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Electric Propulsion Systems in Aerospace Applications - Energy Balance Analysis

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Abstract : Recent improvements in electric propulsion systems and energy storage systems allow for the electrification of many sectors where it was previously not feasible. This analysis proves the feasibility of electric propulsion in aviation applications reviewing recent energy storage developments. It can be more quiet, energy efficient and more environmentally friendly. Numerical simulations were done to prove that energy efficiency can be improved for rotorcrafts especially in hover conditions. New types of aircraft configurations are reviewed and future trends are presented.

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