restoring strategy based on the droop controlled grid-connecting microgrid. *Journal of Engineering*, **2017**, 2017, 1399-1403 | 0.7 | 4 |
| 43 | Hybrid centralized-distributed power conditioning system for thermoelectric generator with high energy efficiency **2013**, | | 4 |
| 42 | A harmonic current suppression control strategy for droop-controlled inverter connected to the distorted grid **2015**, | | 3 |

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| 41 | . *IEEE Transactions on Smart Grid*, **2020**, 11, 2816-2831 | 10.7 | 3 |
| 40 | 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 |
| 39 | A Temperature-dependent PSpice Short-circuit Model of SiC MOSFET **2019**, | | 3 |
| 38 | 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 |
| 37 | A specific analysis model of three-level NPC inverter fed adjustable speed drive system with high accuracy **2014**, | | 3 |
| 36 | A family of non-isolated three-port converters for stand-alone renewable power system **2011**, | | 3 |
| 35 | High efficiency hybrid cascade inverter for photovoltaic generation **2009**, | | 3 |
| 34 | A novel method to enhance the voltage transfer ratio of matrix converter | | 3 |
| 33 | A nonlinear robust controller for matrix converter fed induction motor drives **2005**, | | 3 |
| 32 | 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 |
| 31 | Three level DC-DC converter based on cascaded dual half-bridge converter for circulating loss reduction **2016**, | | 3 |
| 30 | 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 |
| 29 | 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 |
| 28 | 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 |
| 27 | 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 |
| 26 | 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 |
| 25 | A Constant Current Control Method with Improved Dynamic Performance for CLLC Converters. *IEEE Transactions on Power Electronics*, **2021**, 1-1 | 7.2 | 3 |
| 24 | . *IEEE Transactions on Power Electronics*, **2022**, 37, 920-931 | 7.2 | 3 |

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| 23 | Analysis and design of enhanced DFT-based controller for selective harmonic compensation in active power filters **2018**, | | 2 |
| 22 | A non-segmented PSpice model of SiC MOSFETs **2017**, | | 2 |
| 21 | A PV generation system based on centralized-distributed structure and cascaded power balancing mechanism for DC microgrids **2015**, | | 2 |
| 20 | Control strategy of PMSM drive in high speed operation for air-condition compressor **2008**, | | 2 |
| 19 | Application of matrix converter in auxiliary drive system for diesel locomotives | | 2 |
| 18 | Combined control of matrix converter fed induction motor drive system | | 2 |
| 17 | Cost effective capacitor voltage balancing control for five-level grid-tied inverters **2016**, | | 2 |
| 16 | Unified state-space modeling method for dual-active-bridge converters considering bidirectional phase shift **2018**, | | 2 |
| 15 | Three-level dual active bridge with auxiliary inductor for wide zero voltage switching for energy storage system in DC microgrid **2017**, | | 1 |
| 14 | Topologies for Reduction of Second Harmonic Ripple in Battery Energy Storage Systems **2019**, | | 1 |
| 13 | 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 |
| 12 | 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 |
| 11 | A High Efficiency Quasi-Single-Stage Unified Power Quality Conditioner Integrating Distributed Generation **2019**, | | 1 |
| 10 | Permanent magnet flux identification of IPMSM based on EKF with speed sensorless control **2010**, | | 1 |
| 9 | Single current sensor control for PWM inverter fed AC motor drives under over-modulation mode **2009**, | | 1 |
| 8 | An Improved Matrix Converter Fed Induction Motor Vector Control Drive with Output Voltage Error Cancellation. *IEEE Applied Power Electronics Conference and Exposition*, **2007**, | | 1 |
| 7 | A novel commutation method of matrix converter fed induction motor drive using RB-IGBT | | 1 |
| 6 | A novel method to enhance the voltage transfer ratio of matrix converter | | 1 |

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| 5 | Speed control of induction motors using a nonlinear auto-disturbance rejection controller | | 1 |
| 4 | Design of matrix converter with bidirectional switches | | 1 |
| 3 | Comparison of High Power DC-DC Converters for Photovoltaic Generation Integrated into Medium Voltage DC Grids **2018**, | | 1 |
| 2 | 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 |
| 1 | Bridge-to-Bridge Independent Control Method for Dual-Active-Bridge Interlinking Converter. *IEEE Transactions on Power Electronics*, **2022**, 1-1 | 7.2 | |