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Feature Topic on Flying Cars

The flying car is a popularization carrier for low-altitude transportation and three-dimensional intelligent transportation, mainly referring to land and air amphibious cars and electric vertical take-off and landing (eVTOL) aircraft. Flying cars can effectively solve the traffic congestion problem of urban development, at the same time, they offer unparalleled transportation convenience compared to cars and airplanes. The coming era of land and air amphibious flying cars will redefine the human travel mode, and mass transportation will turn from the current two-dimensional into three-dimensional traffic of air-land integration. The forward-looking layout of flying cars will seize the opportunity of future industrial development and lead the high-quality development of new energy vehicles, new energy aviation, developed generation information technology, and other strategic emerging industries. In recent years, the cross-border development of vehicle electrification, intelligence, and aviation spheres has made flying cars technically possible and started to flourish. However, the current technology cannot meet the performance requirements of flying cars such as load, range, intelligent driving, airworthiness, and aviation safety.

To meet the above performance requirements, research on flying cars requires the development of new technologies related to power, platform, and transportation. The first is new energy power technology with a high power-to-weight ratio, high efficiency, and high adaptability. These technologies include pure electric propulsion for small and medium-sized flying cars and hybrid electric propulsion for medium and large-sized flying cars, which are the core technologies that determine the load, flying range, and safety of flying cars. The second is the high safety, high reliability, all-weather intelligent driving platform technology. The intelligent driving platform mainly includes electric aircraft, eVTOL platform configuration, land-air compatible design, and intelligent driverless technology which is the key technology to determine the operating capability and safety of flying cars. The third is a safe and efficient land-air integrated three-dimensional intelligent transportation technology. It mainly includes the infrastructure and operation management system technology of low-altitude intelligent traffic networks containing meteorological information, as well as the three-dimensional intelligent travel solutions and operating system technologies, which are significant to the development and safety of flying cars.

In this feature topic of flying cars, we hope to bring together experts in the fields of electric vehicles, electric aviation, and intelligent transportation to discuss the latest research advances in flying cars and give readers a clear picture of the advances in related technologies. The topics include, but are not strictly limited to, the following:

- New energy electric propulsion technologies
- New energy power technologies
- Electrical safety/thermal safety research
- Land and air working condition adaptability analysis
- Flying car configurations
- Low-altitude driverless flight
- Low-altitude intelligent traffic operation management system
- Three-dimensional intelligent traveling solutions

Important Dates

Submission Deadline: May 1, 2023

First-Round Decision Due: July 1, 2023

Final Manuscript Due: Oct. 1, 2023

Guest Editors

Prof. Weida WANG, Beijing Institute of Technology

Prof. Fulvio SCARANO, Delft University of Technology

Prof. Yangjun ZHANG, Tsinghua University

Prof. Changle XIANG, Dalian University of Technology

Submission Guidelines

The paper submission & review process will be handled through Automotive Innovation

1. Please submit online via www.springer.com/42154, be sure to select **Topical Collection: Flying Cars**.
2. Papers should be submitted in two separate .doc files: 1) Blinded Manuscript (paper title, abstract, keywords, and full text); 2) Title Page (paper title, author affiliation, acknowledgment, and any other information related to the authors' identification).
3. All manuscripts will be peer-reviewed and evaluated based on quality, originality, novelty, and relevance to the topics.
4. If any problems, please feel free to contact the journal editorial office via email: jai-editor@sae-china.org.

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The journal provides a forum for the research of principles, methodologies, designs, theoretical background, and cutting-edge technologies in connection with the development of vehicle and mobility. The main topics cover: energy-saving, electrification, intelligent and connected, safety, and emerging vehicle technologies.

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