Numerical Investigation of JAXA High-Lift Configuration using OpenFOAM

Barış Biçer[1], (contributors from ESI)[2], Mehmet Şahin[3]

[1] *Turkish Aerospace, Ankara, Turkey*

[3] *Istanbul Technical University, Astronautical Engineering Department, Istanbul, Turkey*

....

The deployment of slats, flaps, pylons and nacella during the takeoff and landing of an aircraft leads significant increase in the complexity of flow features as well as geometry. The main reason of complexity is the accelerated jets occurring in small gaps between the wing-slats and wing-flaps. This paper presents the detailed numerical investigation of a flow around a highly complex high-lift configuration using OpenFOAM. The benchmark problem is used to assess the capabilities of the open source hexahedral mesh generator snappyHexMesh as well as the open source compressible RANS solver within OpenFOAM. The geometrical model is based on the JAXA standart model with wing-body-pylon-nacella configuration described in the third AIAA High Lift Prediction Workshop.

.. to be continued according to results....