CD adapco Group

CAD/CFD Integration

TFAWS 2003

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Overview

• CAD & CFD Integration

• Comet-Design & Star-Design

ALL THE TOOLS, ONE SIMPLE INTERFACE!
Meshing and CFD Integration with Existing CAD Packages

Pro/E: Star-Pro/E, Comet-Pro/E

SolidWorks: Star-Works, Comet-Works
Comet-Design & STAR-Design

The functions behind the scenes ...

Comet-Design:
• Solid modeling: pro-cad
• Surface prep and triangulation: pro-surf
• Volume meshing: pro-volume and pro-am
• Solver: Comet (tet/hex/trim/poly)
• Visualization: pro-vis

STAR-Design:
• Solid modeling: pro-cad
• Surface prep and triangulation: pro-surf
• Volume meshing: pro-volume and pro-am
• Solver: Star (tet/hex/trim)
• Visualization: pro-vis
“pro” tools

All “pro” tools are CD-adapco Group products, designed to provide complete Computer Aided Engineering solutions:

pro-cad

• Solid modeling package based on the Parasolid kernel (as is UG, SolidWorks, and others)

• Solids built as primitives

• Allows parametric design & re-design

• Exports IGES and .x_t Parasolid files
“pro” tools

All “pro” tools are CD-adapco Group products, designed to provide complete Computer Aided Engineering solutions:

- pro-volume: tetrahedral and polyhedral mesh generator
- pro-am: automated trim mesh generator
- pro-vis: object oriented post-processing and visualization tool
STAR-Design/Comet-Design: Solid Model

pro-cad Path to tetrahedral mesh
STAR-Design/Comet-Design: Surface Generation

pro-surf Path to tetrahedral mesh
STAR-Design/Comet-Design: Volume Mesh

Path to tetrahedral mesh
STAR-Design/Comet-Design: Solid Model
STAR-Design/Comet-Design: Surface Mesh
STAR-Design/Comet-Design: Trim Mesh
Comet-Design: Polyhedral Volume Mesh

pro-volume
Comet-Design: Polyhedral Mesh

pro-volume
STAR-Design/Comet-Design: Visualization

pro-vis
STAR-Design/Comet-Design: Visualization
STAR-Design/Comet-Design: Visualization
STAR-Design/Comet-Design: Visualization

pro-vis
STAR-Design/Comet-Design: Visualization

pro-vis
Comet-Design: Polyhedral Volume Mesh
STAR-Design/Comet-Design: Visualization

pro-vis
STAR-Design/Comet-Design: Visualization

pro-vis
STAR-Design/Comet-Design: Visualization
Comet-Design: Polyhedral Volume Mesh
STAR-Design/Comet-Design: Visualization

pro-vis
STAR-Design/Comet-Design: Visualization

pro-vis
CD adapco Group: CAD/CFD integration & Advanced Meshing - NA UGM 2003
STAR-Design/Comet-Design: Solid Model
STAR-Design/Comet-Design: Surface Mesh

pro-surf
Comet-Design: Polyhedral Volume Mesh
STAR-Design/Comet-Design: Visualization

pro-vis
STAR-Design/Comet-Design: Visualization
STAR-Design/Comet-Design: Visualization

pro-vis