Masatoshi Uno

List of Publications by Year
in descending order

129 papers	2,546 citations	201674 27 h-index	214800 47 g-index
129 all docs	129 docs citations	129 times ranked	1392 citing authors

#	Article	IF	Citations
1	Influence of High-Frequency Chargeâ€“Discharge Cycling Induced by Cell Voltage Equalizers on the Life Performance of Lithium-Ion Cells. IEEE Transactions on Vehicular Technology, 2011, 60, 1505-1515.	6.3	185
2	Single-Switch Multioutput Charger Using Voltage Multiplier for Series-Connected Lithium-Ion Battery/Supercapacitor Equalization. IEEE Transactions on Industrial Electronics, 2013, 60, 3227-3239.	7.9	151
3	Accelerated Chargeâ€“Discharge Cycling Test and Cycle Life Prediction Model for Supercapacitors in Alternative Battery Applications. IEEE Transactions on Industrial Electronics, 2012, 59, 4704-4712.	7.9	150
4	Single-Switch Cell Voltage Equalizer Using Multistacked Buck-Boost Converters Operating in Discontinuous Conduction Mode for Series-Connected Energy Storage Cells. IEEE Transactions on Vehicular Technology, 2011, 60, 3635-3645.	6.3	129
5	Double-Switch Equalizer Using Parallel- or Series-Parallel-Resonant Inverter and Voltage Multiplier for Series-Connected Supercapacitors. IEEE Transactions on Power Electronics, 2014, 29, 812-828.	7.9	89
6	Bidirectional PWM Converter Integrating Cell Voltage Equalizer Using Series-Resonant Voltage Multiplier for Series-Connected Energy Storage Cells. IEEE Transactions on Power Electronics, 2015, 30, 3077-3090.	7.9	89
7	Two-Switch Voltage Equalizer Using an LLC Resonant Inverter and Voltage Multiplier for Partially Shaded Series-Connected Photovoltaic Modules. IEEE Transactions on Industry Applications, 2015, 51, 1587-1601.	4.9	85
8	Single-Switch Voltage Equalizer Using Multistacked Buckâ€“Boost Converters for Partially Shaded Photovoltaic Modules. IEEE Transactions on Power Electronics, 2015, 30, 3091-3105.	7.9	81
9	Double-Switch Single-Transformer Cell Voltage Equalizer Using a Half-Bridge Inverter and a Voltage Multiplier for Series-Connected Supercapacitors. IEEE Transactions on Vehicular Technology, 2012, 61, 3920-3930.	6.3	76
10	Switched Capacitor Converter Based Multiport Converter Integrating Bidirectional PWM and Series-Resonant Converters for Standalone Photovoltaic Systems. IEEE Transactions on Power Electronics, 2019, 34, 1394-1406.	7.9	76
11	Single-Switch Single-Transformer Cell Voltage Equalizer Based on Forwardâ€“Flyback Resonant Inverter and Voltage Multiplier for Series-Connected Energy Storage Cells. IEEE Transactions on Vehicular Technology, 2014, 63, 4232-4247.	6.3	67
12	Cycle Life Evaluation Based on Accelerated Aging Testing for Lithium-Ion Capacitors as Alternative to Rechargeable Batteries. IEEE Transactions on Industrial Electronics, 2016, 63, 1607-1617.	7.9	66
13	Current Sensorless Equalization Strategy for a Single-Switch Voltage Equalizer Using Multistacked Buckâ€“Boost Converters for Photovoltaic Modules Under Partial Shading. IEEE Transactions on Industry Applications, 2017, 53, 420-429.	4.9	58
14	PWM Converter Integrating Switched Capacitor Converter and Series-Resonant Voltage Multiplier as Equalizers for Photovoltaic Modules and Series-Connected Energy Storage Cells for Exploration Rovers. IEEE Transactions on Power Electronics, 2017, 32, 8500-8513.	7.9	57
15	PWM Switched Capacitor Converter With Switched-Capacitor-Inductor Cell for Adjustable High Step-Down Voltage Conversion. IEEE Transactions on Power Electronics, 2019, 34, 425-437.	7.9	56
16	String-to-Battery Voltage Equalizer Based on a Half-Bridge Converter With Multistacked Current Doublers for Series-Connected Batteries. IEEE Transactions on Power Electronics, 2019, 34, 1286-1298.	7.9	51
17	Nonisolated Multiport Converters Based on Integration of PWM Converter and Phase-Shift-Switched Capacitor Converter. IEEE Transactions on Power Electronics, 2020, 35, 455-470.	7.9	50
18	Single-Switch Single-Magnetic PWM Converter Integrating Voltage Equalizer for Partially Shaded Photovoltaic Modules in Standalone Applications. IEEE Transactions on Power Electronics, 2018, 33, 1259-1270.	7.9	48

#	Article	IF	Citations
19	Supercapacitor-based energy storage system with voltage equalizers and selective taps. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	44
20	Equalization technique utilizing series-parallel connected supercapacitors for energy storage system. , 2008, , .		44
21	Development and on-orbit operation of lithium-ion pouch battery for small scientific satellite â€œREIMEIâ€• Journal of Power Sources, 2011, 196, 8755-8763.	7.8	41
22	Partially Isolated Single-Magnetic Multiport Converter Based on Integration of Series-Resonant Converter and Bidirectional PWM Converter. IEEE Transactions on Power Electronics, 2018, 33, 9575-9587.	7.9	41
23	Modularized Equalization Architecture With Voltage Multiplier-Based Cell Equalizer and Switchless Switched Capacitor Converter-Based Module Equalizer for Series-Connected Electric Double-Layer Capacitors. IEEE Transactions on Power Electronics, 2019, 34, 6356-6368.	7.9	37
24	Module-Integrated Converter Based on Cascaded Quasi-Z-Source Inverter With Differential Power Processing Capability for Photovoltaic Panels Under Partial Shading. IEEE Transactions on Power Electronics, 2019, 34, 11553-11565.	7.9	36
25	Pt/C catalyst degradation in proton exchange membrane fuel cells due to high-frequency potential cycling induced by switching power converters. Journal of Power Sources, 2011, 196, 9884-9889.	7.8	35
26	Spacecraft Electrical Power System using Lithium-Ion Capacitors. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 175-188.	4.7	33
27	Modularized Differential Power Processing Architecture Based on Switched Capacitor Converter to Virtually Unify Mismatched Photovoltaic Panel Characteristics. IEEE Transactions on Power Electronics, 2020, 35, 1563-1575.	7.9	33
28	PWM Switched Capacitor-Based Cell-Level Power Balancing Converter Utilizing Diffusion Capacitance of Photovoltaic Cells. IEEE Transactions on Power Electronics, 2019, 34, 10675-10687.	7.9	29
29	Reactant recirculation system utilizing pressure swing for proton exchange membrane fuel cell. Journal of Power Sources, 2011, 196, 2558-2566.	7.8	28
30	Cycle life evaluation of 3Ah LixMn2O4-based lithium-ion secondary cells for low-earth-orbit satellites. Journal of Power Sources, 2008, 185, 1444-1453.	7.8	27
31	Modular Equalization System Using Dual Phase-Shift-Controlled Capacitively Isolated Dual Active Bridge Converters to Equalize Cells and Modules in Series-Connected Lithium-Ion Batteries. IEEE Transactions on Power Electronics, 2021, 36, 2983-2995.	7.9	23
32	Accelerated ageing testing and cycle life prediction of supercapacitors for alternative battery applications. , 2011, , .		19
33	Small satellite REIMEI for auroral observations. Acta Astronautica, 2011, 69, 499-513.	3.2	19
34	Charge and Discharge Performance of Over-Discharged Lithium-ion Secondary Battery-Lessons Learned from the Operation of the Interplanetary Spacecraft HAYABUSA. Electrochemistry, 2007, 75, 950-957.	1.4	18
35	Differential Power Processing Converter Enhancing Energy Yield of Curved Solar Roofs of Plug-In Hybrid Electric Vehicles. IEEE Transactions on Vehicular Technology, 2020, 69, 14689-14700.	6.3	18
36	Interactive charging performance of a series connected battery with shunting equalizers. , 2009, , .		16

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37	Transformerless Bidirectional PWM Converter Integrating Voltage Multiplier-Based Cell Voltage Equalizer for Series-Connected Electric Double-Layer Capacitors. IEEE Transactions on Power Electronics, 2019, 34, 4304-4315.	7.9	16
38	Three-Phase Interleaved LLC Asymmetric Resonant Converter With Capacitive Current Balancing and Reduced Switch Voltage Stress. IEEE Access, 2020, 8, 5688-5698.	4.2	16
39	Tapped-Inductor-Based Single-Magnetic Bidirectional PWM Converter Integrating Cell Voltage Equalizer for Series-Connected Supercapacitors. IEEE Transactions on Power Electronics, 2020, 35, 13157-13171.	7.9	16
40	The Performance of the Lithium-Ion Secondary Cells under Micro-Gravity Conditions-In-Orbit Operation of the Interplanetary Spacecraft 'HAYABUSA'. Electrochemistry, 2007, 75, 518-522.	1.4	14
41	Development and demonstration flight of a fuel cell system for high-altitude balloons. Journal of Power Sources, 2009, 193, 788-796.	7.8	14
42	Cycle life evaluation of 3Ah LixMn2O4-based lithium-ion secondary cells for low-earth-orbit satellites. Journal of Power Sources, 2008, 185, 1454-1464.	7.8	13
43	Bidirectional Interleaved PWM Converter with High Voltage-Conversion Ratio and Automatic Current Balancing Capability for Single-Cell Battery Power System in Small Scientific Satellites. Energies, 2018, 11, 2702.	3.1	13
44	Cell Voltage Equalizer Using a Selective Voltage Multiplier with a Reduced Selection Switch Count for Series-Connected Energy Storage Cells. Electronics (Switzerland), 2019, 8, 1303.	3.1	13
45	Variable switching frequency modulation scheme for PWM converter integrating seriesâ€resonant voltage multiplierâ€based voltage equalizer for photovoltaic strings under partial shading. IEEJ Transactions on Electrical and Electronic Engineering, 2019, 14, 467-474.	1.4	13
46	Nonisolated PWM Three-Port Converter Realizing Reduced Circuit Volume for Satellite Electrical Power Systems. IEEE Transactions on Aerospace and Electronic Systems, 2020, 56, 3394-3408.	4.7	12
47	Modular Equalization System Based on Star-Connected Phase-Shift Switched Capacitor Converters With Inherent Constant Current Characteristics for Electric Double-Layer Capacitor Modules. IEEE Transactions on Power Electronics, 2020, 35, 10271-10284.	7.9	12
48	Switched Capacitor-Based PWM- and Phase Shift-Controlled Multiport Converter With Differential Power Processing Capability for Standalone Photovoltaic Systems Under Partial Shading. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 6019-6032.	5.4	12
49	Partially Isolated Multiport Converter With Automatic Current Balancing Interleaved PWM Converter and Improved Transformer Utilization for EV Batteries. IEEE Transactions on Transportation Electrification, 2023, 9, 1273-1288.	7.8	12
50	Series-parallel reconfiguration technique for supercapacitor eneryg storage systems. , 2009, , .		11
51	Single-switch cell voltage equalizer using voltage multipliers for series-connected supercapacitors. , 2012, , .		11
52	Multi-port converter integrating two PWM converters for multi-power-source systems. , 2017, , .		11
53	Unregulated interface converter based on cascaded switched capacitor converters for supercapacitors in alternative battery applications. , 2011, , .		10
54	Panel-to-Substring Differential Power Processing Converter With Embedded Electrical Diagnosis Capability for Photovoltaic Panels Under Partial Shading. IEEE Transactions on Power Electronics, 2021, 36, 10239-10250.	7.9	10

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55	Storage of a lithium-ion secondary battery under micro-gravity conditions. Journal of Power Sources, 2008, 181, 149-154.	7.8	9
56	Electric Double-Layer Capacitor Module with Series-Parallel Reconfigurable Cell Voltage Equalizers. IEEJ Transactions on Industry Applications, 2011, 131, 729-738.	0.2	8
57	A singleâ€switch equalization charger using multiple stacked buckâ€boost converters for seriesâ€connected energyâ€storage modules. Electrical Engineering in Japan (English Translation of Denki) Tj ETQq0 1 0.784314 rgBT	0.4	8
58	LLC Resonant Voltage Multiplier-Based Differential Power Processing Converter Using Voltage Divider with Reduced Voltage Stress for Series-Connected Photovoltaic Panels under Partial Shading. Electronics (Switzerland), 2019, 8, 1193.	3.1	7
59	Equalization chargers using capacitor-diode networks for series-connected energy storage cells. , 2010, , .		6
60	Single-switch constant-power equalization charger based on multi-stacked buck-boost converters for series-connected supercapacitors in satellite power systems. , 2011, , .		6
61	Two-Switch Voltage Equalizer Using a Series-Resonant Voltage Multiplier Operating in Frequency-Multiplied Discontinuous Conduction Mode for Series-Connected Supercapacitors. IEICE Transactions on Communications, 2015, E98.B, 842-853.	0.7	6
62	Transformer-less bidirectional PWM converter integrating cell voltage equalizer using voltage multiplier for series connected energy storage cells. , 2017, , .		6
63	Non-isolated multi-port converter integrating PWM and phase-shift converters. , 2017, , .		6
64	Direct Cell-to-Cell Voltage Equalizer Using Capacitively-Isolated Parallel-Resonant Converter for Series-Connected Energy Storage Cells. , 2018, , .		6
65	Review, Comparison, and Proposal for PWM Converters Integrating Differential Power Processing Converter for Small Exploration Rovers. Energies, 2019, 12, 1919.	3.1	6
66	Single-Switch Equalization Charger Using Multiple Stacked Buck-Boost Converters for Series-Connected Energy-Storage Modules. IEEJ Transactions on Industry Applications, 2011, 131, 1203-1211.	0.2	6
67	Dual Active Bridge Converter with AC Heating Capability for Lithium-ion Batteries in Electric Vehicles. , 2020, , .		6
68	Automatic Current Balancing Multi-Phase Recofigurable LLC Converter with Wide Voltage Gain Range for On-Board Battery Charger. , 2021, , .		6
69	Panel-to-Substring PWM Differential Power Processing Converter and Its Maximum Power Point Tracking Technique for Solar Roof of Plug-In Electric Vehicles. IEEE Access, 2022, 10, 42883-42896.	4.2	6
70	Charge equalizer using a Cockcroft-Walton vottage multiplier for series-connected supercapacitors. , 2009, , .		5
71	Active deviceâ€less voltage equalization charger using capacitors, diodes, and an AC power source. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 2012, 181, 39-48.	0.4	5
72	PWM switched capacitor voltage divider with high step-down ratio. , 2013, , .		5

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73	Series-Parallel Reconfiguration Technique with Voltage Equalization Capability for Electric Double-Layer Capacitor Modules. Energies, 2019, 12, 2741.	3.1	5
74	Cascaded switched capacitor converters with selectable intermediate taps for supercapacitor discharger. , 2009, , .		4
75	Electric doubleâ€layer capacitor module with seriesâ€parallel reconfigurable cell voltage equalizers. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 2012, 181, 38-50.	0.4	4
76	Two-switch voltage equalizer using series-resonant inverter and voltage multiplier for partially-shaded series-connected photovoltaic modules. , 2013, , .		4
77	Single-switch single-magnetic PWM converter integrating voltage equalizer for series-connected photovoltaic modules under partial shading. , 2014, , .		4
78	Doubleâ€Switch Seriesâ€Resonant Cellâ€Voltage Equalizer Using a Voltage Multiplier for Seriesâ€Connected Energy Storage Cells. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 2014, 189, 41-51.	0.4	4
79	PWM converter integrating switched capacitor voltage equalizer for photovoltaic modules under partial shading. , 2015, , .		4
80	Micro-inverter based on quasi-Z-source inverter integrating switchless voltage equalizer for photovoltaic panels under partial shading. , 2017, , .		4
81	Family of transformerless pulseâ€width modulation converters integrating voltage equalisers for PV panels and energy storage modules. IET Power Electronics, 2019, 12, 1487-1498.	2.1	4
82	Prompt resolution of hypoglycemia by hepatic transarterial embolization for malignant insulinoma with multiple liver metastases. Acta Medica Okayama, 2014, 68, 303-6.	0.2	4
83	Proton Conductivity of the Reinforced Perfluorinated Membrane as a Function of Temperature and Humidity. Electrochemistry, 2007, 75, 197-200.	1.4	3
84	Cell voltage equalizer using series resonant inverter and voltage multiplier for series-connected supercapacitors. , 2012, , .		3
85	Discharger using cascaded switched capacitor converters and selectable intermediate taps for electric double-layer capacitors. Electrical Engineering in Japan (English Translation of Denki Gakkai) Tj ETQq1 1 0.784314 rgBT /Overlock		3
86	Single-switch PWM converter integrating voltage equalizer for photovoltaic modules under partial shading. , 2014, , .		3
87	Modular equalization architecture using inter-module and switchless intra-module equalizer for energy storage system. , 2015, , .		3
88	Switched capacitor-based PWM converter integrating string converter and voltage equalizer for photovoltaic strings under partial shading. , 2017, , .		3
89	Modular Differential Power Processing Converter with Inherent Over-Current Protection Capability for Photovoltaic Systems. , 2021, , .		3
90	Analysis and Theoretical Comparison of 1-to-1.5 Resonant Switched Capacitor Converters for High-Voltage EV Batteries. , 2022, , .		3

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91	Reactant Recirculation Technique Utilizing Pressure Swing for Proton Exchange Membrane Fuel Cell System. , 2010, , .		2
92	Single-switch cell voltage equalizer based on multi-stacked SEPICs for series-connected energy storage cells. , 2011, , .		2
93	Double-switch single-inductor resonant cell equalizer using voltage multiplier for series-connected supercapacitors. , 2012, , .		2
94	Multi-port converter integrating boost and switched capacitor converters for single-cell battery power system in small satellite. , 2013, , .		2
95	Two-switch voltage equalizer based on half-bridge converter with multi-stacked current doublers for series-connected batteries. , 2014, , .		2
96	PWM- and PFM-controlled switched capacitor converter-based multiport converter integrating voltage equalizer for photovoltaic systems. , 2017, , .		2
97	Single-switch voltage equalizer based on forward-flyback resonant voltage multiplier for partially-shaded series-connected photovoltaic modules. , 2017, , .		2
98	Transformer-less cell voltage equalizer using switched capacitor voltage divider and series-resonant voltage multiplier for series-connected electric double-layer capacitors. , 2017, , .		2
99	DPP Converter Using LLC Resonant Voltage Multiplier with a Voltage Divider for Curved Solar Roof of PREVs. , 2018, , .		2
100	Modularized Equalization Architecture Based on Switched Capacitor Converter to Virtually Unify Mismatched Photovoltaic Panel Characteristics. , 2018, , .		2
101	Dual MPPT Control and Field Testing for Switched Capacitor-Based Cell-Level Power Balancing Utilizing Diffusion Capacitance of Photovoltaic Cells. , 2018, , .		2
102	Multi-Stacked Superbuck Converter-Based Single-Switch Charger Integrating Cell Voltage Equalizer for Series-Connected Energy Storage Cells. Energies, 2022, 15, 3619.	3.1	2
103	Energy storage system based on supercapacitors with an unregulated dc-dc converter and selective intermediate taps. , 2008, , .		1
104	Single-switch equalization charger integrating SEPIC and equalizer using series-resonant voltage multiplier for series-connected energy storage cells/modules. , 2013, , .		1
105	Highly-reliable double-switch cell equalizer using parallel-resonant inverter and voltage multiplier for series-connected supercapacitors/lithium-ion cells. , 2013, , .		1
106	Loss reduction and field testing for switched capacitor-based cell-level power balancing utilizing diffusion capacitance of photovoltaic cells. , 2017, , .		1
107	Single-Switch Differential Power Processing PWM Converter to Enhance Energy Yield of Photovoltaic Panels under Partial Shading. , 0, , .		1
108	Loss Analysis and Field Testing Under Various Partial Shading Conditions for Switched Capacitor-Based Cell-Level Power Balancing Utilizing Diffusion Capacitance of Photovoltaic Cells. , 2018, , .		1

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109	Series-Parallel Reconfigurable Electric Double-Layer Capacitor Module with Cell Equalization Capability, High Energy Utilization Ratio, and Good Modularity. Energies, 2021, 14, 3689.	3.1	1
110	Modular Differential Power Processing Architecture Utilizing Isolated Bus to Virtually Unify Photovoltaic Panel Characteristics in Large-Scale Systems. , 2021, , .		1
111	Highly Extendable Interleaved High Step-Up Boost Converter with Automatic Current Balancing and Reduced Semiconductor Voltage Stresses for Renewable Energy Systems. , 2020, , .		1
112	Multi-Port Converter Integrating Bidirectional Converters and Induction Heating Inverter for Electric Vehicles. , 2020, , .		1
113	Multiport converter integrating automatic current balancing interleaved PWM converter and DAB converter with improved transformer utilization for electric vehicles. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 2022, 215, .	0.4	1
114	Derivation of pumpless reactant recirculation system based on analogy between fluid flow and electrical circuit for proton exchange membrane fuel cell. IEEJ Transactions on Electrical and Electronic Engineering, 2014, 9, 360-369.	1.4	0
115	Development and Onâ€Orbit Demonstration of Lithiumâ€Ion Capacitorâ€Based Power System for Small Spacecraft. , 0, , .		0
116	Modular Equalization System Using Phase-Shift Switched Capacitor Converter and Tapped-Inductor-Based Resonant Voltage Multiplier for Energy Storage Systems. , 2018, , .		0
117	Multi-Port Converter Integrating Automatic Current Balancing Interleaved PWM Converter and Dual Active Bridge Converter with Improved Transformer Utilization. , 2020, , .		0
118	Integrated Converter Utilizing Tapped-Inductor with Arbitrary Voltage Step-Up Ratio to Enhance Energy Yield for Curved Solar Roofs of PHEVs. , 2020, , .		0
119	PWM Step-Up Converter Integrating Differential Power Processing Converter to Enhance Energy Yield of Partially-Shaded Photovoltaic Panels. , 2020, , .		0
120	Experimental Verification of Dual Active Bridge Converter to Integrate AC Heating Inverter for Lithium-Ion Batteries in Electric Vehicles. IEEJ Transactions on Industry Applications, 2021, 141, 453-460.	0.2	0
121	Energy Yield Enhancement by Switched Capacitor Converter-Based Differential Power Processing Converter Utilizing Diffusion Capacitance of Curved Photovoltaic Panels. IEEJ Transactions on Industry Applications, 2021, 141, 835-843.	0.2	0
122	Development of Transformer-Less PWM Converter Integrating Cell Voltage Equalizer for Series-Connected Energy Storage Cells. IEEJ Transactions on Industry Applications, 2016, 136, 1027-1028.	0.2	0
123	PWM Converter Integrating Voltage Equalizer for Photovoltaic Panels under Partial Shading. IEEJ Transactions on Industry Applications, 2017, 137, 274-281.	0.2	0
124	Modular Equalization System Integrating Tapped-Inductor-Based Series-Resonant Voltage Multiplier and Phase-Shift Switched Capacitor Converter for Electric Double-Layer Capacitors. IEEJ Transactions on Industry Applications, 2019, 139, 433-441.	0.2	0
125	Multiport Converter Integrating Automatic Current Balancing Interleaved PWM Converter and DAB Converter with Improved Transformer Utilization for Electric Vehicles. IEEJ Transactions on Industry Applications, 2021, 141, 903-911.	0.2	0
126	Automatic Current Balancing Three-Phase LLC Symmetric Resonant Converter Using Flying Capacitors. IEEJ Transactions on Industry Applications, 2020, 140, 949-957.	0.2	0

#	Article	IF	Citations
127	Electrical Diagnosis Technique Using Differential Power Processing Converters for Photovoltaic Panels. , 2020, , .		0
128	Control Algorithm for Differential Power Processing Resonant Converter Under Partial Shading and Short-Circuit Fault in Photovoltaic Systems. , 2021, , .		0
129	Highly Extendable Modular Voltage Equalizer Integrating Cell and Module Voltage Equalizers for Series-Connected Electric Double-Layer Capacitors. , 2021, , .		0