

ATA news

ISSUE SEVEN



FALL 2016

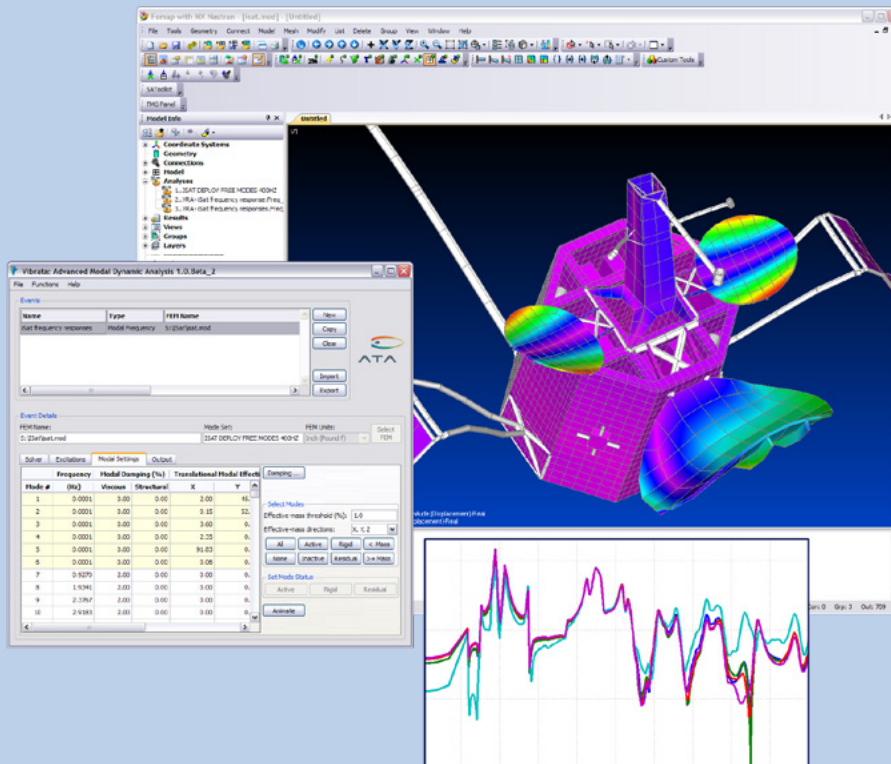
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2016 RUG Recap & Siemens PLM Community

This year's round of Regional Users Group (RUG) meetings recently concluded after 17 events across the United States. ATA is proud to have hosted and sponsored the SoCal-San Diego meeting at our headquarters, in addition to sponsoring the SoCal-LA meeting, the Northern California meeting in Santa Clara, and the Intermountain meeting in Ogden, Utah.

RUGs provide a fantastic opportunity to meet other Siemens' PLM Software users in your area and to learn more about a variety of products, including NX, Simcenter, and Teamcenter. A number of the events provide training sessions, and many offer different tracks throughout the day, allowing you to customize the experience to focus on the software and techniques that are most important to you. These day-long conferences present the chance to network with peers, hear firsthand customer success stories, and learn about software updates and enhancements directly from Siemens experts. While this fall's RUG events have wrapped up, you can find your local group and learn about upcoming events [here](#). We hope to see you at the 2017 events!

The [Siemens PLM Community site](#) offers another opportunity to interact with other users. In addition to providing the latest news in the Siemens PLM world, the site hosts software-specific forums where problems can be solved by the larger community through users sharing their knowledge. If you're running into difficulties in your workflow, search the forums for answers to similar questions or start your own topic to get help. The large, involved community on the forums helps each user reach their greatest potential.



Explore ATA's Software Suite

DETAILS INSIDE

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Explore: ATA|Suite

ATA's comprehensive suite of advanced engineering software gives users insight into their dynamic environment from test to analysis, with a variety of tools to simplify and accelerate tasks and achieve more accurate results.

Designed to work with MATLAB, Nastran, Femap, and other popular tools, and frequently updated as technologies change, each component of ATA|Suite offers users a unique edge.

IMAT - easily import finite element simulation data and measured test data into the MATLAB environment and perform a wide range of advanced processing on the data

Attune - automate your test-analysis correlation and model updating with leading-edge optimization tools

Hydro - create simplified models with accurate fluid dynamics using superelement representations of sloshing fluid

PressMap - perform pressure data interpolation from a cloud of points (typically from a CFD model) to an I-deas, Nastran, or Abaqus finite element model

TempMap - perform temperature data interpolation mapping from a cloud of points to an I-deas or Nastran finite element model

Vibrata - take advantage of advanced tools to predict stress, deflection, and other responses to transient, harmonic, random, and response spectrum excitation

Free software trials are available.



Calendar of Events

UPCOMING TRAINING CLASSES

ATA provides comprehensive training in the use of Femap, NX, and NX Nastran. Upcoming training classes are shown below.

NX NASTRAN WITH FEMAP

JAN 9 [Advanced Dynamic Analysis](#)

JAN 11 [Superelement Analysis](#)

JAN 13 [Coupled Structure/Acoustic Analysis](#)

FEB 13 [Introduction to Finite Element Analysis](#)

FEB 21 [Introduction to Dynamics Analysis](#)

MAR 20 [DDAM Analysis](#)

MAR 21 [Rotor Dynamics](#)

NX NASTRAN WITH SIMCENTER

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FEMAP

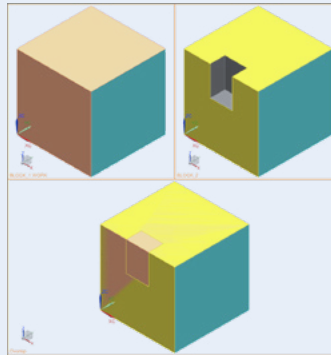
FEB 6 [Introduction to Femap](#)

ATA also provides a host of [free training resources](#) including tutorials, videos, and whitepapers.

Tips and Tricks

NX: MODEL COMPARE

The Model Compare command is a powerful tool that compares the geometries of two bodies. The bodies can be related or unrelated and can be located in the same or different .prt files. In the image, blue faces are identical, orange and yellow faces have been changed, and unique faces are grey. To use the command:



1. Find Model Compare in the More gallery of the Analysis tab, at Menu → Analysis, or using the Command Finder.
2. Set your display settings to determine how identical, changed, and unique faces and edges will be shown.
3. Under Options, uncheck "Select all bodies in each part" if the bodies are in a single .prt file, or if you want to select a single body from two .prt files.
4. Edit the rules for model compare as desired.
5. Select the first body from the current .prt file.
6. Select the second body, either in the current .prt file or by opening a second .prt file.
7. Click Apply to compare bodies.

FEMAP: SHARE DEFAULTS USING INITIALIZATION FILE

Femap preferences are stored in an initialization file called FEMAP.ini, which is typically located in the Femap directory, e.g. C:\Siemens\FEMAPv11.2. This file can save custom settings for a number of things, including the values for *File, Preferences*. In addition, the .ini file can be an easy way to preserve settings between versions or provide common network settings for multiple users. You can find the location of your current session's .ini file under *Help → About*.

NX NASTRAN: ADVANCED NONLINEAR SOLVER SETTINGS FOR CONTACT

NX Nastran's advanced nonlinear solver (Solution 601) allows the user to specify solution parameters to optimize the solver's performance. These settings appear on the NXSTRAT card. The appropriate solution controls depend on the particular model and application (contact, material nonlinearity, or large deformation). For nonlinear contact, the following settings are recommended as a starting point for improving convergence behavior. Depending on surface offsets and the number of contact pairs, these settings may need to be refined.

- Set Automatic Incrementation Scheme (AUTO) to TLA-S
- Set Default Displacement Formulation (CTDISP) to Small Displacement
- Set RBE2 Elements Option (EQRBE2) to Flexible

New Resources

[NX: Introductory Tutorial – Postprocessing and Importing Models](#)

The final installment of NX CAE tutorials demonstrates various postprocessing techniques and options, including banded result displays, cut plane views, custom deformation scales, and more. The tutorial also shows how to generate side-by-side plots, animate results, and export data. In addition, it covers the basics of importing simulation files, creating automatic groups, and changing the element color display.

[NX Open Tool: Renumber Groups](#)

This NXIO tool allows groups to be easily renumbered. The user can specify a range of group labels to move as well as the new starting number and the increment value to be used.

Recent News

Siemens Releases NX and Simcenter v11.0

NX 11 was released over the summer, and, with a variety of enhancements and additions, the CAE capabilities have been transformed into Simcenter 3D. Download these products from the [Siemens GTAC download center](#), and [watch ATA's free, on-demand webinar](#) for more information on the new tools in Simcenter.

Femap 11.3.2 Release

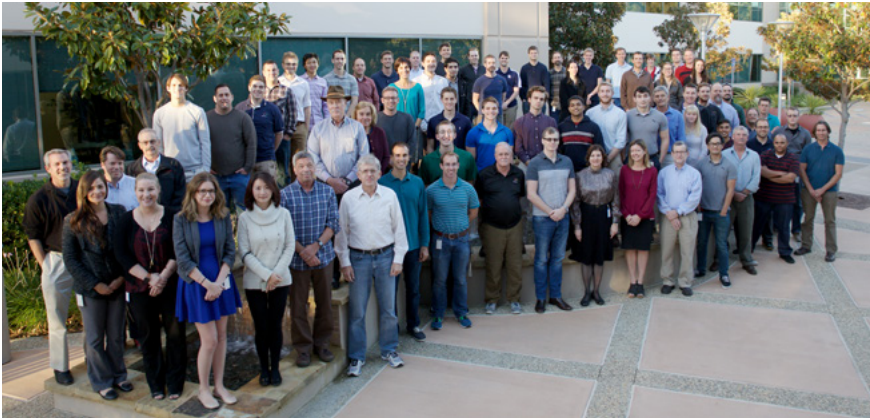
This version adds support for the newer geometry formats of Solid Edge 9 and NX 11.0, and the NX Nastran bundle now includes NX Nastran 11.0. Additional improvements have been made to defining spring element orientations and APIs. Version 11.3.2 is available from the [Siemens GTAC download center](#) and is 100% licensing and database compatible with v11.3 and v11.3.1.

ATA Releases New Versions of IMAT, Attune, and Vibrata

IMAT v6.2.1: This release brings a number of useful enhancements and improvements. In particular, advanced selection capabilities have been extended beyond function results, and processing speeds have been increased. Identifying the coordinate system implied by an input has been made easier, and the support of new NX Nastran 10.x data types has been added. [Read more here.](#)

Attune v2.2.0: This release adds automated node mapping capabilities for DOF set creation and a pushback tool that reduces inefficient design changes while preserving gains from a genetic algorithm. Additional useful enhancements include an expanded list of design properties that can be tuned using Attune's powerful optimization capabilities. [Read more here.](#)

Vibrata v1.6.2: This release adds support for MATLAB 2016b and Femap 11.3.2 along with other minor bug fixes and enhancements. [Read more 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.

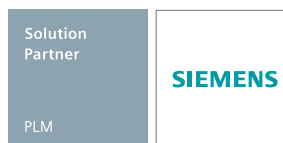
The hotline is staffed by experienced engineers, all of whom use these applications on a regular basis. ATA is also the Siemens PLM Software-preferred training provider and official developer of courseware for all NX Nastran training.

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 CAE](#), [Teamcenter](#), and [Solid Edge](#).



Featured Instructor

Allison Hutchings



Allison Hutchings is an Aerospace Engineer in the Software Services group at ATA Engineering, Inc.

As a Project Engineer with seven years of experience at ATA, she has supported a wide variety of projects among the analysis, test, and design groups. These projects have ranged from satellite and launch vehicle structural analysis to wind tunnel test data processing, modal testing, theme park design support, and much more. Most often she supports customers with stress and dynamic analysis, but she has also performed vibroacoustic analysis and model correlation. She has managed numerous small teams for different customers. In the course of this work, she has used Nastran, MATLAB, Femap, and NX extensively.

Ms. Hutchings is one of the many skilled instructors teaching ATA classes. She has a B.S. in Engineering from Harvey Mudd College and M.S. in Aerospace Engineering from the Georgia Institute of Technology.

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