Innovative Solutions to Challenging Problems

A NASA Workshop on FEM & FEA

NASA Goddard Space Flight Center
May 18, 2000

FEMCI

- Welcome
- Hosts

  Ryan Simmons

  Dr. Jonathan Kuhn
- Master of Ceremonies

  Jeff Bolognese

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- FEMCI

  Finite Element Modeling

  Continuous Improvement

- Website

  http://femci.gsfc.nasa.gov

- Morning Agenda

8:30 Welcome

8:45 Nonlinear FEA in the Design of a High-precision Opto-Mechanical Instrument

9:15 Nonlinear Thermal/Structural Analysis of Hypersonic Vehicle Hot Structures

9:45 Finite Element Solution of Fluid-Structure Interaction Problems

10:15 Break

10:30 Large Deformation Nonlinear Response of Soft Composite Structures

11:00 Analysis of Thermally Induced Jitter in the HST Solar Array 3

11:30 Multi-Disciplinary Approach to Calculate Displacement Due to Random Vibration For a Space-based Focal Plane

12:00 Lunch

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- Afternoon Agenda

12:00 Lunch

1:30 Pathway to the Future of Simulation

2:00 A Finite Element Modeling Technique for Dynamic Analyses of Preloaded Large Thin Film Membrane Structures

2:30 Test Cases for Modeling and Validation of Structures with Piezoelectric Actuators

3:00 Analysis of Active Constrained Layer Damping in Composite Sandwiched Plates

3:30 Analysis of Damping Treatments Applied to MAP Spacecraft to Reduce Thruster Response

4:00 Wrap-up

4:15 Vendor Session

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Wrap-up

- Future interaction
- Your feedback
- Presentations will be online at http://femci.gsfc.nasa.gov
- Vendor session

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- We would like to thank the following vendors for participating today

ALGOR, Inc.	http://algor.com/
Altair Engineering	http://www.altair.com/
ANSYS (Mallett Technology)	http://www.ansys.com/
Macro Industries	http://www.nastran.com/
MSC Software	http://www.mscsoftware.com/
Noran Engineering	http://www.noraneng.com/
SDRC	http://www.sdrc.com/