



Electrical Machines Design and Control in Electric Vehicles

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Message from the Guest Editors

Dear Colleagues,

The electrical machine and its drives are the energy core of electric vehicles. The optimized design method and advanced control technology affect the performance of electric vehicles, including the recharge mileage, noise level, safety, manufacturing costs, maintenance costs, and operating life of electric vehicles.

In order to improve the operating performance, it is necessary to explore and research around electrical machines' designs and the control strategies for electric vehicles. In terms of motor ontology, the rapid optimization of electromagnetic analyses, multiphase motors, and permanent magnet motors is worthy of attention. In terms of power converters of electric vehicles, the DC–DC converter, fault-tolerant converter, impedance source converter, and SiC drives are research hotspots. In terms of motor control algorithms, it is necessary to further study the sensorless control method, fault monitoring technology, high-performance torque control strategy, braking control, and energy recovery technology to widen the speed range and high-efficiency operating area of electric vehicle motors.





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Message from the Editor-in-Chief

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