

## A comparative study on the flow over an airfoil using transitional turbulence models - DTU Orbit (09/11/2017)

### A comparative study on the flow over an airfoil using transitional turbulence models

This work addresses the simulation of the flow over NREL S826 airfoil under a relatively low Reynolds number ( $Re = 1 \times 10^5$ ) using the CFD solvers OpenFoam and ANSYS Fluent. The flow is simulated using two different transition models,  $\gamma - Re\theta$  and  $k - \omega$  model, and the results are examined against the  $k - \omega$  SST model without transitional formulations. By comparing the simulations with the available experimental data, we find that the using the transitional model can effectively improve the flow prediction, especially the drag coefficient results, before the stall.

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