

Side-of-Body Separation

(Wing-Body Trailing-Edge Juncture Separation)

Side-of-Body Separation

- **10 Submitted (partial) Data Sets** (*as of June 21*)

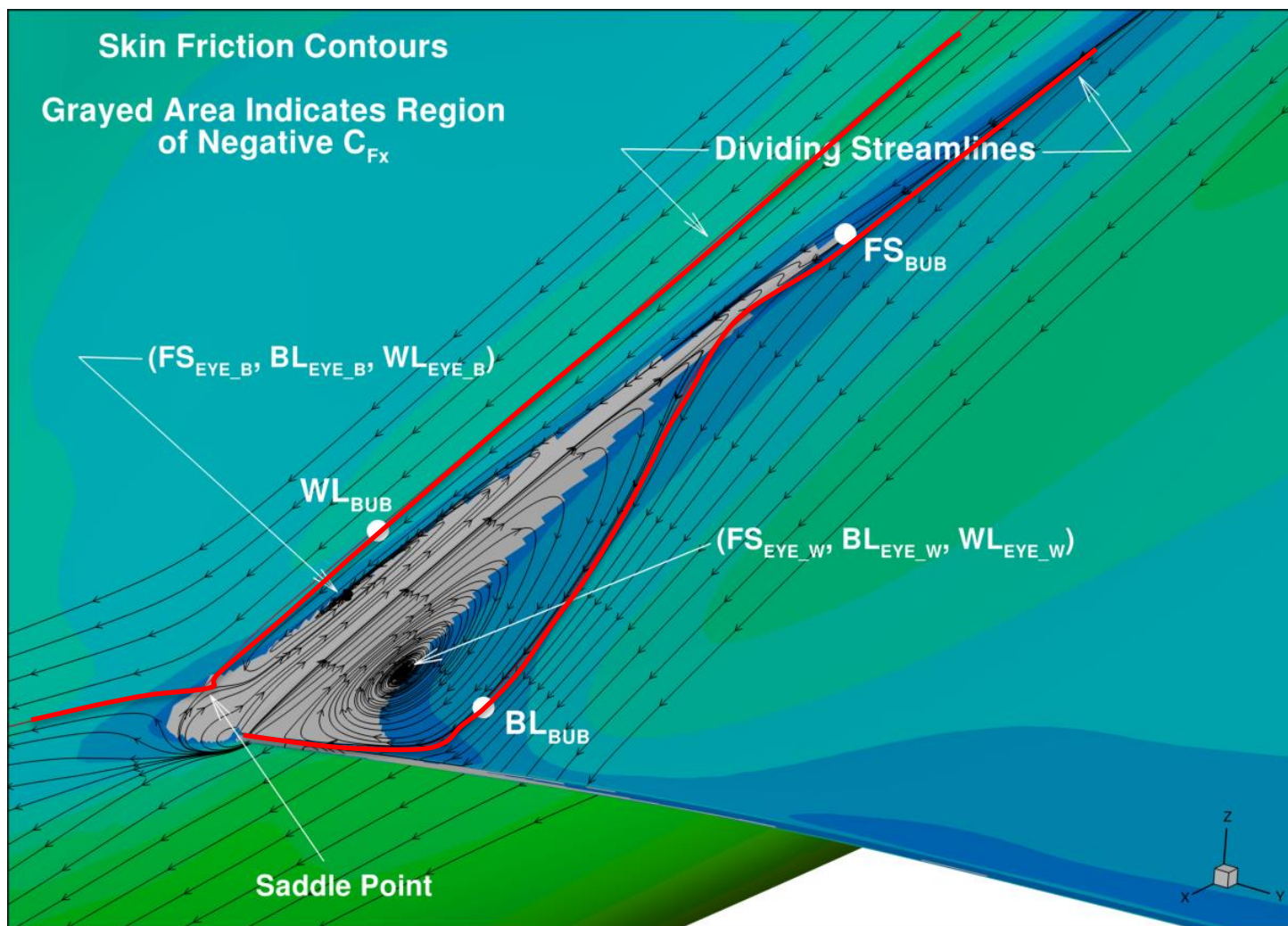
Grids

7 Unstructured
1 Overset
1 Multi-block
1 Custom Cartesian

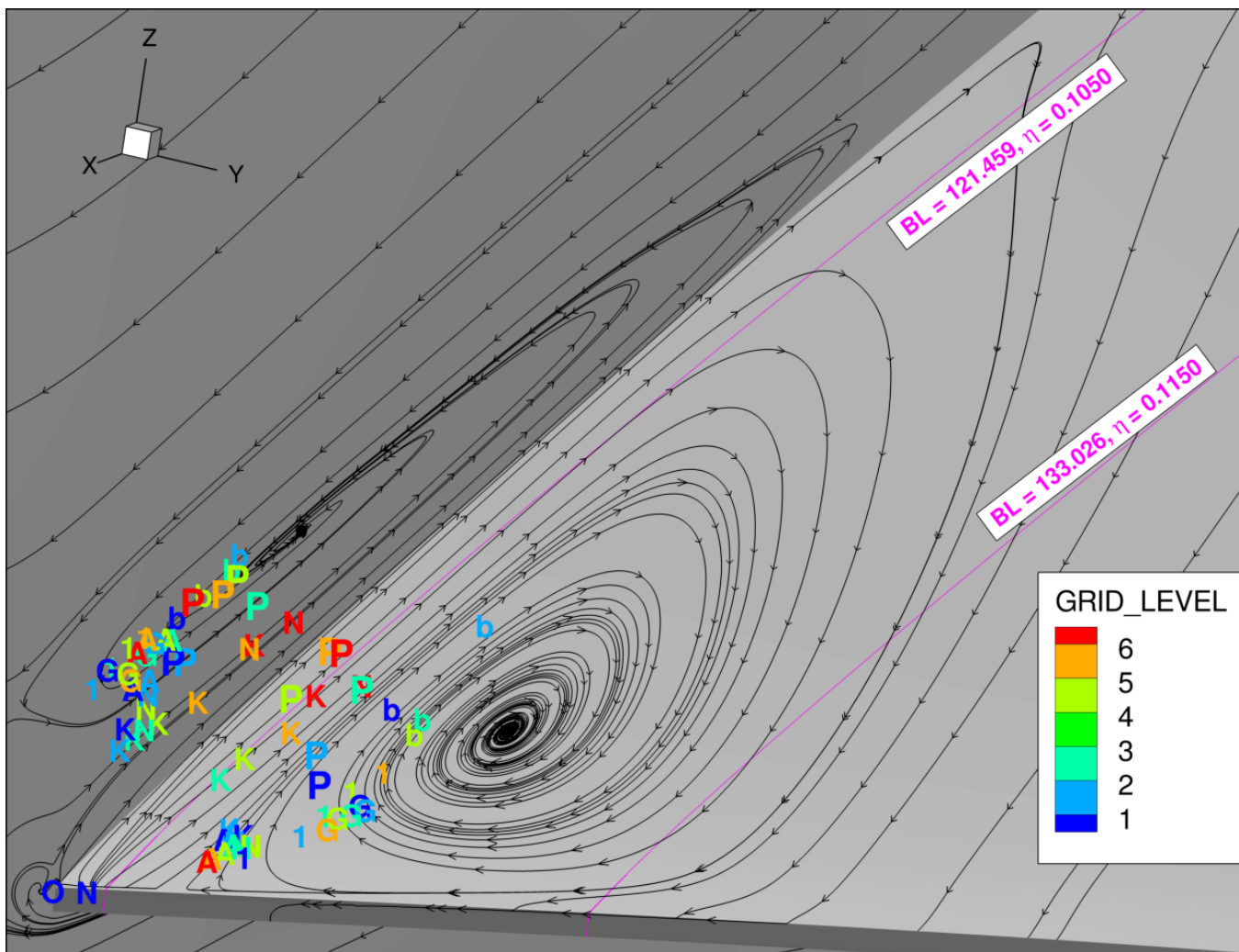
Turbulence Models

2 SA
6 SA QCR
1 SST
1 k- ϵ

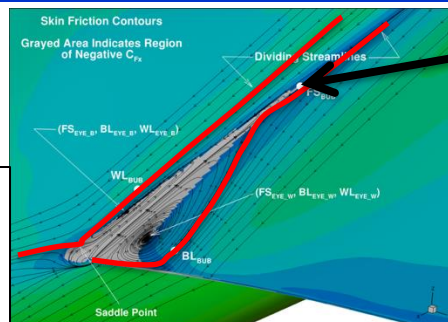
Separation Bubble



CASE 1A: Grid Refinement – Eye Locations



CASE 1A: Grid Refinement



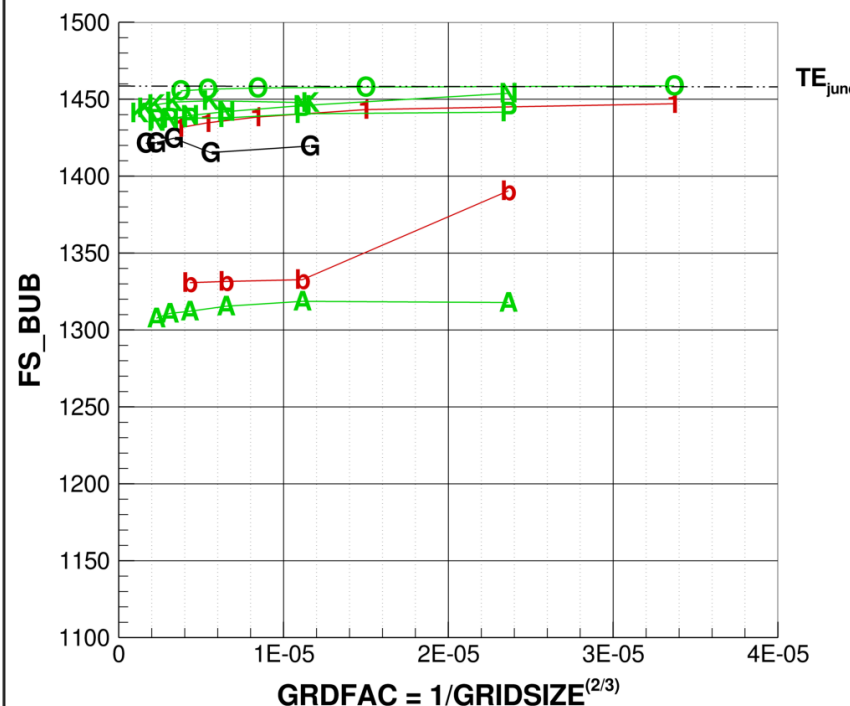
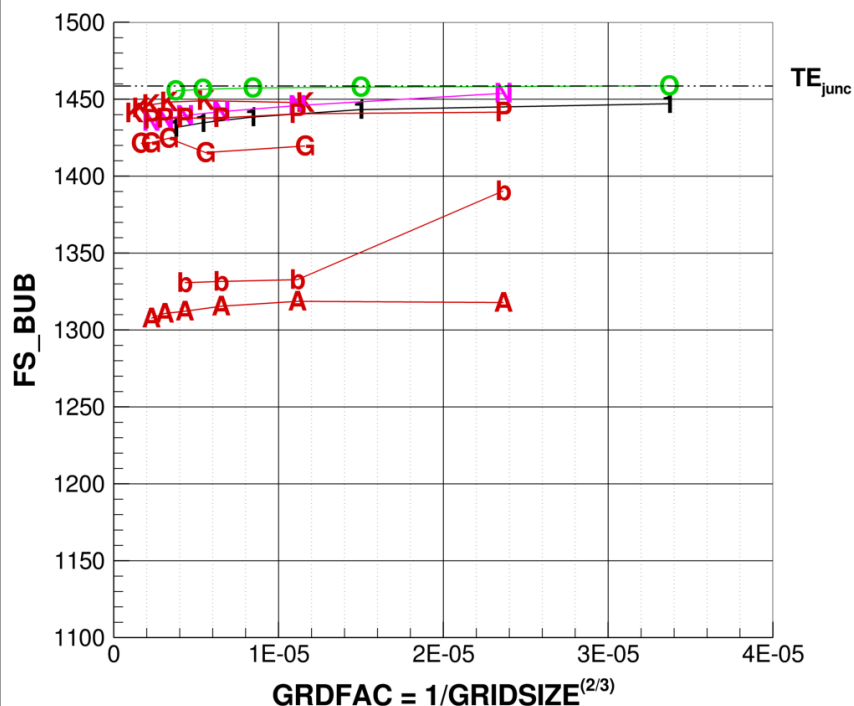
Bubble Leading Edge

Grid Type

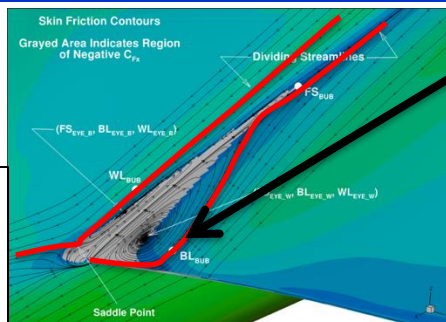
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 1A: Grid Refinement



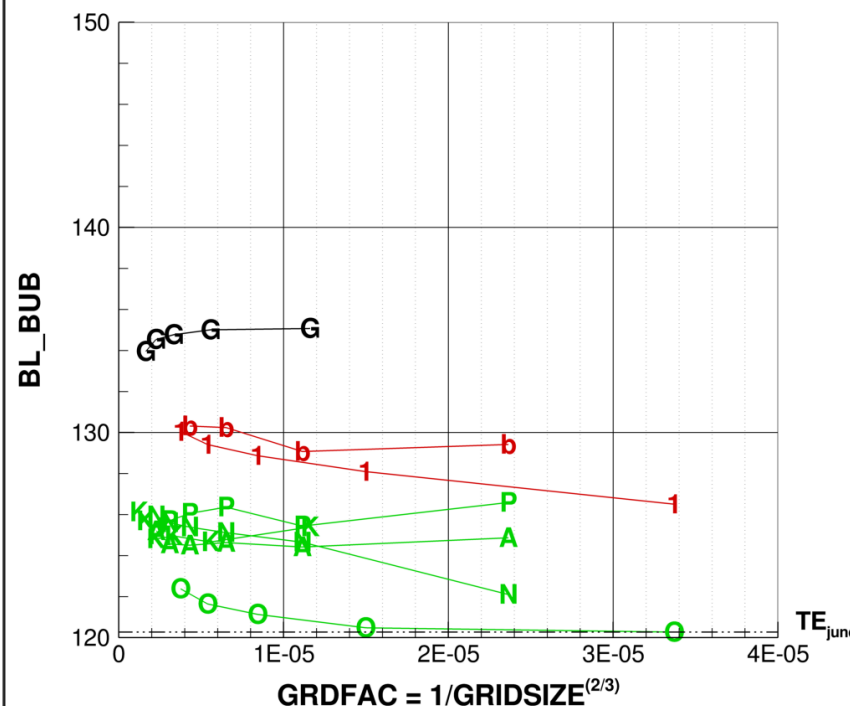
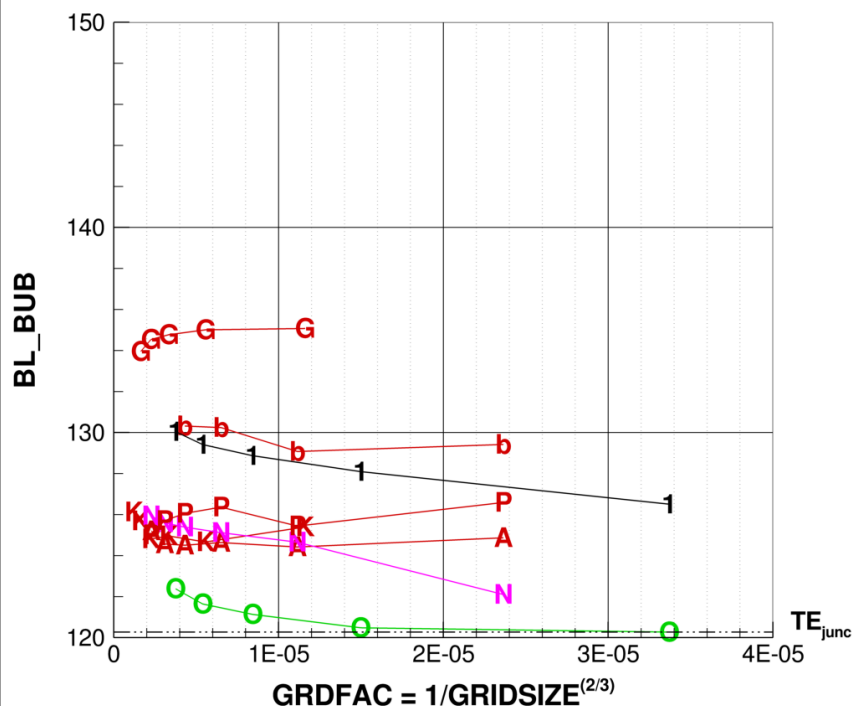
Bubble Width (wing)

Grid Type

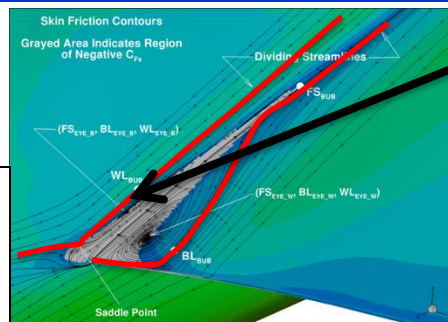
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 1A: Grid Refinement



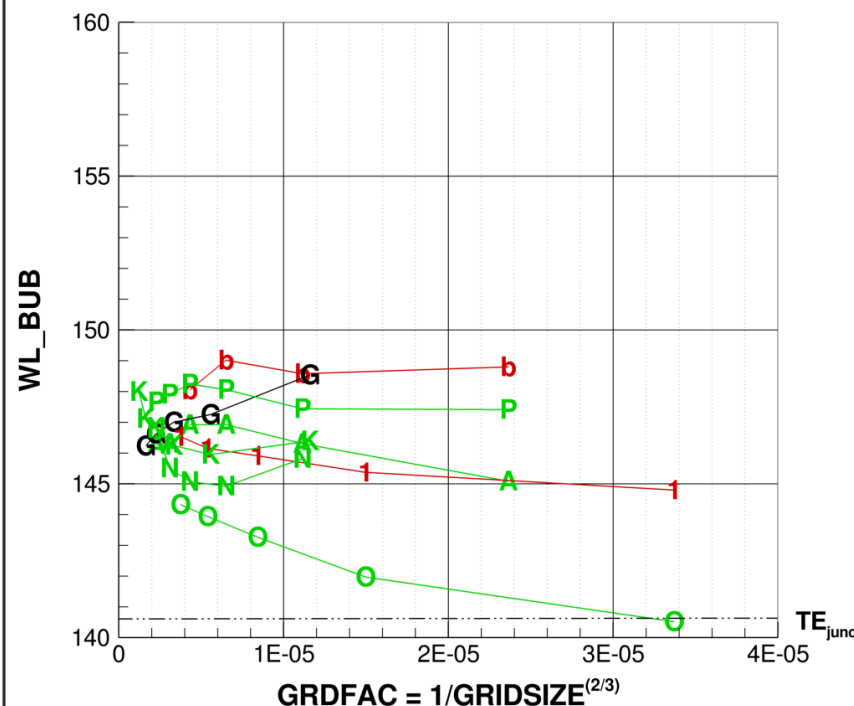
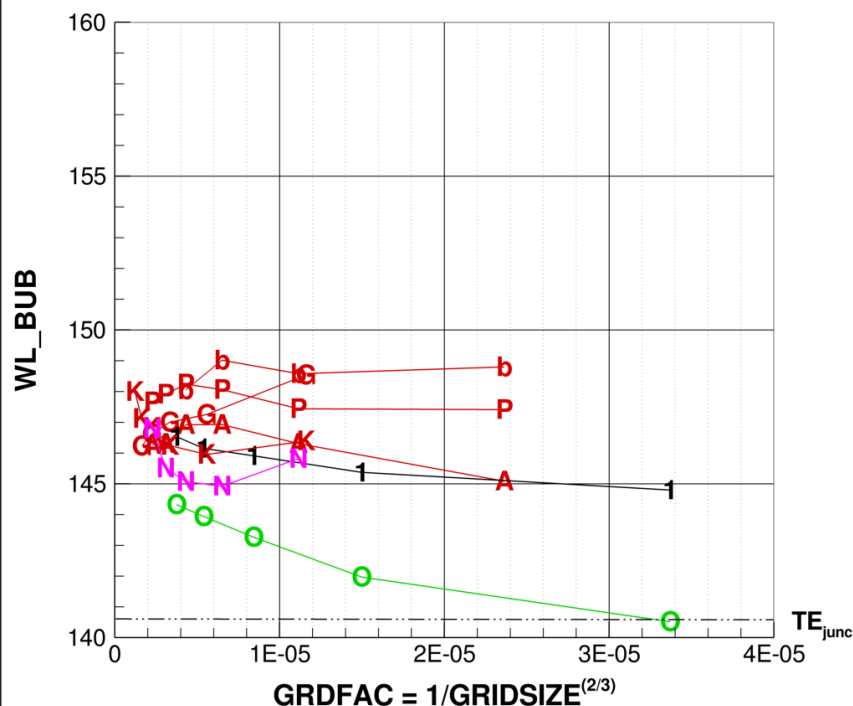
Bubble Height (fuselage)

Grid Type

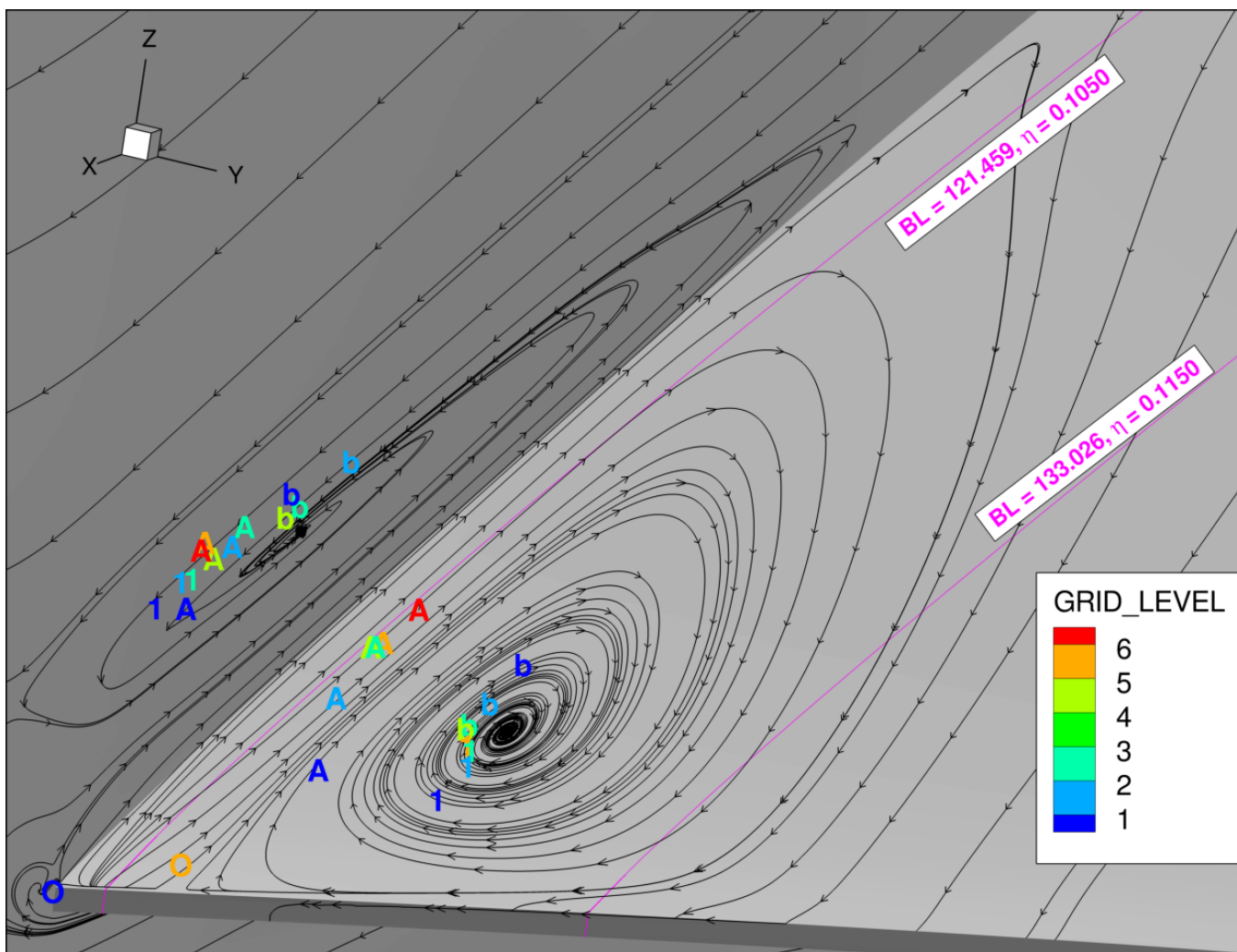
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

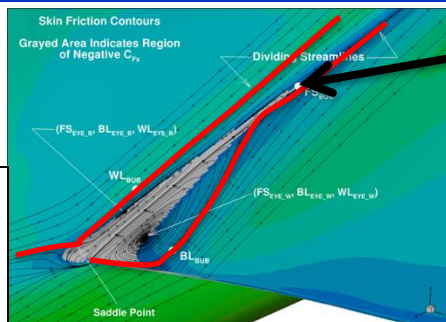
- SA
- SA QRC
- SST
- k-ε



CASE 1B: Grid Refinement – Eye Locations



CASE 1B: Grid Refinement



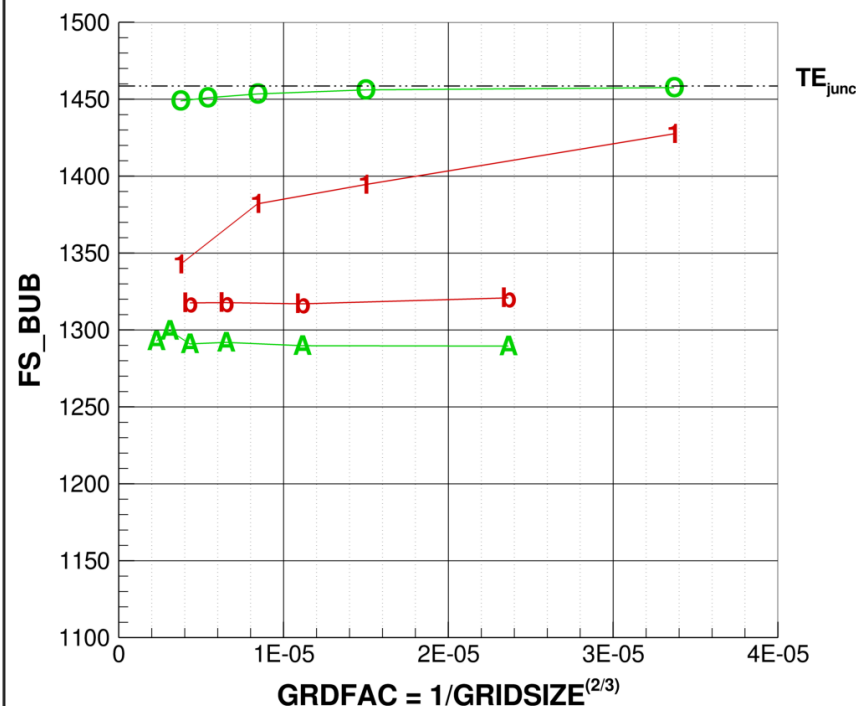
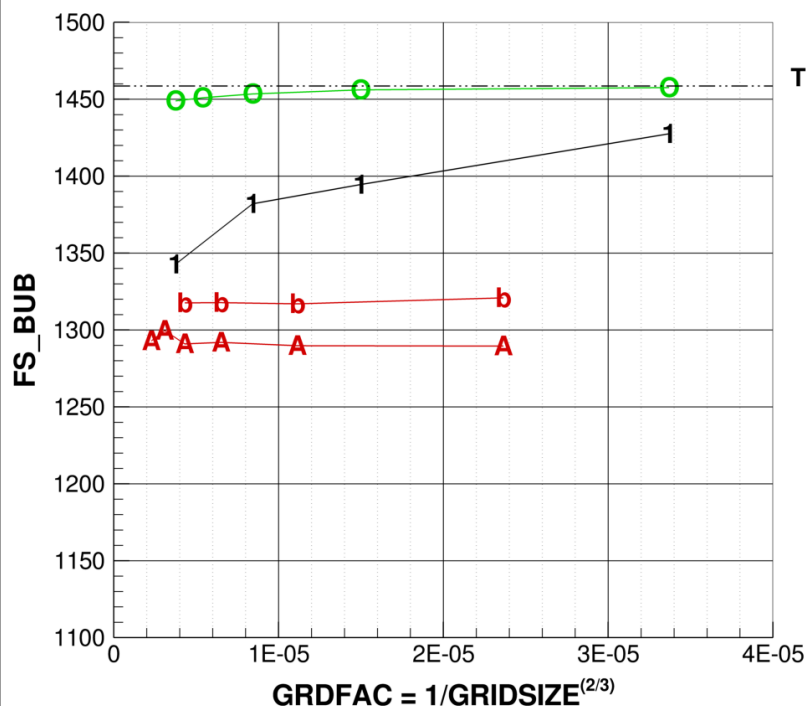
Bubble Leading Edge

Grid Type

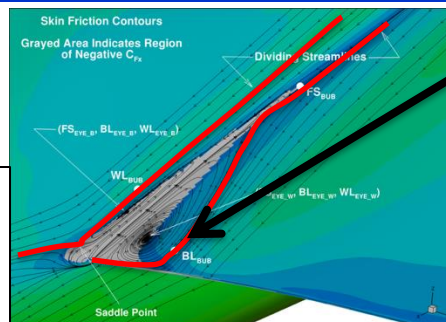
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k- ϵ



CASE 1B: Grid Refinement



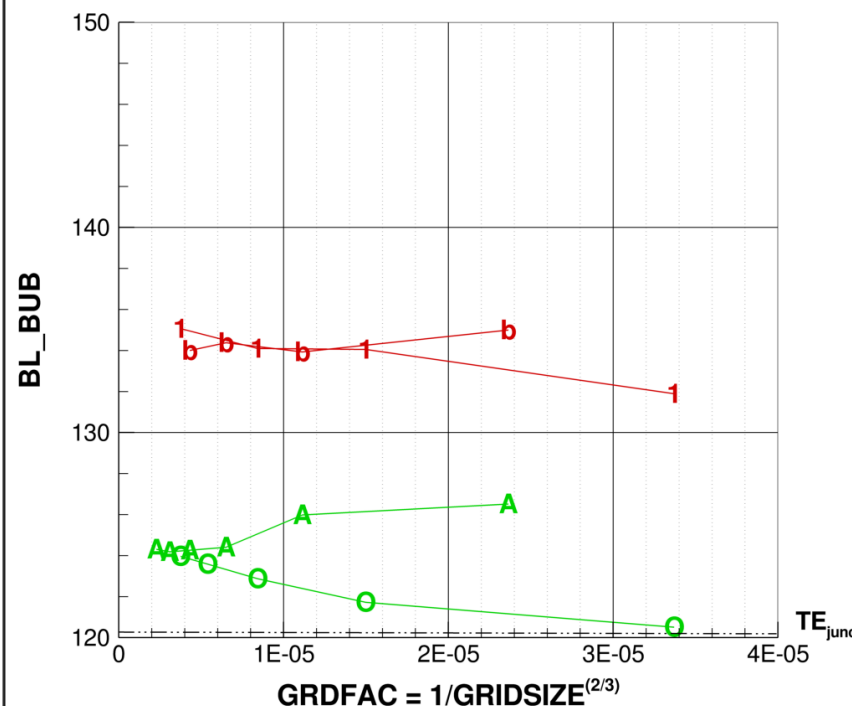
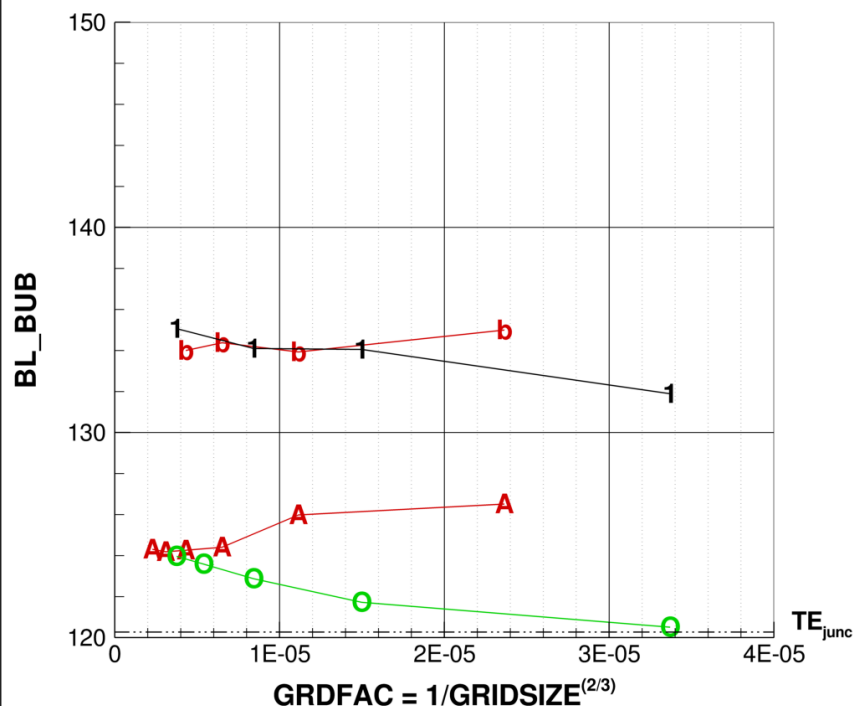
Bubble Width (wing)

Grid Type

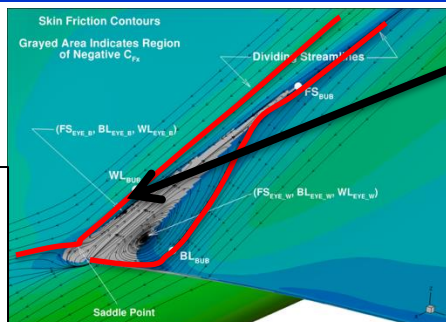
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 1B: Grid Refinement



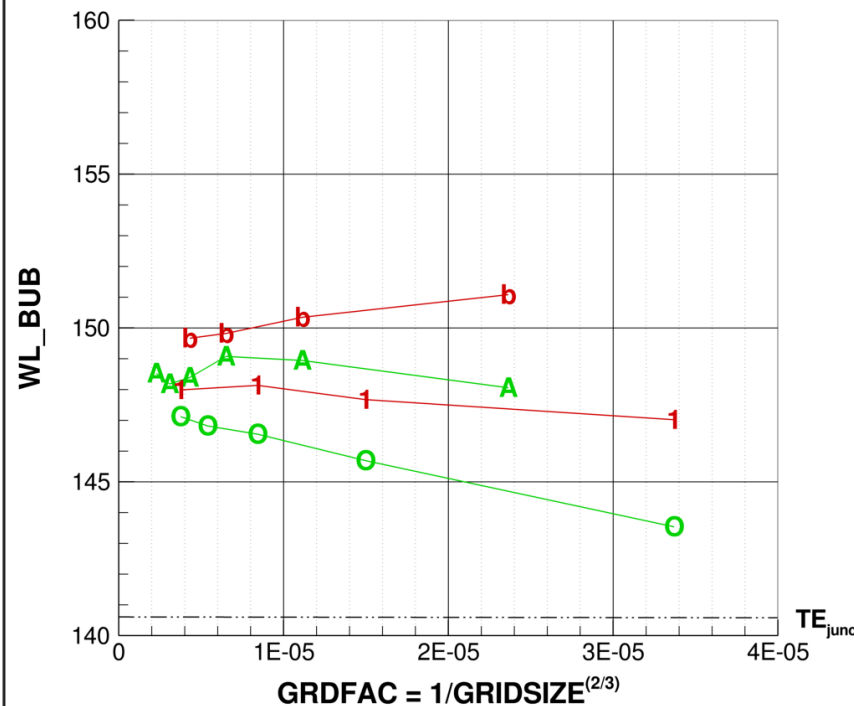
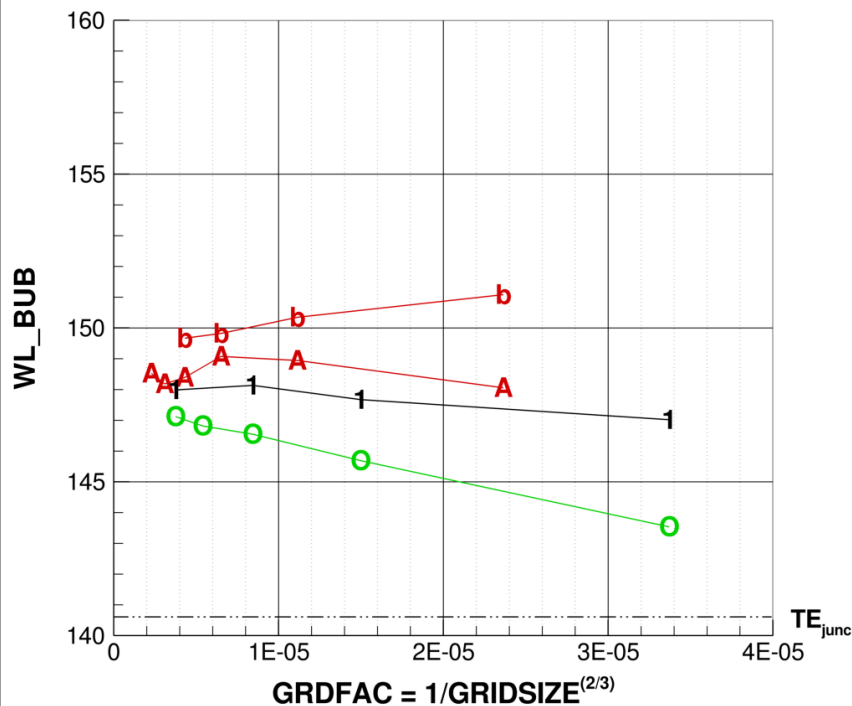
Bubble Height (fuselage)

Grid Type

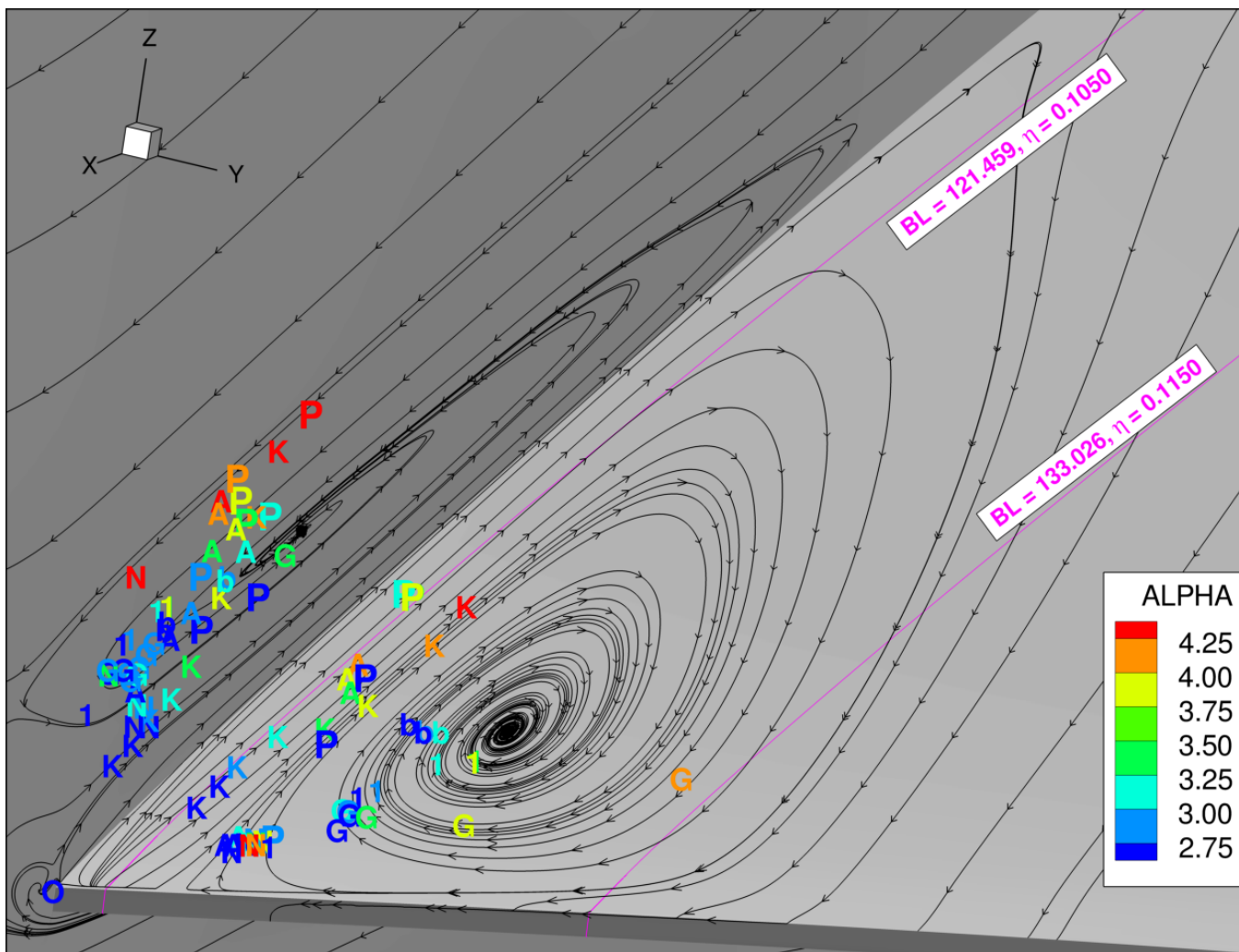
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

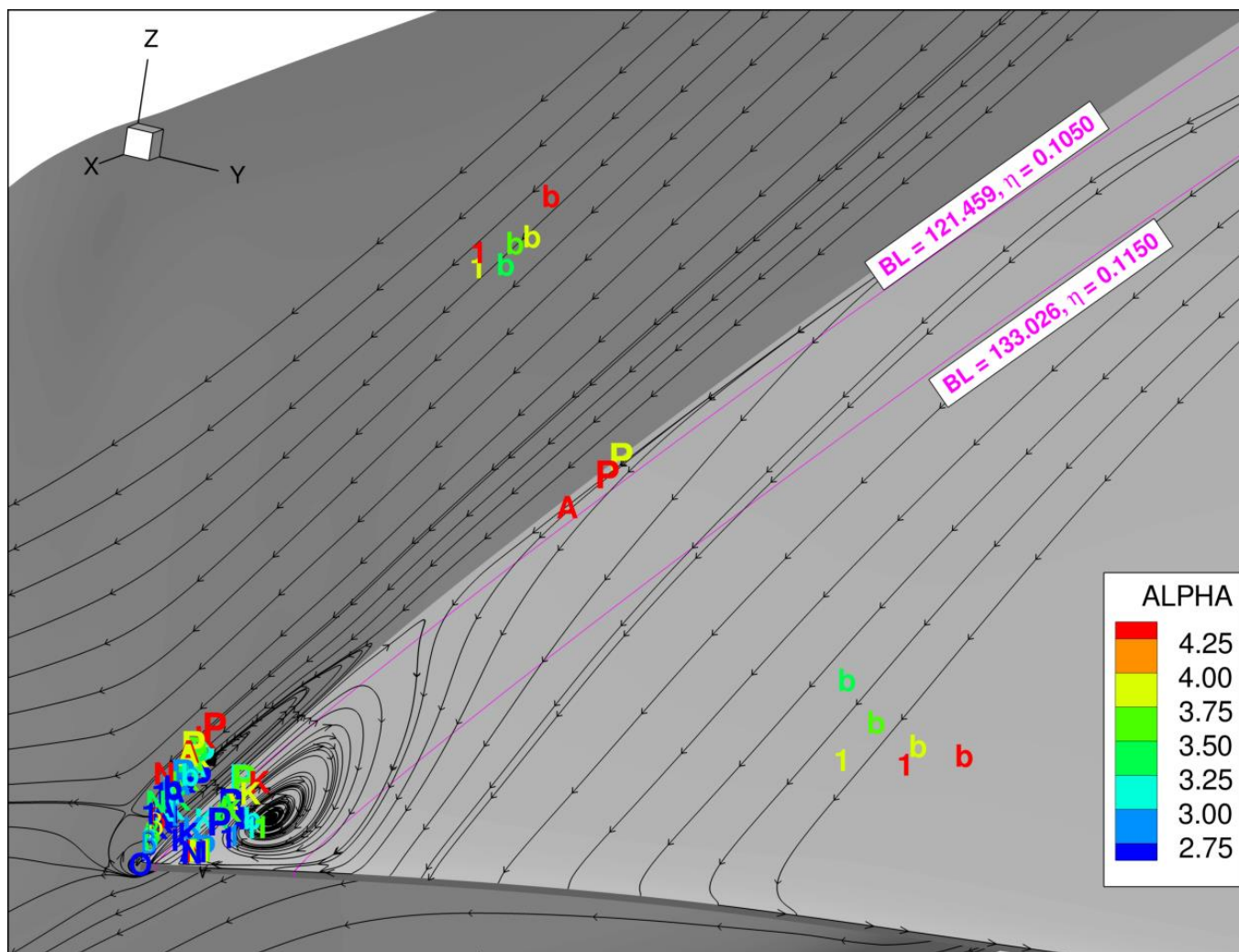
- SA
- SA QRC
- SST
- k-ε



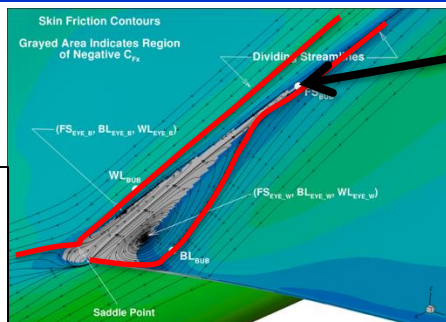
CASE 2A: Alpha Sweep – Eye Locations



CASE 2A: Alpha Sweep – Eye Locations



CASE 2A: Alpha Sweep



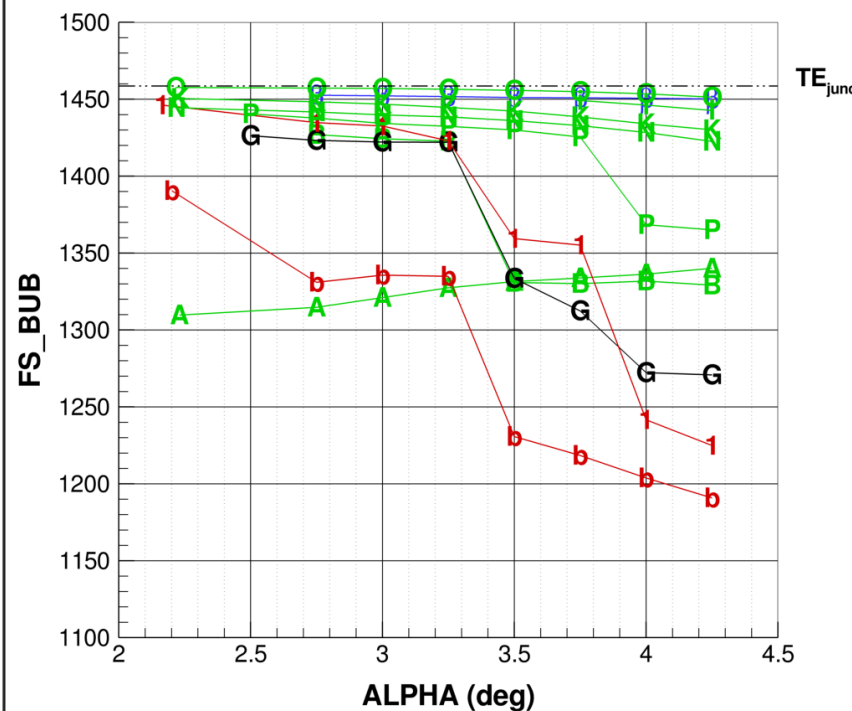
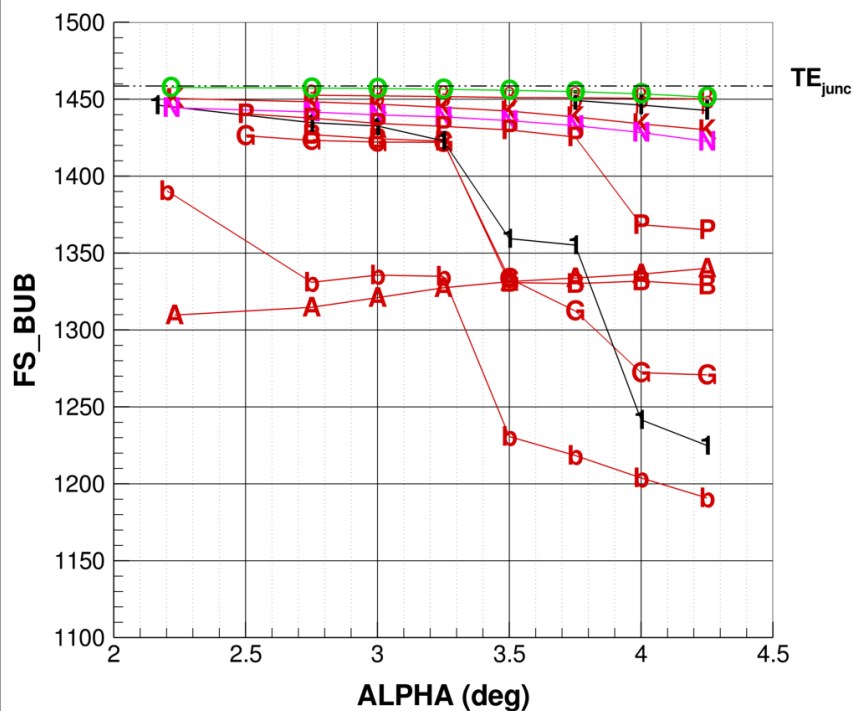
Bubble Leading Edge

Grid Type

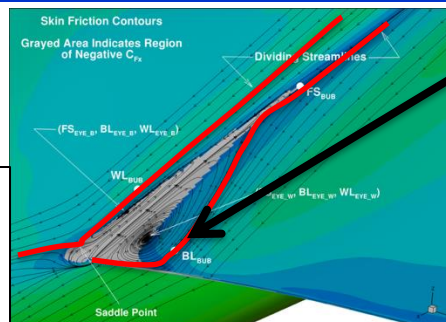
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 2A: Alpha Sweep



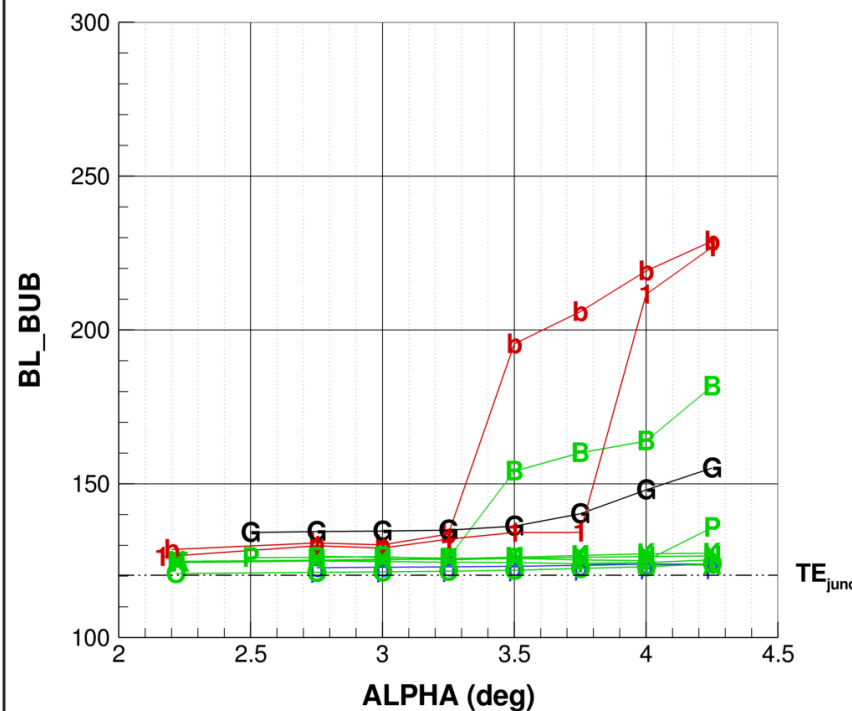
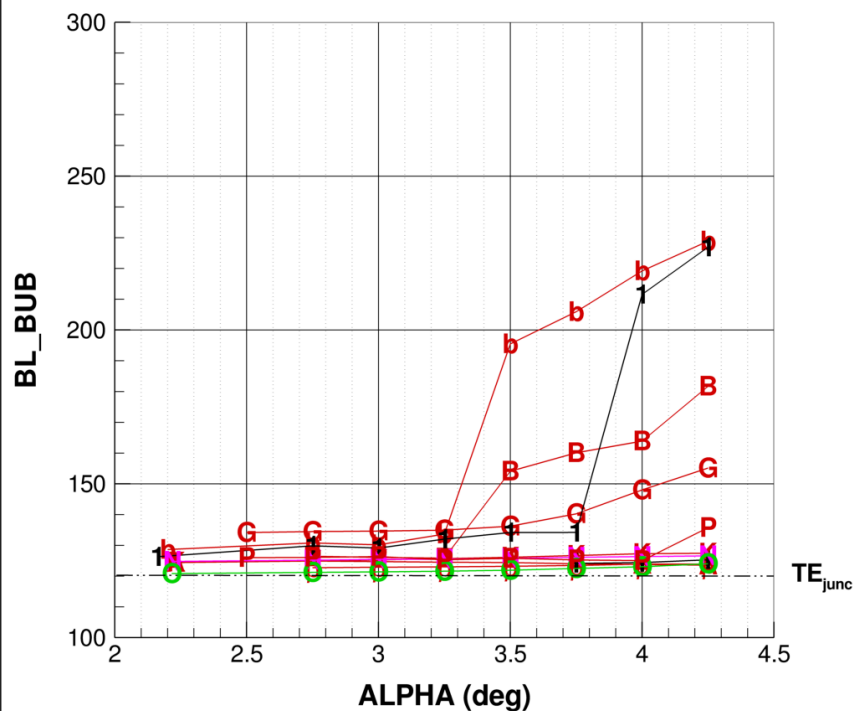
Bubble Width (wing)

Grid Type

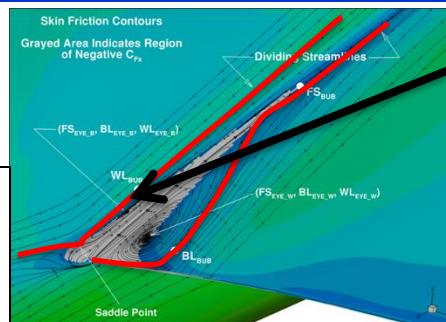
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 2A: Alpha Sweep



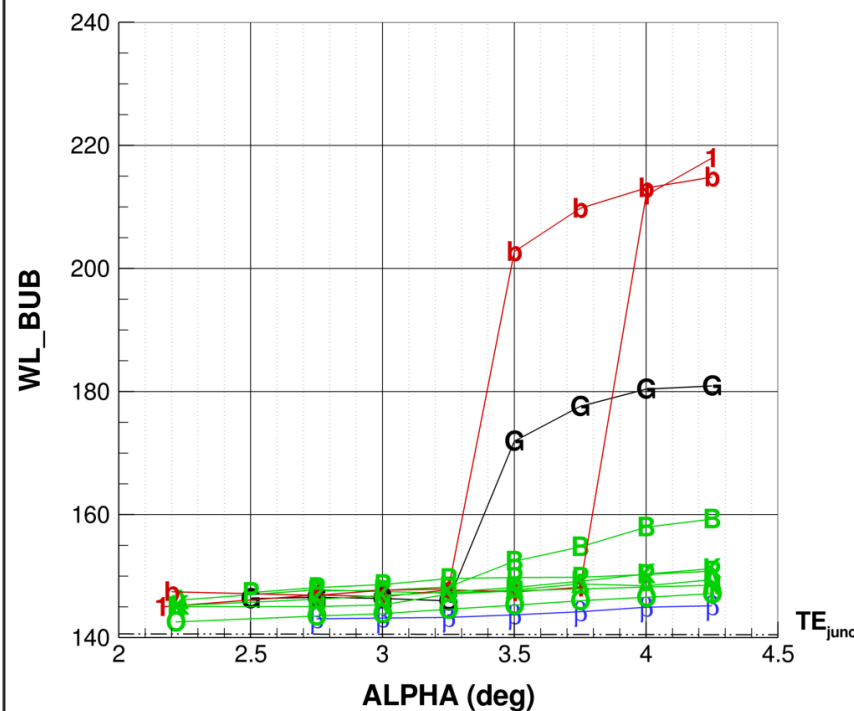
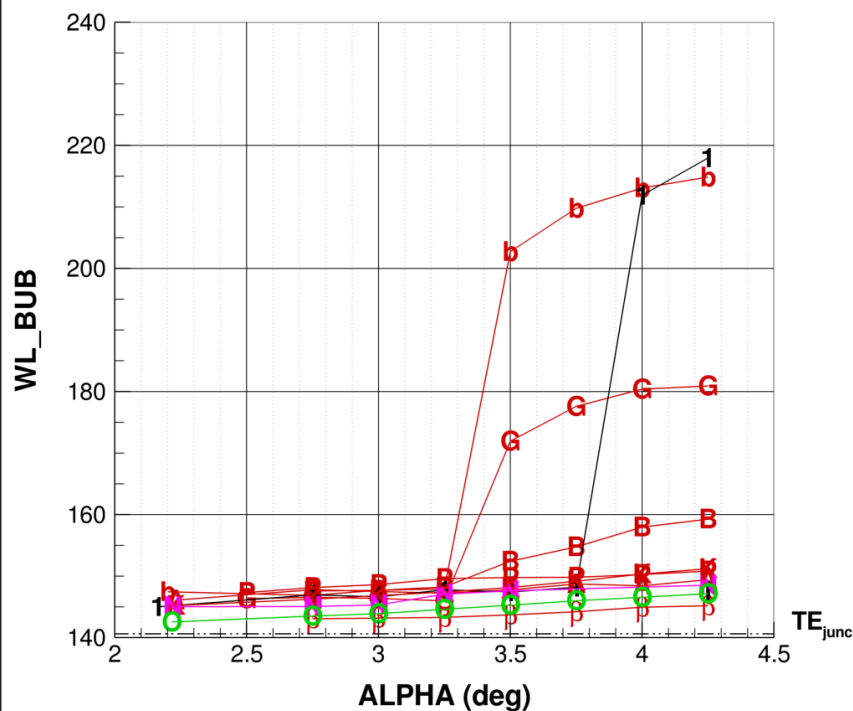
Bubble Height (fuselage)

Grid Type

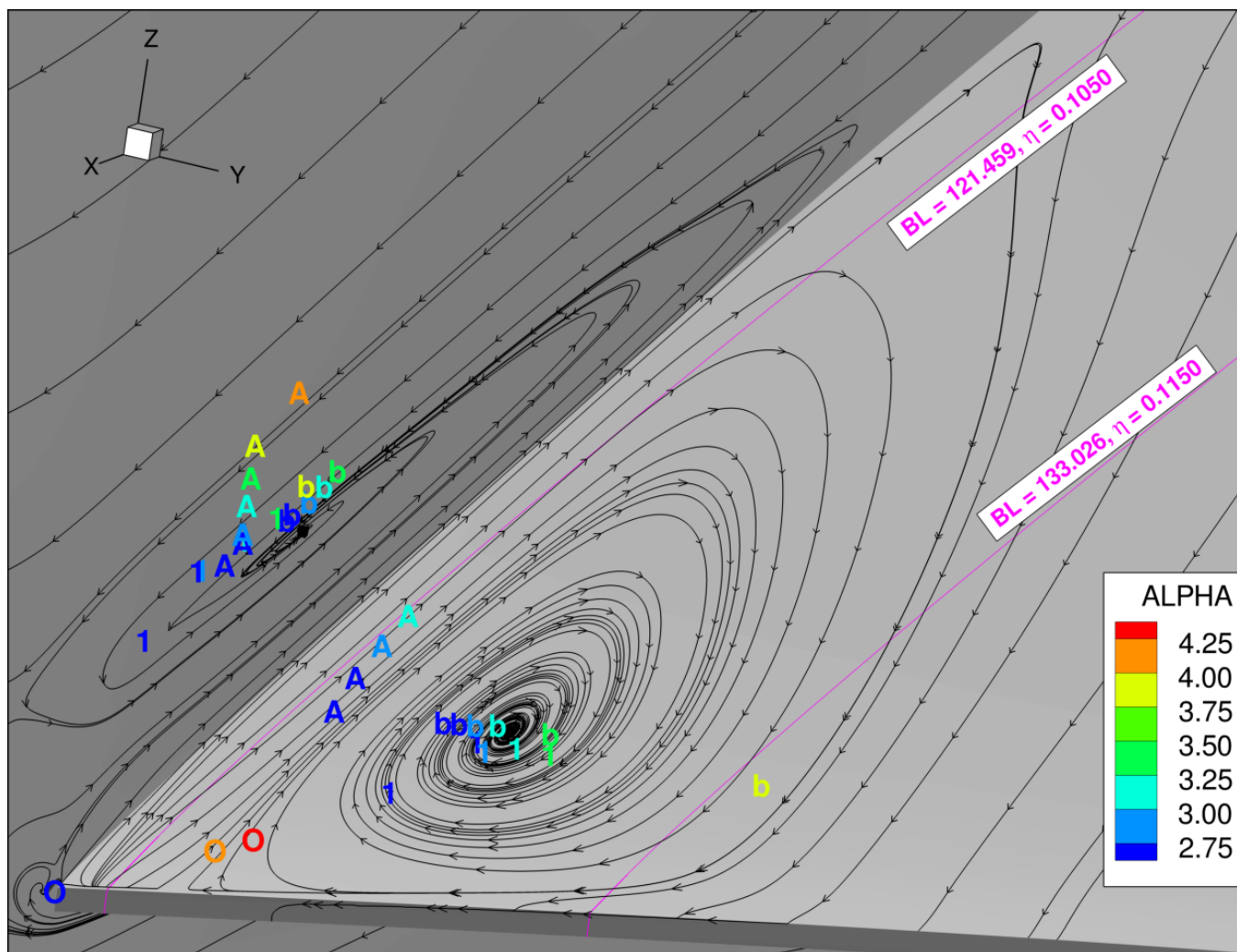
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

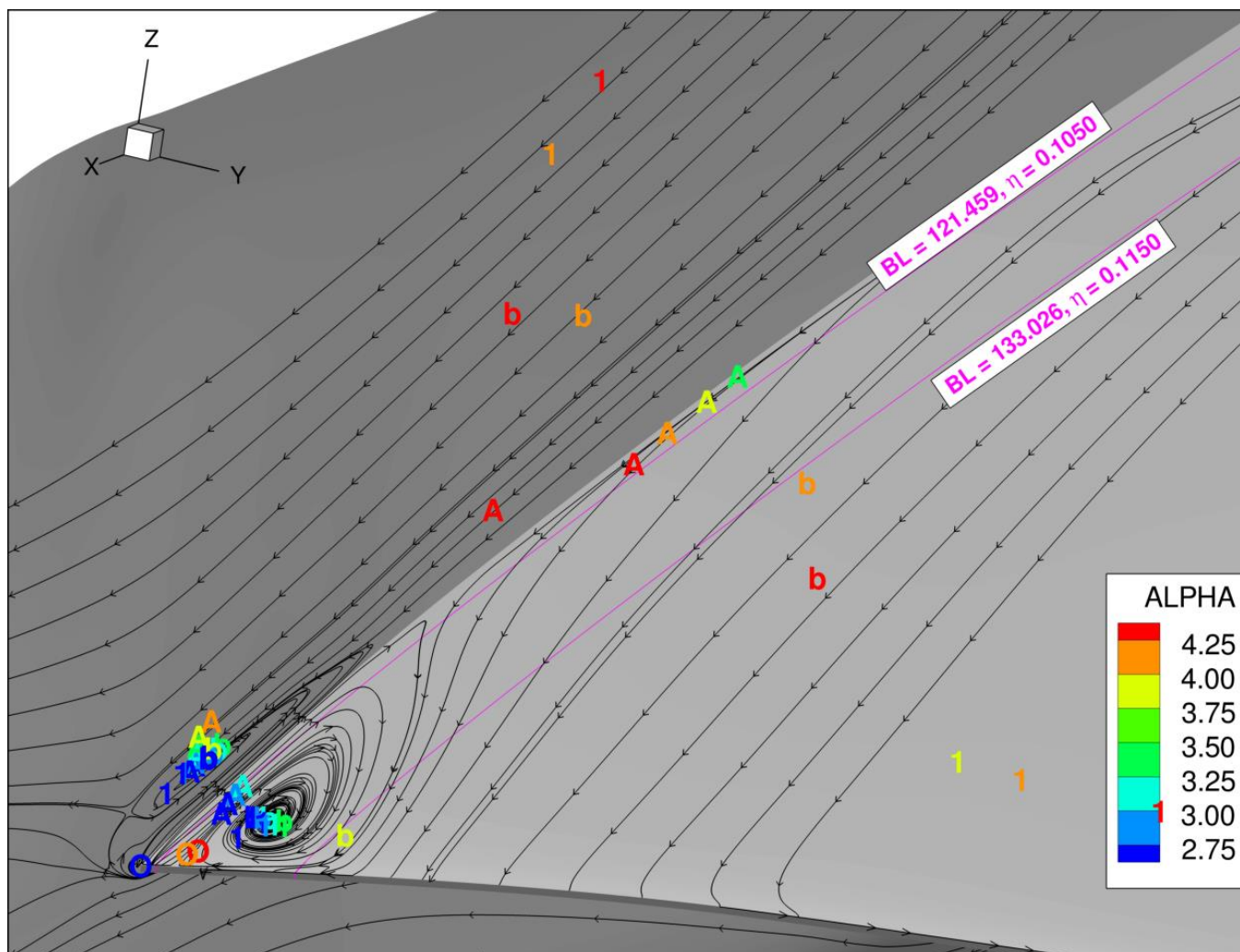
- SA
- SA QRC
- SST
- k-ε



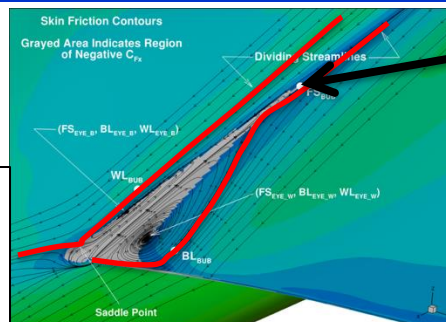
CASE 2B: Alpha Sweep – Eye Locations



CASE 2B: Alpha Sweep – Eye Locations



CASE 2B: Alpha Sweep



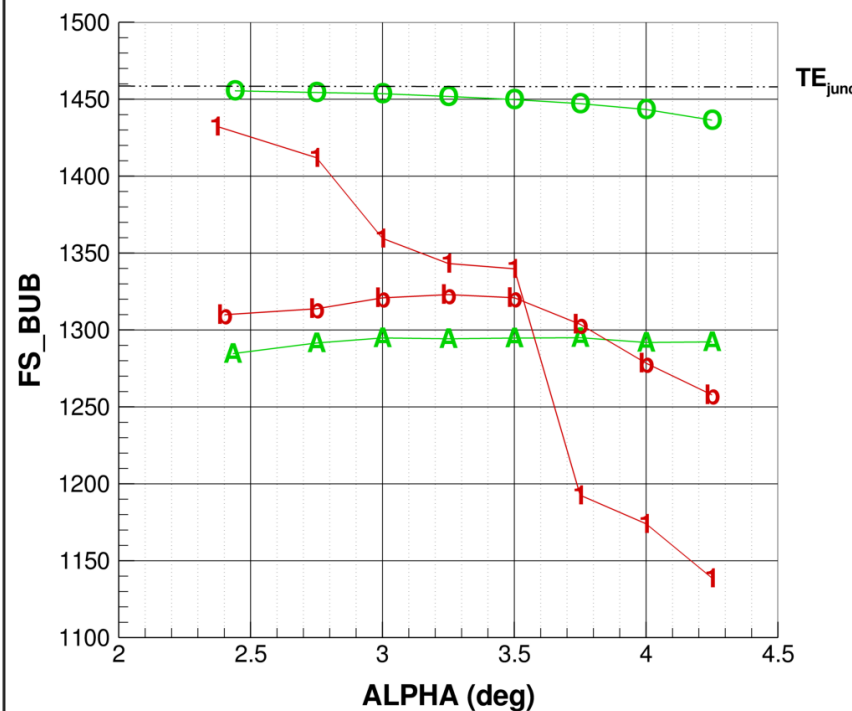
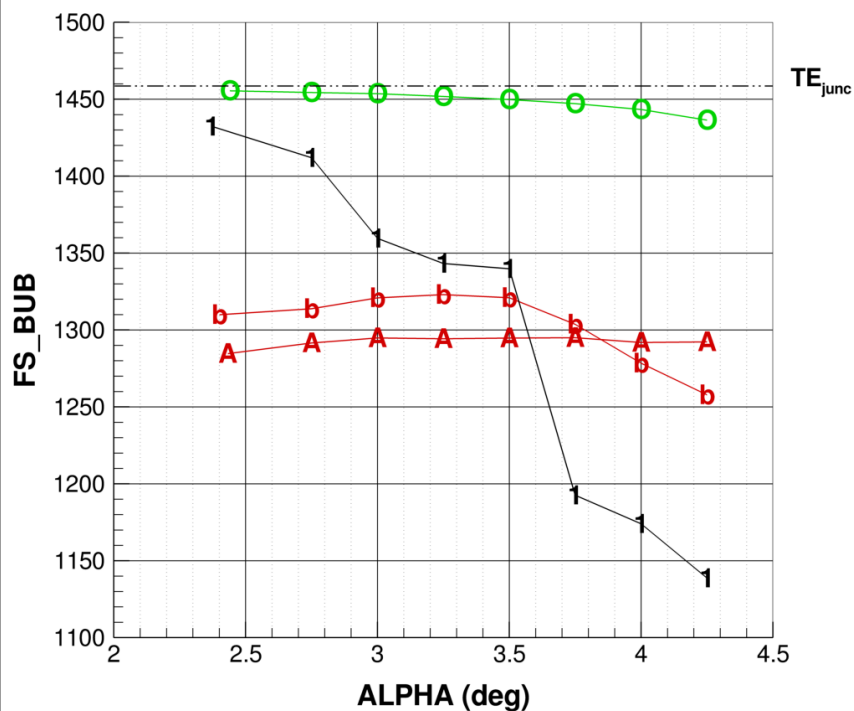
Bubble Leading Edge

Grid Type

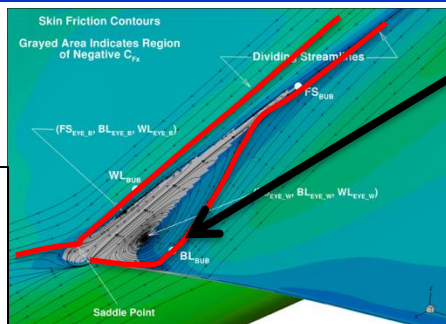
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 2B: Alpha Sweep



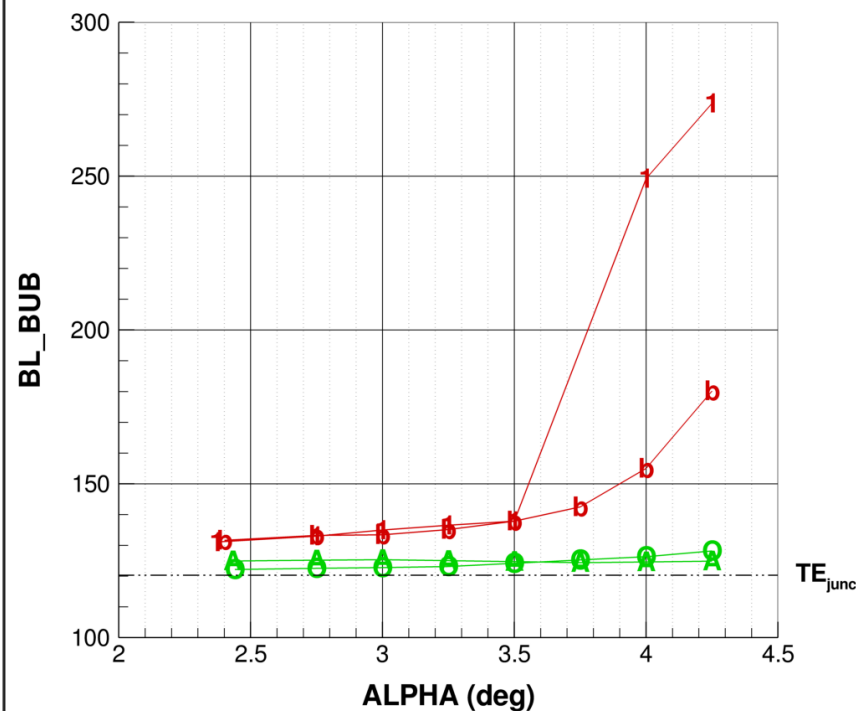
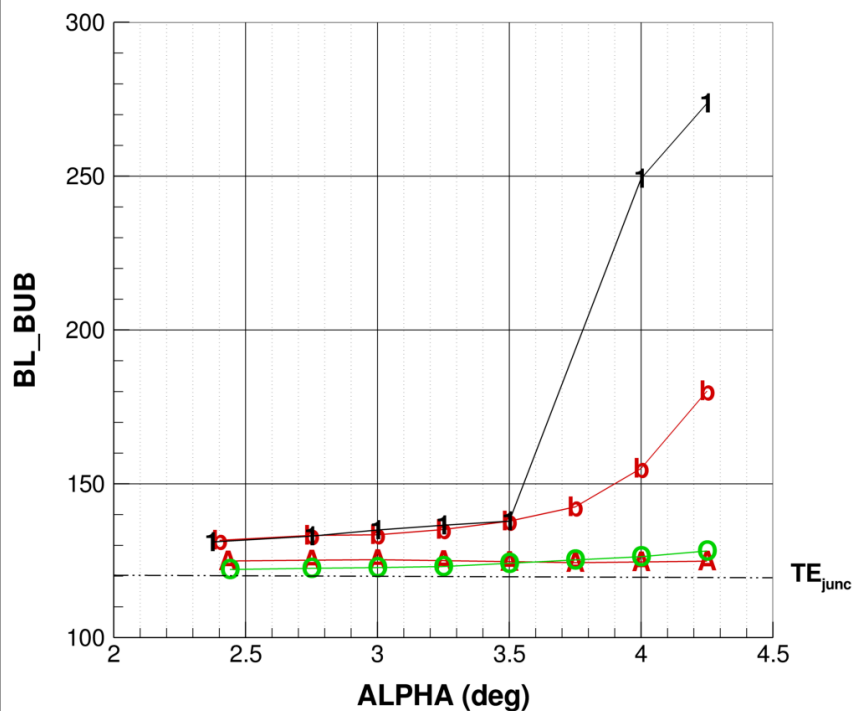
Bubble Width (wing)

Grid Type

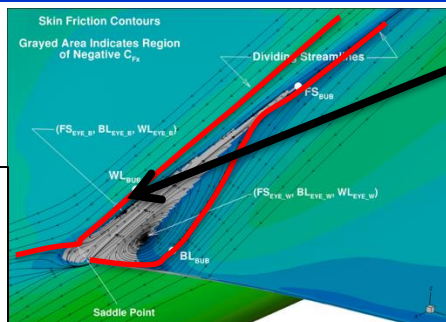
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

- SA
- SA QRC
- SST
- k-ε



CASE 2B: Alpha Sweep



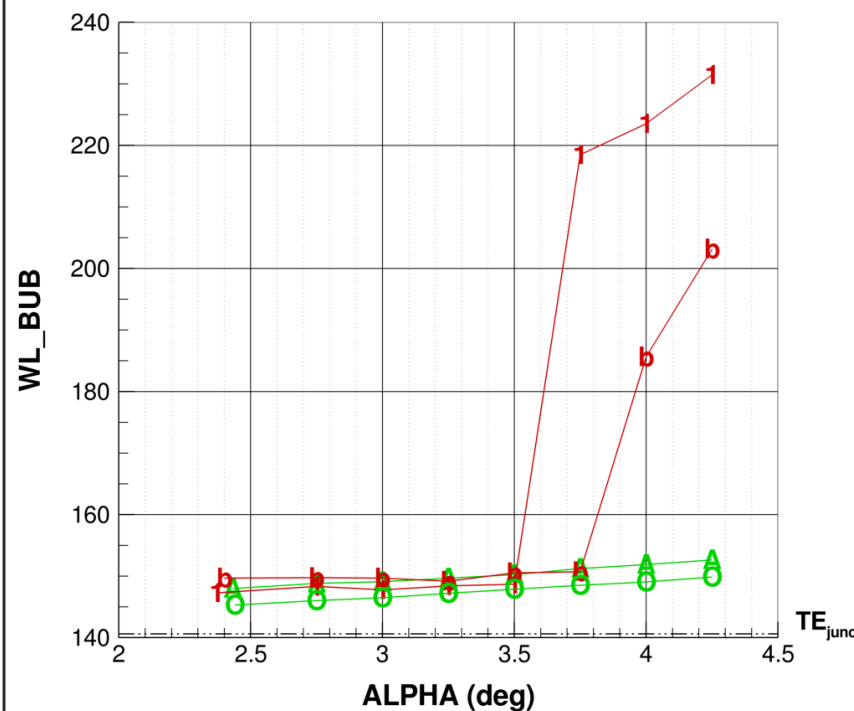
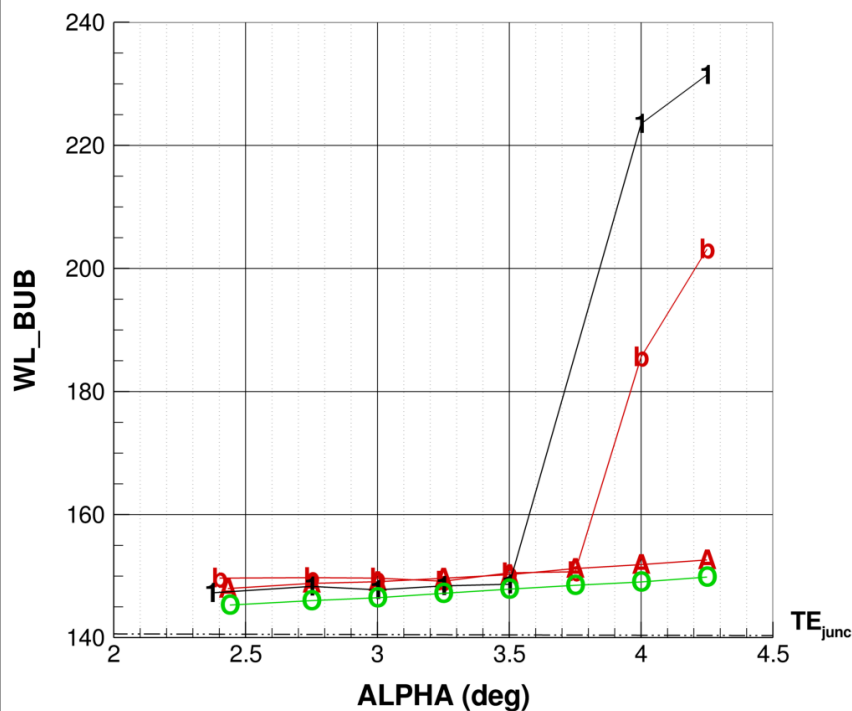
Bubble Height (fuselage)

Grid Type

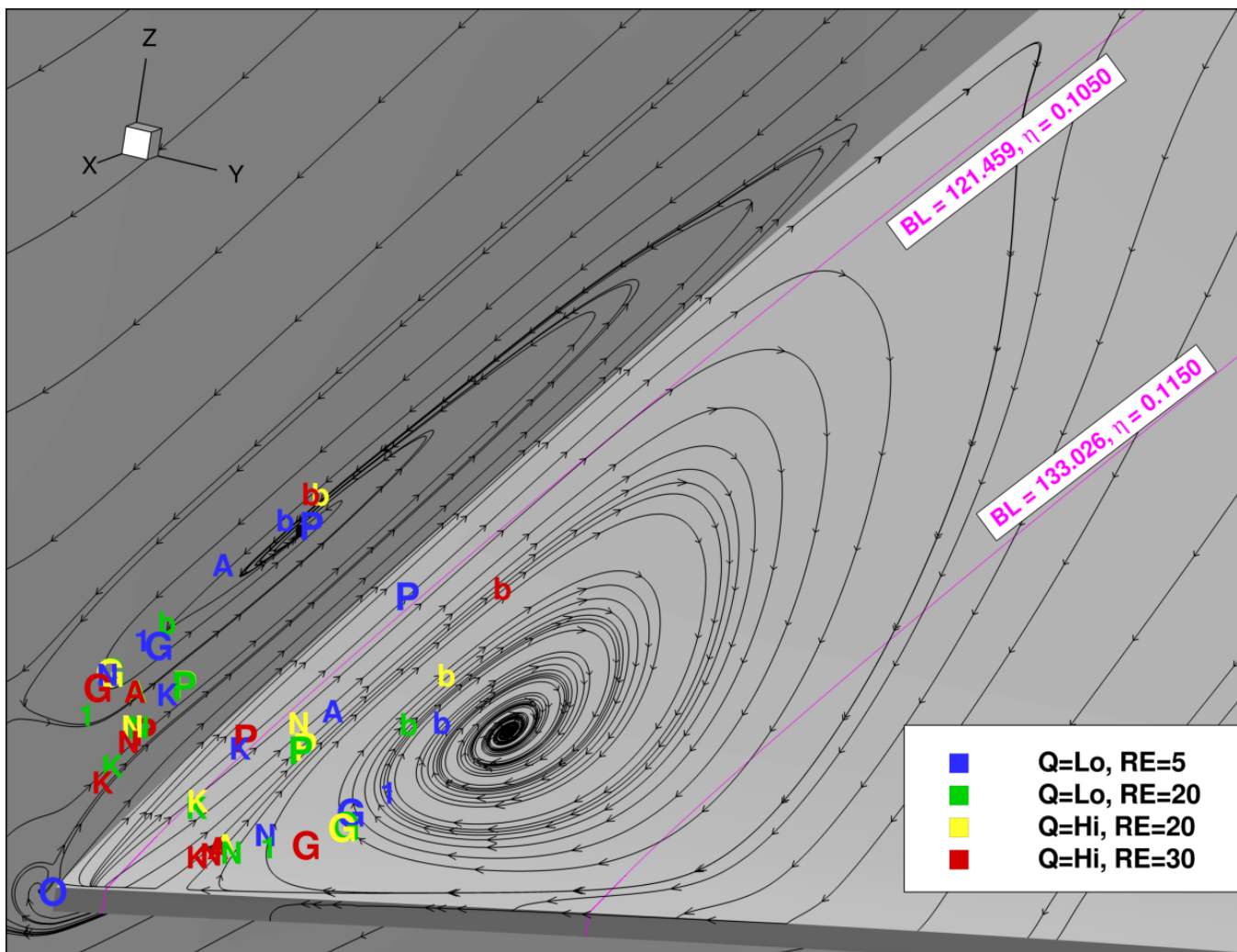
- Unstructured
- Multi-block
- Overset
- Custom Cart

Turbulence Model

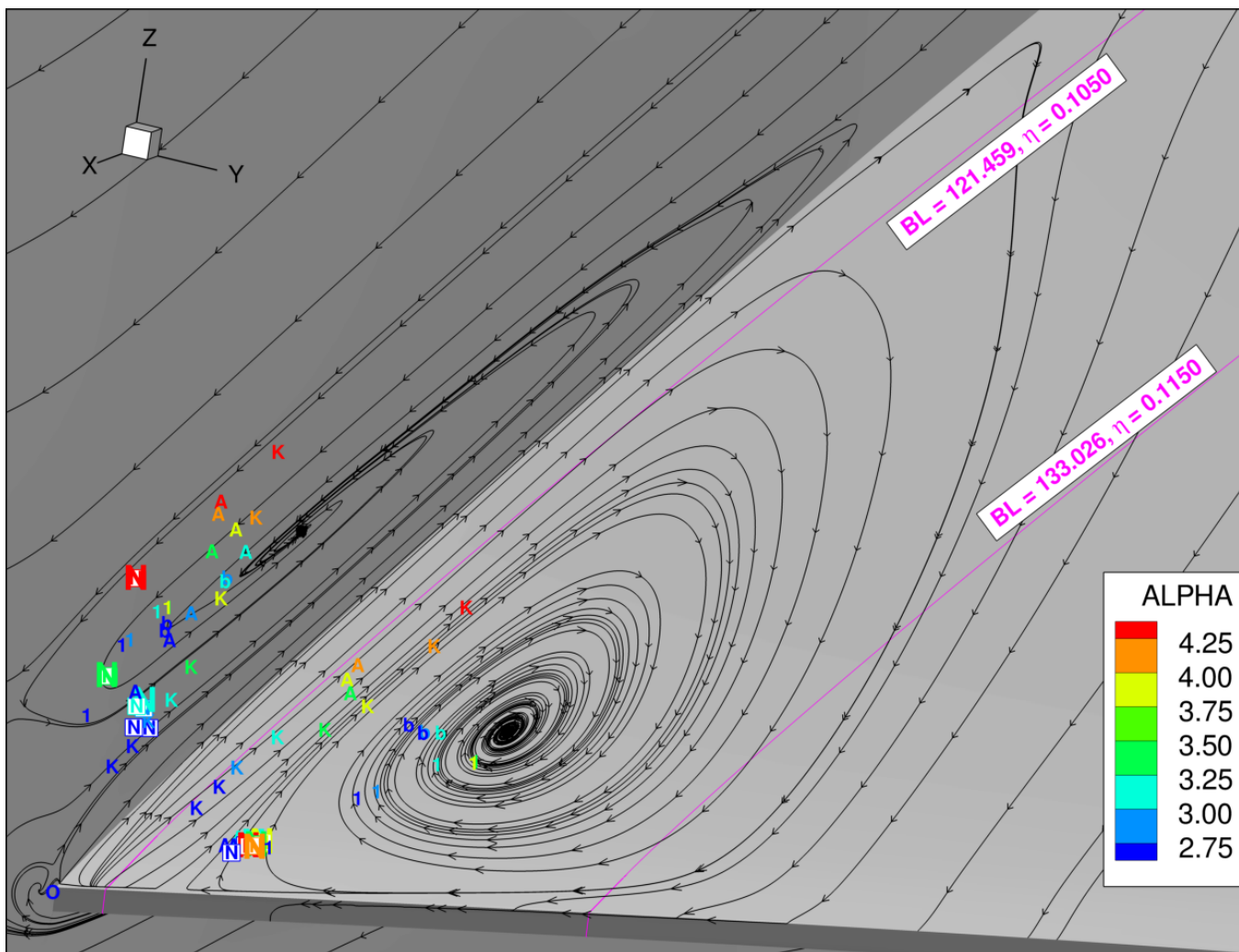
- SA
- SA QRC
- SST
- k-ε



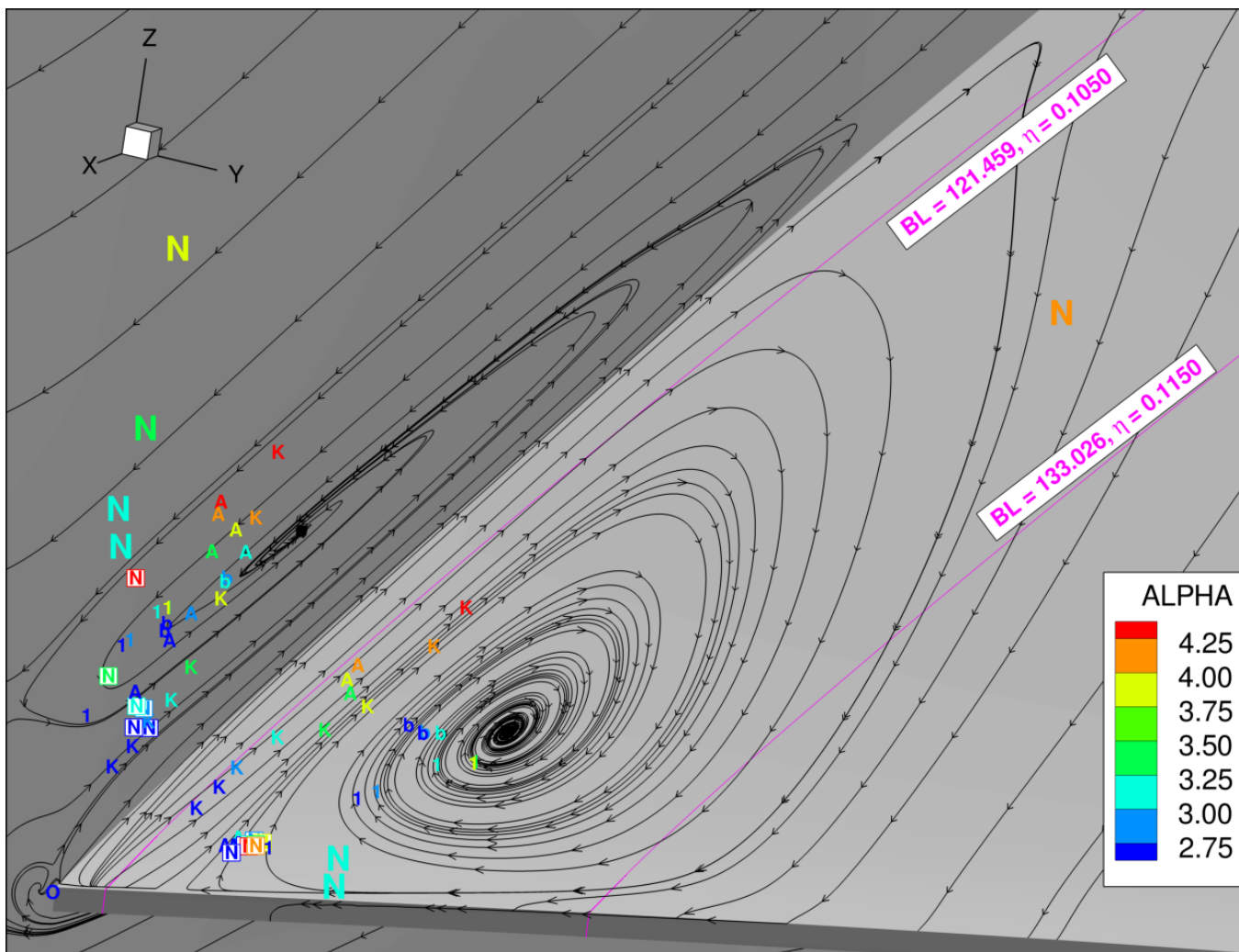
CASE 3: RN Sweep – Eye Locations



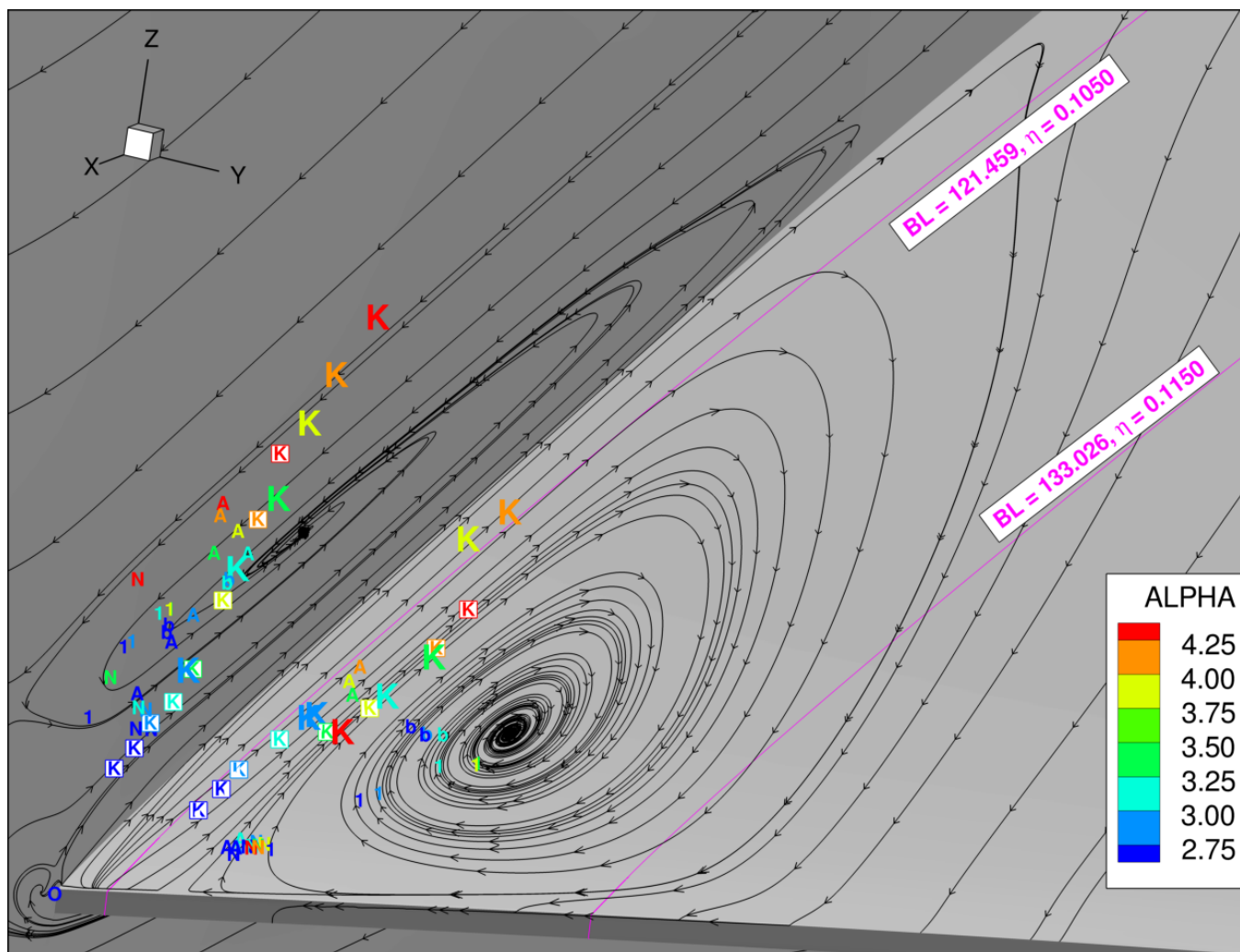
CASE 4: Alpha Sweep – Eye Locations: Adaptive Grid



CASE 5: Alpha Sweep – Eye Locations: DDES

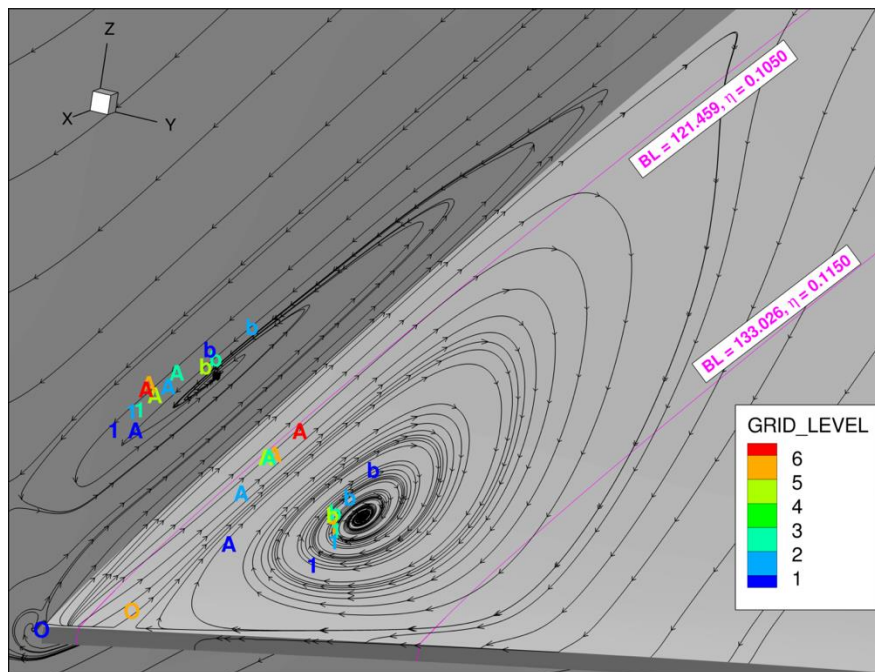


CASE 6: Alpha Sweep – Eye Locations: Aero-Structural

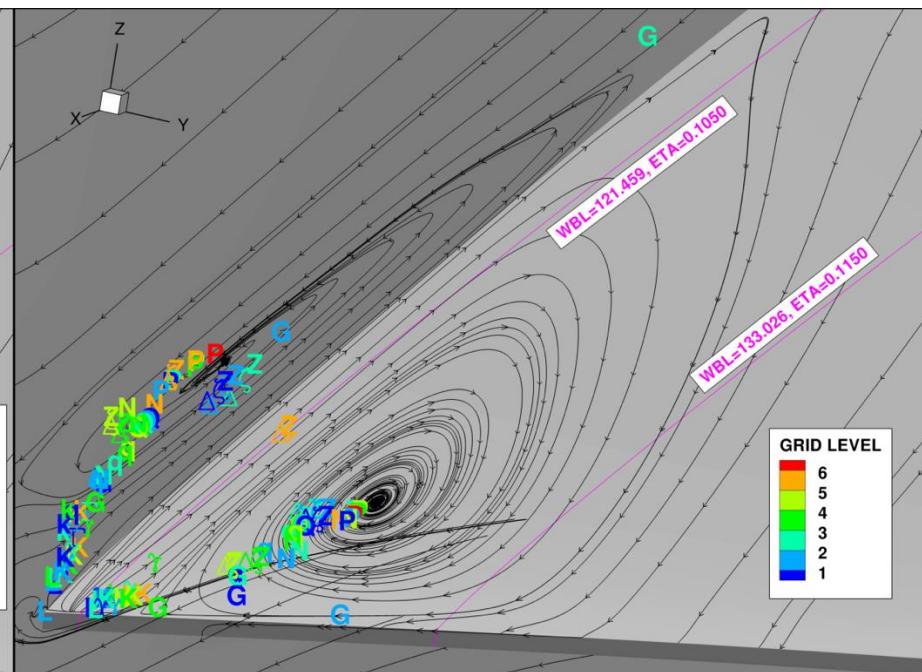


CASE 1B: Grid Refinement

DPW-7

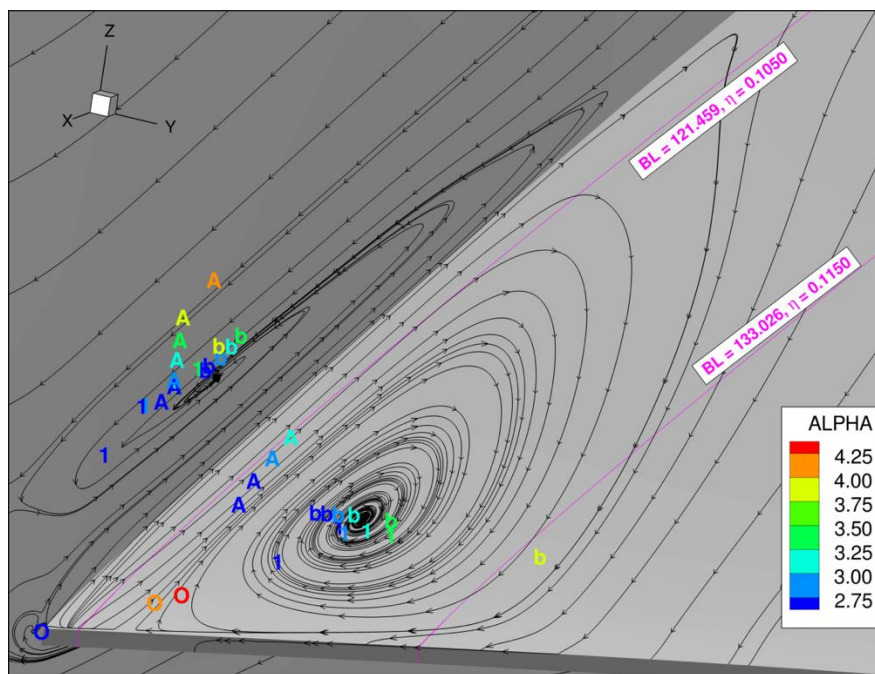


DPW-6



CASE 2B: Alpha Sweep

DPW-7



DPW-6

