

AePW-4 High-Angle Working Group Meeting



May 8, 2025

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Agenda, May 8



- AIAA Aviation 2025: three sessions dedicated to DPW-8/AePW-4
- AIAA SciTech 2026 plans.....
- Summer/Fall 2025: New BSCW Experiment
- Next meeting, June 12
- AePW-4 website: <https://nescacademy.nasa.gov/workshops/AePW4/public>
- AePW-4 HAWG objectives
- 2D BSCW flutter analysis status, Pawel
- 2D BSCW flutter analysis status, Jeff
- AIAA Aviation 2026: DPW-8 and AePW-4 Workshop

AIAA Aviation 2025: three sessions dedicated to DPW-8/AePW-4



Session	Session Title	Session ID	Date and Time	Time	Scope	Paper Title	Primary Author
Session 1	DPW-8/AePW-4: Overview and Recent Progress	APA-11	Monday Afternoon	3:30	All	Architecture, Scope, and Goals of the Multidisciplinary DPW-8/AePW-4 Workshop	Brent Pomeroy
				3:50	Scatter	DPW-8/AePW-4 Scatter Working Group: An Overview of Mini Workshops 1 and 2	Marshall Galbraith
				4:10	Buffet	DPW-8/AePW-4 Buffet Working Group: An Overview of Mini Workshops 1 and 2	Andrea Sansica
				4:30	Static Deformation & Buffet	An Overview of the Finite Element Models Available for the DPW-8/AePW-4 Hybrid Working Groups	Bret Stanford
				4:50	High Angle	AePW-4 High-Angle Working Group: An Overview of Recent Progress and Future Directions	Pawel Chwalowski
				5:10	Test Environment	National Transonic Facility Public Geometry Release and Summary	Brent Pomeroy
Session 2	DPW-8/AePW-4: High-Speed Working Group	APA-20	Tuesday Afternoon	3:30	High Speed	AePW-4 High-Speed Working Group: An Overview of Recent Progress and Future Directions	Kirk Brouwer
				3:50	High Speed	ITA and Embraer Aeroelasticity Cooperation in Preparation for the AEPW-4	Angelo Antonio Verri
				4:10	High Speed	Correlation of Mathematical Model with AFRL RC-19 Aerothermoelastic Experiment	Luisa Piccolo Serafim
				4:30	High Speed	Computational Modeling of the HyMAX Experiment in Support of a New Aeroelastic Experimental Design	Harry Xu
				4:50	High Speed AePW 3	Supersonic Aeroelastic Simulation of the RC19 Test Cases of the Aeroelastic Prediction Workshop III	Dylan Dooner
				5:10			
Session 3	DPW-8/AePW-4: Buffet Working Group - ONERA OAT15A Test Case	APA-31	Wednesday Afternoon	3:30	Buffet	DPW-8/AePW-4: Transonic shock Buffet URANS Simulations of the ONERA OAT15A Airfoil with the SU2 Solver	Hadar Ben Gida
				3:50	Buffet	RANS, URANS and Hybrid RANS/LES Computations of the DPW-8 OAT15A Test Case using CFD++	Paul Batten
				4:10	Buffet	charLES Buffet Simulations of the ONERA OAT15A Airfoil for DPW-8/AePW-4	Konrad Goc
				4:30	Buffet	USM3D-ME Buffet Simulations of the ONERA OAT15A Airfoil for DPW-8/AePW-4	Brent Pomeroy
				4:50	Buffet	HPCMP CREATE-TM-AV Kestrel Simulations for the DPW-8/AePW-4 Static Aeroelastic Deformation and Buffet Working Groups: Part I	Steve Lamberson
				5:10	Buffet	CHAMPS' Contributions to the Eight Drag Prediction Workshop Buffet Working Group	Baptiste Arnould
Session 4	DPW-8/AePW-4: Aeroelasticity Applications	APA-41	Thursday Afternoon	1	Scatter, Buffet, Static Deformation	Embraer Contribution to DPW-8/AePW-4: Part I	Murilo Mestriner
				2	Buffet and High Angle	Progress Towards the Fourth Aeroelastic Prediction Workshop: Shock Buffet and Stall Flutter Modeling with Tunable Turbulence Parameters	Michael Candon
				3	High Angle	Study of Transonic Flutter and Shock Buffet on Benchmark Supercritical Wing	Daniel Nash
				4	Large Deformation	On Flutter and Limit Cycle Oscillation Envelope of the Pazy Wing using a Reduced Order Model	Declan Clifford
				5			
				6			

AIAA SciTech 2026 plans....



Who is planning to submit an abstract/paper to SciTech 2026 ?

Summer/Fall 2025: New BSCW Experiment



**...we are supposed to be ready for the tunnel entry in July,
...but very likely test will take place in September.....**

Next Meeting, June 12:



Pawel might not be here on June 12. If sending email, please 'cc' Bret Stanford.

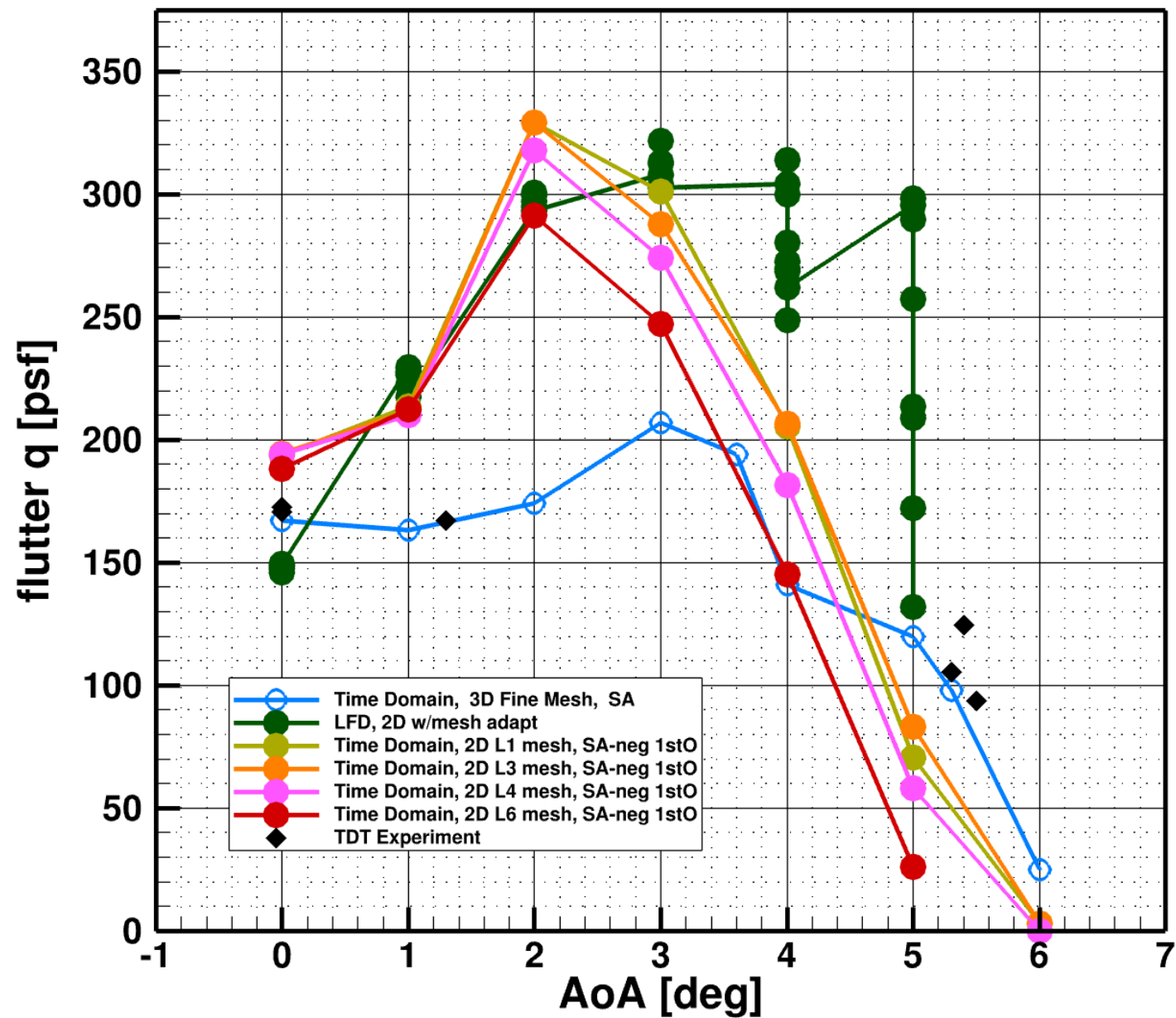


AePW-4 High-Angle WG Cases

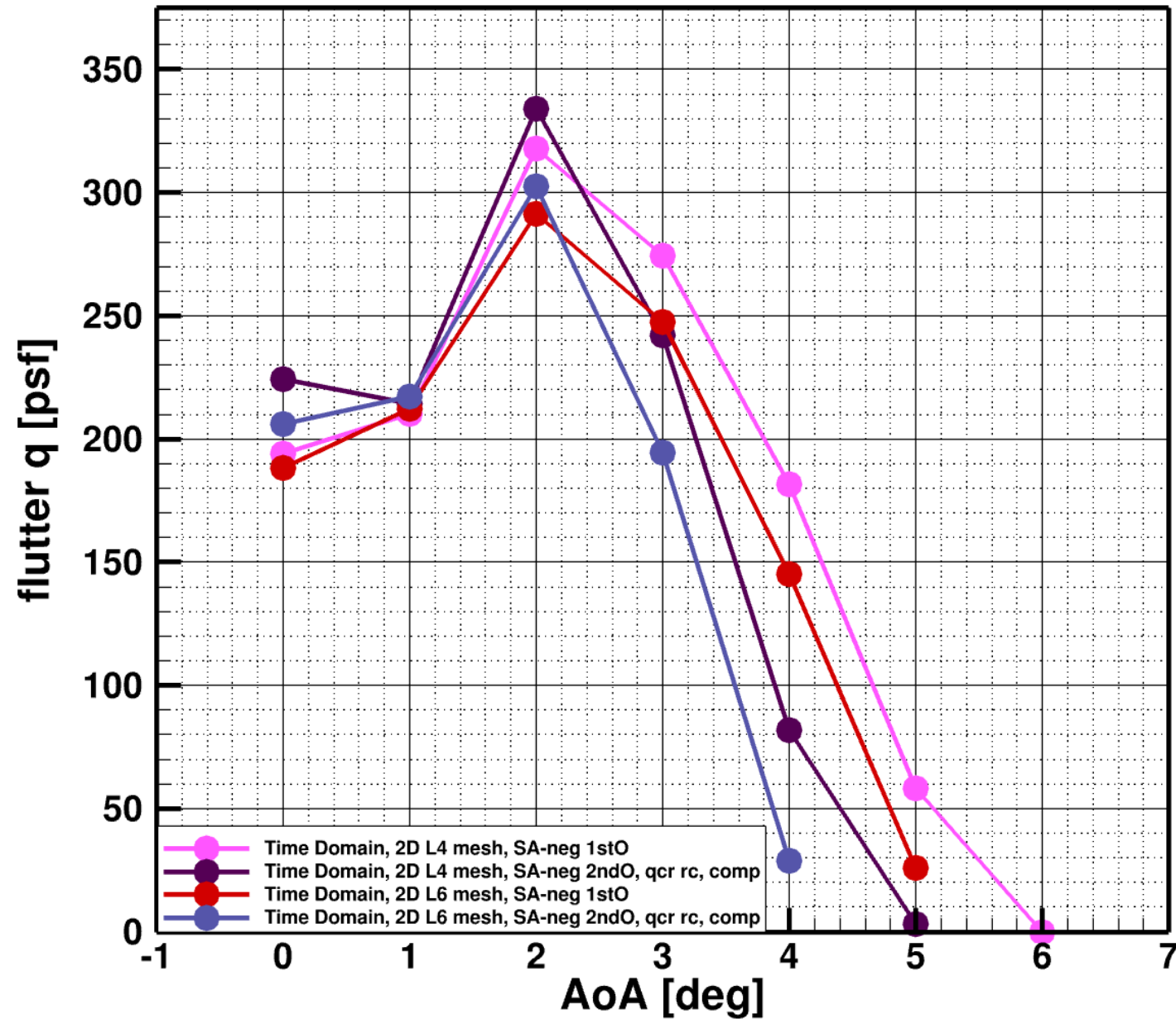
- Mandatory
 - Flutter prediction at Mach 0.80 and angle-of-attack sweep: $0^\circ - 6^\circ$
- Optional
 - Flutter prediction at Mach 0.78, 0.76, 0.74 and angle-of-attack 3°
- Mandatory
 - 2D BSCW flutter prediction at Mach 0.80 and angle-of-attack sweep: $0^\circ - 6^\circ$

Currently we have five teams looking at 2D calculations

BSCW, FUN3D Mach 0.80 Flutter Analyses

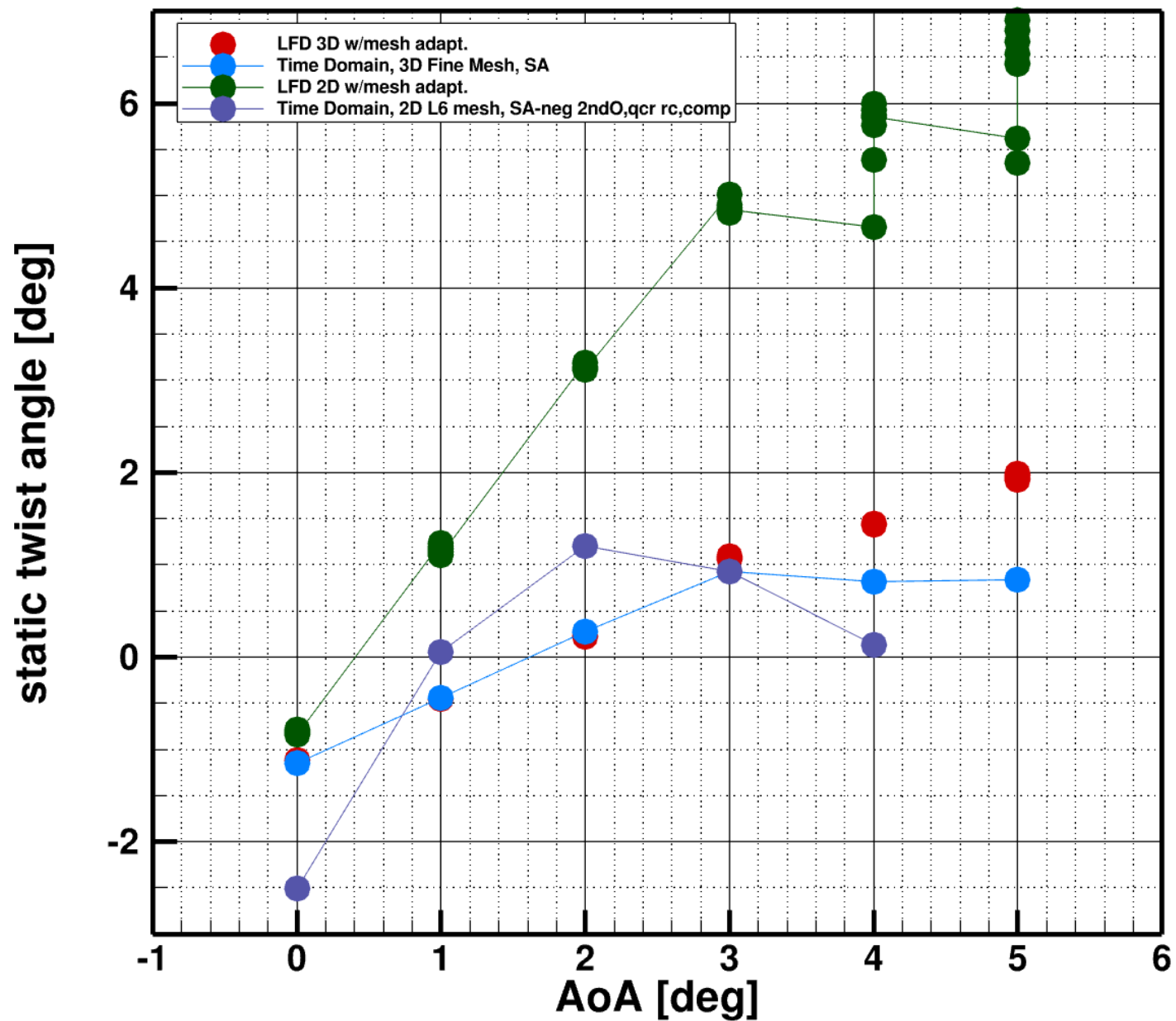


BSCW, FUN3D Mach 0.80 Flutter Analyses



2D BSCW

BSCW, FUN3D Mach 0.80 Flutter Analyses



Duke update....



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BSCW, FUN3D Mach 0.80 Flutter Analyses

