

A-006 & Ansys

- Flow solver: Fluent Coupled DBNS
- Spatial discretization: 2nd order upwind Roe FDS
- Time integration or iteration method: Implicit Euler, local time-stepping derivative preconditioning
- Name of committee grids (or “self-prepared”): ICEMCFD (case 1), ANSA (case 2)
- Cases submitted: Case 1, Case 2.2, Case 2.3, Case 2.4
- Initialization method: Full multi grid initialization (FMG) – cold start between conditions, hot start between adaption cycles
- Remesher: Polyhedral Unstructured Mesh Adaption (PUMA)
- Turbulence model: Spalart-Allmaras (SA)
- Convergence/stopping criteria: 2000 iterations per adaption cycle, 5 to 6 adaption cycles, 1e-5 for Residuals
- Metric construction: Combined Hessian Indicator
- Relevant publications related to solver, remesher, and/or high-lift applications:
 - Weiss, J., Smith, W. (1995). Preconditioning Applied to Variable and Constant Density Flows, AIAA Journal, Volume 33, Number 11
 - Norman, A., Viti, V., MacLean, K., Chitta, V. (2022), Improved CFD Methodology for Compressible and Hypersonic Flows using a Hessian-based Adaption Criteria, AIAA SciTech 2022 Forum, San Diego, USA