Andrea Benigni

List of Publications by Year
in descending order

48 papers	738 citations	567281 15 h-index	552781 26 g-index
48 all docs	48 docs citations	48 times ranked	712 citing authors

#	Article	IF	Citations
1	Controller-Embeddable Probabilistic Real-Time Digital Twins for Power Electronic Converter Diagnostics. IEEE Transactions on Power Electronics, 2020, 35, 9850-9864.	7.9	103
2	A Global Real-Time Superlab: Enabling High Penetration of Power Electronics in the Electric Grid. IEEE Power Electronics Magazine, 2018, 5, 35-44.	0.7	54
3	Multiphysics Test Bed for Renewable Energy Systems in Smart Homes. IEEE Transactions on Industrial Electronics, 2013, 60, 1235-1248.	7.9	51
4	A Parallel Approach to Real-Time Simulation of Power Electronics Systems. IEEE Transactions on Power Electronics, 2015, 30, 5192-5206.	7.9	50
5	A Software-Only PTP Synchronization for Power System State Estimation With PMUs. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 1476-1485.	4.7	42
6	Real-Time Simulation-Based Testing of Modern Energy Systems: A Review and Discussion. IEEE Industrial Electronics Magazine, 2020, 14, 28-39.	2.6	42
7	Latency-Based Approach to the Simulation of Large Power Electronics Systems. IEEE Transactions on Power Electronics, 2014, 29, 3201-3213.	7.9	34
8	System-Level, FPGA-Based, Real-Time Simulation of Ship Power Systems. IEEE Transactions on Energy Conversion, 2017, 32, 737-747.	5.2	32
9	Latency Insertion Method Based Real-Time Simulation of Power Electronic Systems. IEEE Transactions on Power Electronics, 2018, 33, 7166-7177.	7.9	32
10	Real-Time Multi-FPGA Simulation of Energy Conversion Systems. IEEE Transactions on Energy Conversion, 2019, 34, 2198-2208.	5.2	30
11	A Scalable Data-Driven Monitoring Approach for Distribution Systems. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 1292-1305.	4.7	28
12	State Estimation and Branch Current Learning Using Independent Local Kalman Filter With Virtual Disturbance Model. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 3026-3034.	4.7	27
13	Model Order Reduction for PMU-Based State Estimation in Distribution Grids. IEEE Systems Journal, 2018, 12, 2711-2720.	4.6	24
14	Development of a simulator-to-simulator interface for geographically distributed simulation of power systems in real time. , 2015, , .		21
15	Hardware-in-the-loop testing of high switching frequency power electronics converters. , 2017, , .		17
16	On Modeling Depths of Power Electronic Circuits for Real-Time Simulation â€“ A Comparative Analysis for Power Systems. IEEE Open Access Journal of Power and Energy, 2022, 9, 76-87.	3.4	16
17	A Decentralized Observer for Ship Power System Applications: Implementation and Experimental Validation. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 440-449.	4.7	15
18	A Hardware-in-the-Loop Platform for DC Protection. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 2605-2619.	5.4	10

#	Article	IF	Citations
19	Evaluation framework for power and energy management shipboard distribution controls. , 2017, , .		9
20	Simulation of Coupled Power and Gas Systems with Hydrogen-Enriched Natural Gas. Energies, 2021, 14, 7680.	3.1	8
21	Decoupling Power System State Estimation by Means of Stochastic Collocation. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 1623-1632.	4.7	7
22	Data-Driven Modeling of a Commercial Photovoltaic Microinverter. Modelling and Simulation in Engineering, 2018, 2018, 1-11.	0.7	7
23	Power Electronic System Real-Time Simulation on National Instruments FPGA Platforms. , 2019, , .		7
24	Decentralized Load Estimation for Distribution Systems Using Artificial Neural Networks. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 1333-1342.	4.7	7
25	State estimation and learning of unknown branch current flows using decentralized Kalman filter with virtual disturbance model. , 2010, , .		6
26	Decentralized state estimation for distribution systems using artificial neural network. , 2018, , .		6
27	Measurement Selection for Data-Driven Monitoring of Distribution Systems. IEEE Systems Journal, 2019, 13, 4260-4268.	4.6	6
28	ORTiS solver codegen: C++ code generation tools for high performance, FPGA-based, real-time simulation of power electronic systems. SoftwareX, 2021, 13, 100660.	2.6	6
29	Software and Synthesis Development Libraries for Power Electronic System Real-Time Simulation. , 2019, , .		5
30	Towards an Uncertainty-Based Model Level Selection for the Simulation of Complex Power Systems. , 2010, , .		4
31	A Hardware-in-the-Loop Platform for Testing Networked Controllers for Microgrids. , 2018, , .		4
32	Real Time Simulation of Transient Overvoltage and Common-Mode during Line-to-Ground Fault in DC Ungrounded Systems. , 2019, , .		4
33	Toward an Uncertainty-Based Model Level Selection for the Simulation of Complex Power Systems. IEEE Systems Journal, 2012, 6, 564-574.	4.6	3
34	Protection Scheme for Fast Detection and Interruption of High-Impedance Faults on Rate-Limited DC Distribution Networks. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 2540-2549.	5.4	3
35	System Level Real-Time Simulation and Hardware-in-the-Loop Testing of MMCs. Energies, 2021, 14, 3046.	3.1	3
36	Factorisation Path Based Refactorisation for High-Performance LU Decomposition in Real-Time Power System Simulation. Energies, 2021, 14, 7989.	3.1	3

#	Article	IF	Citations
37	FPGA-based real-time LIM simulation of switching power converters. , 2016, , .		2
38	An Open-Source Many-Scenario Approach for Power System Dynamic Simulation on HPC Clusters. Electronics (Switzerland), 2021, 10, 1330.	3.1	2
39	Neural-Network-based State Estimation: the effect of Pseudo- measurements. , 2021, , .		2
40	A Model of MMCs for Power Electronic System High-Performance Real-Time Simulation. , 2022, , .		2
41	A Multi-Institutional Approach to Delivering Shared Curricula for Developing a Next-Generation Energy Workforce. IEEE Access, 2017, 5, 1416-1427.	4.2	1
42	Decentralized Model Predictive Control of a Power Electronic Power Distribution System. , 2019, , .		1
43	Time-Series Analysis and Forecasting of Power Consumption using Gaussian Process Regression. , 2021, , .		1
44	GasNetSim: An Open-Source Package for Gas Network Simulation with Complex Gas Mixture Compositions. , 2022, , .		1
45	Low Frequency Injection as a Method of Low-Level DC Microgrid Communication. Energies, 2020, 13, 2452.	3.1	0
46	A Low Latency Parallel Bus Interface for High-Speed multi-FPGA RT-Simulations. , 2021, , .		0
47	Incorporating AC Power Flow into the Multi-Energy System Optimization Framework COMANDO. , 2022, , .		0
48	Modelica-based parallel computing framework for power system adaptive special protection schemes. , 2022, , .		0