

# João P Trovão

## List of Publications by Year in descending order

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144  
papers

2,312  
citations

279701

23  
h-index

265120

42  
g-index

145  
all docs

145  
docs citations

145  
times ranked

1794  
citing authors

#	ARTICLE	IF	CITATIONS
1	Adaptive Parameter Identification of a Fuel Cell System for Health-Conscious Energy Management Applications. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 7963-7973.	4.7	5
2	Shore power as a first step toward shipping decarbonization and related policy impact on a dry bulk cargo carrier. ETransportation, 2022, 11, 100150.	6.8	23
3	Fuzzy logic-model predictive control energy management strategy for a dual-mode locomotive. Energy Conversion and Management, 2022, 253, 115111.	4.4	24
4	Optimal drivetrain design methodology for enhancing dynamic and energy performances of dual-motor electric vehicles. Energy Conversion and Management, 2022, 252, 115054.	4.4	16
5	Towards health-aware energy management strategies in fuel cell hybrid electric vehicles: A review. International Journal of Hydrogen Energy, 2022, 47, 10021-10043.	3.8	53
6	The Vehicle Industry Is Moving Fast [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2022, 17, 98-107.	2.8	1
7	Online power and efficiency estimation of a fuel cell system for adaptive energy management designs. Energy Conversion and Management, 2022, 255, 115324.	4.4	7
8	A review of electric bus vehicles research topics “ Methods and trends. Renewable and Sustainable Energy Reviews, 2022, 159, 112211.	8.2	58
9	Electric Vehicle Efficient Power and Propulsion Systems. Energies, 2022, 15, 3863.	1.6	0
10	Scenario-Based Multi-criteria decision analysis for rapid transit systems implementation in an urban context. ETransportation, 2021, 7, 100101.	6.8	10
11	Performance enhancement of powertrain DC“DC converter using variable inductor. IET Electrical Systems in Transportation, 2021, 11, 161-170.	1.5	1
12	Multi-objective benchmark for energy management of dual-source electric vehicles: An optimal control approach. Energy, 2021, 223, 119857.	4.5	23
13	A Comparative Study of Adaptive Filtering Strategies for Hybrid Energy Storage Systems in Electric Vehicles. Energies, 2021, 14, 3373.	1.6	13
14	New Concepts in Automotive Electronics [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2021, 16, 113-123.	2.8	2
15	Online characteristics estimation of a fuel cell stack through covariance intersection data fusion. Applied Energy, 2021, 292, 116907.	5.1	5
16	Longitudinal Motion Control of Electric Vehicles: Global Model and Design Using Passivity. IEEE Vehicular Technology Magazine, 2021, 16, 75-86.	2.8	5
17	Electromobility Innovation Trends [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2021, 16, 153-161.	2.8	4
18	Driving Mode Predictor-Based Real-Time Energy Management for Dual-Source Electric Vehicle. IEEE Transactions on Transportation Electrification, 2021, 7, 1173-1185.	5.3	14

#	ARTICLE	IF	CITATIONS
19	Optimal Energy Management of Hybrid Storage Systems Using an Alternative Approach of Pontryagin's Minimum Principle. IEEE Transactions on Transportation Electrification, 2021, 7, 2224-2237.	5.3	34
20	Wide-Bandgap Power Semiconductors for Electric Vehicle Systems: Challenges and Trends. IEEE Vehicular Technology Magazine, 2021, 16, 89-98.	2.8	24
21	IEEE VTS Motor Vehicles Challenge 2022 - Sizing and Energy Management of Hybrid dual-Energy Storage System for a Commercial Electric Vehicle. , 2021, , .		11
22	Quadratic Programming based Energy Management in a Multi-Stack Fuel Cell Hybrid Electric Vehicle. , 2021, , .		2
23	Glocal Energy Management System with Optimal Torque-Flux and Speed Controllers. , 2021, , .		0
24	Passive and Active Coupling Comparison of Fuel Cell and Supercapacitor for a Three-Wheel Electric Vehicle. Fuel Cells, 2020, 20, 351-361.	1.5	12
25	Disturbance observer-based state-of-charge estimation for Li-ion battery used in light electric vehicles. Journal of Energy Storage, 2020, 27, 101144.	3.9	24
26	Online Modeling of a Fuel Cell System for an Energy Management Strategy Design. Energies, 2020, 13, 3713.	1.6	10
27	Automotive Electronics Under the COVID-19 Shadow [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2020, 15, 101-108.	2.8	8
28	Recent Impacts on the Automotive Electronics Industry [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2020, 15, 139-146.	2.8	1
29	Experimental Platform for Evaluation of On-Board Real-Time Motion Controllers for Electric Vehicles. Energies, 2020, 13, 6448.	1.6	5
30	Real-Time Energy Management of Parallel Hybrid Electric Vehicles Using Linear Quadratic Regulation. Energies, 2020, 13, 5538.	1.6	10
31	Fuel cell/supercapacitor passive configuration sizing approach for vehicular applications. International Journal of Hydrogen Energy, 2020, 45, 26501-26512.	3.8	22
32	Comprehensive Review on Main Topologies of Impedance Source Inverter Used in Electric Vehicle Applications. World Electric Vehicle Journal, 2020, 11, 37.	1.6	19
33	System-Level Optimization of Hybrid Excitation Synchronous Machines for a Three-Wheel Electric Vehicle. IEEE Transactions on Transportation Electrification, 2020, 6, 690-702.	5.3	8
34	Component-Level Optimization of Hybrid Excitation Synchronous Machines for a Specified Hybridization Ratio Using NSGA-II. IEEE Transactions on Energy Conversion, 2020, 35, 1596-1605.	3.7	11
35	Automotive Electronics Market Evolution [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2020, 15, 107-118.	2.8	1
36	Digital Transformation, Systemic Design, and Automotive Electronics [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2020, 15, 149-159.	2.8	9

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37	Sizing of a Battery Pack Based on Series/Parallel Configurations for a High-Power Electric Vehicle as a Constrained Optimization Problem. IEEE Transactions on Vehicular Technology, 2020, 69, 14150-14159.	3.9	11
38	Comprehensive comparison and selection of magnetic materials for powertrain DC-DC converters. IET Electrical Systems in Transportation, 2020, 10, 125-134.	1.5	4
39	Climate impact analysis on the optimal sizing of a stand-alone hybrid building. Energy and Buildings, 2020, 210, 109676.	3.1	7
40	Optimal Energy and Reserve Market Management in Renewable Microgrid-PEVs Parking Lot Systems: V2G, Demand Response and Sustainability Costs. Energies, 2020, 13, 1884.	1.6	25
41	Optimisation of fractional-order PI controller for bidirectional quasi-Z-source inverter used for electric traction system. IET Electrical Systems in Transportation, 2020, 10, 376-384.	1.5	7
42	Effect of battery voltage variation on electric vehicle performance driven by induction machine with optimal flux-weakening strategy. IET Electrical Systems in Transportation, 2020, 10, 351-359.	1.5	9
43	Different Voltage and Current Control Schemes for Multi-pack Battery of Electric Scooters. , 2020, , .		3
44	IEEE VTS Motor Vehicles Challenge 2021 - Energy Management of A Dual-Motor All-Wheel Drive Electric Vehicle. , 2020, , .		13
45	Design of Variable Inductor for Powertrain DC-DC Converter. , 2019, , .		5
46	Characterization of variable inductors using finite element analysis. Simulation Modelling Practice and Theory, 2019, 97, 101952.	2.2	2
47	A Comparison of Different Models for Permanent Magnet Synchronous Machines: Finite Element Analysis, D-Q Lumped Parameter Modeling, and Magnetic Equivalent Circuit. , 2019, , .		6
48	Passive hybrid energy storage system based on lithium-ion capacitor for an electric motorcycle. Journal of Energy Storage, 2019, 25, 100884.	3.9	19
49	An Overview of Automotive Electronics [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2019, 14, 130-137.	2.8	3
50	Zero-emission casting-off and docking maneuvers for series hybrid excursion ships. Energy Conversion and Management, 2019, 184, 427-435.	4.4	19
51	Driving Range Evolution of an EV Regarding Cumulated Hours of Operation. , 2019, , .		2
52	Project-Based Learning in Engineering: Illustration by a Capstone Project of an Electric Vehicle. , 2019, , .		0
53	Extension of DC Supply Working Range Voltage in EVs Using Bidirectional Quasi-Z-Source Inverter. , 2019, , .		0
54	Implications of Lithium-Ion Cell Variations on Multi-Cell Battery Pack Thermal Runaway. , 2019, , .		1

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55	Impact of Supercapacitors on Fuel Consumption and Battery Current of a Parallel Hybrid Truck. , 2019, , .		3
56	Impact of Battery Temperature on Motor Flux Weakening Operations in Electric Vehicles. , 2019, , .		1
57	Powertrain Analysis of an All-Wheel-Drive Off-Road Electric Vehicle. , 2019, , .		8
58	Comparison of Different Power Train Topologies for an Off-Road Electric Vehicle. , 2019, , .		3
59	Softâ€œcomputing techniques for cruise controller tuning for an offâ€œroad electric vehicle. IET Electrical Systems in Transportation, 2019, 9, 196-205.	1.5	14
60	Trends in Automotive Electronics [Automotive Electronics]. IEEE Vehicular Technology Magazine, 2019, 14, 100-109.	2.8	20
61	Guest Editorial: Special Section on Advanced Vehicle Power Propulsion Systems. IEEE Transactions on Vehicular Technology, 2019, 68, 11406-11408.	3.9	0
62	Real-Time Energy Management of Battery/Supercapacitor Electric Vehicles Based on an Adaptation of Pontryagin's Minimum Principle. IEEE Transactions on Vehicular Technology, 2019, 68, 203-212.	3.9	136
63	Calculation of Printed Circuit Board Power-Loop Stray Inductance in GaN or High &lt;i>di/dt</i> Applications. IEEE Transactions on Power Electronics, 2019, 34, 612-623.	5.4	32
64	Hybridisation ratio for hybrid excitation synchronous motors in electric vehicles with enhanced performance. IET Electrical Systems in Transportation, 2018, 8, 12-19.	1.5	16
65	A Controllable Bidirectional Battery Charger for Electric Vehicles with Vehicle-to-Grid Capability. IEEE Transactions on Vehicular Technology, 2018, 67, 114-123.	3.9	100
66	Power Split Strategy Optimization of a Plug-in Parallel Hybrid Electric Vehicle. IEEE Transactions on Vehicular Technology, 2018, 67, 315-326.	3.9	55
67	Application of Second-Order Sliding-Mode Concepts to Active Magnetic Bearings. IEEE Transactions on Industrial Electronics, 2018, 65, 855-864.	5.2	39
68	Battery Pack Sizing Method - Case Study of an Electric Motorcycle. , 2018, , .		14
69	Design of a High Performance Battery Pack as a Constraint Satisfaction Problem. , 2018, , .		1
70	Bi-Level Optimal Energy Management of a Hybrid Truck Supplied by Batteries and Supercapacitors. , 2018, , .		2
71	Multi-Cell Emulation for Battery Management System Validation. , 2018, , .		3
72	Lithium-Ion Cell Empirical Efficiency Maps. , 2018, , .		2

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73	Novel Ergonomic Regenerative Braking System for an Electric Motorcycle. , 2018, , .		1
74	Comparison of Bidirectional Quasi Z-Source- and Bidirectional Conventional Two-Stage-Inverter for Electric Traction System. , 2018, , .		2
75	Merging control of a hybrid energy storage system using battery/supercapacitor for electric vehicle application. , 2018, , .		1
76	Optimal Energy Management of a Parallel Hybrid Truck for Fuel Consumption Comparative Study. , 2018, , .		5
77	Variable Inductor Based Bidirectional DC-DC Converter for Electric Vehicles. IEEE Transactions on Vehicular Technology, 2017, 66, 8764-8772.	3.9	48
78	Energy- and Power-Split Management of Dual Energy Storage System for a Three-Wheel Electric Vehicle. IEEE Transactions on Vehicular Technology, 2017, 66, 5540-5550.	3.9	91
79	Adaptive Energy Management System Based on a Real-Time Model Predictive Control With Nonuniform Sampling Time for Multiple Energy Storage Electric Vehicle. IEEE Transactions on Vehicular Technology, 2017, 66, 5520-5530.	3.9	91
80	Stability enhancement of the motor drive DC input voltage of an electric vehicle using on-board hybrid energy storage systems. Applied Energy, 2017, 205, 244-259.	5.1	27
81	Coupled energy management algorithm for MESS in urban EV. IET Electrical Systems in Transportation, 2017, 7, 125-134.	1.5	12
82	Benefits of Regenerative Braking for an Electric Superbike Using Energetic Macroscopic Representation. , 2017, , .		8
83	Effect of Current Path on Parallel Lithium-Ion Cells in Electric Vehicles Battery Packs. , 2017, , .		2
84	An Optimal Control-Based Strategy for Energy Management of Electric Vehicles Using Battery/Supercapacitor. , 2017, , .		7
85	Overvoltage Reduction with Enhanced Snubber Design for GaN-Based Electric Vehicle Drive. , 2017, , .		3
86	Coupled electric and thermal batteries models using energetic macroscopic representation (EMR) for range estimation in electric vehicles. , 2017, , .		2
87	EMF waveform optimization using the permanent magnet volume-integration method. CES Transactions on Electrical Machines and Systems, 2017, 1, 189-198.	2.7	4
88	Auxiliary converter for variable inductor control in a DC-DC converter application. , 2016, , .		6
89	Improved Voltage Limitation Method of Supercapacitors in Electric Vehicle Applications. , 2016, , .		5
90	Bidirectional DC-DC Converter Using Variable Inductor Concept for Electric Vehicle Applications. , 2016, , .		0

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91	Electric Motors Evaluation Algorithm Based on Their Effect on Electric Vehicle Mass Reduction. , 2016, , .		1
92	Problem- and Project-Based Learning in Engineering: A Focus on Electrical Vehicles. , 2016, , .		7
93	Guest Editorial Special Issue based on "Energy Storage and Electric power Sub-Systems for Advanced Vehicles" For Invited Papers of IEEE/PPC 2014. IET Electrical Systems in Transportation, 2016, 6, 1-2.	1.5	2
94	Hybrid electric excursion ships power supply system based on a multiple energy storage system. IET Electrical Systems in Transportation, 2016, 6, 190-201.	1.5	37
95	Effectiveness of Supercapacitors in Pure Electric Vehicles Using a Hybrid Metaheuristic Approach. IEEE Transactions on Vehicular Technology, 2016, 65, 29-36.	3.9	36
96	Gallium Nitride Semiconductors in Power Electronics for Electric Vehicles: Advantages and Challenges. , 2015, , .		25
97	Hybrid Magnetic Bearing Regulation via Super Twisting Control. , 2015, , .		3
98	A Model Predictive Control with Non-Uniform Sampling Times for a Hybrid Energy Storage System in Electric Vehicle Application. , 2015, , .		5
99	An outlook of electric vehicle daily use in the framework of an energy management system. Management of Environmental Quality, 2015, 26, 588-606.	2.2	7
100	Modelling of an Urban Electric MiniBus Using Energetic Macroscopic Representation Graphic Description. , 2015, , .		10
101	Semi-Active Hybrid Topology with Three-Level DC-DC Converter for Electric Vehicle Application. , 2015, , .		5
102	Battery and SuperCapacitor Hybridization for a Pure Electric Three-Wheel Roadster. , 2015, , .		11
103	Integration of the Electric Vehicle as a Manageable Load in a Residential Energy Management System. , 2015, , .		5
104	A Sliding Mode Control of a Hybrid Magnetic Bearing for Wayside Flywheel Energy Storage Systems. , 2015, , .		5
105	Motor Drive with Halbach Permanent Magnet Array for Urban Electric Vehicle Concept. , 2015, , .		1
106	A Novel ICT Solution for Electric Vehicles Integration on Smart Grids. , 2015, , .		0
107	A Real-Time Energy Management Architecture for Multisource Electric Vehicles. IEEE Transactions on Industrial Electronics, 2015, 62, 3223-3233.	5.2	100
108	Large-Signal Characterization of Power Inductors in EV Bidirectional DC-DC Converters Focused on Core Size Optimization. IEEE Transactions on Industrial Electronics, 2015, 62, 3042-3051.	5.2	59

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109	A comparative analysis of meta-heuristic methods for power management of a dual energy storage system for electric vehicles. Energy Conversion and Management, 2015, 95, 281-296.	4.4	53
110	Control scheme for hybridised electric vehicles with an online power follower management strategy. IET Electrical Systems in Transportation, 2015, 5, 12-23.	1.5	25
111	Information and Communication Technology Solution for the V2G Concept Implementation. , 2014, , .		7
112	IP@Smart - Energy Management System Applied to Eco-Efficient Public Lighting Networks. , 2014, , .		5
113	Full-Bridge Topology for IPT System On-Board Charger. , 2014, , .		1
114	Comparison of Different Battery Technologies for Electric Minibuses Using Energetic Macroscopic Representation. , 2014, , .		10
115	Sustainable Trolleybus System: Rectifier Substation Technology Improvement for Energy Efficiency and Operational Cost Reduction. , 2014, , .		2
116	Reduced-Scale Hardware-In-the-Loop Simulation to Study Several Hybridization Rates of Electric Vehicles. , 2014, , .		4
117	A Simulated Annealing Approach for Optimal Power Source Management in a Small EV. IEEE Transactions on Sustainable Energy, 2013, 4, 867-876.	5.9	53
118	Hybrid topologies comparison for electric vehicles with multiple energy storage systems. , 2013, , .		7
119	Comparative study of different energy management strategies for dual-source electric vehicles. , 2013, , .		1
120	A multi-level energy management system for multi-source electric vehicles “ An integrated rule-based meta-heuristic approach. Applied Energy, 2013, 105, 304-318.	5.1	252
121	Power adjustable electric vehicle charger under Energy Box purpose. , 2013, , .		2
122	Experimental large-signal characterization of power inductors in bidirectional electric vehicle DC-DC converters for simulation analysis. , 2013, , .		4
123	An integrated fuzzy logic energy management for a dual-source electric vehicle. , 2013, , .		10
124	Application of a decoupling method based on online filtering technique for multi-source electric vehicles. , 2013, , .		5
125	DC-link stability control for dual-source electric vehicles using an extended kalman filter. , 2013, , .		1
126	A unified energy management strategy for a dual-source electric vehicle. , 2013, , .		3



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127	Comparative Study of Different Energy Management Strategies for Dual-Source Electric Vehicles. World Electric Vehicle Journal, 2013, 6, 523-531.	1.6	4
128	An automated energy management system in a smart grid context. , 2012, , .		7
129	Robust DC-Link Control in EVs With Multiple Energy Storage Systems. IEEE Transactions on Vehicular Technology, 2012, 61, 3553-3565.	3.9	35
130	A systematic approach to analyse the harmonic distortion in industry. , 2011, , .		1
131	Electric vehicles chargers characterization: Load demand and harmonic distortion. , 2011, , .		15
132	DC link control for multiple energy sources in electric vehicles. , 2011, , .		13
133	Study of inductor effects in a bidirectional DC-DC converter for electrical vehicle. , 2010, , .		4
134	Analysis of operation modes for a neighborhood electric vehicle with power sources hybridization. , 2010, , .		7
135	Design Methodology of Energy Storage Systems for a Small Electric Vehicle. World Electric Vehicle Journal, 2009, 3, 670-681.	1.6	15
136	Simulation model and road tests comparative results of a small urban electric vehicle. , 2009, , .		32
137	Motor bearings and insulation system condition diagnosis by means of common-mode currents and shaft-ground voltage correlation. , 2008, , .		9
138	A web-based monitoring approach for power systems in industrial plants. , 2008, , .		3
139	Comparative study of different electric machines in the powertrain of a small electric vehicle. , 2008, , .		17
140	Multiple energy sources monitoring system for electric vehicle. , 2008, , .		5
141	Photovoltaic panels labView™ controlled- a platform for educational purposes. Renewable Energy and Power Quality Journal, 2008, 1, 667-672.	0.2	1
142	Analysis of Harmonic distortion in building electrical installation with computer devices. Renewable Energy and Power Quality Journal, 2007, 1, 723-729.	0.2	1
143	A Modular Control Architecture for a Small Electric Vehicle. , 2006, , .		4
144	Analysis of Harmonic Current Propagation in Industrial Sector in Function of the Load Level. Renewable Energy and Power Quality Journal, 2003, 1, 175-182.	0.2	0