Optimization of five Active Flow Control parameters on a SD7003 wing profile at several angles of attack from 4 to 16 and at Reynolds number 60000

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Idioma Indefinido

Descrição:

Proyecto asignado a través de la Red Española de Supercomputación [2].

Increasing airfoils efficiency will reduce CO2 emissions, being a key point when considering the rise in air traffic expected in the future. During taking off, landing and under several airplane maneuvering, airfoils work near stall conditions, therefore using (AFC) to increase lift and security under these critical operating conditions is crucial. The present research is using and in-house code linked with the OpenFoam package, to optimize for six angles of attack, five (AFC) operating parameters, the momentum coefficient, jet inclination angle, frequency, groove width and location. The baseline cases and some of the optimized ones, will be run in LES to assess the (AFC) advantages. This knowledge will help manufacturers to decide where to locate (AFC) devices and which parameters need to be tuned for each angle of attack.

URL de origem:https://www.cenits.es/pt-pt/proyectos/optimization-five-active-flow-control-parameters-sd7003-wing-profile-several-angles-attack

Ligações

[1] https://www.upc.edu/ [2] https://www.res.es/