Electric Drive Technology Trends, Challenges, and Oppo Vehicles

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Citation Report

#	Article	IF	CITATIONS
1	Robustness of GaN Gate Injection Transistors under Repetitive Surge Energy and Overvoltage., 2021,,.		8
2	Computationally Efficient System-Level Evaluation of Battery Electric Vehicles., 2021,,.		2
3	A Thorough Review of Cooling Concepts and Thermal Management Techniques for Automotive WBG Inverters: Topology, Technology and Integration Level. Energies, 2021, 14, 4981.	1.6	22
4	Design and controller implementation of 3.3ÂkW bridgeless boost-fed three-level resonant converter for EV battery charging. Electrical Engineering, 2022, 104, 1935-1949.	1.2	6
5	Primary-Switched-Inductance Single-Ended Converter for E-Vehicles Applications. , 2021, , .		0
6	Paralleling of Four 650V/60A GaN HEMTs for High Power Traction Drive Applications. , 2021, , .		5
7	Design Optimization of a Very High Power Density Motor with a Reluctance Rotor and a Modular Stator Having PMs and Toroidal Windings. , 2021 , , .		11
8	A Novel On-Board Battery Charger Configuration Based on Nine-Switch Converter fed Open-End Winding AC Motor Drive for Plug-In Electric Vehicles. , 2021, , .		5
9	Emerging Opportunities in Manufacturing Bulk Soft-Magnetic Alloys for Energy Applications: A Review. Jom, 2022, 74, 1306-1328.	0.9	15
10	A Comprehensive Design Guideline of Hairpin Windings for High Power Density Electric Vehicle Traction Motors. IEEE Transactions on Transportation Electrification, 2022, 8, 3578-3593.	5.3	27
11	Review of the Methods to Optimize Power Flow in Electric Vehicle Powertrains for Efficiency and Driving Performance. Applied Sciences (Switzerland), 2022, 12, 1735.	1.3	10
12	A Novel Field Current Estimation Method for Brushless Wound-Field Synchronous Machine. IEEE Transactions on Transportation Electrification, 2022, 8, 3524-3533.	5.3	2
13	Investigation of the Properties of a Five-Phase Induction Motor in the Introduction of New Fault-Tolerant Control. Applied Sciences (Switzerland), 2022, 12, 2249.	1.3	3
14	Non-Destructive Evaluation of the Magnetic Quality of Electrical Steel Sheets by Magnetic Barkhausen Noise (MBN) Analysis. , 0, , .		O
15	A Review on Global Emissions by E-Products Based Waste: Technical Management for Reduced Effects and Achieving Sustainable Development Goals. Sustainability, 2022, 14, 4036.	1.6	12
16	Efficiency Improvement of Electric Motor Drives Using Dynamic Motor Drive Technology. , 0, , .		2
17	A Developed PLL Control Technique for Distorted and Unbalanced Grid Voltages with a Three-Level NPC Converter-Based Off-Board Battery Charger. , 2022, , .		3
18	Improved Current Control for Wide Band Gap Based Multiphase Drive., 2021,,.		О

#	Article	IF	Citations
19	Carrier Selection Strategy of Generalized Discontinuous PWM Method for Current Reduction in DC-Link Capacitors of VSI. IEEE Transactions on Power Electronics, 2022, 37, 10428-10442.	5.4	5
20	Rapid Calculation and Optimization of Vibration and Noise of Permanent-Magnet Synchronous Motors for EVs Based on Equivalent Structural Network. Machines, 2022, 10, 281.	1.2	4
21	Design, Modeling, and Model-Free Control of Permanent Magnet-Assisted Synchronous Reluctance Motor for e-Vehicle Applications. Sustainability, 2022, 14, 5423.	1.6	1
22	Electroplated Ni-P film for power devices without cracks induced by high temperature heating. Microelectronics Reliability, 2022, 133, 114547.	0.9	3
23	An Effective Nontransient Active Short-Circuit Method for PMSM in Electric Vehicles. IEEE Transactions on Industrial Electronics, 2023, 70, 3571-3580.	5.2	9
24	Study on a Wheel Electric Drive System with SRD for Loader. Energies, 2022, 15, 3781.	1.6	2
25	Modeling of Frequency-Dependent Damping for Fast Vibration Prediction in Permanent Magnet Synchronous Machines. IEEE Transactions on Transportation Electrification, 2023, 9, 561-574.	5.3	1
26	AC Loss Analysis and Measurement of a Hybrid Transposed Hairpin Winding for EV Traction Machines. IEEE Transactions on Industrial Electronics, 2023, 70, 3525-3536.	5.2	11
27	Comprehensive Design and Analysis of Rotor Stress for HSPMM Considering Cooling Method. Machines, 2022, 10, 475.	1.2	2
28	Electrical Vehicle Charging Station Mathematical Modeling and Stability Analysis. , 2022, , .		0
29	Analysis and Design of a High Power Density Full-Ceramic 900 V DC-Link Capacitor for a 550 kVA Electric Vehicle Drive Inverter. , 2022, , .		7
30	Analysis of DC-Link Voltage Ripple by Generalized Discontinuous PWM Strategy in Two-Level Three-Phase Voltage Source Inverters. , 2022, , .		3
31	A Fully Balanced Vertically Stacked Multilevel Power Converter Topology with Linear Scaling using Dual Active Half Bridge Converters. , 2022, , .		2
32	Surface-Mounted V-shapes PM assisted-Synchronous Reluctance Motor for Light Electric Vehicles. , 2022, , .		1
33	Design Considerations of Multi-Phase Multilevel Inverters for High-Power Density Traction Drive Applications. , 2022, , .		5
34	An Instantaneous Torque Model and the Practical Caculation Method for Permanent Magnet Synchronous Machines. , 2022, , .		0
35	Cost and Emission Comparison of Long-Distance Travel and Life-Cycle for EV and ICE Vehicle: a Case Study. , 2022, , .		4
36	A Prudent Power Management Algorithm for Energy Storage Systems in Electric Vehicles Using Fuzzy for Synergising. , 2022, , .		1

#	Article	IF	Citations
37	Design of Novel Non-Isolated Modified SEPIC Converter Based Onboard PEV Charger., 2022,,.		O
38	Review on Integrated On-Board Charger-Traction Systems: V2G Topologies, Control Approaches, Standards and Power Density State-of-the-Art for Electric Vehicle. Energies, 2022, 15, 5376.	1.6	9
39	Analysing low speed efficiency of switched reluctance motor material grade for electric vehicle. Materials Today: Proceedings, 2022, 68, 1845-1852.	0.9	7
40	China's battery electric vehicles lead the world: achievements in technology system architecture and technological breakthroughs., 2022, 1, 100020.		93
41	A cradle-to-grave life cycle assessment of high-voltage aluminum electrolytic capacitors in China. Journal of Cleaner Production, 2022, 370, 133244.	4.6	6
42	Combustion characteristics of microalgae-based dioctyl phthalate biofuel during ambient, preheated and hot engine operation. Fuel, 2023, 331, 125890.	3.4	3
43	Adoption of the Synchronous Reluctance Motor in Electric Vehicles: A Focus on the Flux Weakening Capability. IEEE Transactions on Transportation Electrification, 2023, 9, 805-818.	5.3	3
44	Impact of Manufacturing Stresses On Multiple-Rib Synchronous Reluctance Motor Performance. IEEE Transactions on Industry Applications, 2023, 59, 1253-1262.	3.3	6
45	Multi-Objective Optimization Framework of a Radial-Axial Hybrid Excitation Machine for Electric Vehicles. IEEE Transactions on Vehicular Technology, 2023, 72, 1638-1648.	3.9	3
46	Improved LPTN-Based Online Temperature Prediction of Permanent Magnet Machines by Global Parameter Identification. IEEE Transactions on Industrial Electronics, 2023, 70, 8830-8841.	5. 2	8
47	Designing for Conductor Lay and AC Loss Variability in Multistrand Stator Windings. IEEE Transactions on Industry Applications, 2023, 59, 1394-1404.	3.3	5
48	Electric vehicles. , 2023, , 350-387.		3
49	Precise Control of Flat-Topped Air-Gap Magnetic Field in a Five-Phase Induction Machine Powered by Third-Harmonic-Injected Sinusoidal Supply. IEEE Transactions on Transportation Electrification, 2022, 8, 4365-4377.	5.3	1
50	Optimum Flux Based Vector Control of Induction Motor Drive For Electric Vehicle. , 2022, , .		1
51	Technology trends, challenges, and opportunities of reduced-rare-earth PM motor for modern electric vehicles., 2022, 1, 100012.		13
52	Efficiency Analysis of Axial Flux SynRM in Variable Speed Applications. Machines, 2022, 10, 838.	1.2	5
53	Quantitative Comparisons of Outer-Rotor Permanent Magnet Machines of Different Structures/Phases for In-Wheel Electrical Vehicle Application. Energies, 2022, 15, 6688.	1.6	4
54	Internet of Things-based smart vehicles design of bio-inspired algorithms using artificial intelligence charging system. Nonlinear Engineering, 2022, 11, 582-589.	1.4	3

#	ARTICLE	IF	CITATIONS
55	Selection of PWM Methods for Common-Mode Voltage and DC-Link Capacitor Current Reduction of Three-Phase VSI. IEEE Transactions on Industry Applications, 2023, 59, 1064-1076.	3.3	5
56	A Family of Fully Balanced and Vertically Stacked Multilevel Power Converters with Linear Scaling. , 2022, , .		2
57	Three Phase-Threefold Dual Active Bridge Converter for Electric Vehicle Charging Station in Distribution Network., 2022,,.		1
58	Optimized Field Oriented Control for Induction Motor Driven Electric Vehicles. , 2022, , .		0
59	Eddy Current Loss Reduction in Binder Jet Printed Iron Silicon Cores., 2022,,.		1
60	Comparison of Aluminium and Copper Conductors in Hairpin Winding Design for High Power Density Traction Motors. , 2022, , .		6
61	Variable power regulation charging strategy for electric vehicles based on particle swarm algorithm. Energy Reports, 2022, 8, 824-830.	2.5	5
62	Multiobjective Model-Free Predictive Control for Motor Drives and Grid-Connected Applications: Operating With Unbalanced Multilevel Cascaded H-Bridge Inverters. IEEE Transactions on Power Electronics, 2023, 38, 3014-3028.	5.4	0
63	High-Fidelity Analysis With Multiphysics Simulation for Performance Evaluation of Electric Motors Used in Traction Applications. IEEE Transactions on Industry Applications, 2023, 59, 1273-1282.	3.3	2
64	Integrated Four-leg Inverter Structure For PMSM Drives with Open-phase Fault-tolerance and Internal Boost Operation. , 2022, , .		0
65	Towards high efficiency of intelligent charge compression ignition (ICCI) engine by optimizing the high-reactivity fuel injection strategies under medium–high loads. Fuel, 2023, 335, 127037.	3.4	1
66	Emerging Intelligent Bidirectional Charging Strategy Based on Recurrent Neural Network Accosting EMI and Temperature Effects for Electric Vehicle. IEEE Access, 2022, 10, 121741-121761.	2.6	6
67	Design and Testing of an Automotive Compliant 800V 550 kVA SiC Traction Inverter with Full-Ceramic DC-Link and EMI Filter. , 2022, , .		2
68	Performance Comparison of Different Permanent Magnet Motors for Traction Applications. , 2022, , .		0
69	Comparison of Motor Neutral Point Overvoltage Oscillations in SiC-Based Adjustable Speed Drives using Two-Level and Three-Level Inverters. , 2022, , .		0
70	WBG-based Drive Control Implementation and Experimental Validation. , 2022, , .		0
71	The Manhattan Configuration: a Differential Power Converter with Linear Scaling to N-levels. , 2022, , .		2
72	Trade Study for Rare-Earth-Free Interior Permanent Magnet Synchronous Machine Using MnBi Permanent Magnets., 2022,,.		2

#	Article	IF	CITATIONS
73	Fuzzy Unknown Input Observers Design for Four-Wheel Independently Actuated Electric Vehicles. , 2022, , .		0
74	Neural Inverse Optimal Control of a Regenerative Braking System for Electric Vehicles. Energies, 2022, 15, 8975.	1.6	4
76	Traction Drive System using Adaptive Minimum Limit of DC-bus Voltage Control for Energy Efficiency Operation., 2022,,.		0
77	Slip Frequency Type Vector Control for Cup Rotor Permanent Magnet Doubly Fed Machine. , 2022, , .		O
78	Optimal Centralized Charging Station With Demand Response System for Commercial EVs. , 2022, , .		1
79	Analysis of Active Front End Rectifier with LLC Resonant Converter for EV Charging Application. , 2022, , .		O
80	Evolution of Equipment in Electromobility and Autonomous Driving Regarding Safety Issues. Energies, 2023, 16, 1271.	1.6	1
81	Hybrid Converter for Roof-Top Mounted Solar PV and Battery Integrated Light Electric Vehicle. , 2022,		2
82	U.S. cobalt scenario analysis to mid-century: Import dependency or marketable commodity?. Resources, Conservation & Recycling Advances, 2023, 17, 200134.	1.1	0
83	Stator winding hotspot temperature rise characteristic study of an axially forced air-cooled motor with air deflector. Applied Thermal Engineering, 2023, 224, 120108.	3.0	2
84	Control of Traction Motor and Accessories in Electric Vehicle using Multi Source Converter. , 2022, , .		1
85	High-Inductance-Density MEMS 3D-solenoid Transformers with Inserted Thin-Film Ferrite Magnetic Core For On-Chip Integrated DC-DC Power Conversions. , 2023, , .		1
86	Investigation of a Cup-Rotor Permanent-Magnet Doubly Fed Machine for Extended-Range Electric Vehicles. Energies, 2023, 16, 2455.	1.6	2
87	Review of Active Front-End Rectifiers in EV DC Charging Applications. Batteries, 2023, 9, 150.	2.1	2
88	Design of Induction Motors With Flat Wires and Copper Rotor for E-Vehicles Traction System. IEEE Transactions on Industry Applications, 2023, 59, 3889-3900.	3.3	4
89	Simple Loss Model of Battery Cables for Fast Transient Thermal Simulation. Energies, 2023, 16, 2963.	1.6	1
90	A Performance Comparison Study of Hybrid Electric Vehicle Between Type-1 And Interval Type-2.0 FLC. , 2023, , .		0
91	Modified EV Charging/Discharging Control for Hybrid DC Fast Charging Stations., 2023,,.		0

#	Article	IF	CITATIONS
92	Thermal Impedance Calibration for Rapid and Noninvasive Calorimetric Soft-Switching Loss Characterization. IEEE Transactions on Power Electronics, 2023, 38, 8472-8485.	5.4	1
95	Deep Transfer Learning Based Fault Diagnosis of Electric Vehicle Motor. , 2022, , .		1
100	A comprehensive review of stage-of-the-art subsystems configurations, technical methodologies, advancements, and prospects for new energy electric vehicles. Ionics, 2023, 29, 2529-2547.	1.2	2
101	Self-Calibration Technique for Junction Temperature Estimation of SiC MOSFET Inverters Loaded with Synchronous Reluctance Motors., 2023,,.		0
102	A Simple and Non-Destructive Method to Measure Per-Terminal Baseplate Coupling of Power Modules. , 2023, , .		1
105	An Attempt to Obtain a Nitrogenous Austenite Phase in the Processing of Cobalt Steel by Vacuum Ion-Plasma Nitriding., 2023,,.		0
108	Comparative Analysis of Two-Level and Multilevel CHB Topologies for EV Drivetrain., 2023,,.		0
112	An Overview of the Importance of Power Electronic Converters in Electric Vehicle Technologies. , 2023, , .		0
113	Investigative Analysis on the necessity of Electric Vehicles in Indian Automobile Sector., 2023,,.		0
114	Analysis and Optimization of Fault - Tolerant Behaviour of Motors in Electric Vehicular Systems. Lecture Notes in Networks and Systems, 2023, , 23-38.	0.5	0
115	Performance Investigation of a Traction Electric Drive Under Various Modulation Strategies, DC-link Voltages and Switching Frequencies. , 2022, , .		0
117	Analyzing the factors influencing energy consumption at electric vehicle charging stations with Shapley additive explanations., 2023,,.		0
118	A High Performance Control Method for IPMSM Based on Lookup Tables Considering the System Nonlinearalities. , 2023, , .		1
120	Data-Driven Predictive Control with Inherent Update Method for Two-Level Voltage Source Inverters. , 2023, , .		1
124	Irreversible Demagnetization Reduced Order Modeling in MnBi Interior Permanent Magnet Synchronous Motor Multi-Objective Optimization. , 2023, , .		0
125	Comparative Analysis between MRC and SMFIR for Wireless Power Transfer in Electric Vehicle. , 2022, , .		0
126	Optimization of an Electric Vehicle Traction Motor with a PM Flux Intensifying Stator and a Reluctance Outer Rotor., 2023,,.		2
127	Active Balancing of Reconfigurable Batteries Using Reinforcement Learning Algorithms., 2023,,.		1

#	Article	IF	CITATIONS
128	Light-Commercial Electric Vehicle Design: Total Cost of Ownership Assessment., 2023,,.		0
129	Multiphysics Design and Optimization of a Rare-Earth Free, Manganese Bismuth Based, Surface Mounted Permanent Magnet Machine. , 2023, , .		0
135	Design Method to Minimize Current Stress for Auxiliary Resonant Commutated Pole Inverter., 2023,,.		O
137	Reducing Traction Motor Drive Losses in Electric Vehicle using Advanced Torque Modulation. , 2023, ,		1
138	Electromagnetic Force Estimation by Using Strain Gauges in Permanent Magnet Motors., 2023,,.		O
139	Determination of Parameters of Symmetrical Six-Phase Permanent Magnet Synchronous Machines. , 2023, , .		1
140	Real-time Controller Hardware-in-the-Loop Testing of an Electric Vehicle Powertrain for Optimal Delivery of Energy Sources., 2023,,.		0
141	Analysis of Circulating Current in Hairpin Windings Due to Manufacturing Deviation., 2023,,.		O
142	Complex Vector Modeling and Control of Interior Permanent Magnet Synchronous Machines. , 2023, , .		0
144	Three-Phase AC/DC Converter fed Two Parallel Interleaved DC-DC Converters for Fast Charging Applications with Improved Power Quality. , 2023, , .		1
146	Solar Fed FLC Based Landsman Converter for EV Applications. , 2023, , .		0
147	Diagnostic and Prognostic Health Management of Electric Vehicle Powertrains : A Data Driven Approach for Induction Motor. , 2023, , .		0
148	Efficiency Contingency Factors for Commercial EVs Optimal Centralized Charging Stations. , 2023, , .		0
149	Performance Assessment of the Adjustable Hybrid Switch Converter for E-mobility Applications. , 2023, , .		O
151	Circuit Prediction Model of Electric Field Emission of a Vehicle-mounted Three-phase DC/AC Inverter. , 2023, , .		0
153	Design of Interior Permanent Magnet Synchronous Motor with Pseudo-Concentrated Winding., 2023,		0
154	A Review on the Design Considerations for Next-Generation e-Motorbike Drive-Train Inverter., 2023,,.		2
158	Optimal Strategy of Photovoltaic-Storage Fast Charging Station Considering Characteristics of Electric Vehicles and PV Fluctuation., 2023,,.		0

#	Article	IF	CITATIONS
162	Comparative Study of Stator Vernier PM Machines With Different PM Arrangements. , 2023, , .		0
163	Design of a Novel Rib for Improving the Mechanical and Electromagnetic Performance of IPMSMs. , 2023, , .		0
168	Evaluation of Noise Performances of Odd and Even Number of Slots per Pole Pair of 3-Phase Brushless Electric Machines., 2023,,.		0
170	Electric Vehicle Traction Motor with a Reluctance Outer Rotor and a Modular Stator with AC Concentrated Toroidal Windings and PM or DC Wave Winding Excitation. , 2023, , .		0
171	Active Short-Circuit Analysis of SiC Power Devices in Electric Traction Systems using a new Low-Cost Test Bench., 2023, , .		0
172	Improving Constant Power Flux Weakening in MnBi Interior Permanent Magnet Traction Motors. , 2023, , .		0
173	An integrated traction drive with a high speed surface permanent magnet external rotor motor for electric vehicles. , 2023 , , .		0
174	A Cost Effective Gate Drive Circuit for Improved Switching Performance in SiC Traction Inverters. , 2023, , .		0
175	Analysis of Two Design Topologies for Variable Flux Permanent Magnet Motors. , 2023, , .		0
176	Comparative Turn-off Safe Modes of Ferrite- and NdFeB- Interior PMSMs. , 2023, , .		0
177	Torque Modulation Improves the Efficiency of Electric Motors. , 2023, , .		0
178	Mitigation of the Performance Derating in SiC Motor Drive Inverters Operating at Low Output Current Frequency., 2023, , .		0
179	A High-Power Density Segmented Traction Drive Inverter. , 2023, , .		0
180	Design Considerations for GaN-based Drive-train Inverters in Light Electric-Vehicles. , 2023, , .		0
181	Baseline Determination for Drive Cycle Performance Analysis of Permanent Magnet Synchronous Motors. , 2023, , .		0
182	Comparison of Kalman Filter and Least Squares Regression-based RUL Estimation of Capacitors in Variable Speed Drives. , 2023, , .		0
184	SiC MOSFETs performance modeling in Simulink Simscape environment. , 2023, , .		0
187	Optimal Artificial Neural Network-based Maximum Torque Control for Permanent Magnet Synchronous Machine in Modular Cascade Machine System. , 2023, , .		0

#	Article	IF	CITATIONS
190	Harmonic Utilization Permanent Magnet Topology Design Considerations. , 2023, , .		О
193	Design of Hairpin Winding and Random Winding Stators for High Speed Heavy-Duty Traction Motor. , 2023, , .		0
196	Analysis on the Driving and Braking Control Logic Algorithm for Mobility Energy Efficiency in Electric Vehicle., 2024, 9, .		0
197	Analysis and Improvement of DC Winding Current Dynamics in Wound Field Switched Flux Machine., 2023, , .		0
200	A novel asymmetrical multiple-source multilevel inverter for electric vehicles. , 2023, , .		0