ATA news

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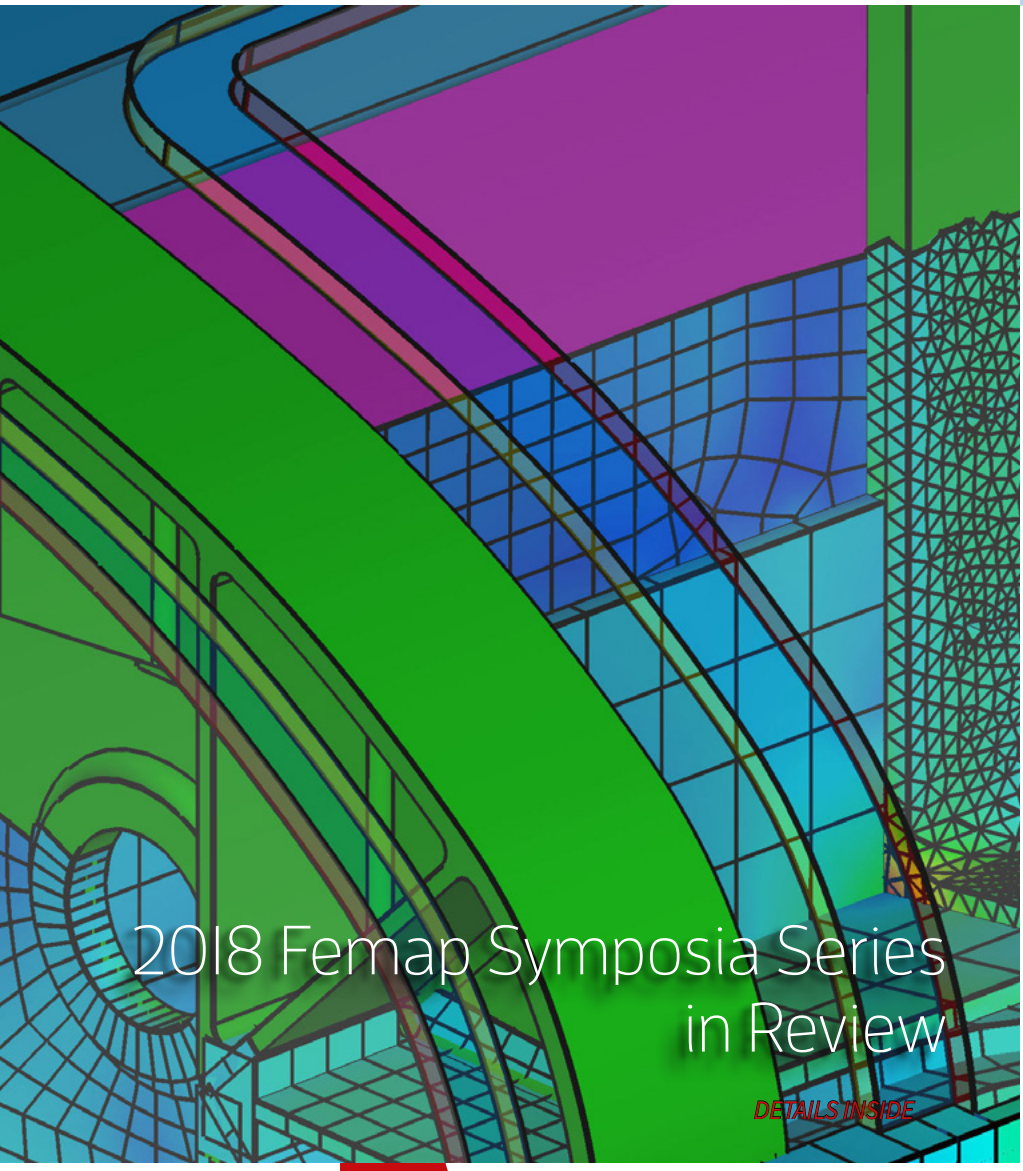

Bigelow BEAM Team Recognized for NASA Group Achievement Award

The Bigelow Expandable Activity Module (BEAM), developed by Bigelow Aerospace, is the world's first commercially owned expandable module on the International Space Station (ISS). The BEAM team, including engineers from Bigelow Aerospace, ATA Engineering, and multiple NASA centers, successfully implemented this project in only three years. ATA worked closely with Bigelow and NASA engineers throughout the program to help ensure that BEAM's thermal and structural performance met all design objectives and requirements.

To date, BEAM has been outperforming expectations, and NASA has chosen to extend its role on the station beyond the original two-year timeline. Its success has also led to the BEAM team being recognized by NASA with the Group Achievement Award. This award, part of NASA's 2017 Agency Honor Awards, is one of NASA's most prestigious. ATA is a proud partner to Bigelow Aerospace and is honored to be recognized as a contributing team member on this highly successful mission. Further information on BEAM and its extended utilization on ISS can be found here.

inside:

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2018 Femap Symposia Series in Review

The 2018 Femap Symposia series recently concluded for the spring, and ATA Engineering was excited to co-host the San Diego event in addition to presenting at the events in Huntsville and Cypress.

Each event offered valuable training and networking opportunities by bringing together industry experts and the Femap development team. These full-day events featured a variety of demos and presentations, covering topics such as ways to better utilize the user interface, specifically with toolboxes, and an introduction to Femap APIs. In addition, the development team gave an inside look at the new features in Femap 12, including the new multi-step nonlinear capabilities, and each day wrapped up with roundtable discussions that will be used to help shape the future of the program.

You can review the various presentations on ATA's free resources page or on the Siemens community site, and we invite you to stay in touch with us for information on additional events that may be scheduled for this fall.

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. Please visit our website to sign up for these classes or request a custom class.

NX NASTRAN WITH FEMAP

- JUN 19 **Advanced Dynamic Analysis**
- JUL 11 **Coupled Structure/Acoustic Analysis**
- AUG 07 **Introduction to Finite Element Analysis**
- AUG 13 **Design Sensitivity and Optimization**

NX NASTRAN WITH SIMCENTER

- JUN 19 **Advanced Dynamic Analysis**
- JUL 11 **Coupled Structure/Acoustic Analysis**
- AUG 07 **Introduction to Finite Element Analysis**
- AUG 13 **Design Sensitivity and Optimization**

FEMAP

- JUL 30 **Introduction to Femap**

UPCOMING SEMINARS AND WEBINARS

Networking Event: Practical Applications of STAR-CCM+, from Terrestrial to Martian

- JUN 27 **San Diego, California**
- JUN 28 **El Segundo, California**

ATA is hosting two complimentary social-hour events later this month in Southern California to share how STAR-CCM+ has been used to tackle engineering challenges far beyond our own atmosphere. Join us as members of our industry-leading CFD team present an overview of STAR-CCM+ capabilities, followed by a case study of how ATA supported JPL using STAR-CCM+ on a project related to the Fluid Mechanical Particle Barrier (FMPB) for the prevention of sample contamination on the Mars 2020 mission.

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

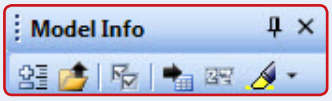
Tips and Tricks

NX & NX NASTRAN: ONLINE DOCUMENTATION SERVER

Both NX and NX Nastran use online documentation servers, making it easy to quickly search the help documents for keywords and commands through your browser. You can also easily share links with coworkers or anyone else with internet access. The links below point to the top level document sites for NX and NX Nastran. From there, you can select the product version and then the type of documentation you're interested in, with options such as help, new feature summaries, and release notes.

- NX Documentation Server
- NX Nastran Documentation Server

FEMAP: MODEL INFO PANE COMMANDS



The following commands can be found at the top of the Model Info Pane:

- Collapse/Expand quickly collapses or expands all category trees at once. This is useful to open all the dropdowns for closer inspection or to close them for easier navigation of the model info pane.
- Reload from Model refreshes the Model Info tree with current information from the model.
- Reset All Visibility Options turns on the display of all entities simultaneously by setting the Groups option to "Show Full Model," the Layers option to "View All Layers," and all visibility check boxes to "on" for Geometry, Elements, Materials, and Properties. The command also clears the Draw/Erase toolbar.
- Send to Data Table populates the data table with information about the highlighted entities. Note that the data table must be unlocked.
- Show Entity Counts displays a count of each entity type in the model on the tree.
- Show When Selected Menu offers a variety of options for highlighting selected entities from the Model Info pane in the main graphics window. In addition, commands are available to autoscale to selected entities, display labels, and show element normals.

STAR-CCM+: STAR-VIEW+

STAR-VIEW+ is a lightweight and license-free viewer for STAR-CCM+. After a scene has been exported from the simulation, it can be interactively reviewed and animated with STAR-VIEW+, making it even easier to share results across your organization and with customers. STAR-VIEW+ is typically included as part of the default STAR-CCM+ installation, or it can be downloaded separately from GTAC.

New Resources

Femap: Updates to Freebody Loads for Multiple Sets

This API exports the results of multiple section cuts and load cases to Excel. Version 7 has recently been released, which expands compatibility to newer version of Excel by allowing for any number of default sheets.

NX Nastran: Model Checks

Having a good finite element model is critical to getting high-quality results. With this in mind, we revisit a past whitepaper on model checks in NX Nastran. This paper discusses six essential checks: grounding, rigid body modes, weight, element quality, stiffness singularity, and residual. Remember to check these quality measures throughout the design and analysis process to build confidence in your model and results.

Recent News

Siemens Releases STAR-CCM+ 13.02

The latest release of STAR-CCM+ brings enhanced PLMXML Import for better Teamcenter integration and the introduction of the stand-alone, license-free STAR-CCM+ VR client. Other additions include a CAD robustness study, parallel plots for the design manager, freeform surface modeling, a material calibration model, and more. Check out the 13.02 Fact Sheet for details on all the new features, and download the latest version from GTAC today!

ATA Releases IMAT 7.1, IMAT4XL 7.1, and Vibrata 2.0.1

These products are available for download from ata-e.com now. The following is a brief list of improvements:

IMAT 7.1: Enhancements include added support for importing element-specific information from Nastran, new advanced processing options for psd and csd functions, and functions that are easier to output to .xlsx files.

IMAT4XL 7.1: This release brings more flexible templates, improved attribute reading, and an expansion of understood MATLAB syntax in the math parser.

Vibrata 2.0.1: This release resolves some bugs and adds support for displacement limiting in the transient solver.

NanoRacks Commercial Airlock Completes CDR, Moves to Fabrication

The NanoRacks Airlock Module recently completed its critical design review, marking the transition from the engineering design phase to the fabrication phase. ATA is proud to have performed structural and thermal analysis for the Airlock. Read more about the recent accomplishments 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 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

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

Curtis Rands

Curtis Rands is a senior project engineer and technical director of design/build projects at ATA Engineering's San Diego office. He has expertise in mechanical design and analysis with extensive experience in structural analysis and applying multiple tools to solve complex thermal problems. He has been the project manager for several major analysis-driven design projects. He has also provided formal and informal training in multiple engineering design and analysis tools.

Mr. Rands has participated in a wide variety of hardware development programs, including the analysis-driven design of a structure used for the transport and launch of space vehicles, research and development of an active aircraft seat cushion, and the design of fluid-handling, heating, and cooling subsystems of a novel home appliance. He has performed strength, durability, and dynamic analyses on a variety of vehicle systems.

He has BS and MS degrees in mechanical engineering from Brigham Young University and Purdue University, respectively.

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