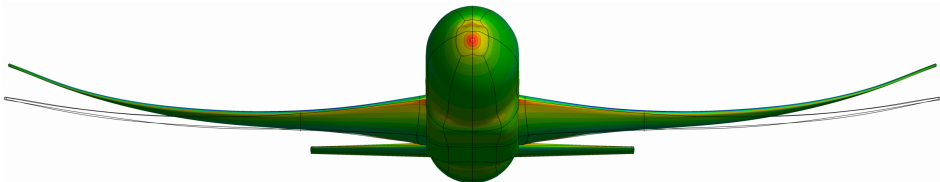


High Fidelity Aerostructural Optimization

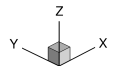
Gaetan K. W. Kenway

June 17th, 2015



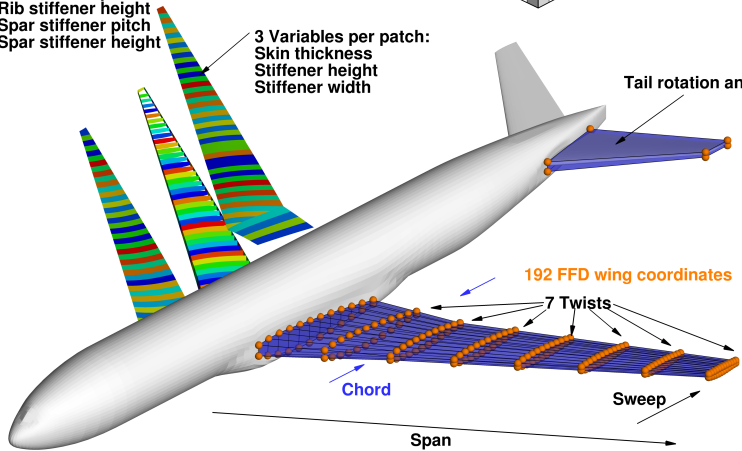
Aerodynamic and structural design variables

- Upper skin pitch
- Lower skin pitch
- Rib stiffener pitch
- Rib stiffener height
- Spar stiffener pitch
- Spar stiffener height



3 Variables per patch:
Skin thickness
Stiffener height
Stiffener width

Tail rotation angle



192 FFD wing coordinates

7 Twists

Chord

Sweep

Span

Transonic wing design includes complex trade-offs between aerodynamic and structural disciplines

