

Call for Papers

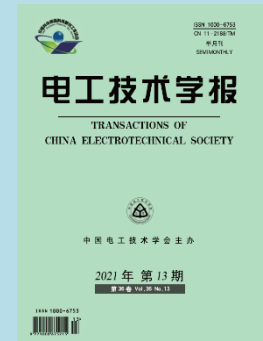
Special Section on Drive Motor Systems for Electric Vehicles

The mutual empowerment of “electrification, intelligence and connectivity” has brought the world's electric vehicles into a stage of rapid growth with the sales of electric vehicles approached 10% of the global car sales in 2021, and the total number of electric vehicles on the world's roads has reached 16.5 million. The drive motor system is one of the three core technologies of new energy vehicles. The development of silicon carbide devices, electrical materials, permanent magnet motors, power electronics and integration of motor and transmission technologies has greatly improved the power density, efficiency and energy utilization rate of the drive motor system.

The drive motor system of electric vehicles has multi-dimensional technical characteristics of high density (integration), high efficiency (wide high efficiency area), low mechanical noise and low electromagnetic noise, and the rapid development of intelligent vehicles and driverless vehicles has added a new dimension of “system health management” to the drive motor system. Therefore, the research on electric vehicle drive motor system with multi-dimensional technology features presents a new situation of “developing new materials and new devices, applying intelligent and big data technology to transform the existing electric drive system design and technology, interdisciplinary and industrial chain integration”. In terms of driving motor controller, the development of silicon carbide device technology brings about the doubling of controller power density and the improvement of efficiency, but the fast switching and high frequency modulation bring about the electromagnetic compatibility problem of the system. In terms of motor and motor control, the application of flat wire winding, low-weight rare earth magnetic steel, high-performance magnetic conductive materials and super copper wire has brought about and will bring about a great improvement in motor performance, but the motor design and high-performance control technology need to be further studied, and with the adoption of silicon carbide devices and high speed motors in electric vehicles, it is necessary to study the online condition monitoring and health management of key components and systems, including power modules, motor insulation and high speed bearings.

In order to further strengthen academic exchanges and promote the sharing of experiences and achievements of researchers and experts from academia and industry around the world in the fields of optimal design of electric vehicles motors, application of new materials and devices, new topologies, intelligent control and health management, etc, the editorial department of “Transactions of Electrical Technology” and “CES Transactions on Electrical Machines and Systems” jointly invited Prof. Xuhui Wen from Institute of Electrical Engineering, Chinese Academy of Sciences as the Deputy Editor in Chief, and another 12 well-known experts at home and abroad as the Guest editors to organize the special issue on “Electric vehicle Driving Motor System”. We warmly welcome domestic and foreign experts and scholars in this field to contribute actively. Detailed topics include but are not limited to:

- Preparation of super copper wire and its application in driving motor system
- Low - weight rare earth material and its application in driving motor system
- High performance magnetic conductive material and its application in driving motor system
- Wide band gap device and its application in driving motor system
- Modeling, simulation analysis and design method of driving motor system
- New principle, new structure, new topology of the drive motor system
- High performance intelligent control strategy for driving motor system
- Coupling and intelligent analysis of multi-physical field including electrical, magnetic, thermal and mechanical in drive motor system
- Electromagnetic compatibility technology for drive motor system
- Fault diagnosis and health management of driving motor system
- Electromechanical integration technology for drive motor system
- Drive motor system intelligence and other applications



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Contact the deputy editor-in-chief if your manuscript is not within the listed topics, as papers within the general topic of electrical machines and systems are all welcome by the CES TEMS and Transactions of China Electrotechnical Society.

Brief guideline for authors:

Papers styles:

1. Review articles.
2. Original research.
3. Rapid communications.

All manuscripts must be submitted through Manuscript Central at <http://www.ces-transaction.com/> (Transactions of China Electrotechnical Society), and <https://mc03.manuscriptcentral.com/tems> (CES TEMS), Submissions must be clearly marked “*Drive Motor Systems for Electric Vehicles*” on the cover page. When uploading your paper, please select your manuscript type “Special Issue.” Refer to <http://www.ces-transaction.com/> and <http://www.cestems.org> for general information about electronic submission through Manuscript Central. Manuscripts submitted for the special issue will be reviewed separately and will be handled by the guest editorial board noted below.

About the journal

Transactions of China Electrotechnical Society

“Transactions of China Electrotechnical Society” was founded in 1986. “Journal” is a comprehensive academic journal in the field of electrical engineering hosted by China Electrotechnical Society.

“Journal” is the core journal of many principal retrieval systems such as Engineering Index (EI), Chinese core journals, The key magazine of China technology as well as other related databases.

“Journal” comprehensively reports high-level academic and scientific research achievements in basic theory research and engineering application in the field of electrical engineering. The publication covers various disciplines in the field of electrical engineering, mainly related to electrical appliances, power electronics, power systems, industrial automation, electrical theory, electrical insulation, materials, information technology, and new energy technologies.

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CES TEMS

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