Spirit AeroSystems 2010 Internship
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Spirit AeroSystems
Based in Wichita, KS, Spirit AeroSystems employs about 14,000 people and is the world’s largest first-tier aerostructures manufacturer.
Customers/Programs Include:
- Boeing – 737 (entire fuselage), 747, 767, 777, 787 Dreamliner
- Gulfstream – G650, G250
- Airbus – A350, A380
- Hawker, Mitsubishi, Bombardier, Sikorsky, P-8A Poseidon

Primarily Manufacture:
- Strut/Nacelle
- Wing leading Edge
- Fuselage sections

Summer Work
Acoustics Lab

Tap tests were performed on the exhaust pipe for the anti-icing system on a nacelle. We were checking for resonances below 2000 Hz.

An excited composite panel was modeled in Patran and the panel coupled with an acoustic reverberation chamber was analyzed via Gendap. Results showed that Gendap modeled the room as under-damped, providing input for code modifications.

Other Projects:
- Calculating Engine Sound Pressure Levels
- Characterize Environmental Chamber’s damping characteristics
- Assist in impedance test of Nacelle acoustic lining

Software Education:
- Patran (Finite Element Modeling program)
- Matlab (for post-process data analysis)
- CATIA V5 (3D modeling program)
- LabVIEW (setting up and running various filters)

The temperature dependence of the damping tiles had a strong effect on the modal characteristics.