

Overview of Battery and DC/DC Converter Technologies for Electric Aircraft Applications

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■ Motivation

- Battery and DC/DC converter: critical for sustainable, reliable, and cost-efficient aviation
- Insufficient research on their performance within electric propulsion systems

■ Task description

- Literature research on suitable technologies, considering **cost, technical readiness level, power density, energy density, failure rate** and **installation site**.
- Application of method to analyze technology applicability across different aircraft types (e.g., commuter, long-range aircraft)
- Simulation-based modeling of selected battery and DC/DC converter technologies to analyze time- and mission-profile-dependent evolution of battery power and energy density, state of health, and failure rate, as well as converter efficiency degradation and reliability.



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