Special Session on

Reliable and Secure Power Conversion System Design for Emerging Safety-Critical Applications

Special Session Organizers:

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Technical Outline of the Session and Topics:

Reliability of power conversion system has become more important than ever due to the emergence of electrified transportation. The electrification trend in transportation sector is rapidly expanding towards land, air, and sea vehicles, and several innovative electrified transportation systems have been proposed and developed for the past few years such as hyperloop, unban air mobility, and electric aircraft. These transportation systems require high-level of reliability and safety calling for novel and high-performance electric machine, drive, sensors, and materials. The scope of this special session includes, but is not limited to:

- o Reliability assessment of electric machine (winding, insulation, permanent magnets, etc.)
- o Reliability assessment of power electronics (power switches, PCB, passive components, etc.)
- o Reliable electric power conversion system design for electric drone and aircraft
- o Reliable electric power conversion system design for off-road vehicles
- o Reliable electric power conversion system design for space applications

Submission of papers: deadline follows the deadline for the regular papers. All the instructions for paper submission are included in the conference website: https://www.ieee-sdemped.org/