ATA
news

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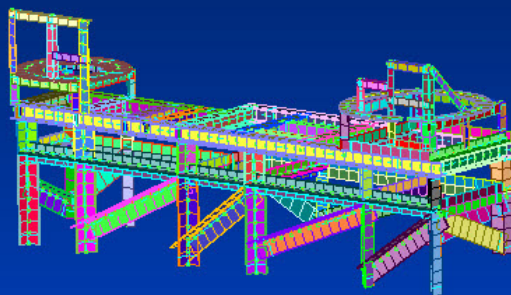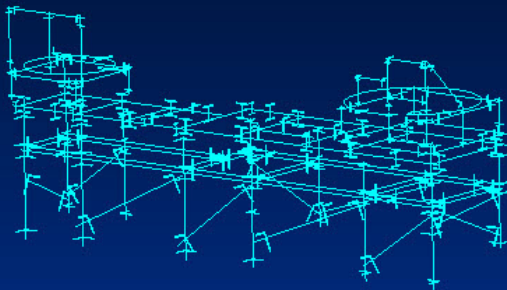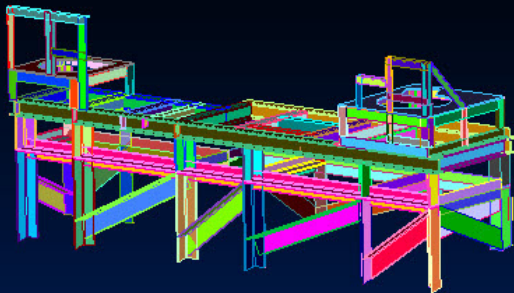## Siemens Releases Femap v11.4

DETAILS INSIDE

Siemens Releases STAR-CCM+ v12.04

STAR-CCM+ has long been known as a powerful multiphysics CFD simulation and analysis tool, and following Siemen's acquisition of CD-adapco in 2016, it is now part of the Simcenter portfolio. Version 12.04 enables automated design exploration and optimization with the introduction of the Design Manager and the new STAR-Innovate add-on.

The fully integrated Design Manager allows users to easily evaluate variations in geometry and operating conditions. The different designs can be quickly compared with interactive 3-D scene files and synchronized views.

The STAR-Innovate add-on goes further, using the powerful optimization technology found in Siemens' HEEDS software to intelligently search the design space. In addition, the stochastic analysis capabilities can help to evaluate sensitivity to small changes in input parameters.

Also introduced with 12.04 is the polyhedral DEM particle. These particles have corners, which in some cases provide a more realistic representation at a lower computational cost. You can read more about the benefits of polyhedral particles in this article.

inside:

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Siemens Releases Femap Version 11.4

Released on June 6, 2017, Femap 11.4 brings a suite of customer-driven improvements and new features to a variety of areas including visualization, meshing, charting, and solver support.

On the visualization front, a new autoscale feature zooms in on the current selection to easily identify which entities are selected in a large model. In addition, the draw/erase mode introduced in 11.3 now has the option to refine entity selection from the previous selection rather than the entire model.

For geometry and meshing, a new command is available to split curves at all intersections, and the meshing toolbox can now automatically update rigid elements attached to geometry. Vectors and planes can be saved to the model for future use, tables and functions are easier to create with new GUI-based tools, and data mapping is up to 1000x faster.

Charting has been redesigned to reduce clutter and display only relevant options. Additionally, real and complex data can be plotted simultaneously, and output processing is available in real time.

Solver support has been improved for strain curvature outputs and large input files with many DMIG entries, and a powerful new API tool places centerlines along solid geometry.

Download Femap 11.4 from GTAC today!

Calendar of Events
UPCOMING TRAINING CLASSES

ATA provides comprehensive training in the use of Femap, Simcenter (formerly NX CAE), and NX Nastran. Upcoming training classes are shown below.

NX NASTRAN WITH FEMAP

SEP 11 — **Introduction to Dynamics Analysis**

OCT 30 — **Introduction to Finite Element Analysis**

NOV 07 — **Introduction to Dynamics Analysis**

NOV 10 — **DDAM Analysis**

DEC 04 — **Advanced Dynamic Analysis**

NX NASTRAN WITH SIMCENTER

SEP 11 — **Introduction to Dynamic Analysis**

OCT 17 — **Response Simulation**

OCT 30 — **Introduction to Finite Element Analysis**

NOV 07 — **Introduction to Dynamics Analysis**

NOV 10 — **DDAM Analysis**

DEC 04 — **Advanced Dynamic Analysis**

FEMAP

OCT 2 — **Introduction to Femap**

NEW ON-DEMAND WEBINAR

What's New in Femap 11.4

Did you miss our last webinar? Watch a recording on demand to learn about the newest features and tools introduced in Femap 11.4. The webinar demonstrates improvements to visualization, meshing, charting, and more. In addition, see two new APIs in action, including one that constructs centerlines along solid geometry and another that allows users to quickly preview the solver syntax for a group.

ATA also provides a host of free training resources including tutorials, videos, and whitepapers.

Tips and Tricks

NX: FIND COMPONENTS IN LARGE ASSEMBLIES

In a large assembly, an individual part can be easily selected by searching its name or part number in the *Find Components* command, located on the Assemblies tab. Inside the command, use the "By Name" tab to search for the component name or number, or search from a list of part names on the "From List" tab. Once the desired part is selected, it can be found in the assembly part tree by right-clicking the top row of column headers and selecting "Expand to Selected."

FEMAP: SAVE USER LAYOUTS AND REUSE VIEWS

Both the user interface layout and view settings can be saved for quick future access. The user interface layout controls menu and toolbar settings, panes, shortcut keys, and user commands. Save and load these layouts at File → Preferences under the User Interface tab. Model views can save the model orientation, contour type, background and text colors, and other settings. To save a view, first copy or rename the current view title at View → Create/Manage. Save or load views to libraries from the view manager or from the Visibility window (Ctrl + Q). A library view can be assigned as the startup view by setting the appropriate library view number at File → Preferences under the View tab.

NASTRAN: BCTPARM, RESET FLAG

In a SOL IOI model with contact and multiple subcases, the default is for each subcase to begin from the final contact status of the previous subcase. To begin each subcase from the initial state, set the RESET flag on the BCTPARM card to I.

New Resources

### NX: Changing Units in an Assembly

Creating assemblies with multiple parts that have inconsistent units can cause problems when components are created and referenced, as well as in the simulation files. To avoid challenges and analysis errors, it is best to use a single system of measurement throughout the model tree. This paper explains how to check units in an NX file and how to use an NX utility to change the units for an assembly file and all referenced part files.

Femap: Find Solid Centerlines

This API for Femap II.4 adds centerlines to one or more solids, and each new curve is assigned a specified material and property with correct cross section, reference point, and orientation. Curves with matching circular cross sections will use the same property, and the centerlines will be placed into a new group to assist with reviewing. Note that the program may have limitations for processing multiple curvature solids.

Femap: Preview a Group's Bulk Data

There are a variety of situations in which it can be helpful to preview the solver syntax of a model prior to solving it, such as when you need to verify properties and materials or quickly copy components into another file manually. This API writes a group's bulk data to a text file and attempts to open it with the defined program. Before first use, the user should edit the API to specify the text editor and file location to use. In addition, the user can choose to preview the active group or to select the group from an interactive list, and the field format can be chosen from the standard options. Note that after the API is added to Femap, these preferences can be changed by editing the copy of the API located in the Femap directory.
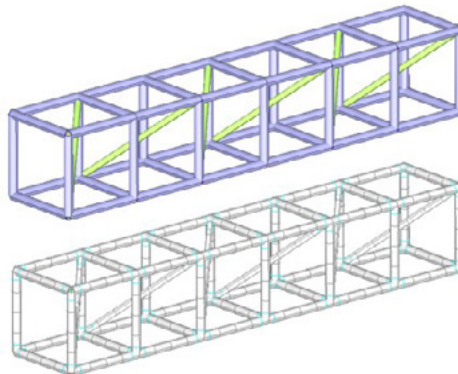
Recent News

Siemens Partner Success Series Highlights ATA

Siemens recently interviewed ATA's Dan Kuriger to discuss how our specialization and analysis-driven design approach benefits both our services and software customers. He also reflects on the opportunities presented by being a Siemens partner and why Siemens continues to expand their variety of analysis tools. Watch the short video here.

## ATA Engineers Win ASME Best Paper Award

The technical paper, presented at the 2016 IGTI Turbo Expo in Seoul, South Korea, presents the design and full-scale demonstration of an engine air-brake nozzle. Learn more.

ATA Releases New Versions of IMAT and Vibrata

IMAT 6.3.0: IMAT facilitates the manipulation of test and simulation data in MATLAB. In addition to supporting more datasets from Nastran 10 and Abaqus 2016, this release also simplifies the process of partitioning and listing shape coefficients and results. A GUI has been added to improve accelerometer selection and results processing, and color-coded coordinate traces provide a clearer understanding of coordinate groupings. Read more and download the latest version of IMAT here.

IMAT4XL 6.3.0: This stand-alone GUI linking IMAT import, export, math, and plotting functionality to Microsoft Excel has been updated to utilize the latest versions of IMAT and Excel. Learn more about IMAT4XL here.

Vibrata 1.6.5: Vibrata is a comprehensive modal dynamics toolkit to predict response to transient, harmonic, random, and response spectrum excitation. This release adds documentation and enhancements to the Force Limiting GUI and clarifies stress output for bars and beams. Learn more about Vibrata here.
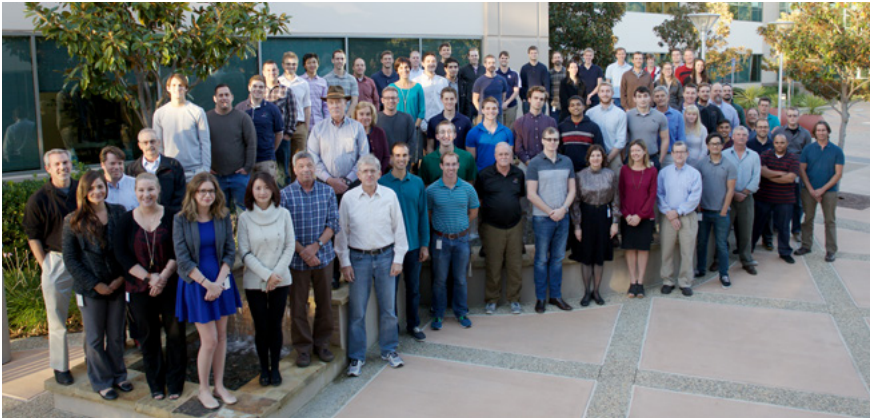
Why choose **ATA?**

ATA Engineering, Inc., (ATA) is a nationwide provider of innovative, high-value, test- and analysis-driven mechanical engineering design solutions.

With more than three decades of experience working with our customers to solve the most challenging design, test, and analysis problems, we have gained a reputation for excellence in the engineering community.

Our work on a wide range of products across a broad spread of industries has been recognized with numerous technical and service awards for excellence. This expertise and support is a key part of the added value we offer to all customers who purchase Siemens products from us, whether you are an independent contractor or a large engineering team. To provide best-in-class support to our VAR software customers, we have established a formal hotline system that provides on-demand support to resolve technical issues encountered by our customers in their implementation of the tools.

The hotline is staffed by experienced engineers, all of whom use these applications on a regular basis. ATA is also the Siemens PLM Software-preferred training provider and official developer of courseware for all NX Nastran training.

ATA Technical Support

Need technical assistance? Call our hotline staffed by engineers at **877-282-4223**, or visit us online. Even if you're not a current ATA customer, try us out for free.

Free Software Trials

Interested in trying out Siemens PLM software? Visit our website to access free trials/demos of Femap and NX Nastran, NX CAD, CAM, and Simcenter, Teamcenter, and Solid Edge.

Featured Instructor

Andy Mouron
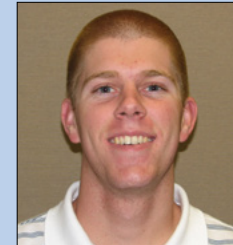
Andy Mouron is an Engineer in the Software Services group at ATA Engineering, Inc. where, for the past seven years, he has supported component- and system-level design and analysis efforts on structures for the aerospace and entertainment industries.

Mr. Mouron's expertise is in the design and analysis of mechanical and aerospace structures using multiple software packages. Together with ATA's engineers, he monitors CAD assemblies and manages static and dynamic response simulations to ensure that full design intent is achieved on structures ranging from launch vehicles, satellites, and aircraft to roller coasters and industrial heavy-hauling equipment. Most of his projects utilize NX, Femap, and NX Nastran, allowing him to provide experienced assistance to ATA's software customers through software training publications and hotline support.

Mr. Mouron has a B.S. and M.S. in Aerospace Engineering from the University of California, San Diego.

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