

ESTiMatE: Emissions prediction for very large bypass ratio

Description

The main objective of ESTiMatE is to develop a modelling strategy using CFD simulations for the prediction of soot in terms of chemical evolution and particle formation in conditions relevant to aero engine operation. The model developments are based on the use of detailed chemical kinetics for kerosene surrogates, and advanced combustion and spray models validated with reference experiments.

ESTiMatE develops an advanced methodology based on advanced soot prediction models integrated into high-fidelity simulations. It includes the development of efficient algorithms for the coupling of soot particles with gas phase dynamics allowing the use of large-scale applications with high computational efficiency. ESTiMatE will contribute to the characterization and prediction of the combustion process and subsequent emissions, to increase the predictivity and reliability of soot predictions in the aeronautical sector.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

Source URL (retrieved on 12 ago 2024 - 20:54): <https://www.bsc.es/ca/research-and-development/projects/estimate-emissions-prediction-very-large-bypass-ratio>