Webinar: **What's New In Femap 11.4**

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What We Do

ATA Engineering's **high-value engineering services** help solve the most challenging product design challenges

Aerospace

Robotics & Controls

Theme Park Rides

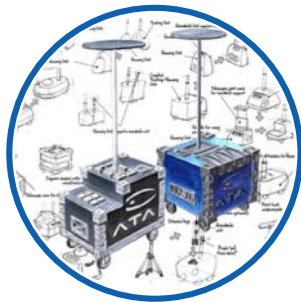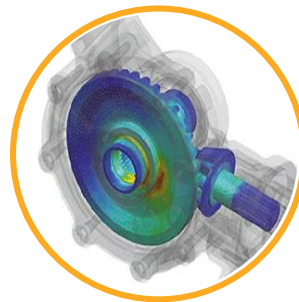Defense

Industrial & Mining Equipment

Consumer Products

Our Services

We provide our customers with **complete, integrated solutions**

Design

From initial concept development to detailed structural design

Analysis

Comprehensive structural, fluid, acoustic, and thermal analysis services

Test

Industry-leading structural test services for extreme loading environments

Our Software Services

ATA is a value-added reseller for **Siemens PLM Software**

➤ Siemens product lines we support include

  ➤ Simcenter

  ➤ Femap

  ➤ NX Nastran

  ➤ NX CAD, CAM, & CAE

  ➤ Teamcenter

  ➤ Solid Edge

➤ Contact the hotline at 877-ATA-4CAE or http://ata-plmsoftware.com/support

➤ Developer of the official NX Nastran training materials

➤ Preferred North American provider of NX Nastran training

Solution Partner
PLM

SIEMENS

Our Online Resources

www.ata-plmsoftware.com

Overview

➢New functionality and updates
  - ➢Visualization
  - ➢Meshing
  - ➢Preprocessing
  - ➢Geometry Manipulation
  - ➢Data Mapping
  - ➢Charting
  - ➢Nastran Solver Support
  - ➢New API
  - ➢ATA created Macro
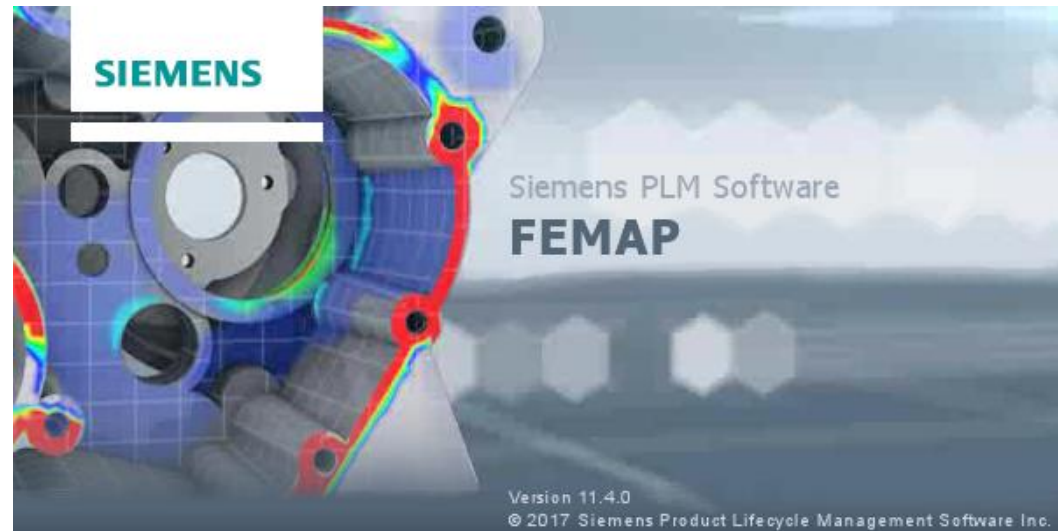
Data Mapping

High performance data mapping

- ➢ New performance algorithm for extracting data from Output Map Data Surfaces and Model / Load / Map Output from Model (direct model to model)

- ➢ **1,000x faster!**

- ➢ Added Data Conversion method for Source model
  - ➢ From View – uses current settings in Active View
  - ➢ Specified option – Average, Maximum, or Minimum (Centroid Only or with corner data)

- ➢ Ongoing development on new source options, matching Criteria Plots and Contour Plot options
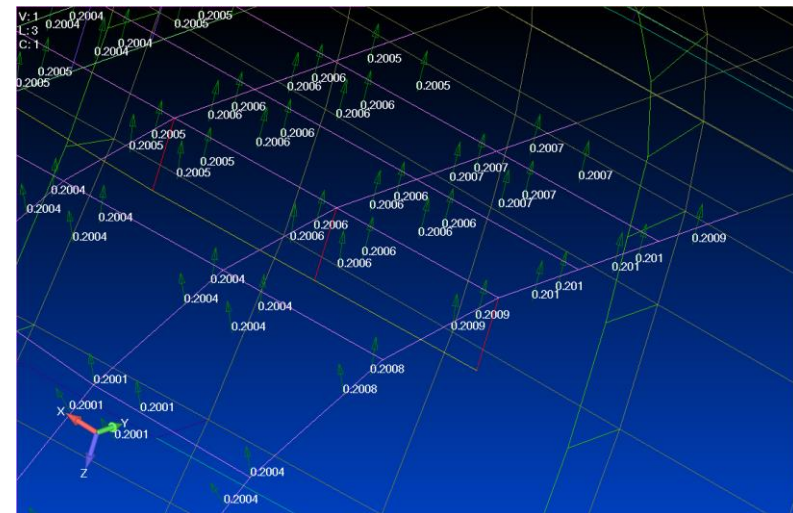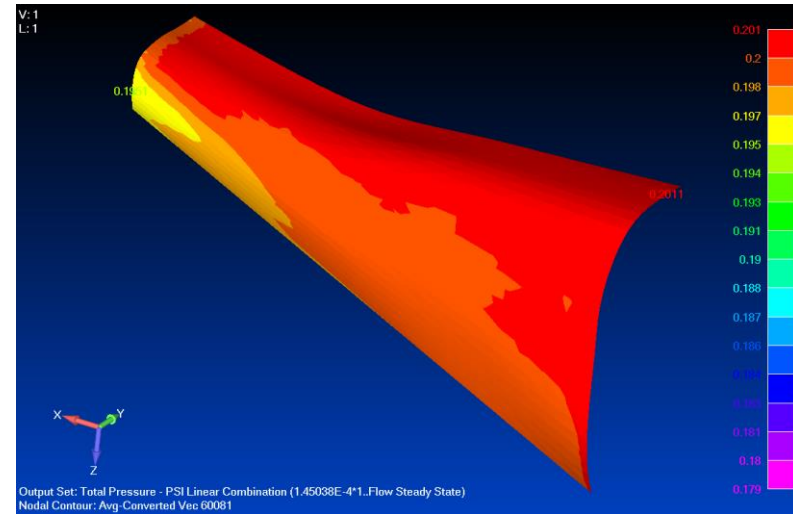
Example

➢Source model: 1,000,000 elements with nodal data distribution

➢Mapping times
  ➢V11.3.2 > 5 hours
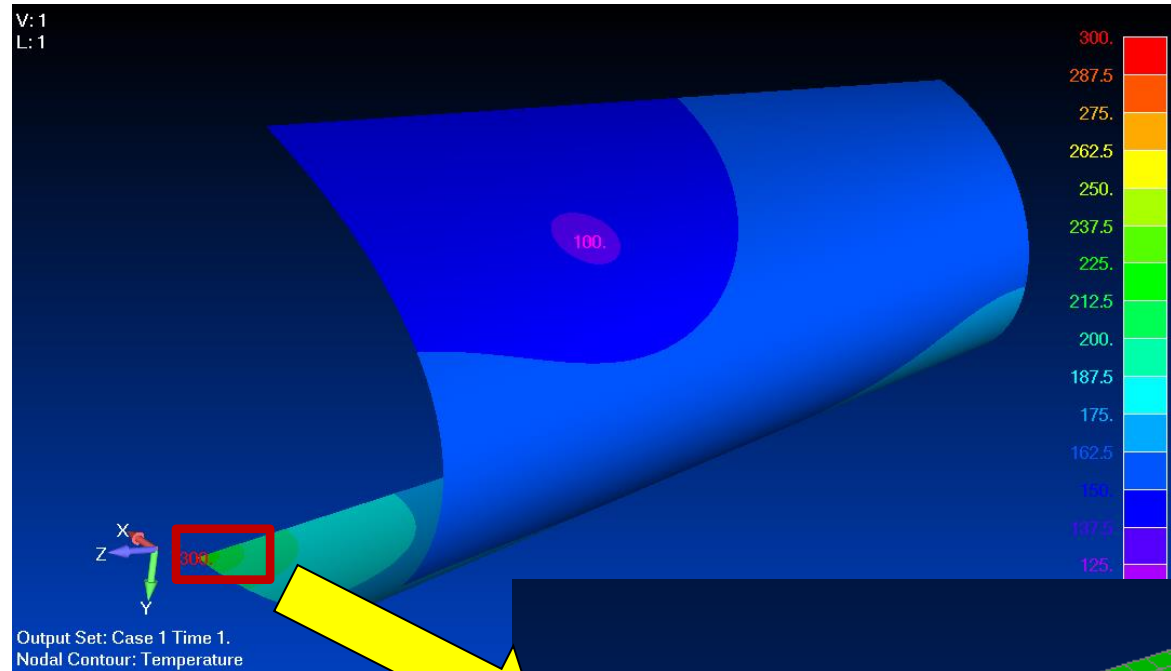 ➢V11.4 < 1 minute

Nastran Solver Support

➢Nastran enhancements

- ➢Param, POST, -2: reads nodal output in the basic coordinate system
- ➢Strain Curvature output support
- ➢Performance enhancements for reading large Nastran input files with many DMIG entries
- ➢Read, keep and cycle CELAS1 entries in lieu of auto-converting to CELAS2 entries
- ➢ZTOL entry support for Nastran radiation analysis

Solid Centerline Finder Function

➢ Solid centerline finder – available via API only

 ➢ feSolidExtractCenterlines

 ➢ Pass in one or more solids

➢ In this example: one single solid
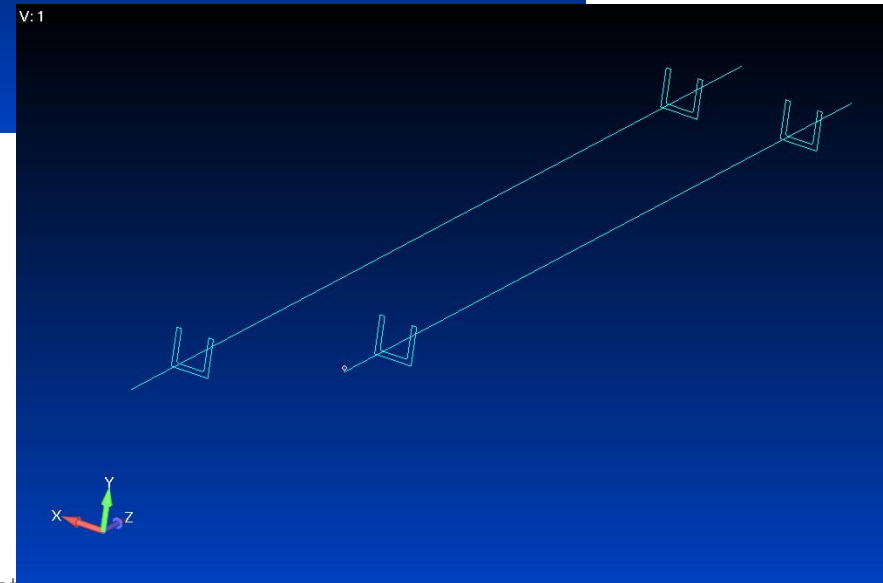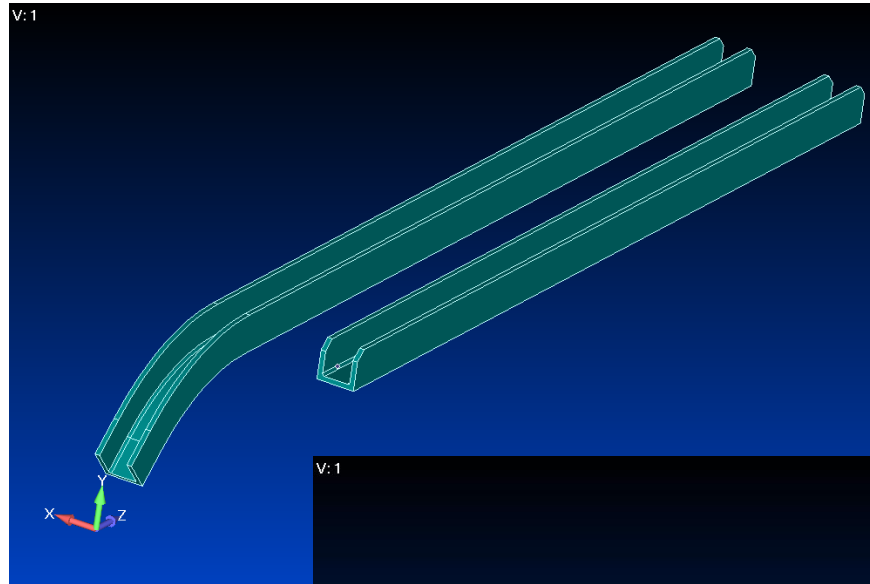
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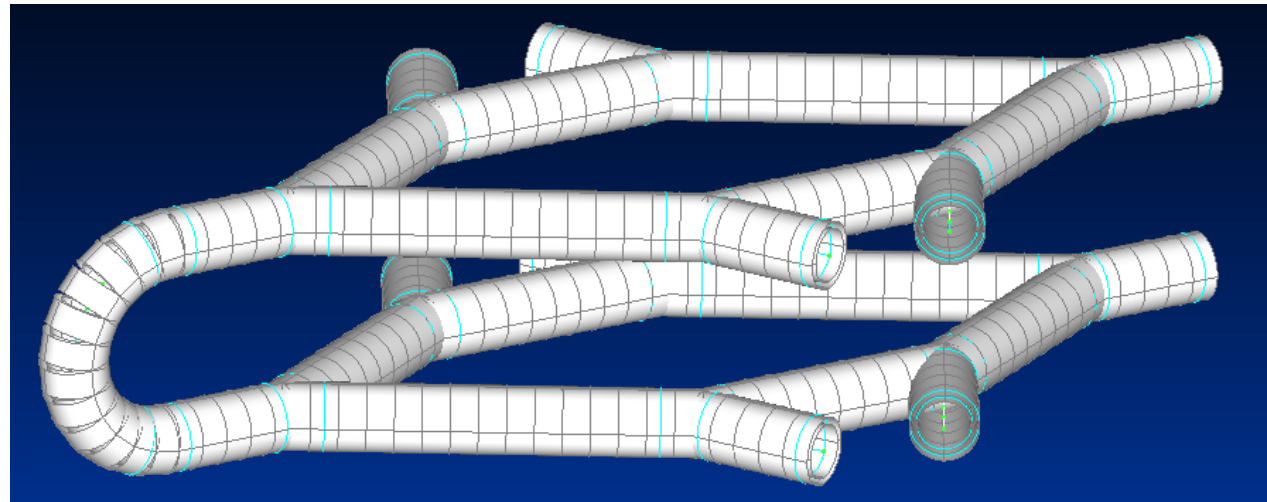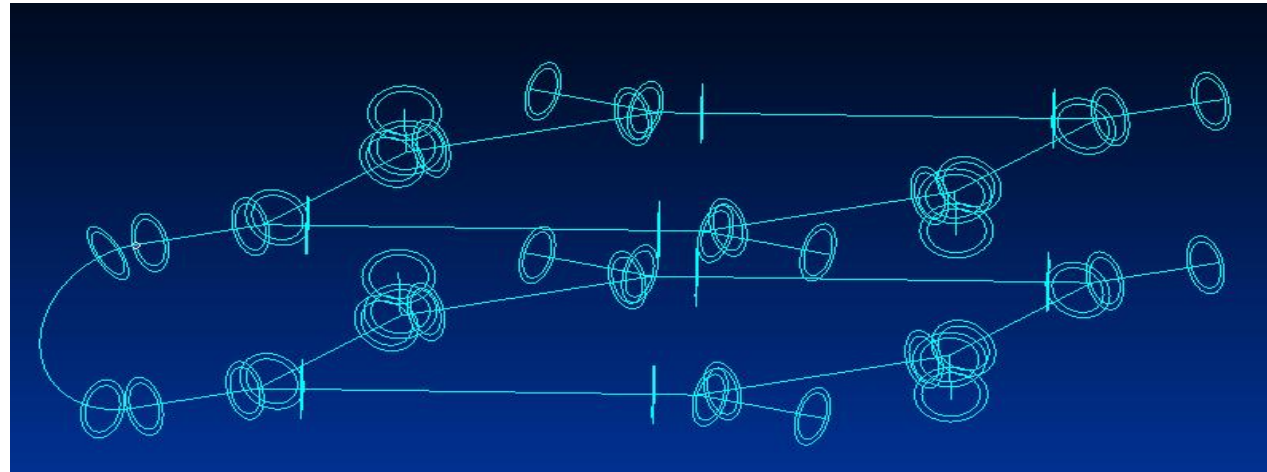
Solid Centerline Finder Function

Limitations

➢ Current limitations

- ➢ For non-circular cross section, algorithm creates the cross section based on the longest curve on the solid

- ➢ For any straight or circular beam-like section, works great

- ➢ For multiple curvature ones, it does not

ATA created Macro

prevGrpBlk.BAS

- ➢ ATA created a macro that a user can add to his/her Custom Tools: prevGrpBlk.BAS

- ➢ The macro allows the user to preview a bulk data (Nastran) file of the active group in the text editor of his/her choosing
  - ➢ This allows the user to either quickly check the format for the group of interest or create a blk file to be added, used alone, or included for future analyses

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