

# DPW-8 & AePW-4

## Buffet Working Group



January 21, 2025

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- **SciTech: Mini Workshop 1**

- Approximately 100 people in person
- Approximately 20 people virtual
- Slides are posted at the top of the website

[https://aiaa-dpw.larc.nasa.gov/ref/scitech\\_2025.pdf](https://aiaa-dpw.larc.nasa.gov/ref/scitech_2025.pdf)

- **AVIATION: Special Sessions**

- July 21-25, Las Vegas, NV
- Considered an invited special session
- 21 submissions

- **Data are due February 15, 2025**
  - We are not specifying time step or number of CTUs
  - We want to leverage your best practices
  - We will define recommendations for Test Cases 2 and 3
- **Grid convergence study is optional**
- **Include the following data files**
  - Integrated forces and moments
  - Surface cuts
  - Power spectra
  - Time series of a single point
- **Detailed instructions (file name, zone name in each file, etc.) to come**

- What is the current state of the art of beyond-RANS, static-geometry simulations leading up to and beyond buffet?
- What gridding best-practices can be established for scale-resolving simulations?
- What is the state-of-the-art for unsteady CFD coupled with a dynamic structural model, and how accurate are these schemes?

- **Test Case 2: Rigid CRM**
  - Unsteady CFD with committee-supplied static wing geometry
  - Optional
  - Not all unsteady CFD codes have unsteady FSI
  - Pre-buffet and post-buffet
- **Test Case 3: Dynamic CRM**
  - Unsteady CFD, unsteady FSI with committee-supplied jig wing geometry
  - Difficult problem will stretch tools and methods
  - Extensive analysis, limited flow conditions

# Test Case 3 Thoughts

- **Test Case 3 is the reason for the hybrid buffet group**
- **Very challenging**
- **Feedback from community**
  - Who has tools to approach this problem?
  - What time frame will be needed to support this test case?
- **Not all participants can support Test Case 3**
  - Continued evaluation of Test Case 2
  - There will be many questions

# Open Discussion

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