

AePW-4 High-Angle Working Group Meeting



March 13, 2024

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Agenda, March 13



- AIAA Aviation 2025: three sessions dedicated to DPW-8/AePW-4
- Summer/Fall 2025: New BSCW Experiment
- AePW-3 AIAA Journal of Aircraft submissions
- AePW-4 website: <https://nescacademy.nasa.gov/workshops/AePW4/public>
- AePW-4 HAWG objectives
- 2D BSCW flutter analysis status
- Next meeting, April 10
- AIAA Aviation 2026: DPW-8 and AePW-4 Workshop



AePW-4 High-Angle WG Cases

- Mandatory
 - Flutter prediction at Mach 0.80 and angle-of-attack sweep: $0^\circ - 6^\circ$
- Optional
 - Flutter prediction at Mach 0.78, 0.76, 0.74 and angle-of-attack 3°
- Mandatory (?)
 - 2D BSCW flutter prediction at Mach 0.80 and angle-of-attack sweep: $0^\circ - 6^\circ$



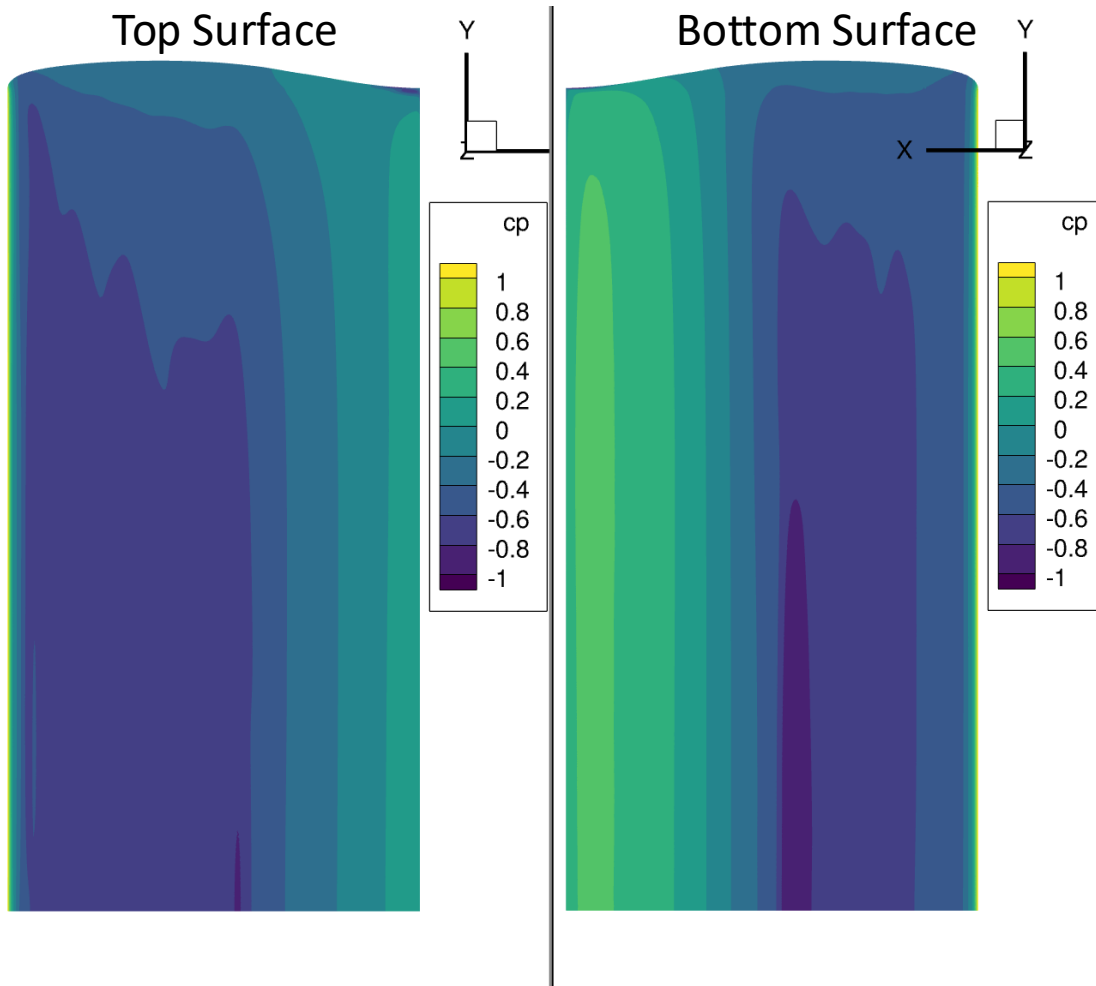
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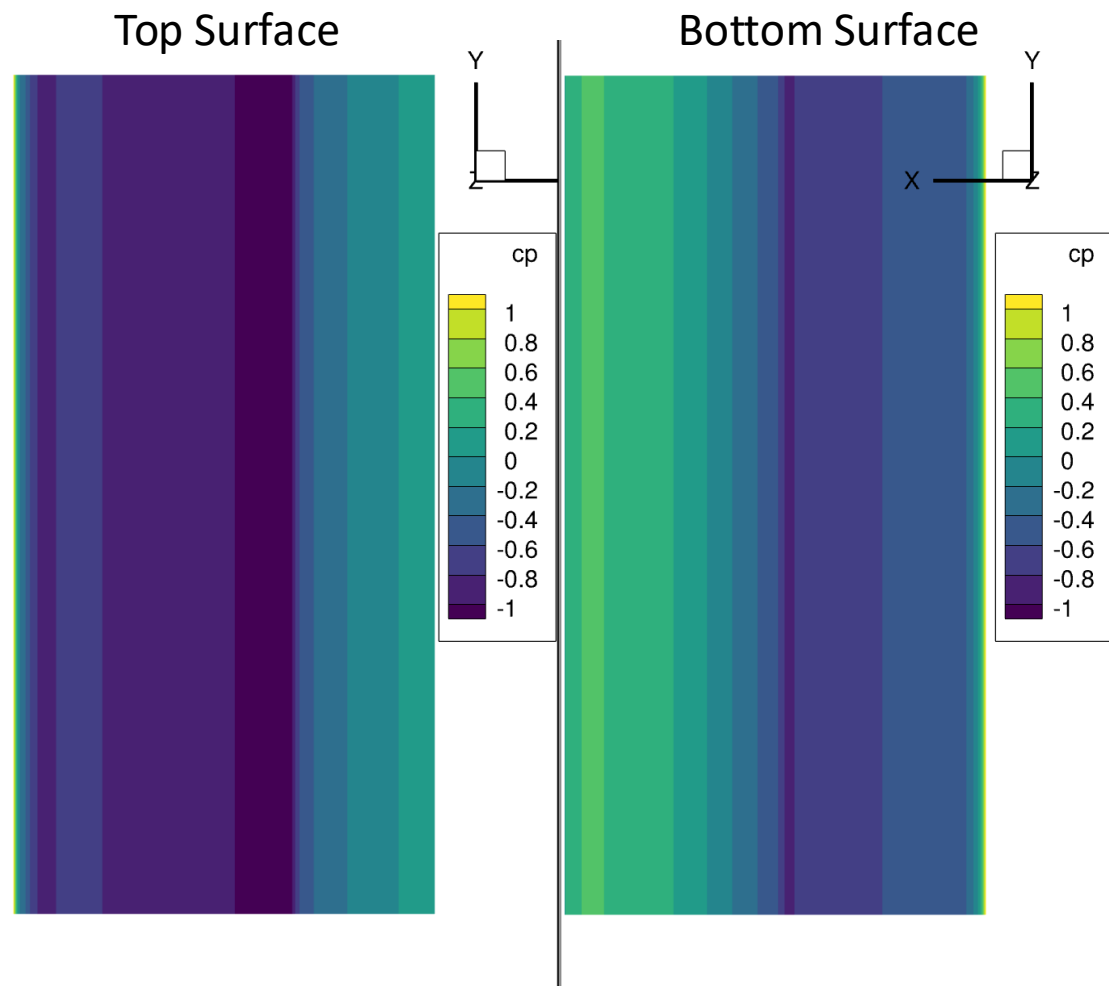
Currently we have 4 teams looking at 2D calculations



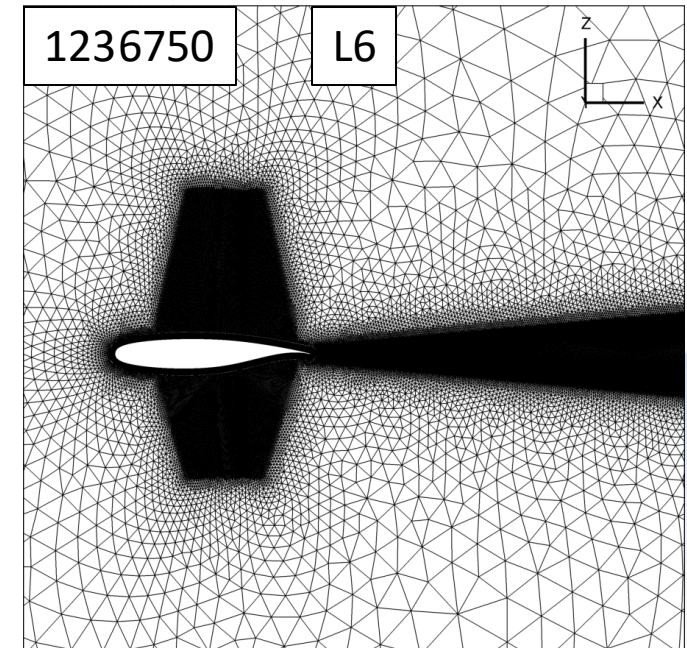
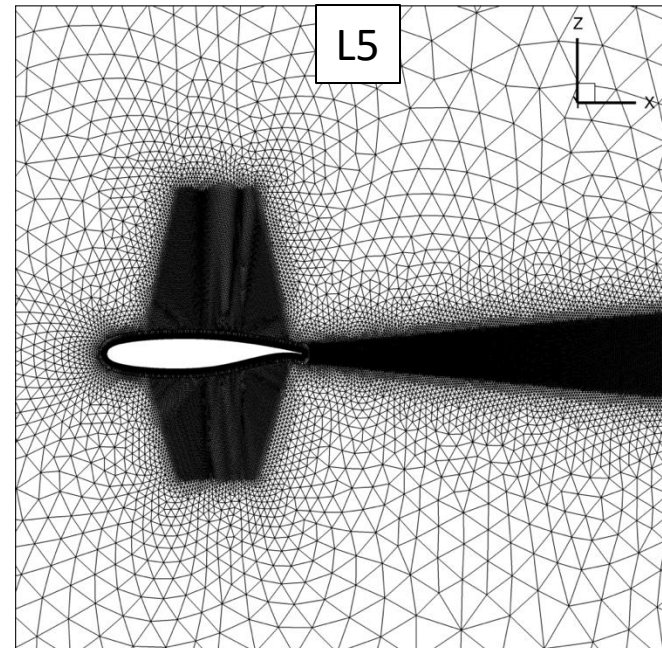
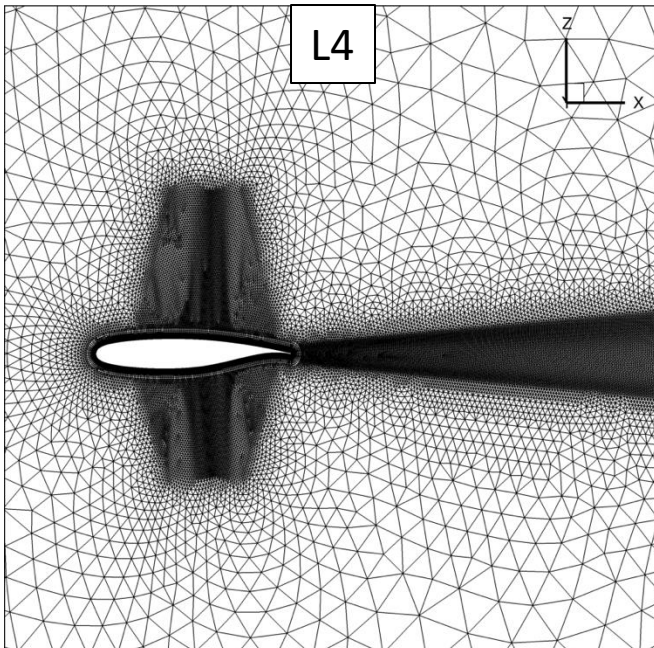
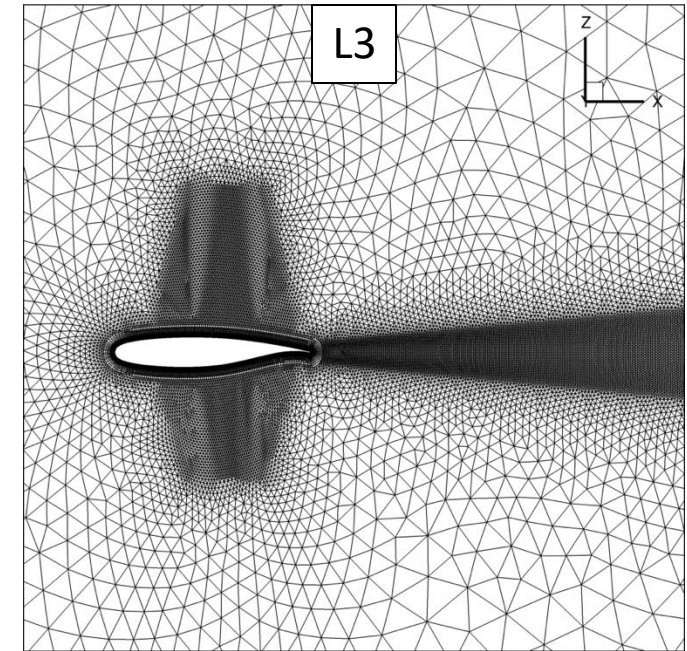
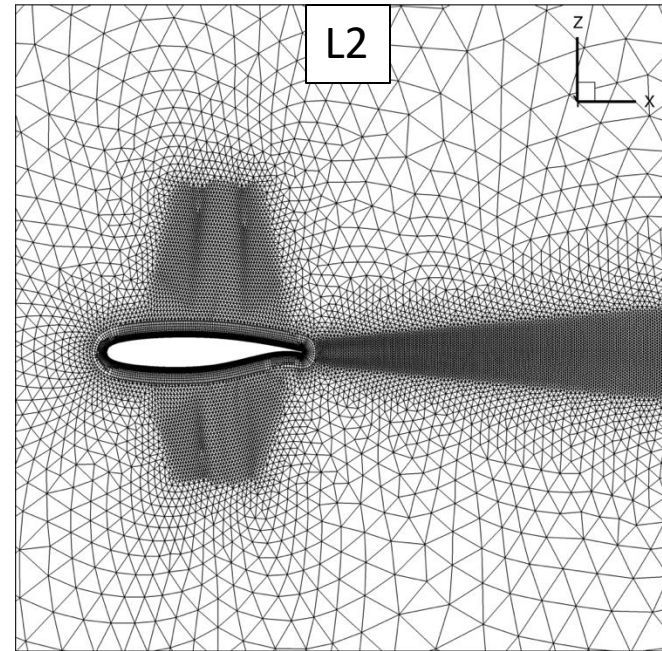
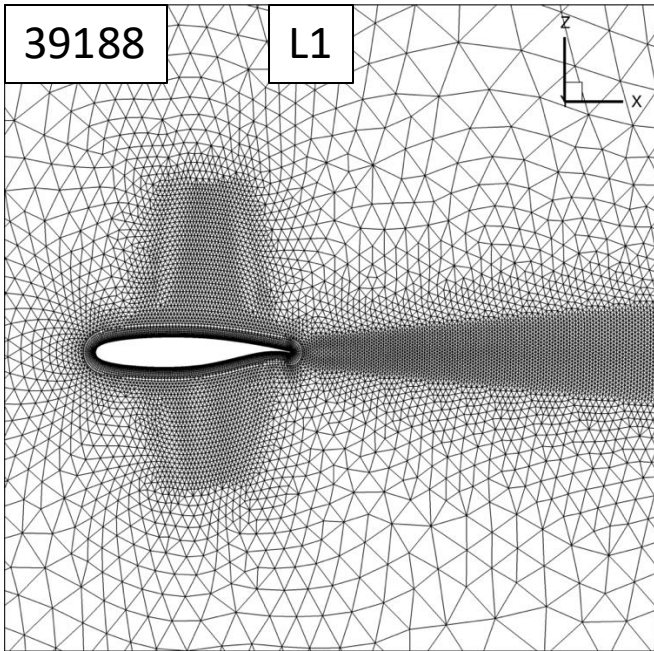
3D Wing



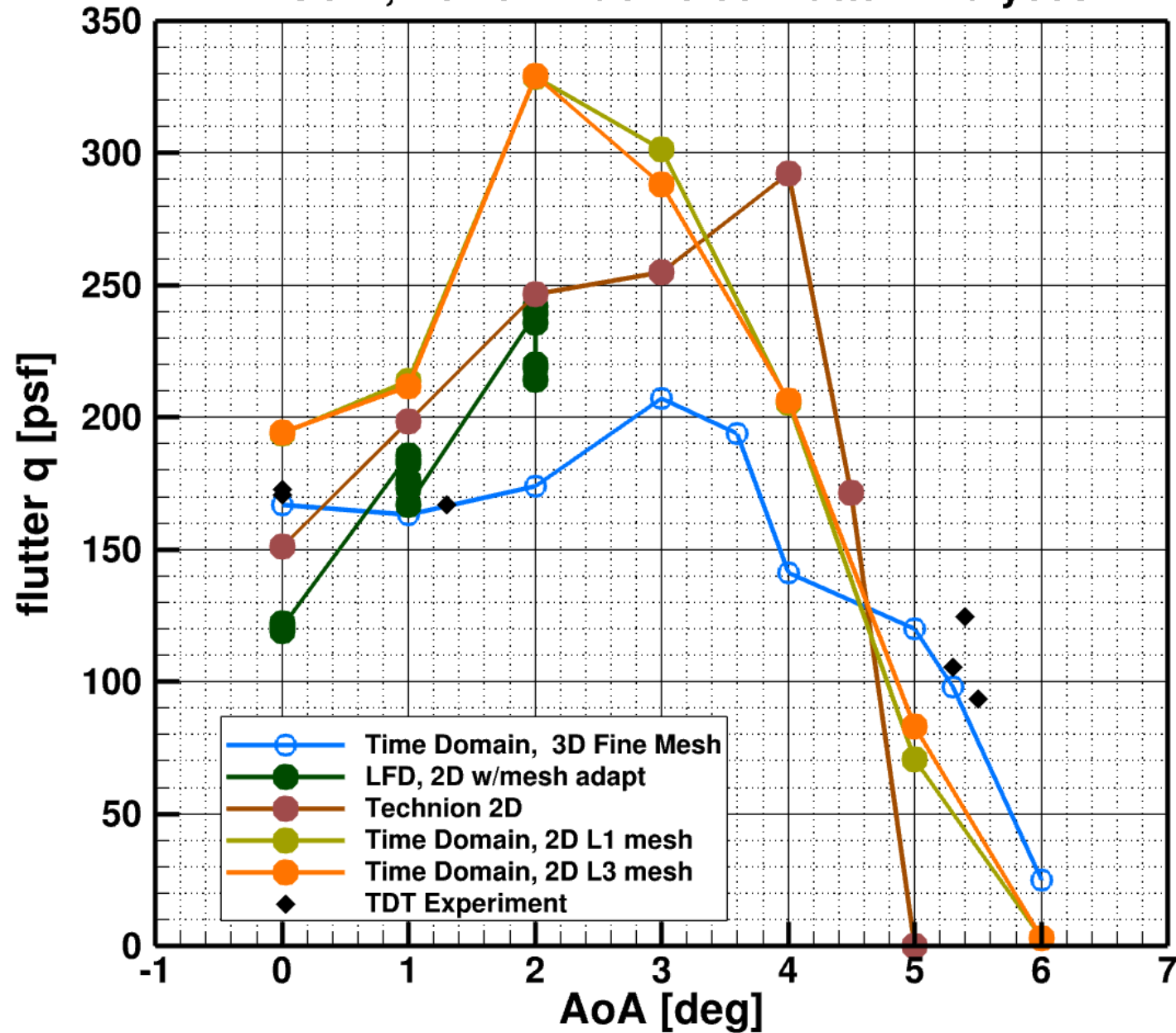
2D Wing



2D Mesh: 32-inch span wing with two symmetry planes

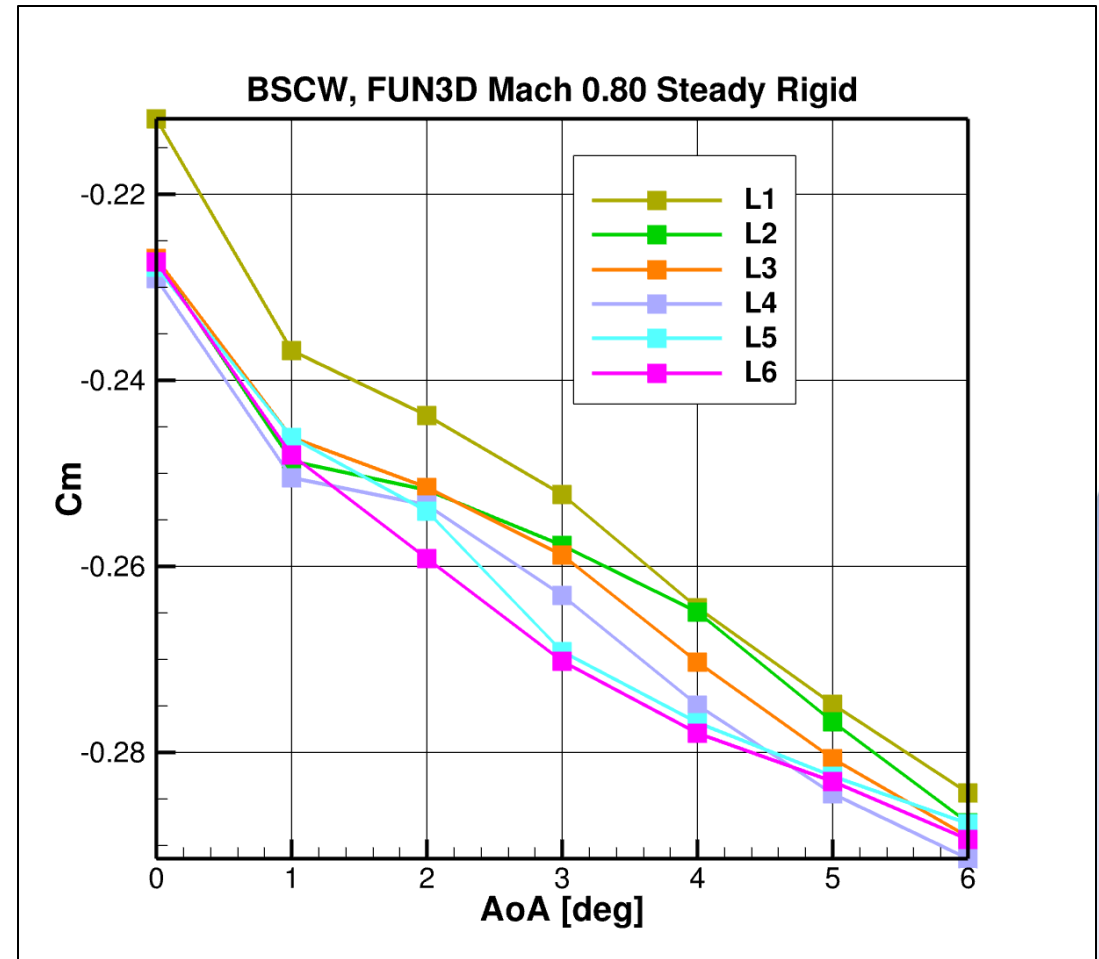
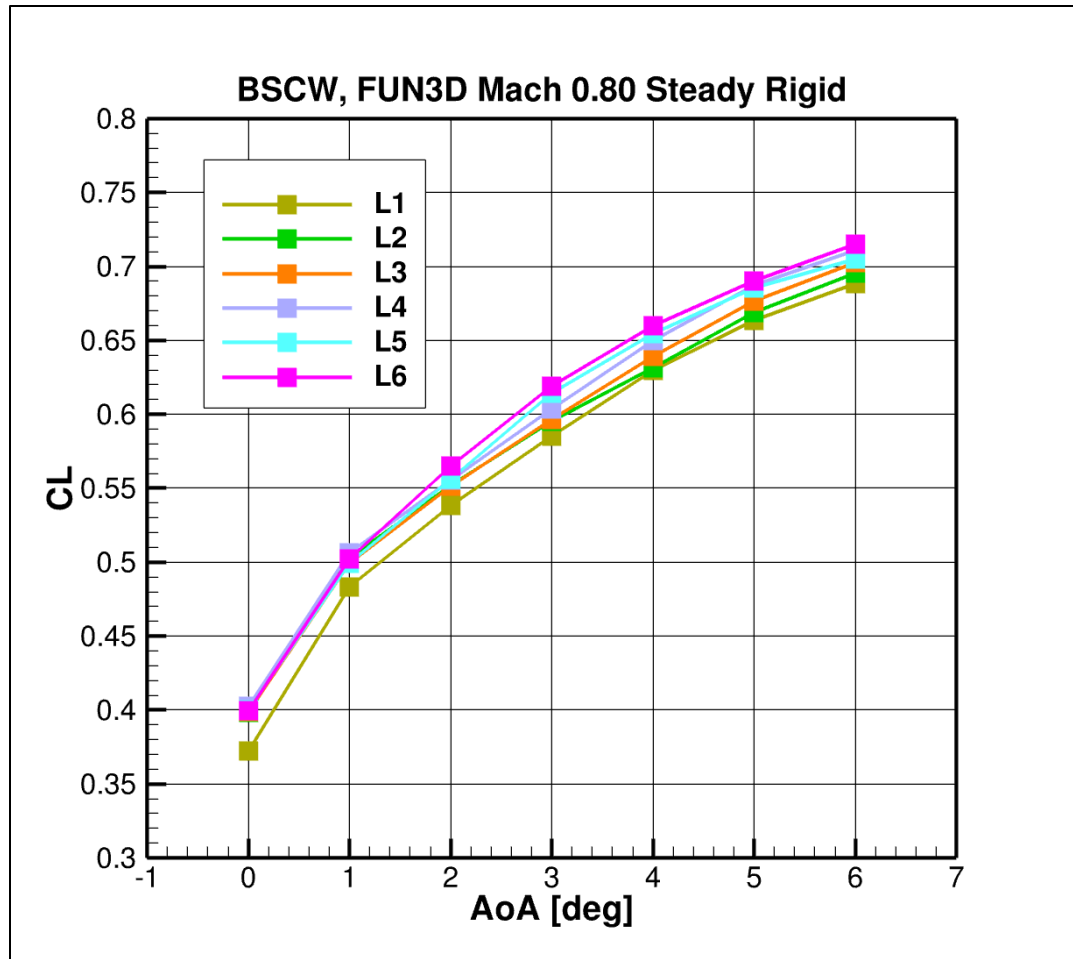


BSCW, FUN3D Mach 0.80 Flutter Analyses



L6 mesh level flutter calculations are in progress !!!

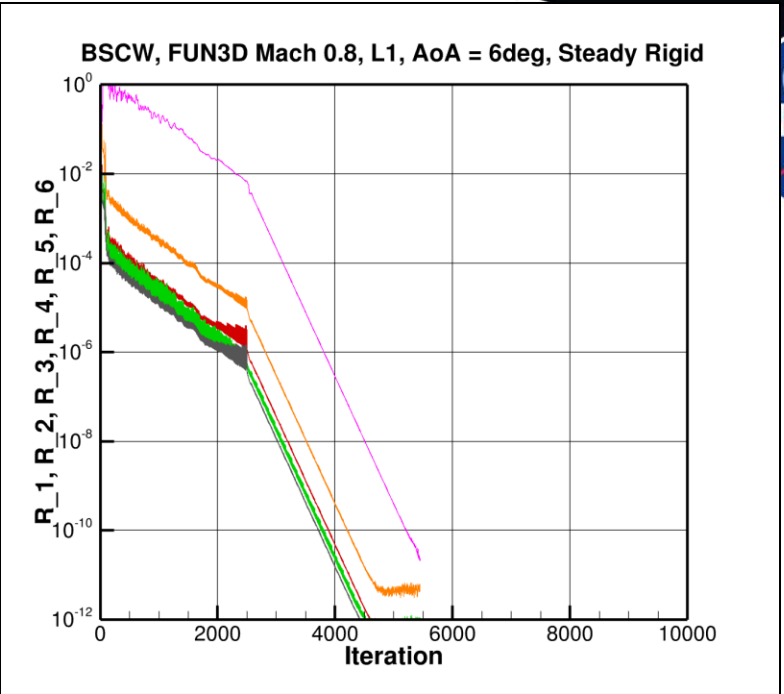
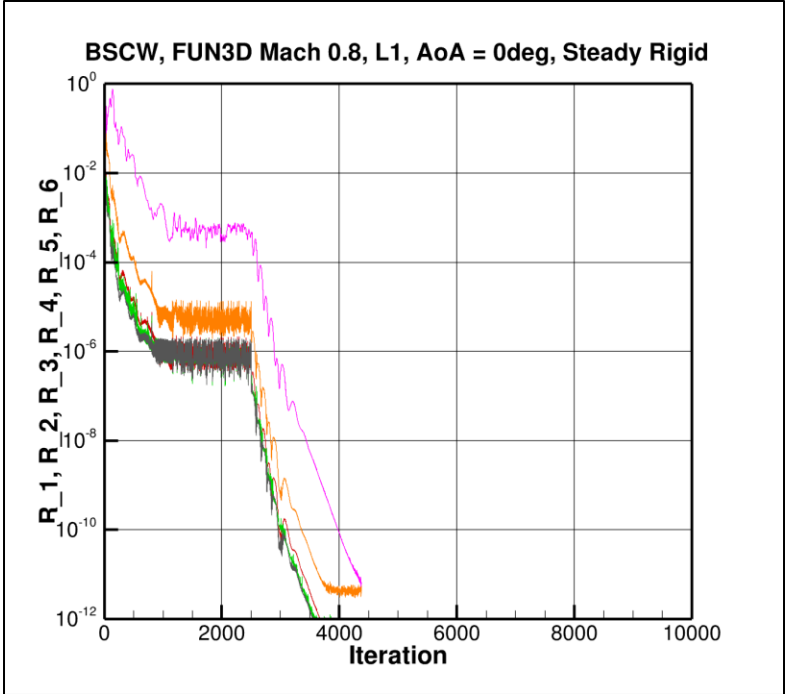
Aerodynamic Coefficients



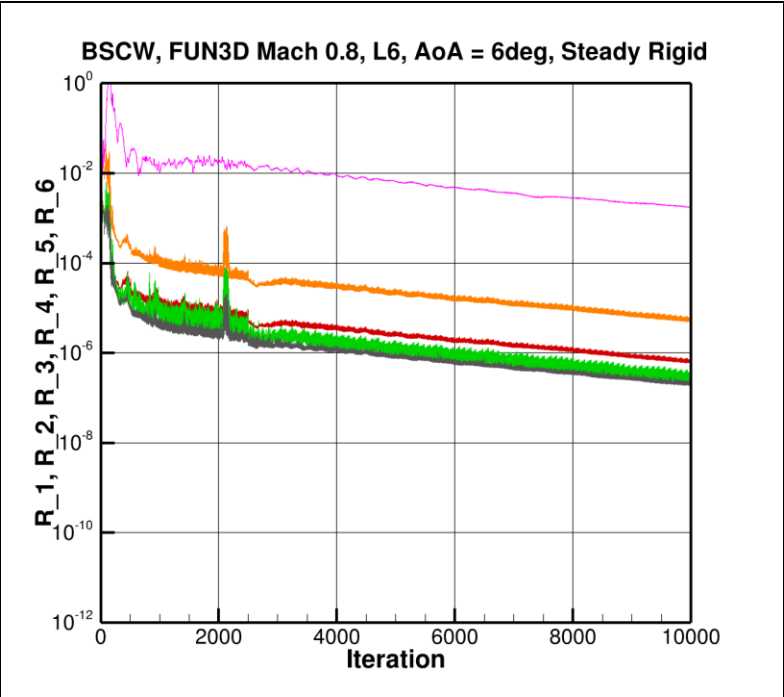
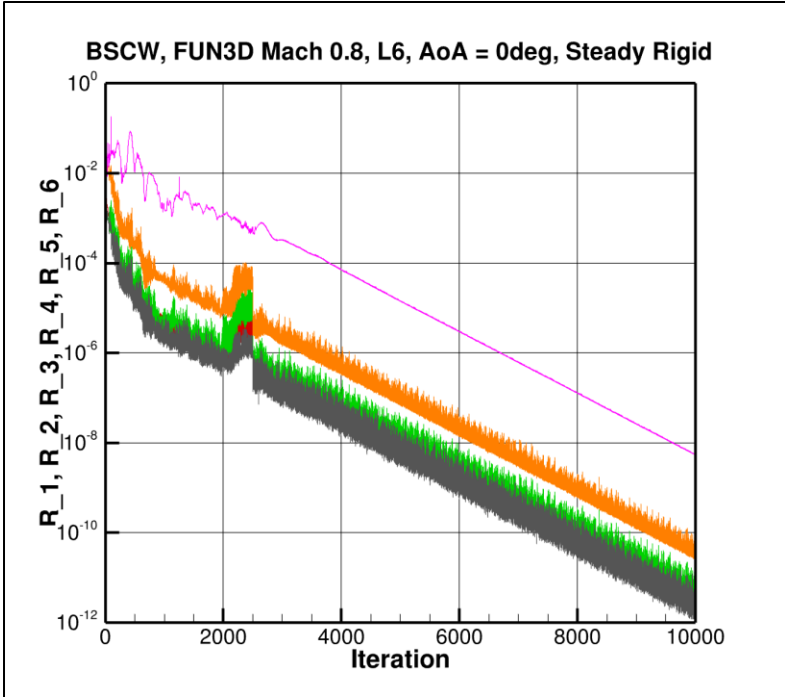
Convergence Plots

Steady rigid

Mesh L1



Mesh L6



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