

Leading edge Distributed and non-distributed Electric Propulsion comparison

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Future of aviation primarily aims for reduction of fuel consumption, emissions, and aircraft noise. Recent development of advanced electric aircraft engines made possible to reach these goals by using Distributed Electric Propulsion. This paper is a comparative analysis of the application of various configurations of Distributed Electric Propulsion [DEP] and non-distributed propulsion, focusing on layout based on series of electrically-powered propellers distributed along the leading edge of wing. Different propulsion arrangements analysis based on the modification of number of electric motors and their relative position indicates possible directions of DEP development. Advantages and challenges facing this technology shows possible applications for distributed propulsion.

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