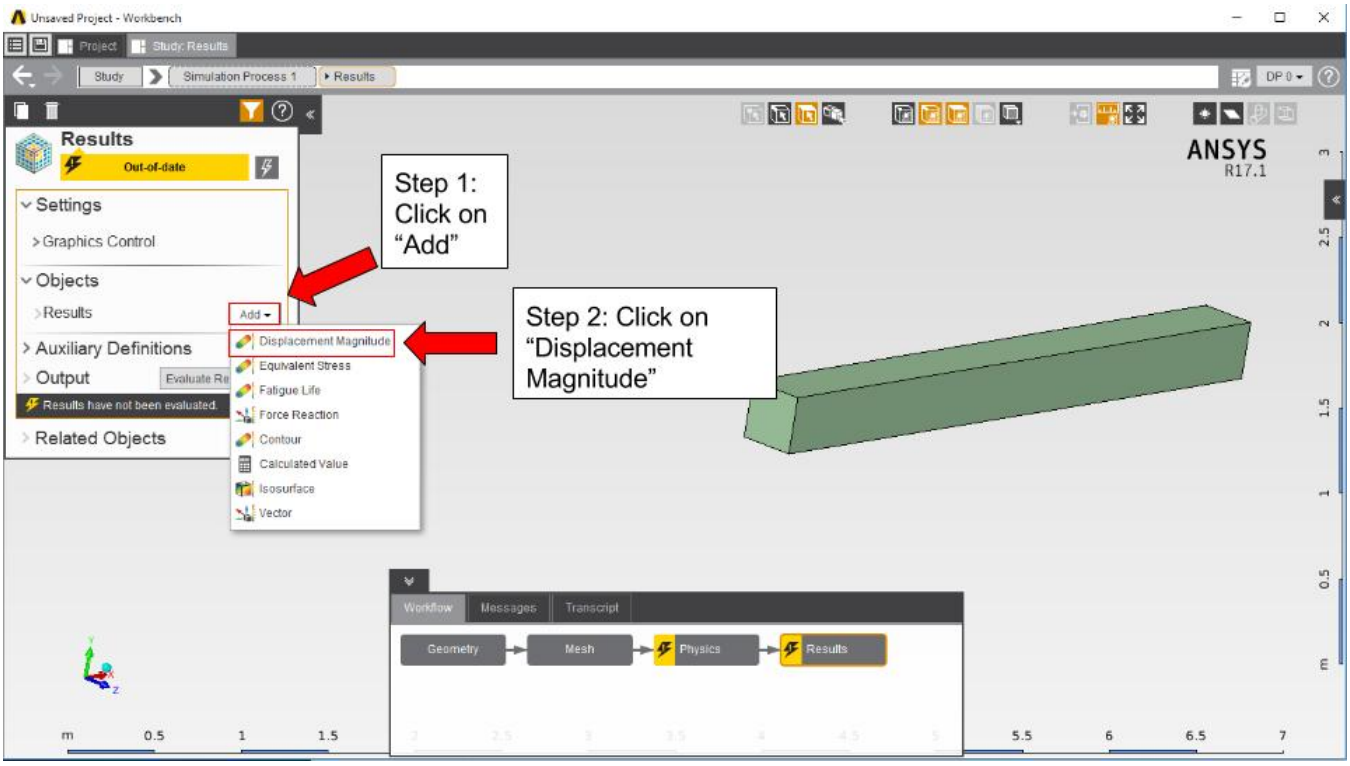
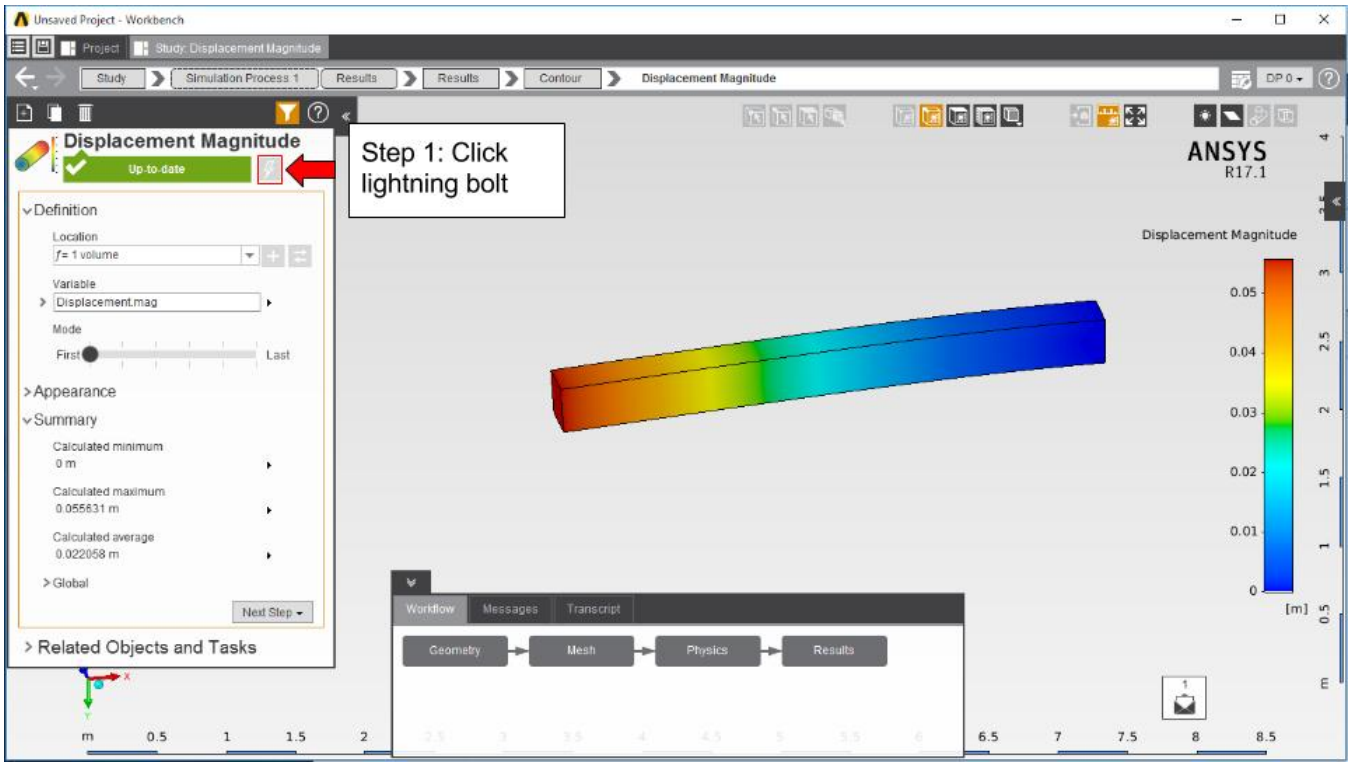
AIM Cantilever Beam Modal Analysis - Numerical Solution & Results

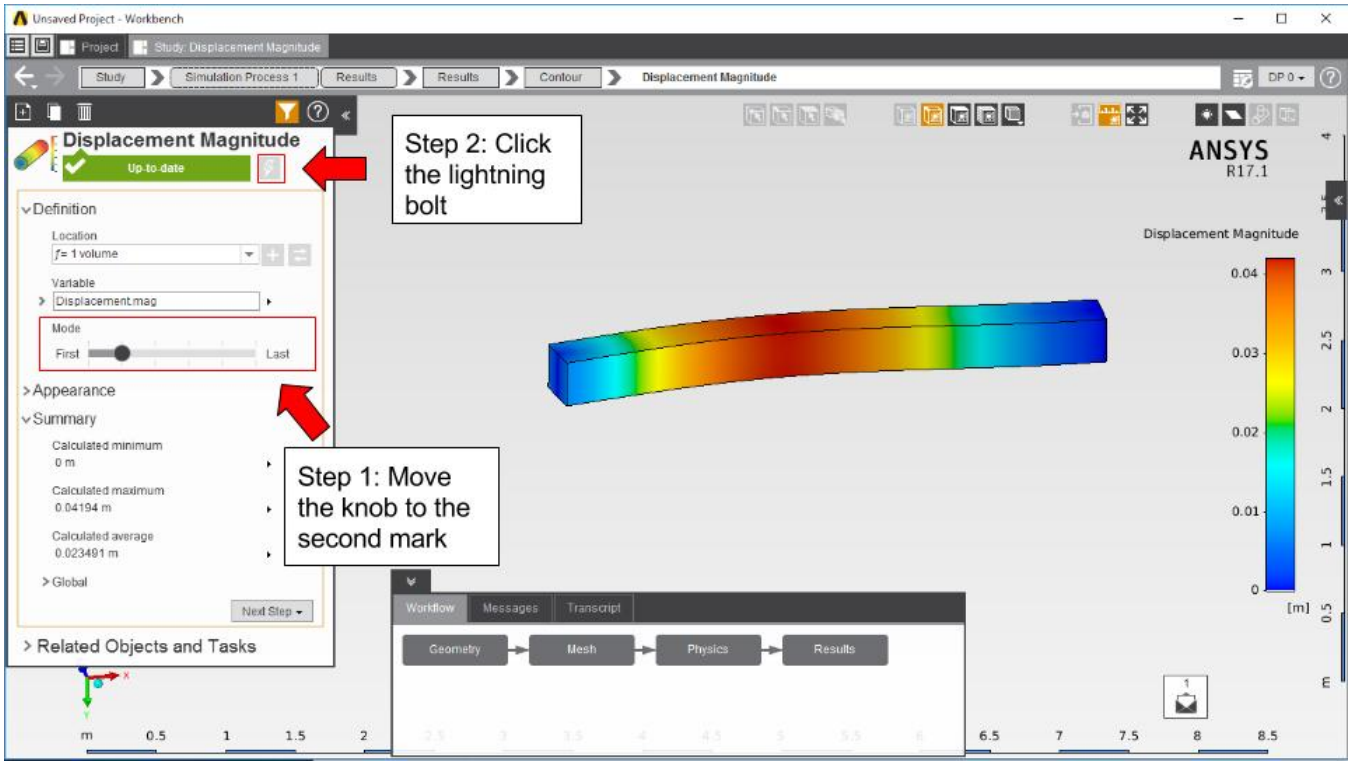
Author(s): Joshua Wallace, ANSYS

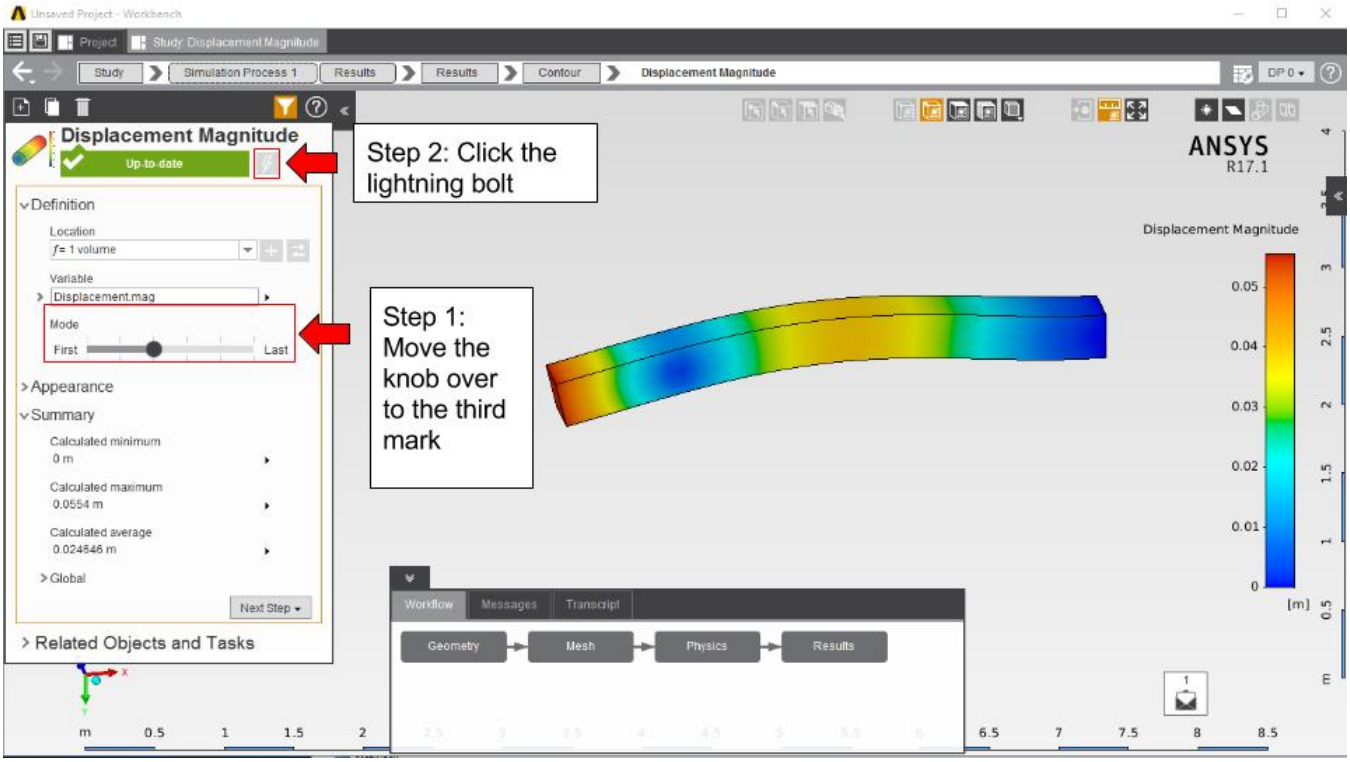
Problem Specification
1. Pre-Analysis & Start-Up
2. Geometry
3. Mesh
4. Physics Setup
5. Numerical Solution & Results

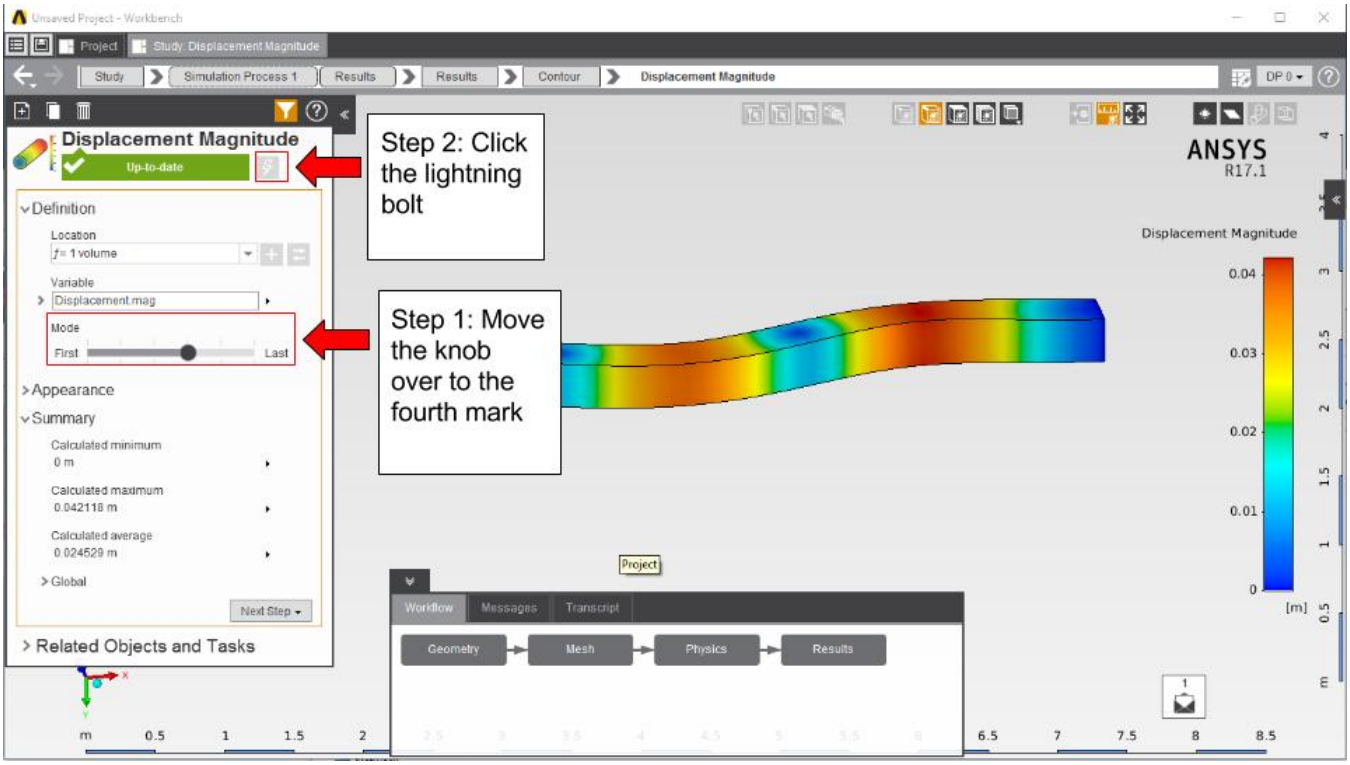
Numerical Solution & Results

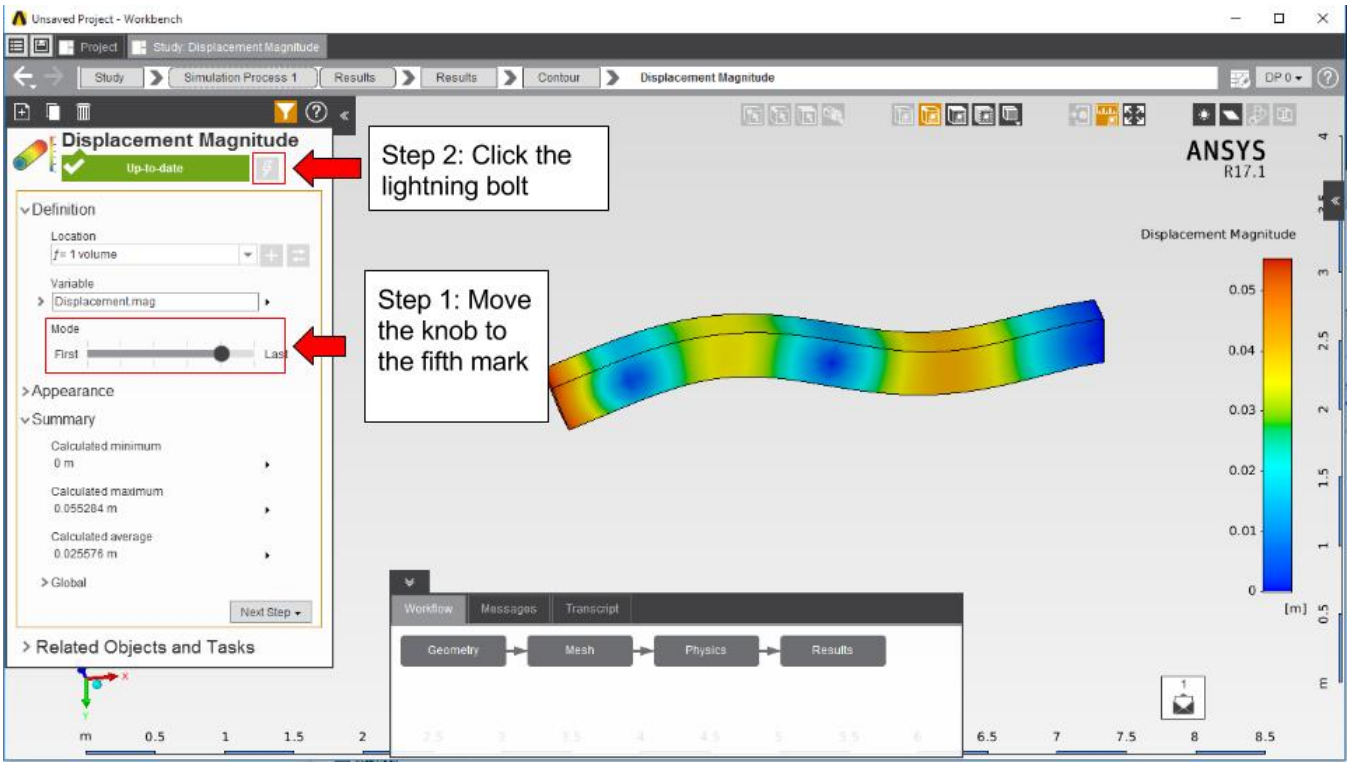



Unsaved Project - Workbench
Project
Study: Displacement Magnitude
Study
Simulation Process 1
Results
Results
Contour
Displacement Magnitude
DP 0
Displacement Magnitude
Up-to-date
Step 1: Click lightning bolt
Definition
Location
1 volume
Variable
Displacement.mag
Mode
First
Last
Appearance
Summary
Calculated minimum
0 m
Calculated maximum
0.055631 m
Calculated average
0.022058 m
Global
Next Step
Related Objects and Tasks
ANSYS
R17.1
Displacement Magnitude
0.05
0.04
0.03
0.02
0.01
0
[m]
Workflow
Messages
Transcript
Geometry
Mesh
Physics
Results
m
0.5
1
1.5
2
6.5
7
7.5
8
8.5

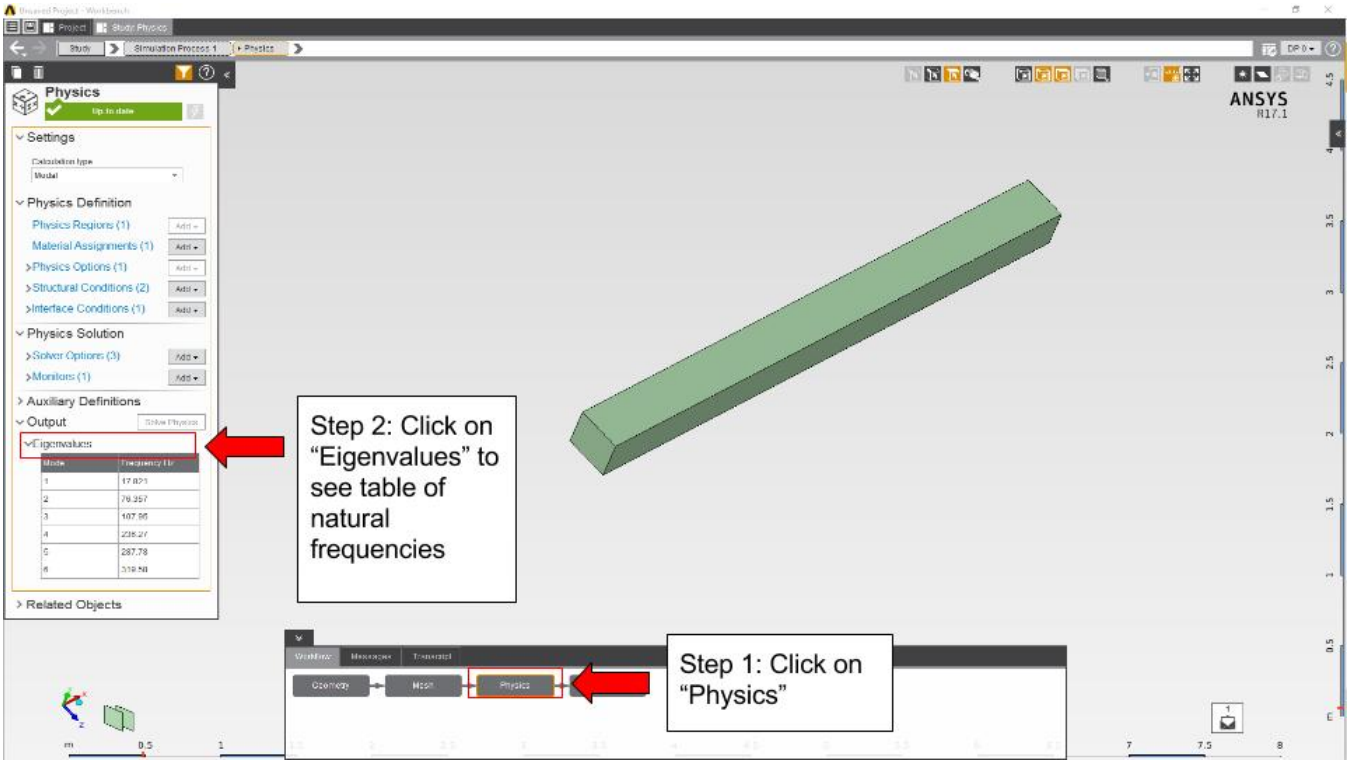

Unsaved Project - Workbench
Project
Study: Displacement Magnitude
Study
Simulation Process 1
Results
Results
Contour
Displacement Magnitude
DP 0
Displacement Magnitude
Up-to-date
Step 2: Click the lightning bolt
Definition
Location
1 volume
Variable
Displacement.mag
Mode
First
Last
Step 1: Move the knob to the second mark
Appearance
Summary
Calculated minimum
0 m
Calculated maximum
0.04194 m
Calculated average
0.023491 m
Global
Next Step
Related Objects and Tasks
ANSYS
R17.1
Displacement Magnitude
0.04
0.03
0.02
0.01
0
[m]
Workflow
Messages
Transcript
Geometry
Mesh
Physics
Results
m
0.5
1
1.5
2
6.5
7
7.5
8
8.5


Unsaved Project - Workbench
Project
Study: Displacement Magnitude
Study
Simulation Process 1
Results
Results
Contour
Displacement Magnitude
Displacement Magnitude
Up-to-date
Step 2: Click the lightning bolt
Definition
Location
1 volume
Variable
Displacement.mag
Mode
First
Last
Step 1: Move the knob over to the third mark
Appearance
Summary
Calculated minimum
0 m
Calculated maximum
0.0554 m
Calculated average
0.024646 m
Global
Next Step
Related Objects and Tasks
ANSYS
R17.1
Displacement Magnitude
0.05
0.04
0.03
0.02
0.01
0
[m]
Workflow
Messages
Transcript
Geometry
Mesh
Physics
Results
m
0.5
1
1.5
2
6.5
7
7.5
8
8.5


Unsaved Project - Workbench
Project
Study: Displacement Magnitude
Study
Simulation Process 1
Results
Results
Contour
Displacement Magnitude
Displacement Magnitude
Up-to-date
Step 2: Click the lightning bolt
Definition
Location
1 volume
Variable
Displacement.mag
Mode
First
Last
Step 1: Move the knob over to the fourth mark
Appearance
Summary
Calculated minimum
0 m
Calculated maximum
0.042118 m
Calculated average
0.024529 m
Global
Next Step
Related Objects and Tasks
ANSYS
R17.1
Displacement Magnitude
0.04
0.03
0.02
0.01
0
[m]
Project
Workflow
Messages
Transcript
Geometry
Mesh
Physics
Results
m
0.5
1
1.5
2
6.5
7
7.5
8
8.5


Unsaved Project - Workbench
Project
Study: Displacement Magnitude
Study
Simulation Process 1
Results
Results
Contour
Displacement Magnitude
DP 0
Displacement Magnitude
Up-to-date
Step 2: Click the lightning bolt
Definition
Location
1 volume
Variable
Displacement.mag
Mode
First
Last
Step 1: Move the knob to the fifth mark
Appearance
Summary
Calculated minimum
0 m
Calculated maximum
0.055284 m
Calculated average
0.025576 m
Global
Next Step
Related Objects and Tasks
ANSYS
R17.1
Displacement Magnitude
0.05
0.04
0.03
0.02
0.01
0
[m]
Workflow
Messages
Transcript
Geometry
Mesh
Physics
Results
m
0.5
1
1.5
2
6.5
7
7.5
8
8.5


Unsaved Project - Workbench
Project
Study: Displacement Magnitude
Study
Simulation Process 1
Results
Results
Contour
Displacement Magnitude
DP 0
Displacement Magnitude
Up-to-date
Step 2: Click on the lightning bolt
Definition
Location
1 volume
Variable
Displacement.mag
Mode
First
Last
Step 1: Move the knob to the last mark
Appearance
Summary
Calculated minimum
0 m
Calculated maximum
0.039431 m
Calculated average
0.024816 m
Global
Next Step
Related Objects and Tasks
ANSYS
R17.1
Displacement Magnitude
0.03
0.02
0.01
0
Workflow
Messages
Transcript
Geometry
Mesh
Physics
Results
Refreshing Tasks
100%
m
0.5
1
1.5
2
6.5
7
7.5
8
8.5



Go to all ANSYS AIM Learning Modules