

Large Deformation Working Group



- LDWG was led by Markus Ritter (DLR) for AePW-3, and this was the most popular WG at that workshop
- Focus on large structural deflections of a subsonic high aspect ratio wing (Pazy Wing, Technion)
- Currently led by Rafa Palacios @ Imperial College
 - r.palacios@imperial.ac.uk
 - Monthly tagups will continue past Aviation 2026
 - Please ping Rafa to be included on those tagups, get access to his Sharepoint site, etc.
- Special session held at SciTech 2026
- No formal workshop presence here at AePW-4
 - Tentative plans for a mini-workshop at...SciTech 2027? Aviation 2027?

Swept Pazy Wing



- Consensus reached late last year to focus the latest iteration of this WG on the swept Pazy wings
- Experimental data, and preliminary computational predictions conducted at Technion, Sapienza University of Rome, ZHAW
- Fundamentally different mode shapes, static aeroelastic deformations, flutter mechanisms, and LCO, than observed for the unswept Pazy wing (AePW-3)

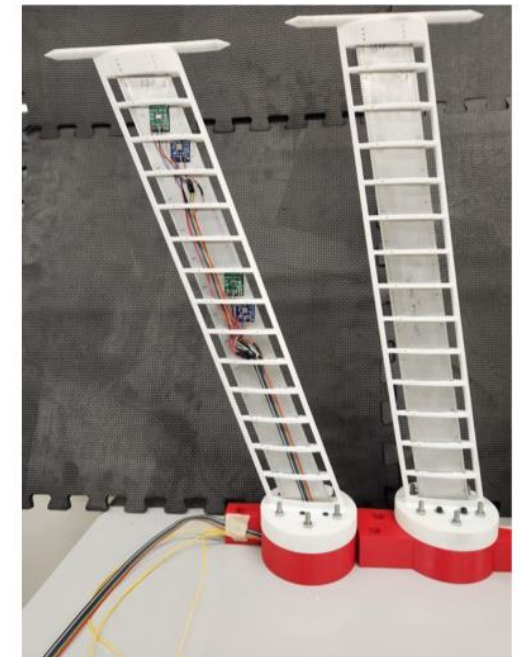
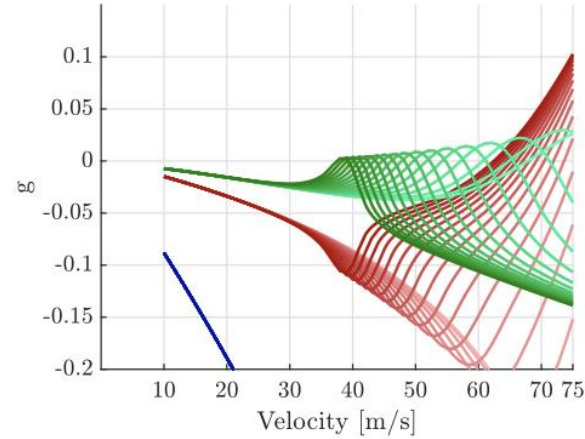


photo credit: Technion

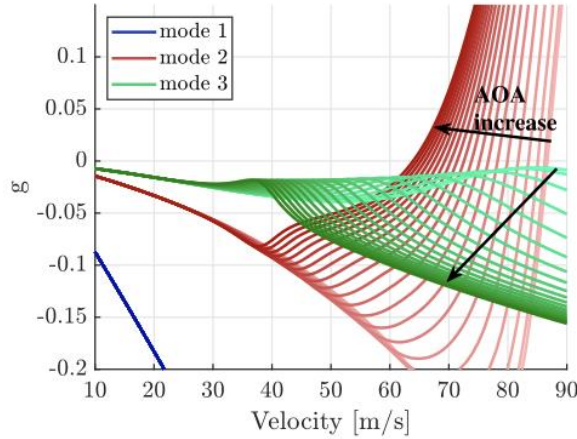
Computed Flutter Behavior



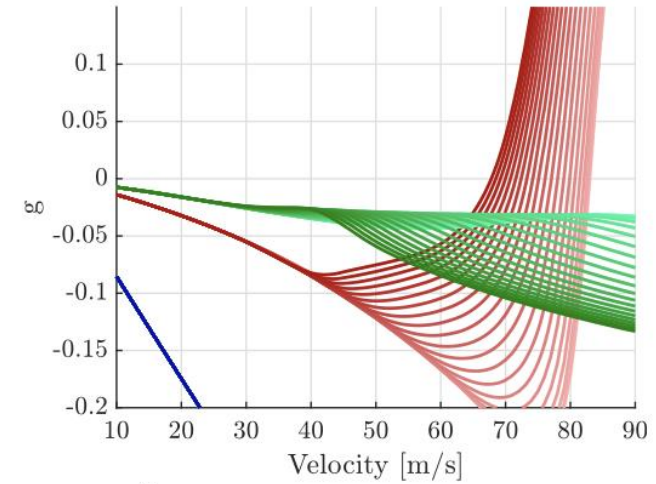
Revivo and Raveh, AIAA J., 2026



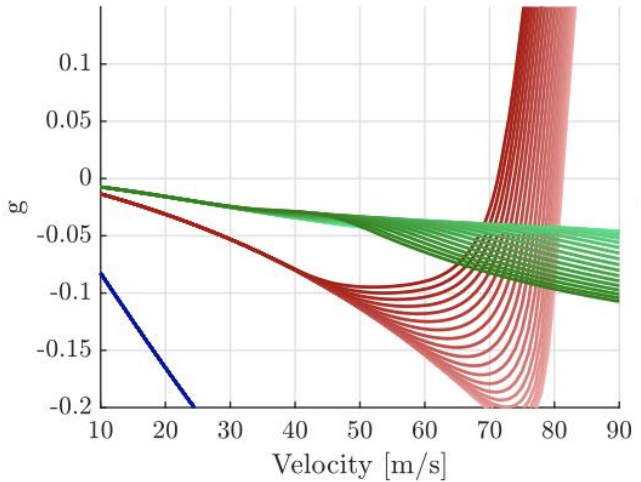
a) $\lambda = 0^\circ$



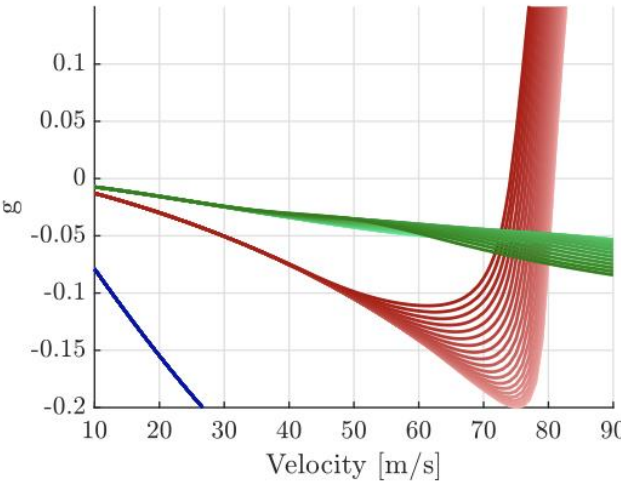
b) $\lambda = 5^\circ$



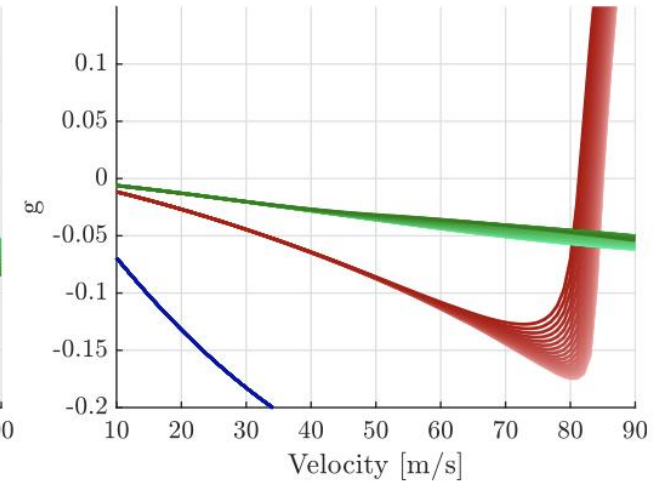
c) $\lambda = 10^\circ$



d) $\lambda = 15^\circ$



e) $\lambda = 20^\circ$

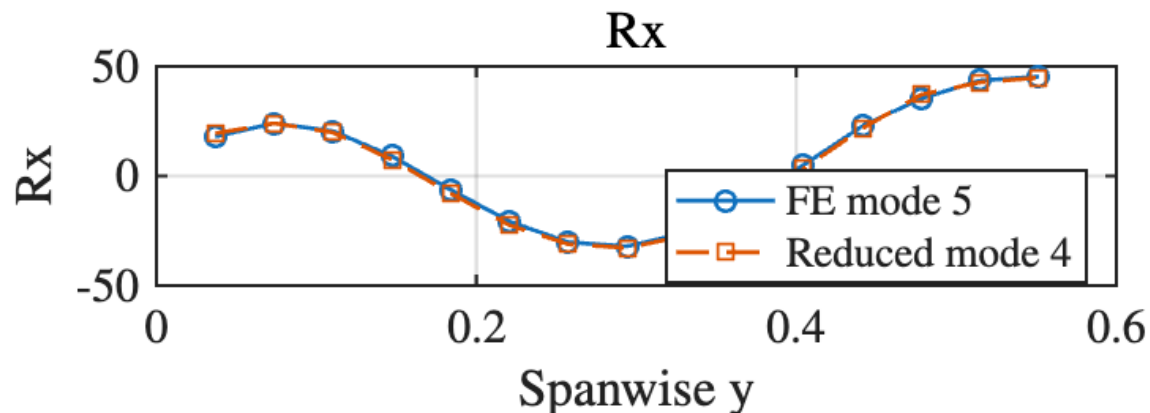


f) $\lambda = 30^\circ$

Equivalent Beam Model



- A few LDWG participants have coupled their aerodynamic tools to a full finite element model of the Pazy wing (either straight or swept), but most require an equivalent beam model
- In April 2026, Daniella created an equivalent beam model for the 10° swept Pazy model, in Nastran
- This model has been vetted by a few others in the LDWG, and will be released to the wider group in the next month or so



Questions?



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