

Message from Editors

THE More Electric Aircraft (MEA)/All Electric Aircraft (AEA) system is being widely recognized as the future for the aerospace industry to meet the power demands of increasing electric loads, reduce aircraft emissions, improve fuel economy, and lower the cost of the total system. Although MEA/AEA architecture offers significant overall system benefits in high reliability, improved fuel efficiency, and reduced emissions, the MEA/AEA concept imposes increasing demands on the electrical machines and their control system. More electrical machine systems are engaged in this aviation invention. And electrical machines are the critical components used in MEA/AEA, such as generators, electromechanical actuators (EMAs), electrohydraulic actuators (EHAs), electric propulsion, air compressors and fuel pumps, etc. High power density electric machines are the enabling technologies for the successful advancement of MEA/AEA, and there are still a number of areas where improvements must be made in terms of the reliability, rated power, dynamic performance, volume, cost and environmental suitability of systems.

This Special Section aims to bring together researchers and practitioners from industry, research laboratories, academia and government to present the challenges and opportunities related to Electrical Machine Systems in MEA/AEA. Due to time constraints and the impact of COVID-19, only 5 peer-reviewed papers are included in this SS at first. These papers reflect some of the advancements on the Electrical Machine Systems in MEA/AEA, including review of more electric powertrains in aircraft, power density improvement and reliability enhancement.

We would like to take this opportunity to express our gratitude to the authors, reviewers and editors for their support and understanding throughout the submission and review of the papers. It is our hope that this special issue could excite more interests and bring valuable ideas on the Electrical Machine Systems in MEA/AEA for readers.

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