



RESEARCH & TECHNOLOGY DEPARTMENT

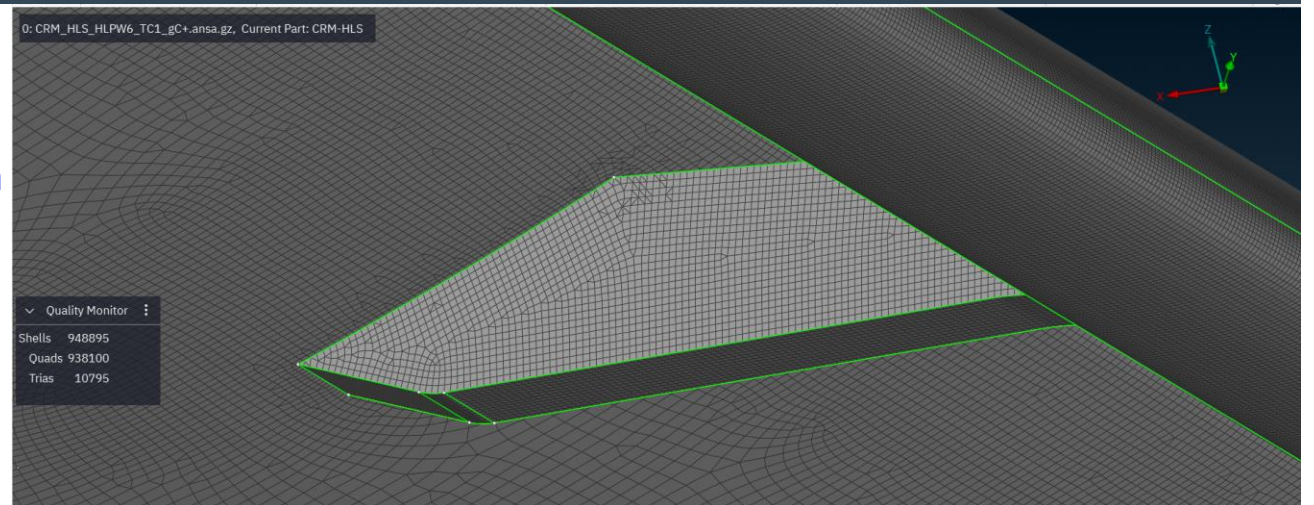
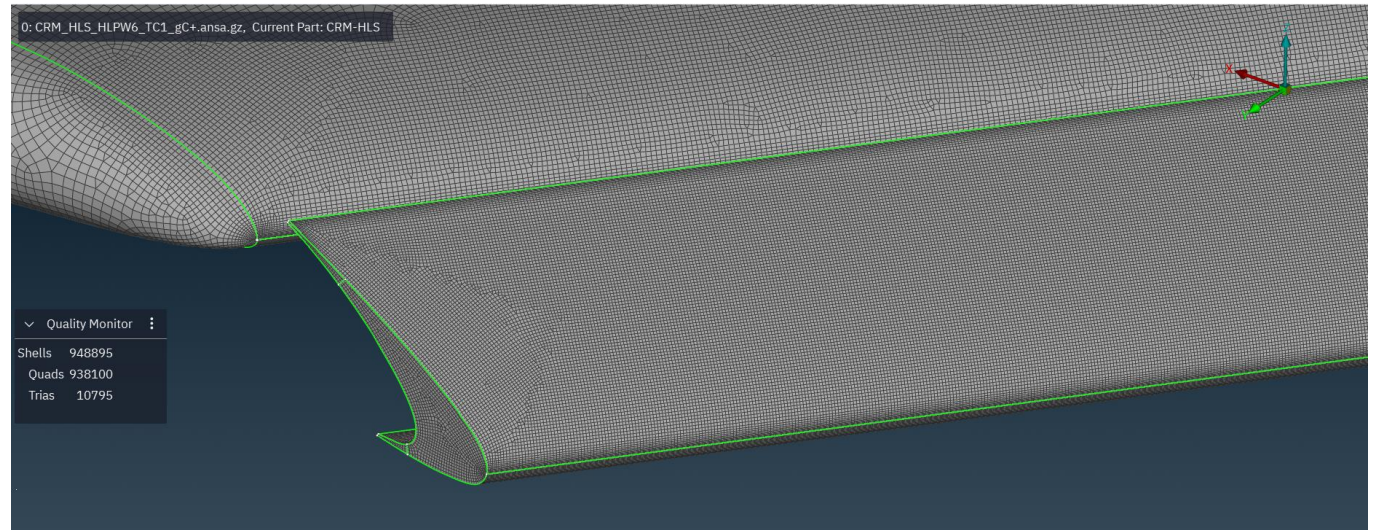
HLPW6 – TC 1

GTX//AIR/
10/03/2026



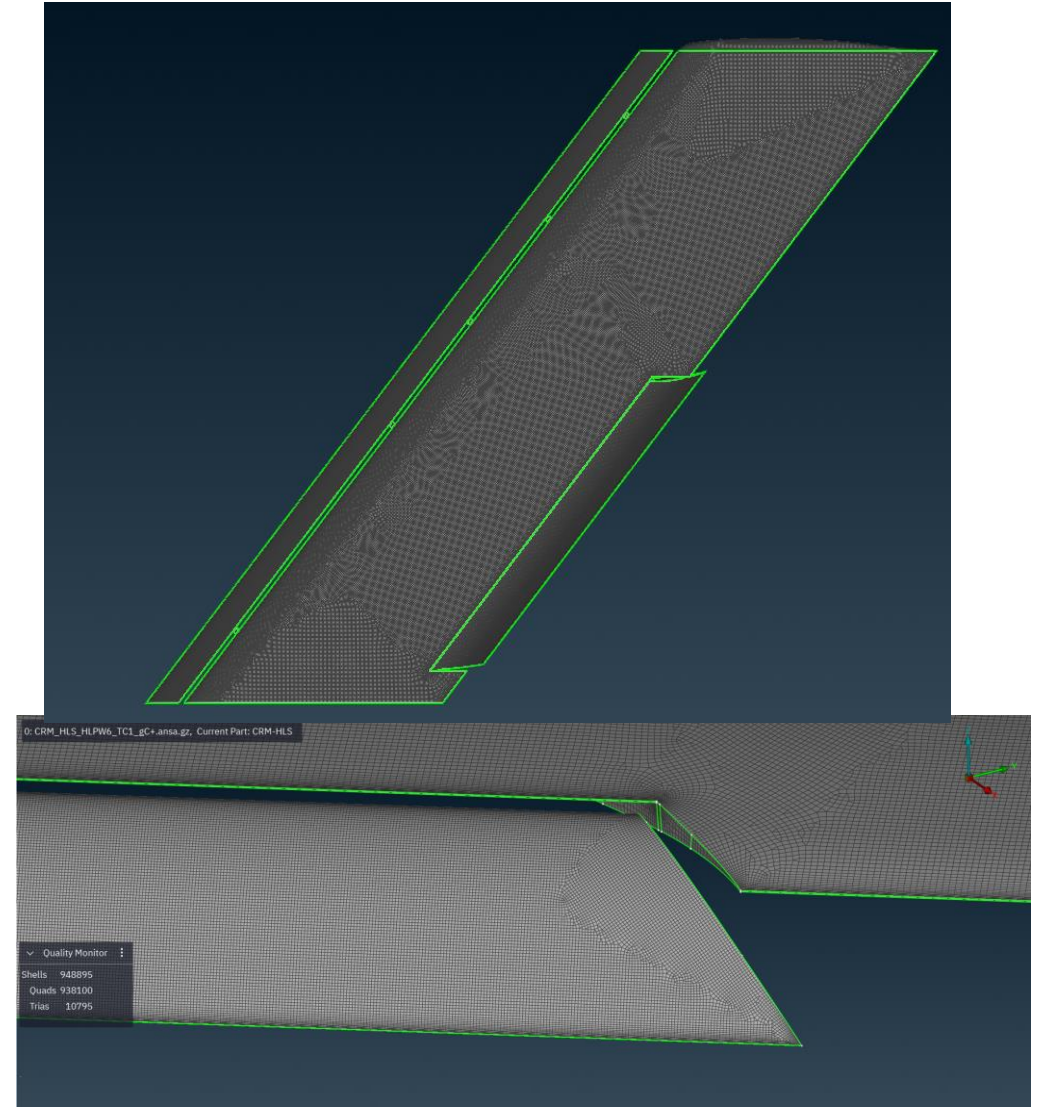
MESH GENERATION

- ANSA v25.1
- Surface:
 - **Distortion Angle: 2deg**
 - **Growth Ratio: 1.15**
 - **Constant Zones: 4**
 - **Trailing Edge: 4 rows**
 - **Maximum length:**
 - **Slat: 1.2mm [~0.047in] - Flap: 1.9mm [~0.075in] – Wing: 4mm [~0.157in]**
- Layers:
 - **1st Height: 0.0045 mm**
 - **Growth Ratio: 1.15 (Number of Layers: 44)**



MESH GENERATION

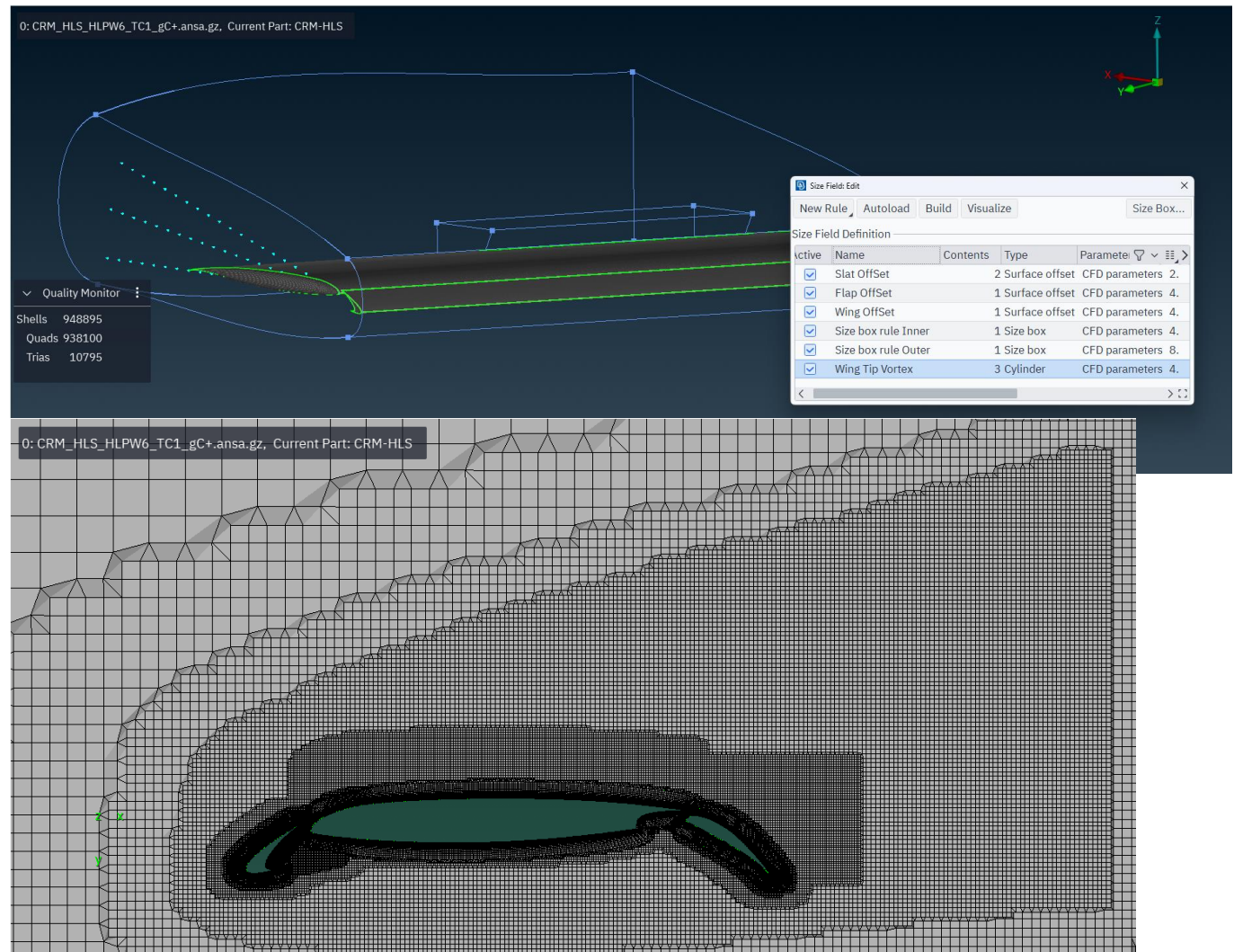
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 - Distortion Angle: 2deg
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- Layers:
 - 1st Height: 0.0045 mm
 - Growth Ratio: 1.15 (Number of Layers: 44)



MESH GENERATION



- Volume:
 - 3 Offset Zones : Slat (2mm – 0.079in), Wing (4mm – 0.157in) and Flap upper (4mm) surfaces
 - 3 Refinement Zones: Full wake (8mm – 0.315in), Flap Wake (4mm) and Wing Tip Wake (4mm)
 - Number of Nodes: 55.8 Millions



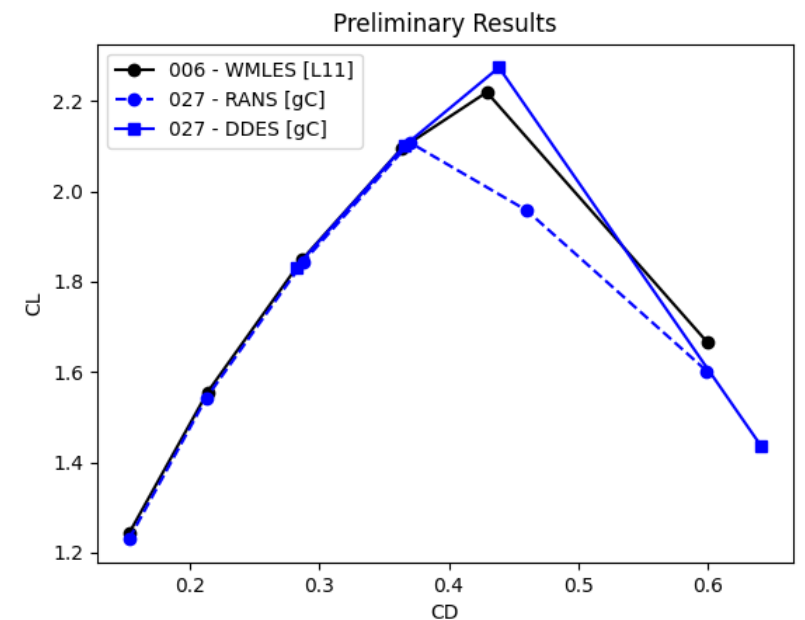
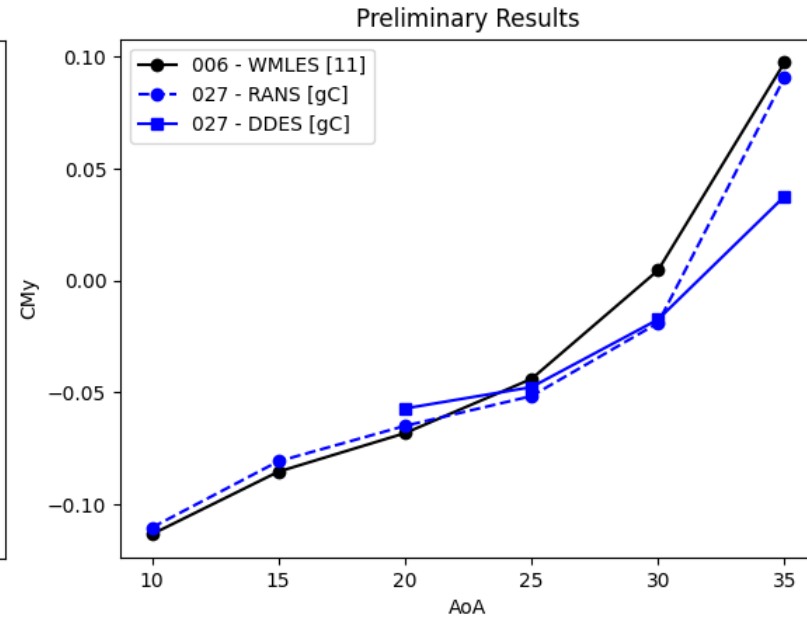
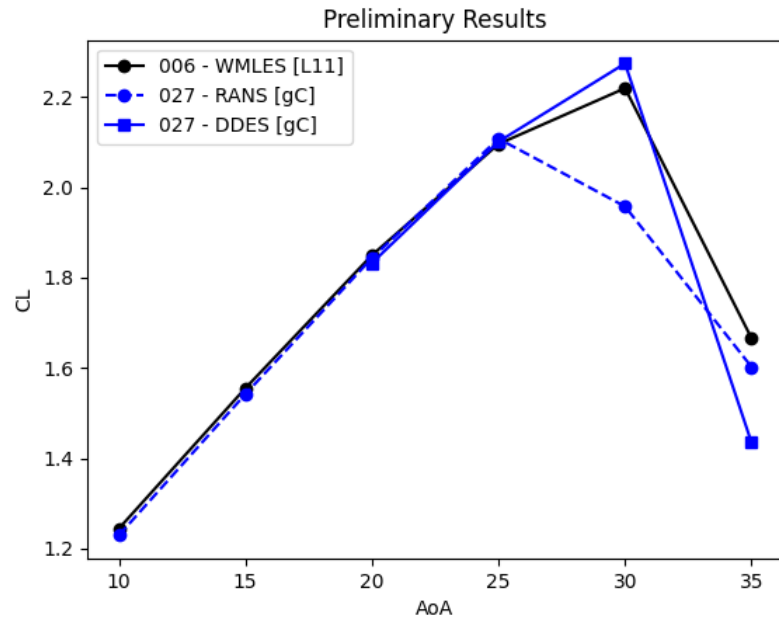
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SETUP



- Flow 360 v25.7.6
- RANS:
 - Turbulence Model: Spalart-Allmaras
 - Adaptive CFL - Convergence Limiting Factor:0.5
 - No Low-Mach Number Preconditioning
 - Cold start
 - 5000 iterations (no convergence criteria for force coefficients)
- DDES:
 - Standard DDES
 - Time Step = $2.9386e-5$ s (0.002 [m]/ 68.059 [m/s])
 - 381 time-steps per CTU
 - 30 CTUs (Averaged last 10)
 - Dissipation factor : 1.0 (No Low Dissipation Scheme)
 - Restarted from RANS

PRELIMINARY RESULTS

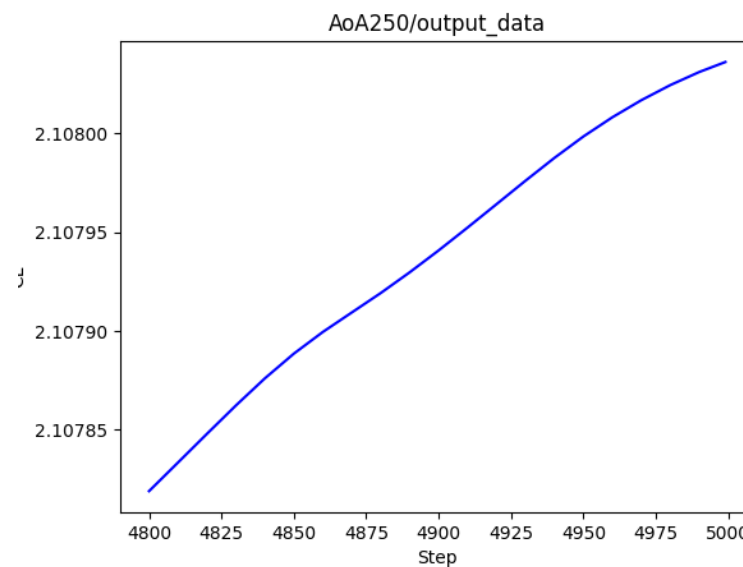
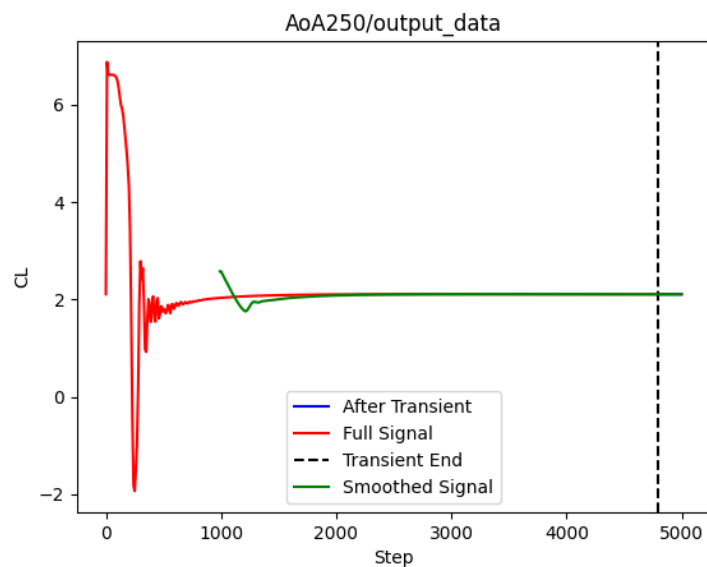
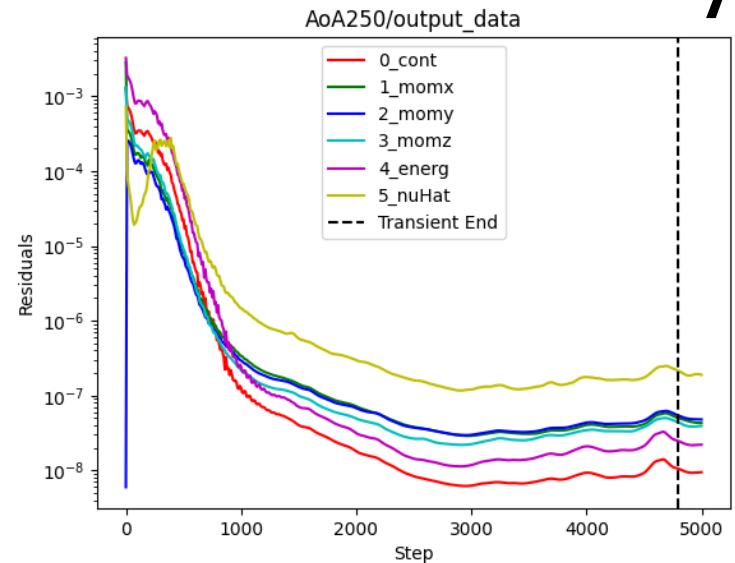
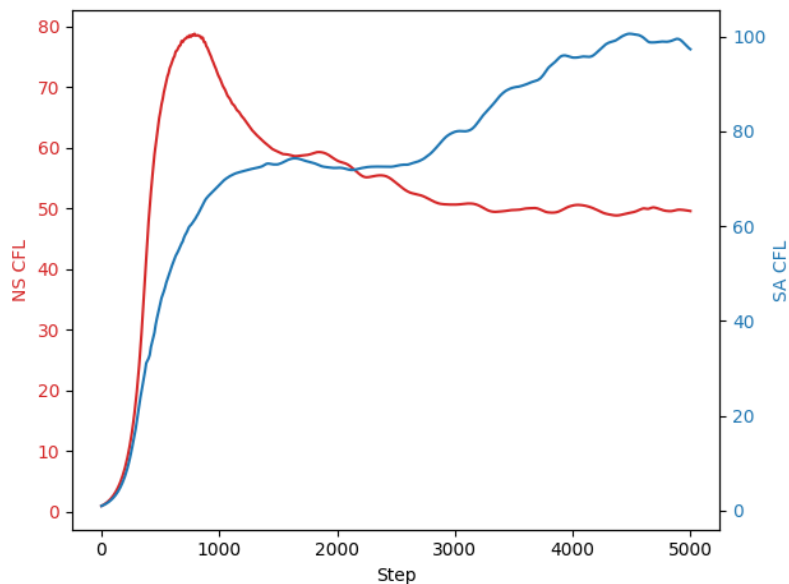


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PRELIMINARY RESULTS - RANS



AoA = 25°

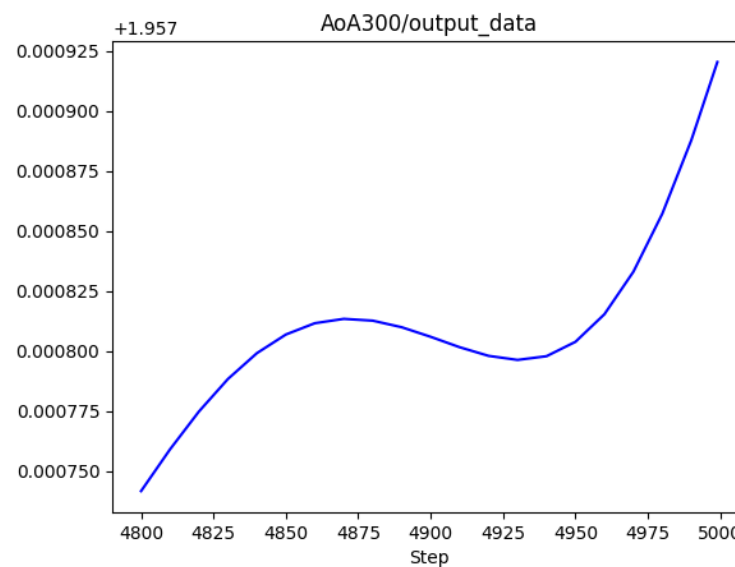
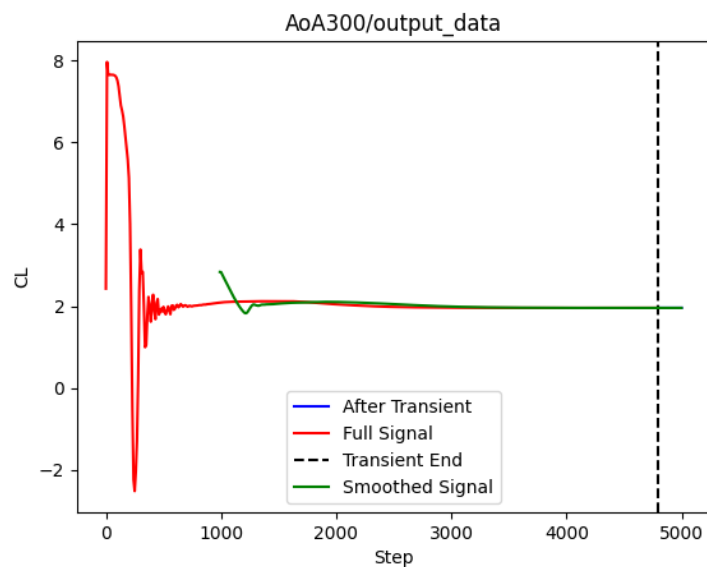
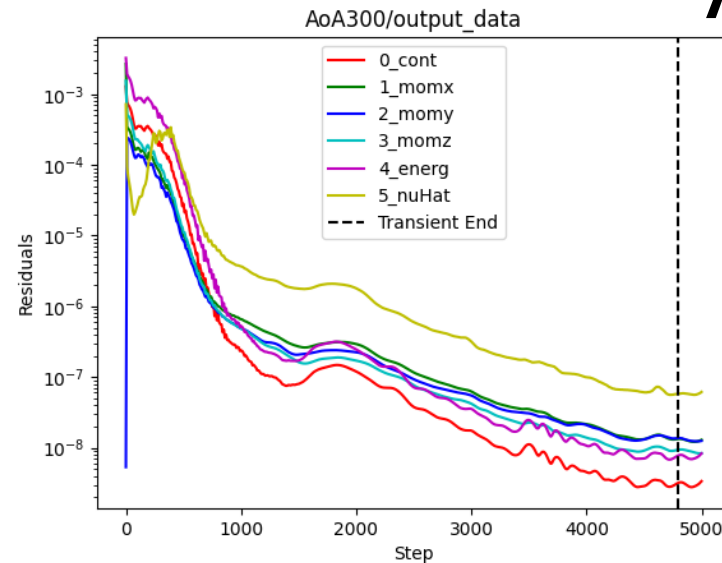
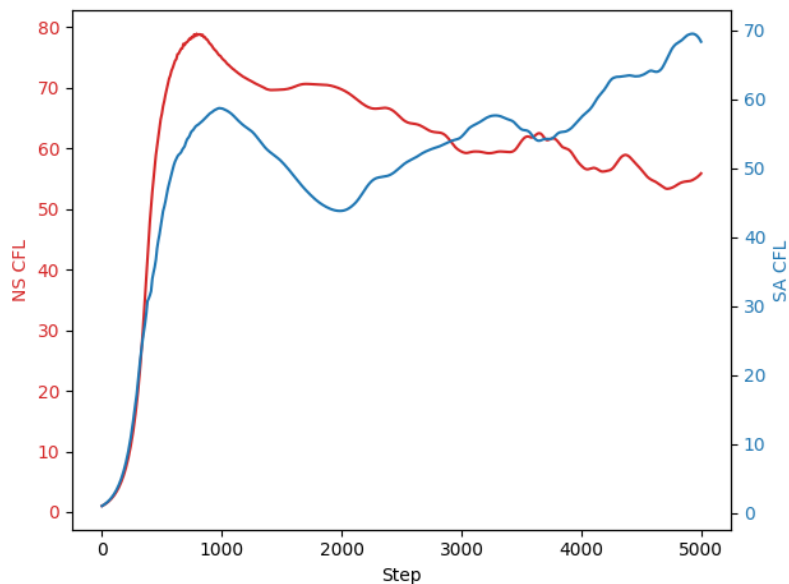


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PRELIMINARY RESULTS - RANS



AoA = 30°

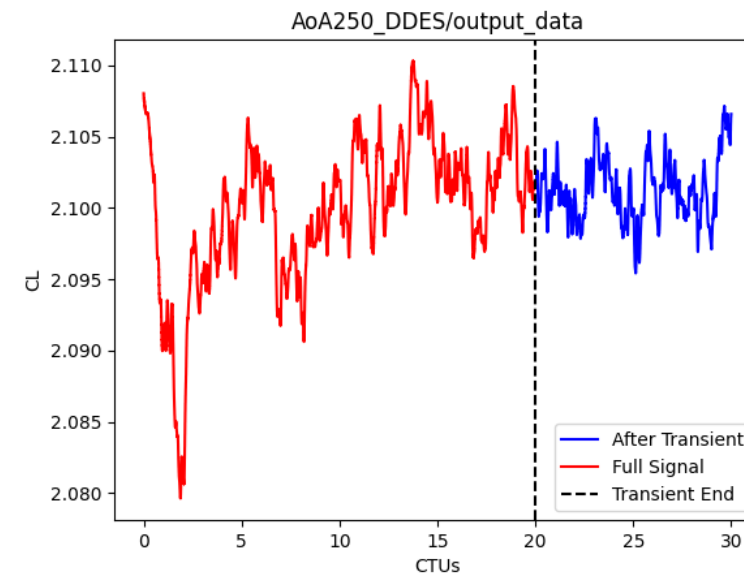
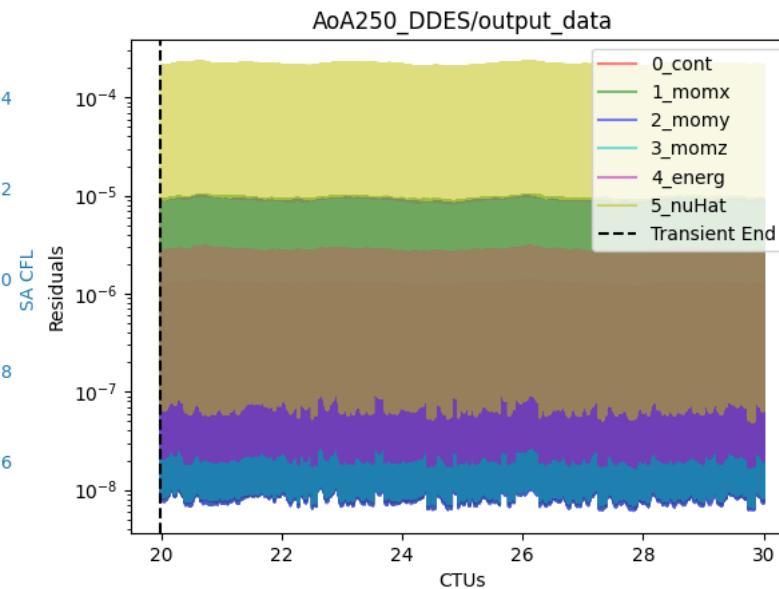
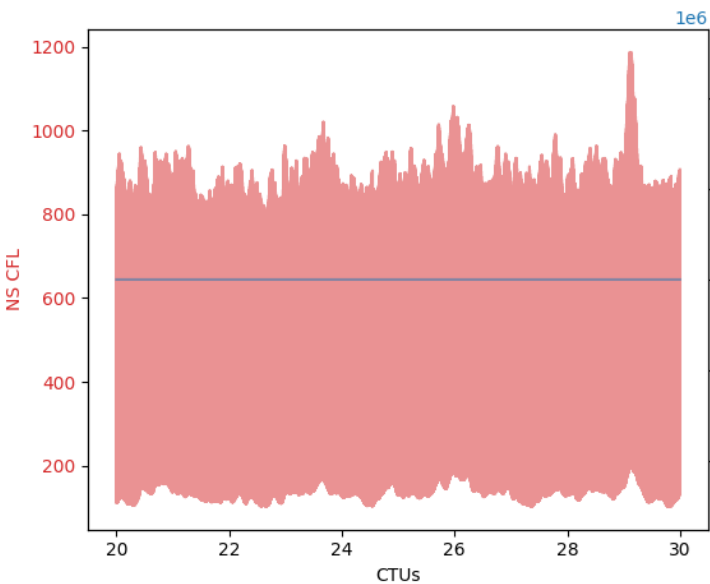


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PRELIMINARY RESULTS - DDES



AoA = 25°

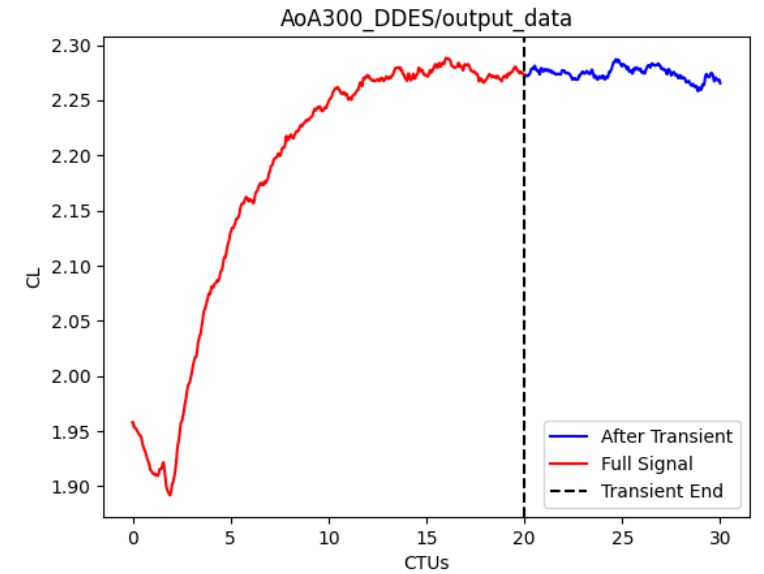
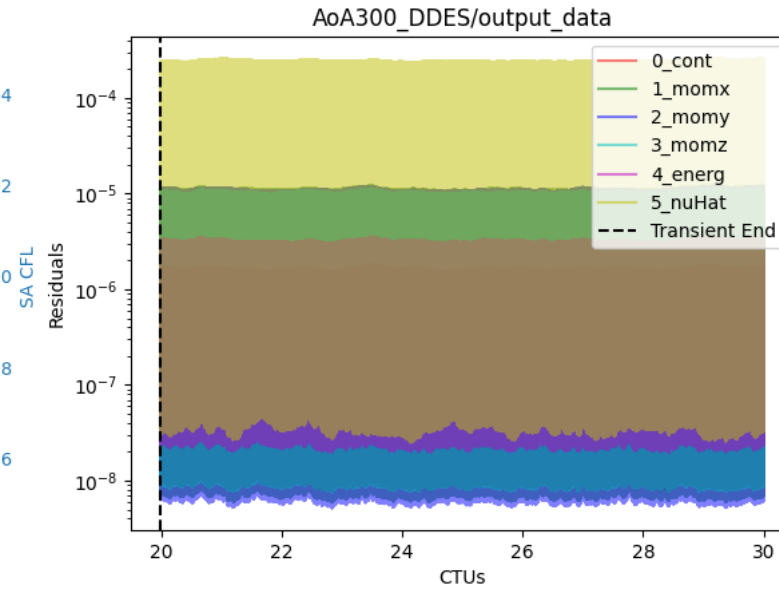
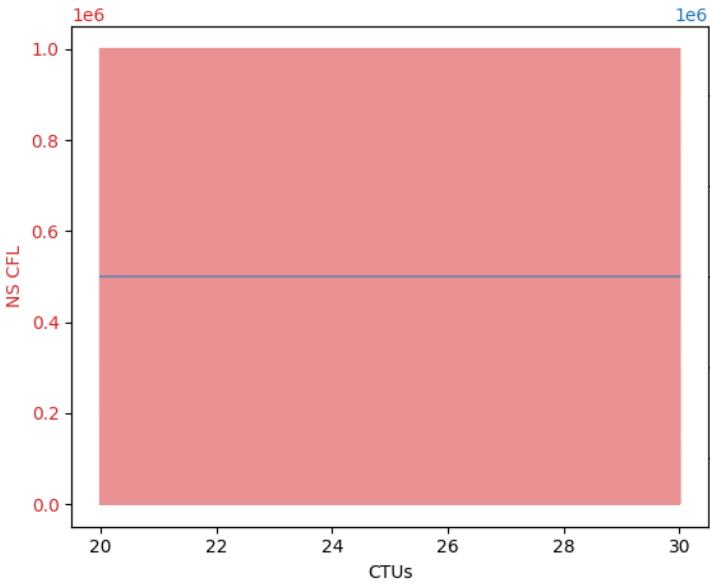


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PRELIMINARY RESULTS - DDES



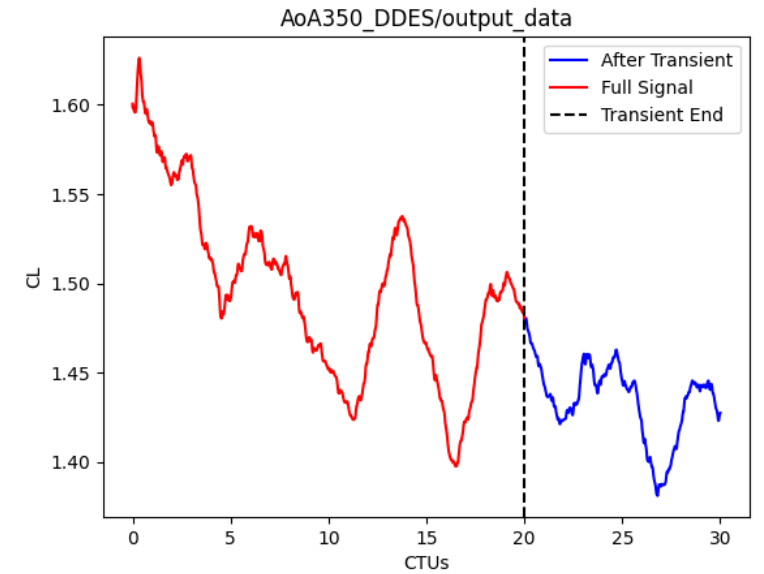
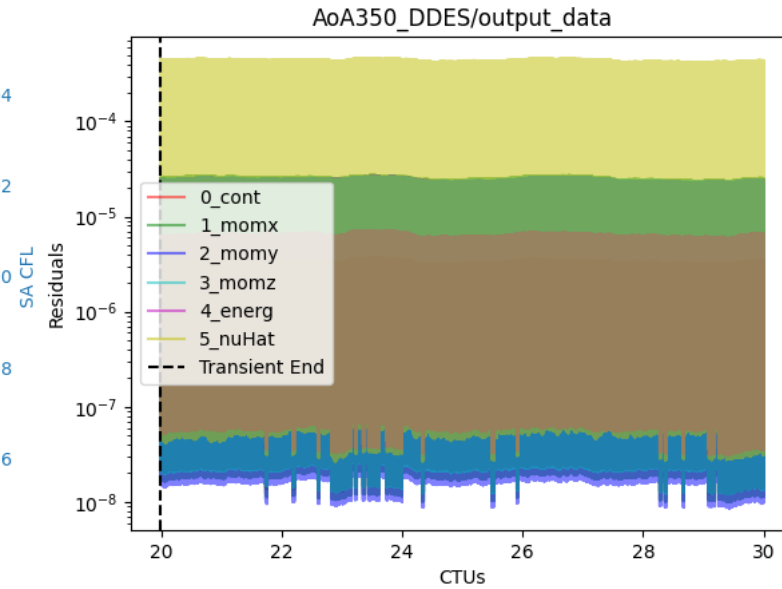
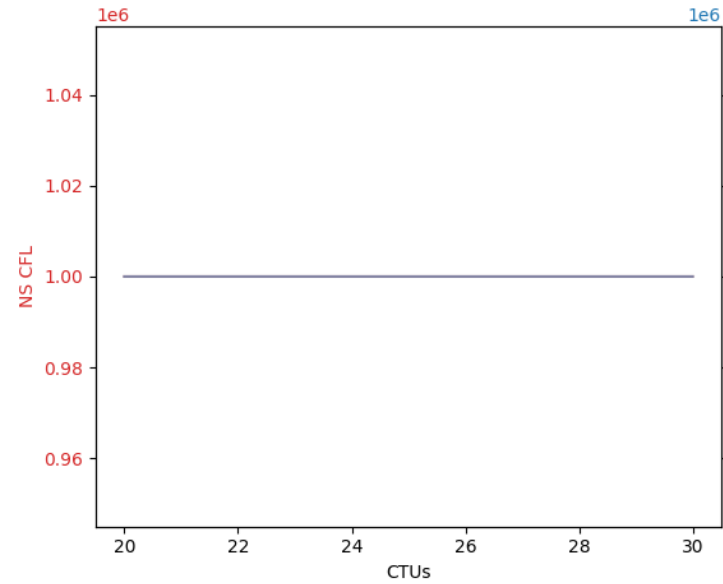
AoA = 30°



RESULTS DDES



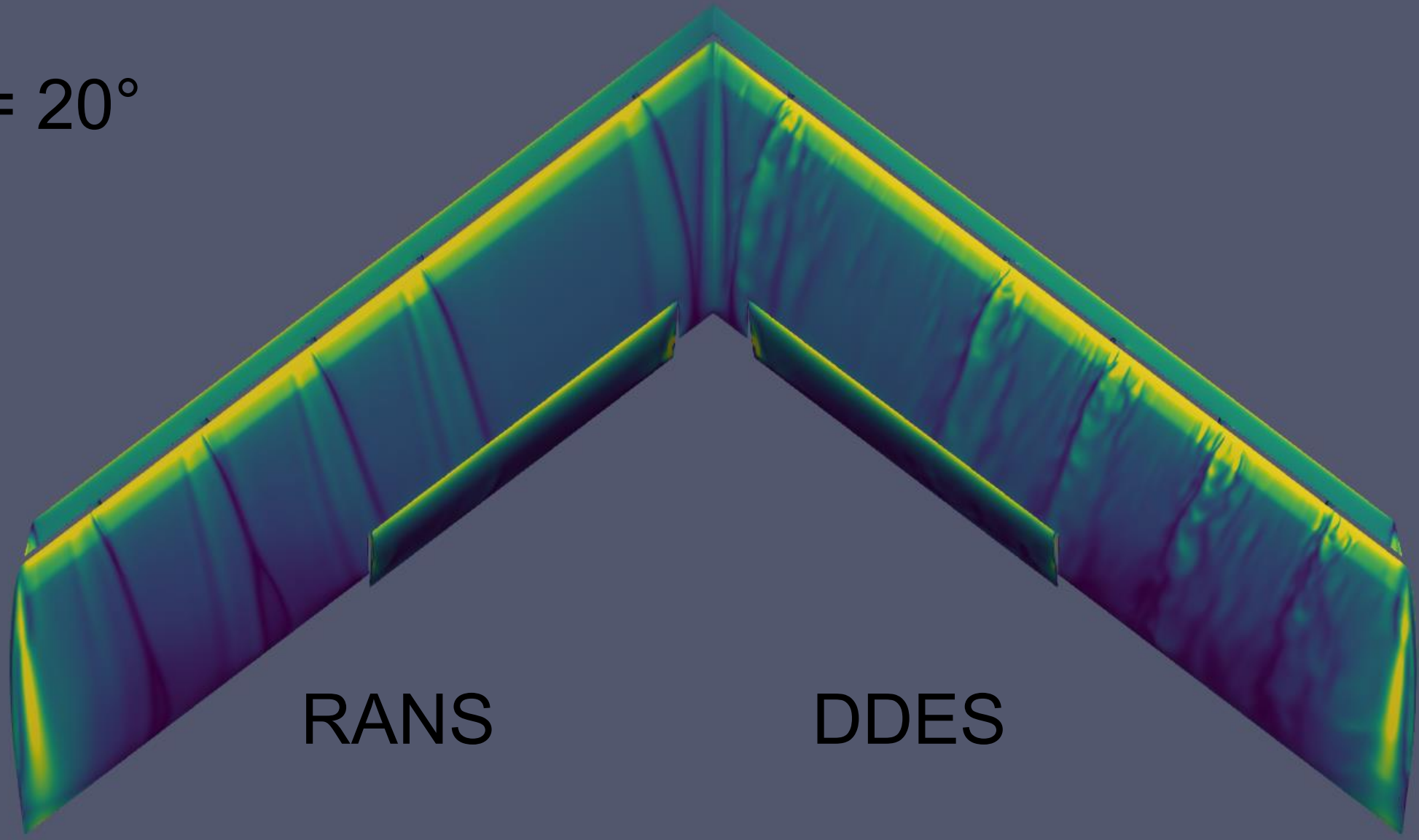
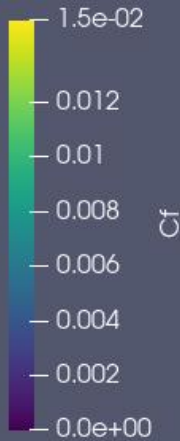
AoA = 35°



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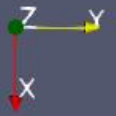


AoA = 20°



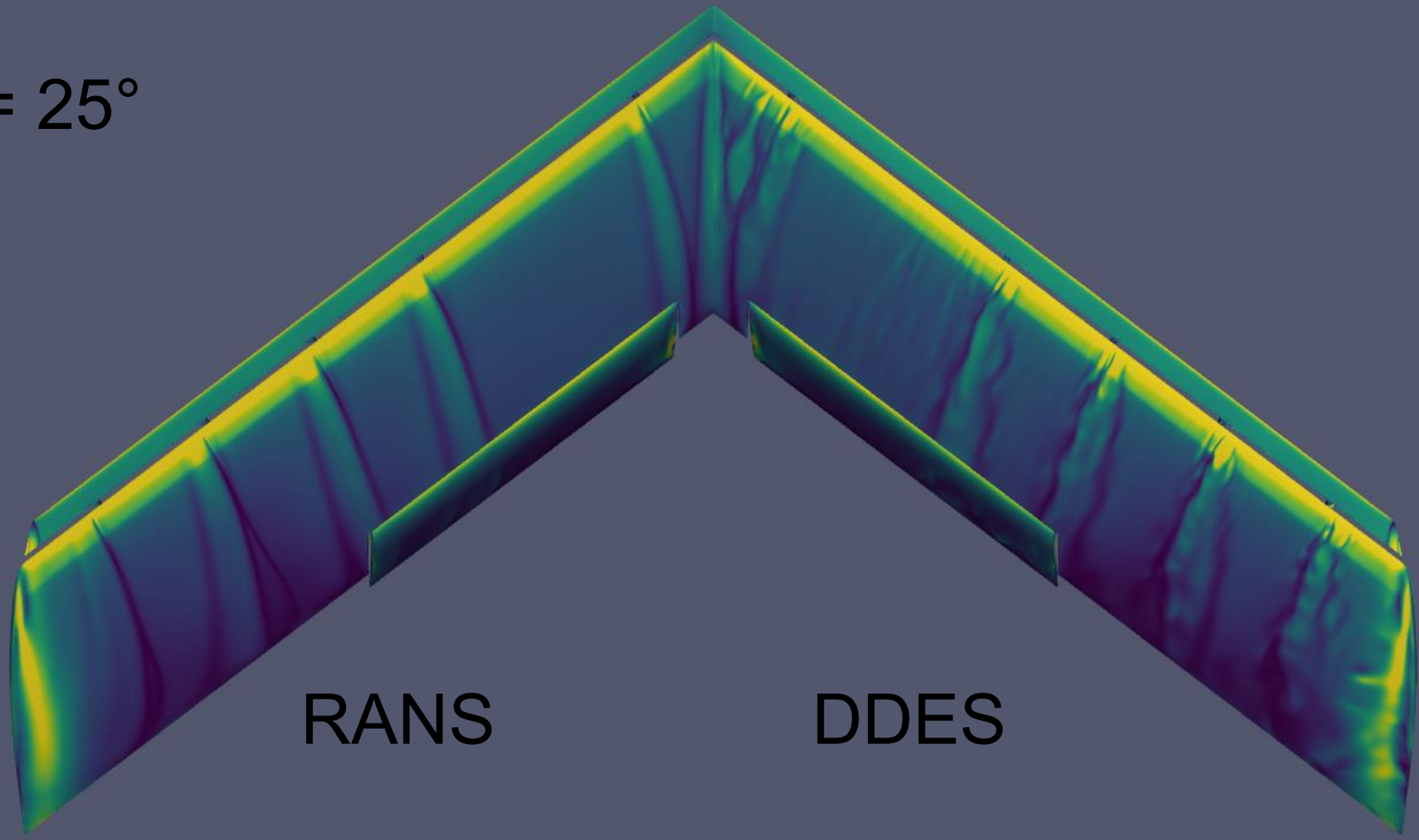
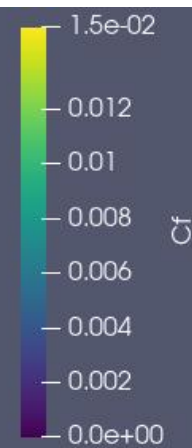
RANS

DDES



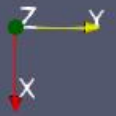


AoA = 25°



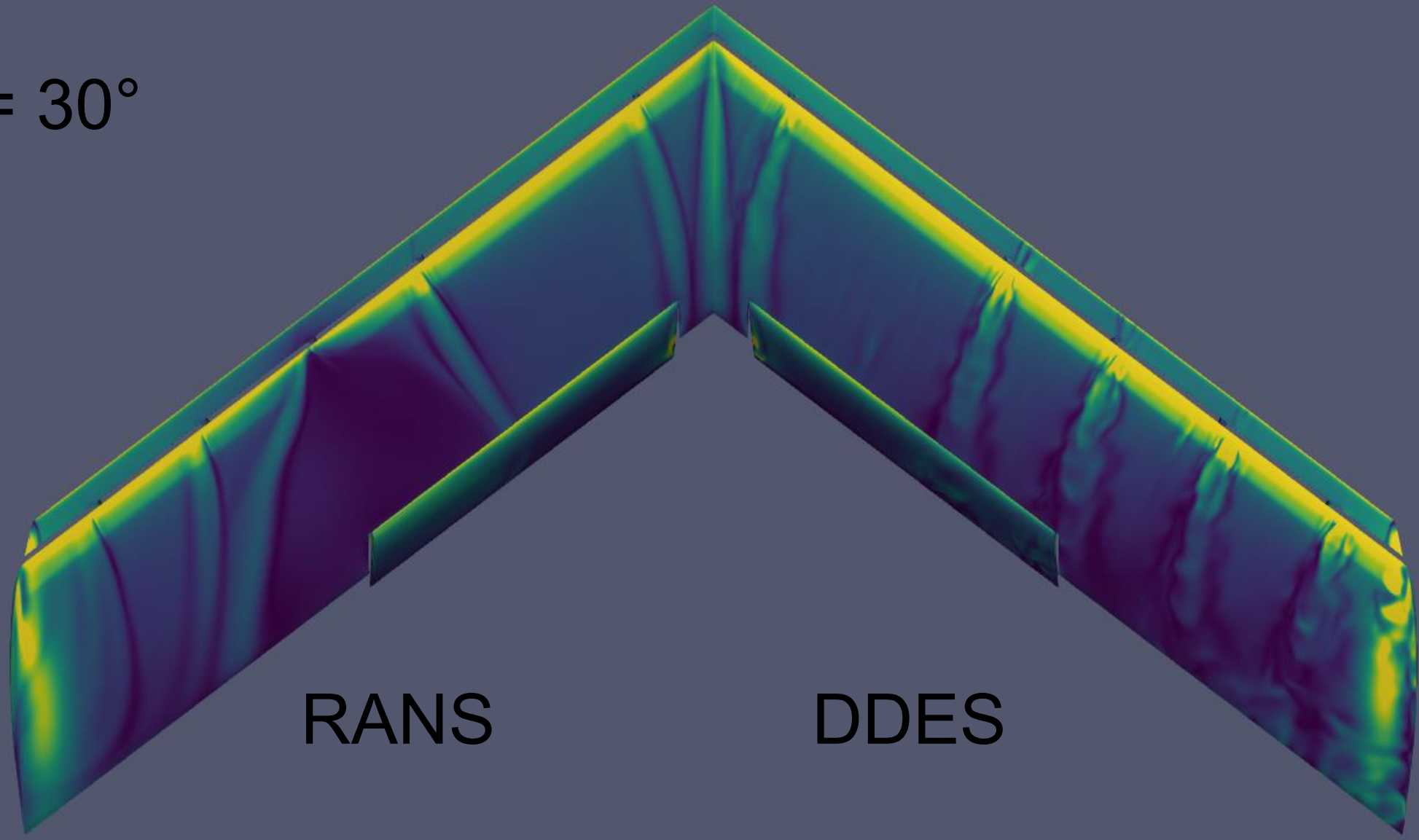
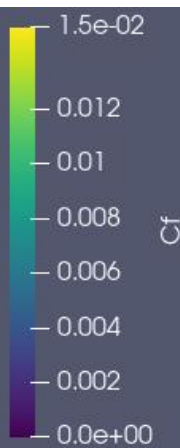
RANS

DDES



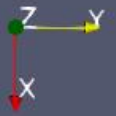


AoA = 30°



RANS

DDES





RANS			
Alpha	CL	CD	CMy
10,0	1,230	0,1527	-0,1103
15,0	1,542	0,2125	-0,0807
20,0	1,844	0,2874	-0,0649
25,0	2,108	0,3701	-0,0516
30,0	1,958	0,4603	-0,0189
35,0	1,602	0,5994	0,0908

DDES			
Alpha	CL	CD	CMy
20,0	1,833	0,2820	-0,0571
25,0	2,101	0,3657	-0,0476
30,0	2,274	0,4388	-0,0174
35,0	1,435	0,6418	0,0377