Alfred Rufer

List of Publications by Year
in descending order

93 papers	5,072 citations	182225 30 h-index	232693 48 g-index
95 all docs	95 docs citations	95 times ranked	4346 citing authors

#	Article	IF	Citations
1	Design and Control of a KE (Kinetic Energy) - Compensated Gravitational Energy Storage System. , 2020, , .		6
2	Feed-Forward-based Control in a DC–DC Converter of Asymmetric Multistage-Stacked Boost Architecture. IEEE Transactions on Power Electronics, 2017, 32, 1507-1517.	5.4	13
3	Analytical Models of Multiphase Isolated Medium-Frequency DC–DC Converters. IEEE Transactions on Power Electronics, 2017, 32, 2508-2520.	5.4	18
4	Multiobjective Optimization of Medium-Frequency Transformers for Isolated Soft-Switching Converters Using a Genetic Algorithm. IEEE Transactions on Power Electronics, 2017, 32, 2995-3006.	5.4	84
5	Design, modeling and experimental validation of a novel finned reciprocating compressor for Isothermal Compressed Air Energy Storage applications. Energy, 2017, 140, 1252-1266.	4.5	42
6	Control method and prototyping of the Multistage Stacked Boost Architecture (MSBA). , 2016, , .		0
7	Input-series and output-series high voltage converter with active balancing circuit for N-1 operation. , 2016, , .		2
8	Gas Turbine: Optimization of Energy Production and High Efficiency by Using Power Electronics. Procedia Engineering, 2016, 138, 337-346.	1.2	1
9	Single-to-three-phase direct AC/AC modular multilevel converters with integrated split battery energy storage for railway interties. , 2015, , .		8
10	A flexible and robust power management mechanism based on single-phase Modular Multilevel Converter with integrated energy storage elements. , 2015, , .		8
11	Energetic Macroscopic Representation of a linear reciprocating compressor model. International Journal of Refrigeration, 2015, 52, 83-92.	1.8	14
12	Impact of Grid Asymmetries on the Operation and Capacitive Energy Storage Design of Modular Multilevel Converters. IEEE Transactions on Industrial Electronics, 2015, 62, 6697-6707.	5.2	49
13	Comparison of multistage stacked boost architecture topologies in regards of the relation between duty cycle, number of stages and efficiency. , 2015, , .		1
14	Control of a modular DC-DC converter dedicated to energy storage. , 2015, , .		3
15	High-power high-voltage isolated DC-DC converters using an NPC balanced capacitive divider. , 2015, , .		2
16	Configurable Modular Multilevel Converter (CMMC) for flexible EV. , 2015, , .		14
17	Operation and control of single-to-three-phase direct AC/AC Modular Multilevel Converters under asymmetric grid conditions. , 2015, , .		5
18	Analysis and Control of Modular Multilevel Converters With Integrated Battery Energy Storage. IEEE Transactions on Power Electronics, 2015, 30, 163-175.	5.4	315

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19	A Modular Multiport Power Electronic Transformer With Integrated Split Battery Energy Storage for Versatile Ultrafast EV Charging Stations. IEEE Transactions on Industrial Electronics, 2015, 62, 3213-3222.	5.2	205
20	Isolated DC/DC Structure Based on Modular Multilevel Converter. IEEE Transactions on Power Electronics, 2015, 30, 89-98.	5.4	283
21	A Rapid DC Component Elimination Strategy for Alternative Current in Frequency Converter. International Journal on Electrical Engineering and Informatics, 2015, 7, 118-129.	0.3	2
22	Novel multiobjective optimization of MF transformers for soft-switching converters using a genetic algorithm. , 2014, , .		3
23	Voltage step-up converter based on Multistage Stacked Boost Architecture (MSBA). , 2014, , .		5
24	A robust Phase-Locked-Loop approach for the generation system with power flow control. , 2014, , .		2
25	Multivariable Control of Single-Inductor Dual-Output Buck Converters. IEEE Transactions on Power Electronics, 2014, 29, 2061-2070.	5.4	115
26	High-Order Vector Control of Grid-Connected Voltage-Source Converters With LCL-Filters. IEEE Transactions on Industrial Electronics, 2014, 61, 2767-2775.	5.2	64
27	Dynamic Analysis and State Feedback Voltage Control of Single-Phase Active Rectifiers With DC-Link Resonant Filters. IEEE Transactions on Power Electronics, 2014, 29, 5620-5633.	5.4	43
28	Optimal Energy Management Strategy of an Improved Elevator With Energy Storage Capacity Based on Dynamic Programming. IEEE Transactions on Industry Applications, 2014, 50, 1233-1244.	3.3	46
29	Accurate Capacitor Voltage Ripple Estimation and Current Control Considerations for Grid-Connected Modular Multilevel Converters. IEEE Transactions on Power Electronics, 2014, 29, 4568-4579.	5.4	149
30	Modular converter architecture for medium voltage ultra fast EV charging stations: Dual half-bridge-based isolation stage. , 2014, , .		14
31	EPEâ€™15 ECCE - Europe. EPE Journal (European Power Electronics and Drives Journal), 2014, 24, 5-5.	0.7	0
32	A cascade voltage controller for three-phase islanded microgrids. , 2013, , .		2
33	Electric vehicle driving and fast charging system based on configurable modular multilevel converter (CMMC). , 2013, , .		24
34	Operation of Modular Multilevel Converters under grid asymmetries. , 2013, , .		8
35	Balancing control actions for cascaded H-bridge converters with integrated battery energy storage. , 2013, , .		29
36	A Multivariable Design Methodology for Voltage Control of a Single-DG-Unit Microgrid. IEEE Transactions on Industrial Informatics, 2013, 9, 589-599.	7.2	62

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37	Multivariable control of Single-Inductor Dual-Output buck converters. , 2013, , .		2
38	Optimization-Based Voltage Support in Traction Networks Using Active Line-Side Converters. IEEE Transactions on Power Electronics, 2013, 28, 673-685.	5.4	33
39	Design and Control of a Modular Multilevel DC/DC Converter for Regenerative Applications. IEEE Transactions on Power Electronics, 2013, 28, 3970-3979.	5.4	121
40	Fail-safe modular control platform for power electronic applications in R&D environments. , 2013, , .		10
41	Fictive Axis Emulator-based state feedback vector current control for single-phase voltage source converters. , 2013, , .		2
42	Decoupled dq-Current Control of Grid-Tied Voltage Source Converters Using Nonparametric Models. IEEE Transactions on Industrial Electronics, 2013, 60, 1356-1366.	5.2	80
43	Comparison of multi-phase SAB converters vs. multi-phase SRC converters. , 2013, , .		5
44	New parametric model of medium-frequency single-active-bridge converters. , 2013, , .		5
45	New optimal design methodology of medium-frequency soft-switching converters. , 2013, , .		4
46	Renewable energy systems for racing sailboats — From simulations to an experimental device. , 2013, , .		0
47	Energetic Macroscopic Representation of a hybrid elevator — Considerations on strategies for energy management. , 2013, , .		0
48	Sizing of branch inductors parameters in modular multilevel converters. An analytical approach. European Journal of Electrical Engineering, 2013, 16, 389-408.	1.1	0
49	Optimal Energy Management of an improved elevator with energy storage capacity based on Dynamic Programming. , 2012, , .		7
50	Modular converter architecture for medium voltage ultra fast EV charging stations: Global system considerations. , 2012, , .		55
51	Accurate voltage ripple estimation and decoupled current control for Modular Multilevel Converters. , 2012, , .		16
52	Functional modeling and Energetic Macroscopic Representation of Modular Multilevel Converters. , 2012, , .		10
53	Catenary Voltage Support: Adopting Modern Locomotives With Active Line-Side Converters. IEEE Transactions on Smart Grid, 2012, 3, 377-387.	6.2	6
54	Direct Connection of Supercapacitors to Photovoltaic Panels With On–Off Maximum Power Point Tracking. IEEE Transactions on Sustainable Energy, 2012, 3, 283-294.	5.9	32

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55	Model predictive-based voltage regulation of an islanded distributed generation unit. , 2011, , .		2
56	Proposal and validation of medium-frequency power transformer design methodology. , 2011, , .		33
57	Model predictive-based control method for cascaded H-Bridge multilevel active rectifiers. , 2011, , .		13
58	Multivariable-PI-Based dq Current Control of Voltage Source Converters With Superior Axis Decoupling Capability. IEEE Transactions on Industrial Electronics, 2011, 58, 3016-3026.	5.2	184
59	Vector Control of Single-Phase Voltage-Source Converters Based on Fictive-Axis Emulation. IEEE Transactions on Industry Applications, 2011, 47, 831-840.	3.3	177
60	Energy storage for railway systems, energy recovery and vehicle autonomy in Europe. , 2010, , .		22
61	Re-generative asymmetrical multi-level converter for multi-megawatt variable speed drives. , 2010, , .		17
62	A vector controlled single-phase voltage source inverter with enhanced dynamic response. , 2010, , .		11
63	The Common Cross-Connected Stage for the 5L ANPC Medium Voltage Multilevel Inverter. IEEE Transactions on Industrial Electronics, 2010, 57, 2279-2286.	5.2	50
64	Modeling and Control of the Cross-Connected Intermediate-Level Voltage Source Inverter. IEEE Transactions on Industrial Electronics, 2010, 57, 2597-2604.	5.2	31
65	Vector control of single-phase voltage source converters based on Fictive Axis Emulation. , 2009, , .		16
66	Global Loss Evaluation Methods for Nonsinusoidally Fed Medium-Frequency Power Transformers. IEEE Transactions on Industrial Electronics, 2009, 56, 4132-4140.	5.2	146
67	Description and Efficiency Comparison of Two 25 kVA DC/AC Isolation Modules. EPE Journal (European) Tj ETQq1 1 0.784314 rgBT /O	0.7	7
68	Comparison of Control Strategies for Maximizing Energy in a Supercapacitor Storage Subsystem. EPE Journal (European Power Electronics and Drives Journal), 2009, 19, 5-14.	0.7	17
69	Advanced integration of multilevel converters into power system. , 2008, , .		17
70	Introducing the Common Cross Connected Stage (C<sup>3</sup>S) for the 5L ANPC multilevel inverter. Power Electronics Specialist Conference (PESC), IEEE, 2008, , .	0.0	10
71	Multiphysics and Energetic Modeling of a Vanadium Redox Flow Battery. , 2008, , .		48
72	Analysis of empirical core loss evaluation methods for non-sinusoidally fed medium frequency power transformers. , 2008, , .		17

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73	Transient thermal model of a medium frequency power transformer. , 2008, , .		24
74	A New Three-Level Quadratic (T-LQ) DC-DC Converter Suitable for Fuel Cell Applications. IEEJ Transactions on Industry Applications, 2008, 128, 459-467.	0.1	12
75	Three-level quadratic non-insulated basic DC-DC converters. , 2007, , .		7
76	A Fully Analytical PEM Fuel Cell System Model for Control Applications. IEEE Transactions on Industry Applications, 2007, 43, 1499-1506.	3.3	30
77	New Optimized PWM VSC Control Structures and Strategies Under Unbalanced Voltage Transients. IEEE Transactions on Industrial Electronics, 2007, 54, 2902-2914.	5.2	128
78	Power Quality Problems Compensation With Universal Power Quality Conditioning System. IEEE Transactions on Power Delivery, 2007, 22, 968-976.	2.9	105
79	Cross-Connected Intermediate Level (CCIL) Voltage Source Inverter. , 2007, , .		27
80	The Equivalent Electron Density Concept for Static and Dynamic Modeling of the IGBT Base in Soft- and Hard-Switching Applications. IEEE Transactions on Power Electronics, 2007, 22, 2223-2233.	5.4	7
81	A fully analytical PEM fuel cell system model for control applications. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	4
82	Efficiency Considerations and Measurements of a Hybrid Energy Storage System based on Compressed Air and Super Capacitors. , 2006, , .		3
83	A DC Hybrid Circuit Breaker With Ultra-Fast Contact Opening and Integrated Gate-Commutated Thyristors (IGCTs). IEEE Transactions on Power Delivery, 2006, 21, 646-651.	2.9	311
84	Hybrid Energy Storage System Based on Compressed Air and Super-Capacitors with Maximum Efficiency Point Tracking (MEPT). IEEJ Transactions on Industry Applications, 2006, 126, 911-920.	0.1	15
85	High Efficient Interleaved Multi-channel dc/dc Converter Dedicated to Mobile Applications. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	25
86	Non-Equilibrium State Capacitor-Voltage Stabilization in a Hybrid Asymmetric Nine-Level Inverter: Nonlinear Model-Predictive Control. EPE Journal (European Power Electronics and Drives Journal), 2005, 15, 28-35.	0.7	2
87	Control of a Hybrid Asymmetric Multilevel Inverter for Competitive Medium-Voltage Industrial Drives. IEEE Transactions on Industry Applications, 2005, 41, 655-664.	3.3	275
88	SEQUENTIAL SUPPLY FOR ELECTRICAL TRANSPORTATION VEHICLES: PROPERTIES OF THE FAST ENERGY TRANSFER BETWEEN SUPERCAPACITIVE TANKS. Journal of Circuits, Systems and Computers, 2004, 13, 941-955.	1.0	7
89	A Supercapacitor-Based Energy Storage Substation for Voltage Compensation in Weak Transportation Networks. IEEE Transactions on Power Delivery, 2004, 19, 629-636.	2.9	205
90	Power-Electronic Interface for a Supercapacitor-Based Energy-Storage Substation in DC-Transportation Networks. EPE Journal (European Power Electronics and Drives Journal), 2004, 14, 43-49.	0.7	40

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91	JOE: a mobile, inverted pendulum. IEEE Transactions on Industrial Electronics, 2002, 49, 107-114.	5.2	651
92	A supercapacitor-based energy-storage system for elevators with soft commutated interface. IEEE Transactions on Industry Applications, 2002, 38, 1151-1159.	3.3	215
93	A three-phase multilevel converter for high-power induction motors. IEEE Transactions on Power Electronics, 1998, 13, 978-986.	5.4	110