Flight Testing for Nonlinear Effects on Joined-Wing SensorCraft

Objectives
- Aeroelastic Scale Boeing config. of Joined-Wing (JW) Sensorcraft (SC)
- Flight Test demonstration of scaled, flexible JW SC
- Measure Nonlinear Effects in Flight
- Reduce Risk to future JW prototypes

Research Plan
- Rigorous Flight Test Plan
  - Wheels-up GVT
  - Rigid Body Dynamics Maneuvers
  - Control Surface Excitation
- Nonlinear Analysis of Wind-up Turn
- Potential Redesign for Nonlinear Re-wing
- Flight Test–Measure Nonlinear Response

Team & Collaboration
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- VT: Mason, Kapania
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- AFRL: Blair

Timeline
- FY10: Flt Plan
- FY12: NL Flt. Test