BETA
SIMULATION SOLUTIONS

physics on screen

Special tools

Find the right case specific tool

ANSA
PRE PROCESSOR

Tackle specific issues and bottlenecks in your working ways

The case specific analysis tool-set of BETA CAE Systems offers you effective ways to tackle specific cases and assist in understanding the behavior of your designs.

Cross-Section analysis tool

- Cross-section definition, check, and modification integrated with the main menus' functions.
- Computation of Cross-section geometrical results.
- Stress Analysis for variable, loads and properties.
- Automatic bar or beam property entity definition, integrated into the preprocessing Decks.
- Capability to create the equivalent box cross-section.
- Possibility to modify a cross-section using morphing.
- Direct editing and support of the NASTRAN keywords PBMSECT and PBRSECT.
- Automatic creation of the required NASTRAN SOL200 keywords, for cross-section optimization purposes.
- A Group library with predefined sections.
- Cross section edit card used by script functions.

Fuel Tank analysis tool

Rapid simulation of the filling or emptying process of a closed tank predicting:
- Total volume of the tank and wetted surface.
- Liquid levels and their corresponding volume.
- Liquid and total Centre of Gravity monitoring.
- 3D curve representation of levels and 2D filling curve at various user defined inclinations, filling/suction points.

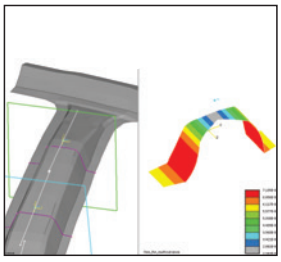
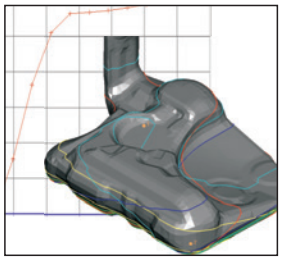
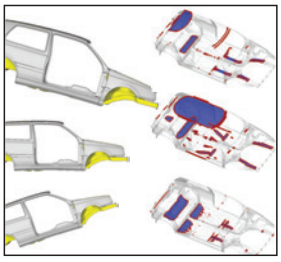
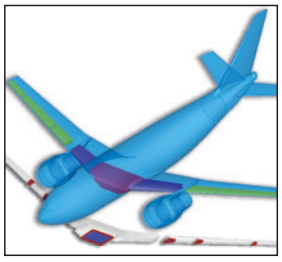
Some of the available features are:
- Volume vs fuel level graphic and numerical analysis, for arbitrary car positions.
- Automatic volume-traps detection.
- Filling and suction points definition and analysis.
- Real filling process monitoring.

Volume Traps Tool

This Tool has various applications, among which the detection of trapped air or liquid in the paint bath process of BiW assemblies, or the identification of unused fuel or settled fuel residues in fuel tanks.

BiW paint bath simulations
- Allows the identification of volume traps at a BiW.
- Position the meshed parts like being immersed, or extracted from a virtual bath.
- Get the location, the total volume, and area of the air traps and liquid ponds.

Unused fuel prediction
Calculation of location and volume of residual resting water or unused fuel in aircraft tanks based on:
- different tank configurations.
- suction pump locations aircraft inclinations.

BETA
SIMULATION SOLUTIONS

physics on screen