

INITIAL CFD SIMULATIONS FROM THE AIAA HIGH-LIFT PREDICTION WORKSHOPS USING ANSA UNSTRUCTURED MESHES

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ABSTRACT–

This paper focuses on a recent University of Oxford – BETA-CAE Systems collaboration to participate in the American Institute of Aeronautics and Astronautics (AIAA) High-Lift Prediction . For these workshops, unstructured prismatic/tetrahedral grids up to 250 million cells were generated using ANSA v17.1.0 for both the NASA Common Research Model in high-lift configuration as well as a JAXA JSM model.

These meshes were simulated in STAR-CCM+ and OpenFOAM using both RANS and DDES methods. The purpose being to both assess the capabilities of ANSA, STAR and OpenFOAM for complex geometries as well as to assess the requirements for DDES. This workshop offers the chance to benchmark against major aerospace codes and see where further research is needed.

The full paper will show details of a cross-code comparison as well as a detailed comparison against the available experimental data.