Fabio Viola

List of Publications by Year
in descending order

148 papers	1,979 citations	361045 20 h-index	414034 32 g-index
148 all docs	148 docs citations	148 times ranked	1033 citing authors

#	Article	IF	Citations
1	Review of space charge measurement systems: acoustic, thermal and optical methods. IEEE Transactions on Dielectrics and Electrical Insulation, 2016, 23, 3126-3142.	1.8	105
2	Dynamic programming and Munkres algorithm for optimal photovoltaic arrays reconfiguration. Solar Energy, 2015, 122, 347-358.	2.9	82
3	Finite difference time domain simulation of earth electrodes soil ionisation under lightning surge condition. IET Science, Measurement and Technology, 2008, 2, 134-145.	0.9	55
4	Increasing efficiency of photovoltaic systems under non-homogeneous solar irradiation using improved Dynamic Programming methods. Solar Energy, 2017, 150, 325-334.	2.9	54
5	Smoothed Particle ElectroMagnetics: A mesh-free solver for transients. Journal of Computational and Applied Mathematics, 2006, 191, 194-205.	1.1	53
6	Designing a Sustainable University Recharge Area for Electric Vehicles: Technical and Economic Analysis. Energies, 2017, 10, 1604.	1.6	41
7	Piezoelectric Rainfall Energy Harvester Performance by an Advanced Arduino-Based Measuring System. IEEE Transactions on Industry Applications, 2018, 54, 458-468.	3.3	39
8	Harvesting rainfall energy by means of piezoelectric transducer. , 2013, , .		37
9	Characterization of the parameters of interior permanent magnet synchronous motors for a loss model algorithm. Measurement: Journal of the International Measurement Confederation, 2017, 106, 196-202.	2.5	37
10	Technical and Economical Evaluation on the Use of Reconfiguration Systems in Some EU Countries for PV Plants. IEEE Transactions on Industry Applications, 2017, 53, 1308-1315.	3.3	37
11	Comparison Among Different Rainfall Energy Harvesting Structures. Applied Sciences (Switzerland), 2018, 8, 955.	1.3	36
12	Economical evaluation of ecological benefits of the demand side management. , 2014, , .		33
13	Experimental analysis with FPGA controller-based of MC PWM techniques for three-phase five level cascaded H-bridge for PV applications. , 2016, , .		33
14	An efficient wireless power transfer prototype for electrical vehicles. , 2017, , .		33
15	An economic study about the installation of PV plants reconfiguration systems in Italy. , 2014, , .		32
16	UAV-Assisted Data Collection in Wireless Sensor Networks: A Comprehensive Survey. Electronics (Switzerland), 2021, 10, 2603.	1.8	32
17	Battery Models for Battery Powered Applications: A Comparative Study. Energies, 2020, 13, 4085.	1.6	30
18	Contributed Review: Review of thermal methods for space charge measurement. Review of Scientific Instruments, 2016, 87, 111501.	0.6	28

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19	Overview and experimental analysis of MC SPWM techniques for single-phase five level cascaded H-bridge FPGA controller-based. , 2016, , .		28
20	Evaluation of Radiated EMI in 42-V Vehicle Electrical Systems by FDTD Simulation. IEEE Transactions on Vehicular Technology, 2007, 56, 1477-1484.	3.9	27
21	Experimental Investigation on the Performances of a Multilevel Inverter Using a Field Programmable Gate Array-Based Control System. Energies, 2019, 12, 1016.	1.6	27
22	Piezoelectric model of rainfall energy harvester. , 2014, , .		26
23	How is the spread of the Electric Vehicles?. , 2015, , .		26
24	Electric Vehicles and Psychology. Sustainability, 2021, 13, 719.	1.6	26
25	Experimental Validation of a Novel Method for Harmonic Mitigation for a Three-Phase Five-Level Cascaded H-Bridges Inverter. IEEE Transactions on Industry Applications, 2019, 55, 6089-6101.	3.3	25
26	Energy Management Concepts for the Evolution of Smart Grids. , 2020, , .		25
27	SOIL IONIZATION DUE TO HIGH PULSE TRANSIENT CURRENTS LEAKED BY EARTH ELECTRODES. Progress in Electromagnetics Research B, 2009, 14, 1-21.	0.7	24
28	Recharge stations: A review. , 2016, , .		24
29	A Novel Computational Approach for Harmonic Mitigation in PV Systems with Single-Phase Five-Level CHBMI. Energies, 2018, 11, 2100.	1.6	24
30	Different Scenarios of Electric Mobility: Current Situation and Possible Future Developments of Fuel Cell Vehicles in Italy. Sustainability, 2020, 12, 564.	1.6	24
31	Review of acoustic methods for space charge measurement. , 2015, , .		23
32	Space charges and partial discharges simultaneous measurements under DC stress. , 2016, , .		22
33	Experimental Evaluation of the Performance of a Three-Phase Five-Level Cascaded H-Bridge Inverter by Means FPGA-Based Control Board for Grid Connected Applications. Energies, 2018, 11, 3298.	1.6	21
34	Corrective meshless particle formulations for time domain Maxwell's equations. Journal of Computational and Applied Mathematics, 2007, 210, 34-46.	1.1	20
35	Design and experimental characterization of a low-cost, real-time, wireless AC monitoring system based on ATmega 328P-PU microcontroller. , 2015, , .		20
36	A smoothed particle interpolation scheme for transient electromagnetic simulation. IEEE Transactions on Magnetics, 2006, 42, 647-650.	1.2	19

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37	Simplified hybrid PD model in voids. , 2011, , .		19
38	Experimental Investigation on Magnetic Field Effects of IPT for Electric Bikes. Electric Power Components and Systems, 2018, 46, 125-134.	1.0	19
39	Partial discharges on IGBT modules: Are sinusoidal waveforms sufficient to evaluate behavior?. , 2014, , .		18
40	Eletric vehicles impact using renewable energy. , 2015, , .		18
41	Experimental Investigation on the Performances of Innovative PV Vertical Structures. Photonics, 2019, 6, 86.	0.9	18
42	Electric Mobility in Portugal: Current Situation and Forecasts for Fuel Cell Vehicles. Energies, 2021, 14, 7945.	1.6	18
43	Simplified hybrid PD model in voids: Pattern validation. , 2013, , .		17
44	Survey on power increase of power by employment of PV reconfigurator. , 2015, , .		17
45	Economic evaluation of PV system for EV charging stations: Comparison between matching maximum orientation and storage system employment. , 2016, , .		17
46	Partial discharges at different voltage waveshapes: Comparison between two different acquisition systems. IEEE Transactions on Dielectrics and Electrical Insulation, 2018, 25, 584-593.	1.8	16
47	Finite difference time domain simulation of soil ionization in grounding systems under lightning surge conditions. Applied Numerical Analysis and Computational Mathematics, 2004, 1, 90-103.	0.6	15
48	A hierarchical architecture for increasing efficiency of large photovoltaic plants under non-homogeneous solar irradiation. Solar Energy, 2019, 188, 1306-1319.	2.9	15
49	The Industrial Applicability of PEA Space Charge Measurements, for Performance Optimization of HVDC Power Cables. Energies, 2019, 12, 4186.	1.6	15
50	Numerical simulation of radiated EMI in 42 V electrical automotive architectures. IEEE Transactions on Magnetics, 2006, 42, 879-882.	1.2	14
51	Economic benefits of the use of a PV plants reconfiguration systems. , 2015, , .		14
52	Partial discharge of gel insulated high voltage power modules subjected to unconventional voltage waveforms. , 2016, , .		14
53	Nanostructured lead acid battery for electric vehicles applications. , 2017, , .		14
54	A new technique for partial discharges measurement under DC periodic stress. , 2017, , .		14

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55	Switching Frequency Effects on the Efficiency and Harmonic Distortion in a Three-Phase Five-Level CHBMI Prototype with Multicarrier PWM Schemes: Experimental Analysis. Energies, 2022, 15, 586.	1.6	14
56	Day-ahead forecasting for photovoltaic power using artificial neural networks ensembles. , 2016, , .		13
57	A novel method for harmonic mitigation for single-phase five-level cascaded H-Bridge inverter. , 2018, , .		13
58	On the use of a meshless solver for PDEs governing electromagnetic transients. Applied Mathematics and Computation, 2009, 209, 42-51.	1.4	12
59	Performance of the shape of Partial Discharge signal wireless probes. , 2013, , .		12
60	Space charge behavior of different insulating materials employed in AC and DC cable systems. , 2017, , .		12
61	Modified Modulation Techniques for Quasi-Z-Source Cascaded H-Bridge Inverters. , 2018, , .		12
62	EMI Analysis in Electrical Drives Under Lightning Surge Conditions. IEEE Transactions on Electromagnetic Compatibility, 2012, 54, 850-859.	1.4	11
63	A low-cost, real-time monitoring system for PV plants based on ATmega 328P-PU microcontroller. , 2015, , .		11
64	Interior permanent magnet synchronous motors: Impact of the variability of the parameters on their efficiency. , 2016, , .		11
65	Modelling, Simulation and Characterization of a Supercapacitor in Automotive Applications. , 2020, , .		11
66	On the harvest of rainfall energy by means of piezoelectric transducer. , 2013, , .		10
67	Power Management of a Battery/Supercapacitor System for E-Mobility Applications. , 2019, , .		10
68	Experimental Study on B-Spline-Based Modulation Schemes Applied in Multilevel Inverters for Electric Drive Applications. Energies, 2019, 12, 4521.	1.6	10
69	A prototypal PCB board for the EMI characterization of SiC-based innovative switching devices. , 2020, , .		10
70	Simple and Flexible Power Loss Minimizer With Low-Cost MCU Implementation for High-Efficiency Three-Phase Induction Motor Drives. IEEE Transactions on Industry Applications, 2021, 57, 1472-1481.	3.3	10
71	Detection of Radiated EM Transients by Exploiting Compact Spherical Antenna Features. Recent Patents on Electrical Engineering, 2011, 4, 202-208.	0.4	10
72	Modeling, Simulation, and Characterization of a Supercapacitor in Automotive Applications. IEEE Transactions on Industry Applications, 2022, 58, 2421-2429.	3.3	10

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73	A Mesh-Free Particle Method for Transient Full-Wave Simulation. IEEE Transactions on Magnetics, 2007, 43, 1333-1336.	1.2	9
74	Finite-Difference Time-Domain Simulation of Towers Cascade Under Lightning Surge Conditions. IEEE Transactions on Industry Applications, 2015, 51, 4917-4923.	3.3	9
75	Wavelet-like bases for thin-wire integral equations in electromagnetics. Journal of Computational and Applied Mathematics, 2005, 175, 77-86.	1.1	8
76	A WAVELET OPERATOR ON THE INTERVAL IN SOLVING MAXWELL'S EQUATIONS. Progress in Electromagnetics Research Letters, 2011, 27, 133-140.	0.4	8
77	Experimental characterization of a wind generator prototype for sustainable small wind farms. , 2016, , .		8
78	A cogging torque minimization procedure for IPMSMs based on different laminate geometry. , 2016, , .		8
79	Simulation of a single-phase five-level cascaded H-Bridge inverter with multicarrier SPWM B-Spline based modulation techniques. , 2017, , .		8
80	Different Space Charge Behavior of Materials Used in AC and DC Systems. , 2017, , .		8
81	Performance Evaluation of a Three- Phase Five-Level Quasi-Z-Source Cascaded H-Bridge for Grid-Connected Applications. , 2018, , .		8
82	Partial discharge behavior under single phase half and full-bridge rectifier. , 2017, , .		7
83	Low-cost smart energy managment based on ATmega 328P-PU microcontroller. , 2017, , .		7
84	Dynamic Reconfiguration Systems for PV Plant: Technical and Economic Analysis. Energies, 2020, 13, 2004.	1.6	7
85	Impact Evaluation of Innovative Selective Harmonic Mitigation Algorithm for Cascaded H-Bridge Inverter on IPMSM Drive Application. IEEE Open Journal of Industry Applications, 2021, 2, 347-365.	4.8	7
86	Experimental investigation on different rainfall energy harvesting structures. , 2018, , .		6
87	The Effect of the Axial Heat Transfer on Space Charge Accumulation Phenomena in HVDC Cables. Energies, 2020, 13, 4827.	1.6	6
88	Reliability of PEA Measurement in Presence of an Air Void Defect. Energies, 2020, 13, 5652.	1.6	6
89	The Acoustic Wave Behavior Within the PEA Cell for Space Charge Measurement. , 2018, , .		5
90	Interpretation of PEA Output Signal in a Multilayer Specimen. , 2018, , .		5

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91	Modelling, simulation and characterization of Li-Ion battery cell. , 2019, , .		5
92	A local linear black-box identification technique for power converters modeling. , 2009, , .		4
93	Electrical characterization of low power CIGSSe photovoltaic modules. , 2015, , .		4
94	CO_2 reduction exploiting RES for EV charging. , 2016, , .		4
95	PV systems in the vertical walls: A comparison of innovative structures. , 2016, , .		4
96	Wireless battery charging for electric bicycles. , 2017, , .		4
97	Finite-element performance comparison of IPMSMs with unsymmetrical double-layer windings. , 2017, , .		4
98	Performances of a three-phase five-level cascaded H-bridge inverter with phase shifted B-spline based modulation techniques. , 2017, , .		4
99	Mixed Harmonic Elimination Control for a Single-Phase 9 Level Grid-Connected Inverter. , 2018, , .		4
100	Comparative Analysis of Modified Modulation Scheme for Three-phase Voltage fed QZS Inverters. , 2019, , .		4
101	From electric mobility to hydrogen mobility: current state and possible future expansions. , 2020, , .		4
102	Space charge accumulation in undersea HVDC cables as function of heat exchange conditions at the boundaries â€" water-air interface. , 2020, , .		4
103	Design and Realization of a Bidirectional Full Bridge Converter with Improved Modulation Strategies. Electronics (Switzerland), 2020, 9, 724.	1.8	4
104	Rainfall Energy Harvester. Advances in Environmental Engineering and Green Technologies Book Series, 2015, , 116-142.	0.3	4
105	Building Partial Discharge Signal Wireless Probes. , 0, , .		3
106	Comparison on the use of PV systems in the vertical walls. , 2015, , .		3
107	Novel Energy Modelling and Forecasting Tools for Smart Energy Networks. , 2015, , .		3
108	Performance of the glass block in photovoltaic generation. , 2015, , .		3

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109	Economic evaluation on the use of reconfiguration systems for increase of energy production in PV plants. , 2016, , .		3
110	Measuring rain energy with the employment of â€œArduinoâ€. , 2016, , .		3
111	PD characteristics at square shaped voltages applying two different detecting techniques. , 2016, , .		3
112	Remote voltage synchronization for wireless Partial Discharge diagnostics. , 2016, , .		3
113	Leading the way toward fuel parity in photovoltaics: The utility-scale market in Sicily, Italy. , 2016, , .		3
114	New approach for harmonic mitigation in single-phase five-level CHBMI with fundamental frequency switching. , 2017, , .		3
115	Cogging torque comparison of Interior Permanent Magnet Synchronous Generators with different stator windings. , 2017, , .		3
116	Ev charging station at university campus. , 2017, , .		3
117	Novel Computational Method for Harmonic Mitigation for Three-phase Five-level Cascaded H-Bridge Inverter. , 2018, , .		3
118	Wireless Power Transmission for house appliances: A small-scale resonant coupling prototype. , 2016, , .		2
119	Comparison between Different Dynamic Reconfigurations of Electrical Connections for partially shaded PV Modules. , 2018, , .		2
120	Forecasting the Diffusion of Hydrogen EV Refuelling Infrastructures in Italy. , 2019, , .		2
121	Electromagnetic Full-Wave Simulation of Partial Discharge Detection in High Voltage AC Cables. , 2019, , .		2
122	Acoustic Wave Behavior in a Specimen Containing an Air Void Defect. , 2019, , .		2
123	Modelling, simulation and characterization of a supercapacitor. , 2020, , .		2
124	Effect of Heat Exchange Transient Conditions With Moving Water-Air Interface on Space Charge Accumulation in Undersea HVdc Cables. IEEE Transactions on Industry Applications, 2021, 57, 4528-4536.	3.3	2
125	Implementation on NI-SOM sbRIO-9651 and Experimental Validation of Multi-Carrier PWM Techniques for Three-Phase Five Level Cascaded H-Bridge Inverter. , 2021, , .		2
126	A Quasi-Z-Source-Based Inductive Power Transfer System for Constant Current/Constant Voltage Charging Applications. Electronics (Switzerland), 2021, 10, 2900.	1.8	2

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127	Innovative Computational Approach to Harmonic Mitigation for Seven-level Cascaded H-Bridge Inverters. , 2020, , .		2
128	FDTD Simulation for Electromagnetic Radiated Emissions in 42 V Vehicle Electrical Systems. , 0, , .		1
129	Finite-difference time-domain simulation of tower and grounding subjected to lightning. , 2015, , .		1
130	The strategies for the diffusion of EVs: Focus on Norway and Italy. , 2017, , .		1
131	Partial discharge detection and localization along medium voltage cables. , 2017, , .		1
132	Enhanced loss model algorithm for interior permanent magnet synchronous machines. , 2017, , .		1
133	Design of Soft Ferrite filters for EMI reduction in Power Conversion Systems. , 2019, , .		1
134	Performance Comparison of modified modulation Techniques for Quasi-Z-Source Converters. , 2020, , .		1
135	Energy Harvester Sensing. Sensors, 2020, 20, 1849.	2.1	1
136	Electric Vehicles and Psychology, Part 2. , 2021, , .		1
137	Polarity reversal in HVDC joints - the effect of the axial thermal conduction. , 2020, , .		1
138	Effect of Polarity Reversal on the Partial Discharge Phenomena. , 2020, , .		1
139	A Mesh-free Particle Method for Transient Full-wave Simulation. , 0, , .		0
140	Android tool to evaluate grounding resistance. , 2015, , .		0
141	Local DoS applications with micro wind generation systems. , 2015, , .		0
142	Electrical characterization of CIGSSe photovoltaic modules. , 2017, , .		0
143	Photovoltaic facade: Comparison of actual technologies. , 2017, , .		0
144	Selective harmonic mitigation with asymmetrical staircase voltage waveform for a three-phase five-level Cascaded H-Bridge Inverter. , 2020, , .		0

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145	Experimental Validation of Maximum Constant Boost Control and Switching Frequency Optimal for three-phase Quasi-Z-Source Converters. , 2020, , .		0
146	A Novel Symmetrical Boost Modulation Method for qZS-based CHB Inverters. , 2020, , .		0
147	On Psychological Aspects about Electric Vehicles, Part 1. , 2021, , .		0
148	Investigation on partial discharges in HVDC cables after polarity reversal events. , 2020, , .		0