# **Large Telescope Truss - Numerical Results**

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**Problem Specification** 

- 1. Pre-Analysis & Start-Up
- 2. Geometry
- 3. Mesh
- 4. Physics Setup
- 5. Numerical Solution
- 6. Numerical Results
- 7. Verification & Validation

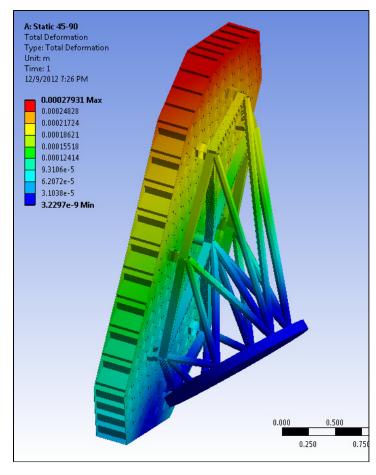
Exercises

Comments

#### **Numerical Results**

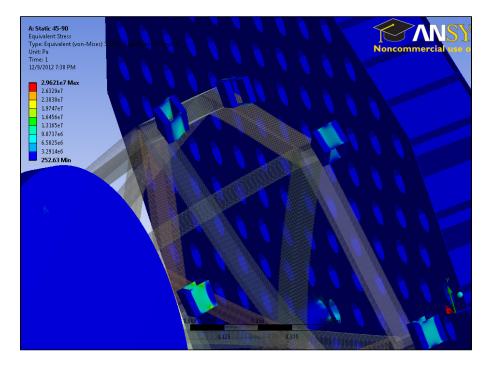
After running the simulation, we should get these results:

#### **Total Deformation**



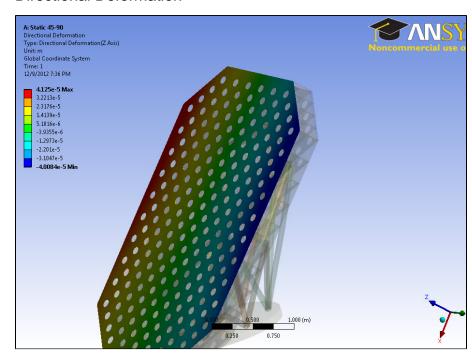
The total deformation is greatest at the top of the truss, and has a magnitude of  $0.28\ mm$ .

## **Equivalent Stress**



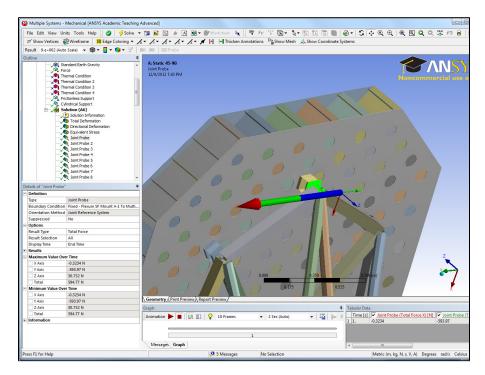
The greatest stress occurs in the Flexure mounts, and has a magnitude of 30MPa.

# **Directional Deformation**



The Directional deformation is shown to range from -.04mm to +.04mm.

## Joint Probes



Each joint probe shows the magnitude and direction of the force at each probe. The results show that there's a range from 200 N to a whopping 1500N. Fortunately, the 1500N force is in the center, and the flexure mount forces have a value around 400N.

#### Go to Step 7: Verification & Validation

Go to all ANSYS Learning Modules