ATA news

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SPRING 2019

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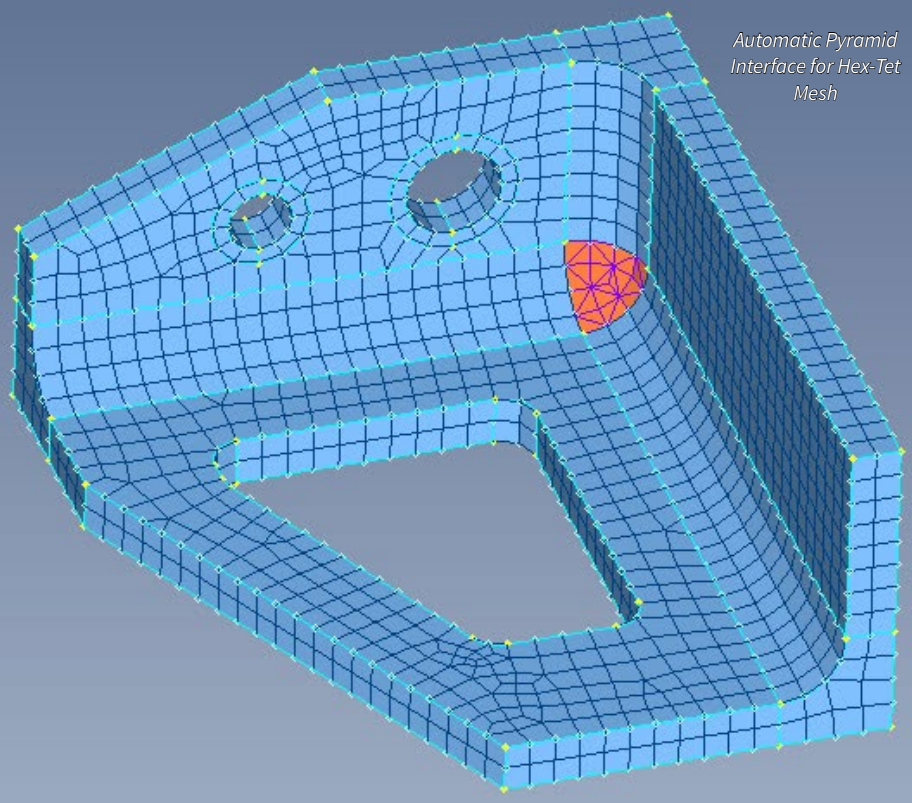


Automatic Pyramid Interface for Hex-Tet Mesh

Siemens Releases Simcenter Femap 2019.1

DETAILS INSIDE

Siemens Recognizes ATA as Smart Expert Partner

Building on our strong simulation background, ATA Engineering is proud to be recognized by Siemens PLM Software as a Platinum Smart Expert Partner, specifically for the Femap and Simcenter STAR-CCM+ product lines. This distinction, validated by both customers and Siemens PLM Software, demonstrates ATA's commitment to delivering best practices and proven solutions that ultimately help our customers meet their toughest engineering challenges. Our new Smart Expert badge serves as a reminder of our verified expertise with these powerful simulation tools.

In addition, ATA continues to develop the official Simcenter Nastran training materials and is the preferred training provider in North America. We offer training, free resources, and hotline support for a number of products, including Femap, STAR-CCM+, Simcenter 3D, Simcenter Nastran, NX, and HEEDS, and we look forward to helping your team meet your most ambitious goals.

inside:

ATA ENGINEERING, INC.

www.ata-plmsoftware.com
844-756-7638 (844-PLM-SOFT)
plm_sales@ata-e.com

Siemens Releases Simcenter Femap 2019.1

This latest release of Femap aligns Femap with the Simcenter release cadence and numbering scheme. Going forward, major feature releases can be expected each April and October. Femap 2019.1 is available for download from GTAC now.

The newest article from ATA recaps many of the new features and enhancements and includes links and videos that go into even greater detail. In addition, details for our free upcoming webinar on Femap 2019.1 will be available soon.

Of note, a new Select Visible option is now available during entity selection, and loads, constraints, and regions are now automatically propagated during geometry split operations. Swept meshes can be created along element edges, and pyramid elements can be generated to transition between brick and tetrahedral elements. Additional support is added for the Nastran, Abaqus, and Ansys solvers.

Calendar of Events

UPCOMING TRAINING CLASSES

ATA provides comprehensive training in the use of Femap, Simcenter 3D (formerly NX CAE), and NX Nastran. Upcoming training classes are shown below. Please visit our website to sign up for these classes or request a custom class.

NX NASTRAN WITH FEMAP

AUG 13 **Introduction to Finite Element Analysis**

OCT 08 **Introduction to Dynamic Analysis**

OCT 14 **Advanced Dynamic Analysis**

NX NASTRAN WITH SIMCENTER 3D

AUG 13 **Introduction to Finite Element Analysis**

SEP 17 **Response Dynamics**

OCT 08 **Introduction to Dynamic Analysis**

OCT 14 **Advanced Dynamic Analysis**

FEMAP

AUG 06 **Introduction to Femap**

UPCOMING SEMINARS AND WEBINARS

JUN 19 **Automating STAR-CCM+ with Java**

Workflow automation is a key driver for productivity, and STAR-CCM+ is built around automation! Attend this webinar to learn how Java can be used to automate tasks like controlling boundary size parameters, mesh generation, and solution procedures.

Jun 20 **Intro to the Femap API**

The Femap API gives users the ability to automate repetitive tasks, customize and expand existing functionality, introduce entirely new tools, and even pass data to outside programs. This webinar will cover everything you need to get started with APIs, in addition to sharing a few new example programs.

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

Tips and Tricks

NX & SIMCENTER 3D: SPECIFY RESULT

Results files can be associated with solutions by right-clicking the Results node and choosing Specify. This may be necessary when results are stored in another directory, files have been renamed, or you simply want to switch result files. The new path will be saved with the .sim file for future use.

STAR-CCM+: CONVERGENCE-BASED STOPPING CRITERIA

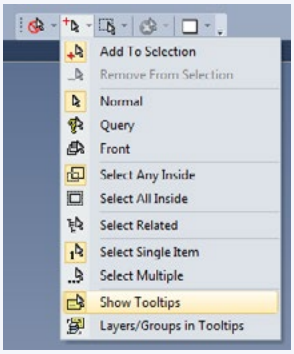
By default, STAR-CCM+ bases simulation stopping criteria on a maximum number of iterations. While this makes runtime predictable, it may result in an unconverged solution or a waste of computational resources as STAR-CCM+ iterates on an already converged solution. Convergence-based stopping criteria can be based on solution monitor histories.

For example, if the objective is to determine a force coefficient on a vehicle, the stopping criteria could be based on a monitor of a force coefficient report. Convergence can be based on the force coefficient standard deviation, relative change, or a detected asymptote over a specified number of iterations.

FEMAP: TOOLTIPS

Tooltips provide useful information about highlighted entities, such as a material's properties or a node's coordinates. During postprocessing, tooltips offer an easy way to query contour and deformation values. Turn on tooltips from the Select toolbar or on the Quick Access Menu, and control delay and duration on the User Interface tab of the Preferences dialog.

Left-clicking a tooltip sends that information to the Entity Editor and/or Data Table panes. Right-clicking a tooltip gives options to create an annotation in the model (Convert to Text) or print to the messages pane (List).



New Resources

NX, Simcenter 3D, and Femap: Product Update and Licensing Guide

This whitepaper takes an in-depth look at everything needed to keep software and licenses up to date:

- Licensing and WebKey basics
- Where to download new software and licenses from GTAC
- How to install new license files
- Methods for accessing licenses remotely and selecting NX Bundles

On-Demand Webinar: What's New in Simcenter 3D 2019.1

This webinar dives into the newest features in Simcenter 3D and Simcenter Nastran 2019.1, including preprocessing, postprocessing, and solver updates. It also describes new naming conventions, shorter release cadences, and new simulation capabilities such as for additive manufacturing.

Femap API: Assign PCOMP Reference Temperature

This API can be used to set the reference temperature of PCOMPs to a user-defined value. All PCOMPs can be selected, or properties can be chosen by entity selection or Group ID.

On-Demand Webinar: STAR, HEEDS, and Rescale

The Whitcomb area rule, the collective product of an industry-wide effort comprising years of theorizing, testing, and innovation, produced "wasp-waisted" fuselages that allowed aircraft to easily slip past the sound barrier. This webinar shows how STAR-CCM+, HEEDS, and the Rescale cloud can replicate the same result in just a few hours.

Recent News

Realize LIVE

Realize LIVE is happening now and we'd love to meet up with you! Check out the agenda for the latest details on planned presentations, panels, and workshop sessions, and let us know if you're in attendance too.

ATA Releases IMAT 7.3.0 and Vibrata 2.2.2

IMAT 7.3.0 brings significant performance improvements to *readnas* and gives *vtkplot* the ability to display results using an arrow plot. OPoly expands on AFPoly by introducing a new Z-domain parameter extraction method.

Vibrata 2.2.0 introduces nonlinear force modeling in the modal transient solver, useful for modeling displacement limiting, spring stiffening, and deadband. The newly released version 2.2.2 delivers a number of important bugfixes and noticeably reduces the memory usage for non-FastRMS random solves when calculating invariants.

Learn more about ATA|Suite.

DMAP Course

ATA is gauging interest for an upcoming Nastran DMAP course where participants will learn how to write DMAP extensions that expand Nastran capabilities. Specific dates and locations have yet to be determined. View the course listing and contact us to reserve a spot on the waitlist.

Share your Story

Do you have a success story you'd like to share? ATA would be pleased to highlight how tools like Femap, Simcenter Nastran, or STAR-CCM+ helped solve your team's challenges. Let us know about your recent achievements!

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 four 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

Visit our website to access free trials/demos of Femap and Simcenter Nastran, NX CAD and CAM, Simcenter 3D, Simcenter STAR-CCM+, Teamcenter, and Solid Edge

Featured Instructor

Andy Youngstrom

Andrew Youngstrom is a project engineer in ATA's San Diego office. For the past seven years, he has supported a variety of projects in the analysis-driven-design and design/build technical teams. In addition, he assists ATA's software customers by providing hotline support.

Andrew is skilled in design and the use of finite element analysis to evaluate mechanical and aerospace structures across static, dynamic, and fatigue environments. His project experience includes roller coasters, motion simulators, and animatronic figures in the themed entertainment industry; and landing gear, satellites, and additive manufactured rockets in the aerospace industry. His projects primarily use NX, Simcenter, and NX Nastran to handle everything from conceptual design and structural evaluation to engineering drawing packages.

He holds a B.S. degree in Mechanical Engineering from Northeastern University and an M.S. in Mechanical Engineering from the University of California, San Diego.

ATA ENGINEERING, INC.

Solution Partner PLM | SIEMENS | Platinum Smart Expert Channel

ATA Engineering, Inc. has been recognized as a Smart Expert Partner with validated expertise in Femap and STAR-CCM+.

www.ata-e.com
ata-engineering
@ataengineering
sales@ata-e.com
858.480.2000