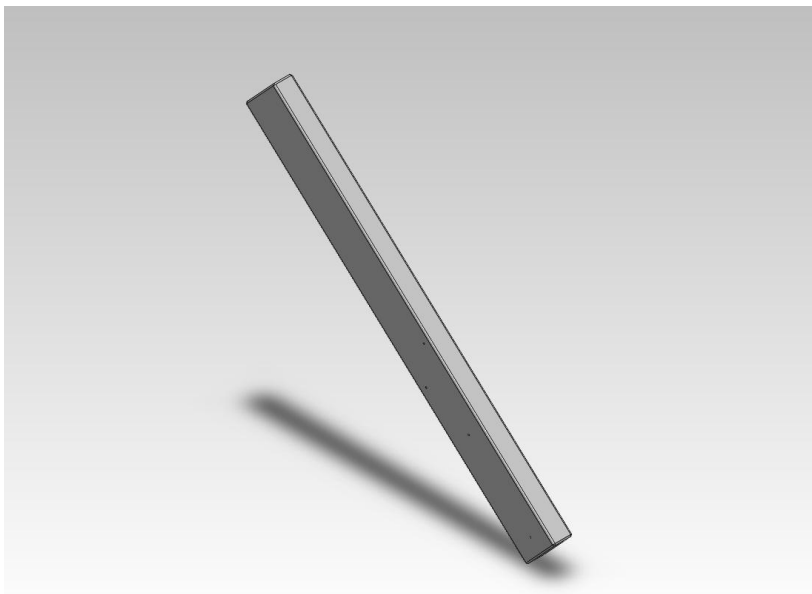


Simulation of Part3

Date: Thursday, November 01, 2012
Designer: Nick Higgins
Study name: SimulationXpress Study
Analysis type: Static

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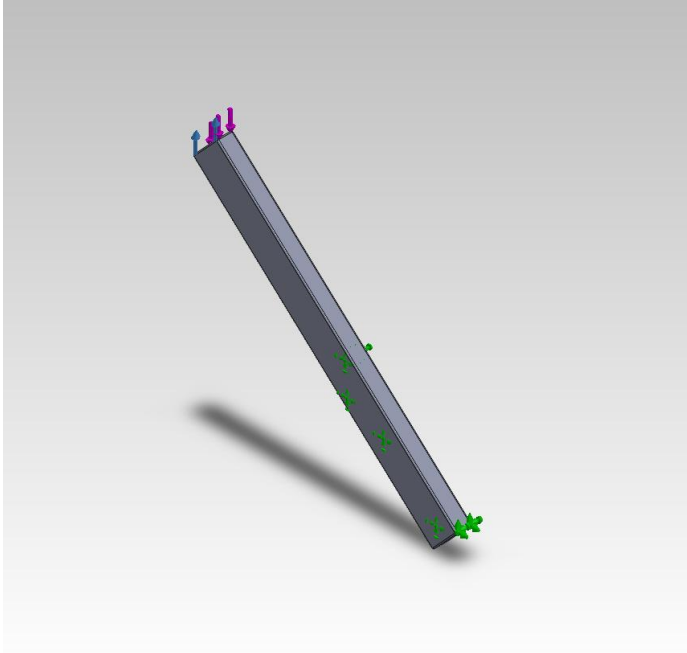
Description.....	1
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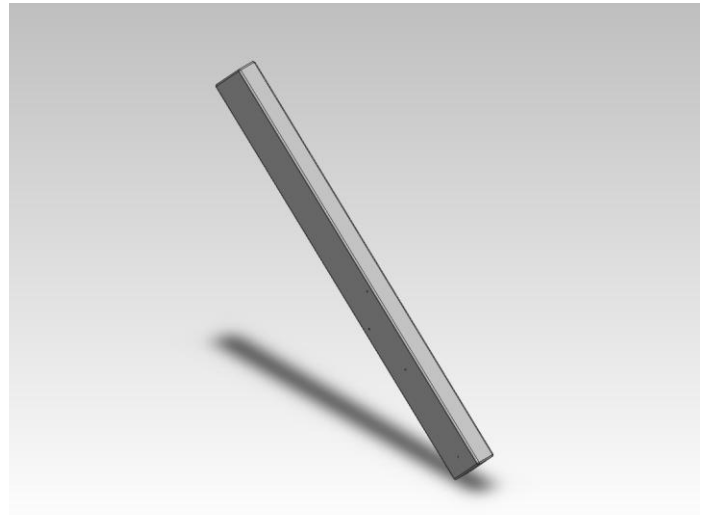
Description

9 lbf applied to generator pedals causes combined loading on the wood 2x4. This simulation shows the results of this combined loading

Assumptions

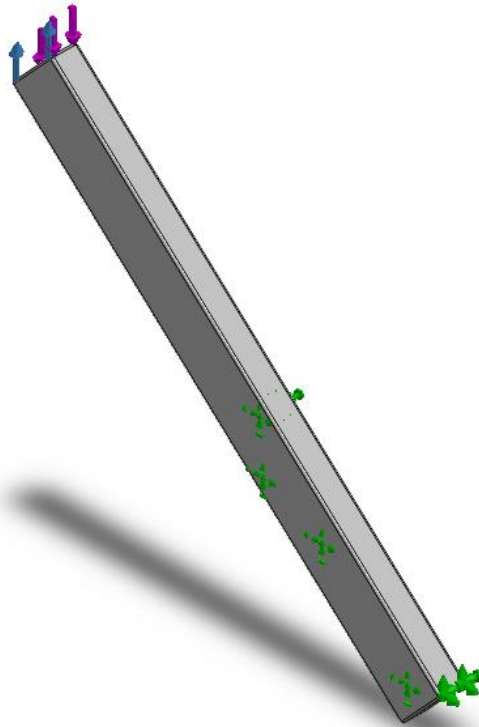


Original Model



Model Analyzed

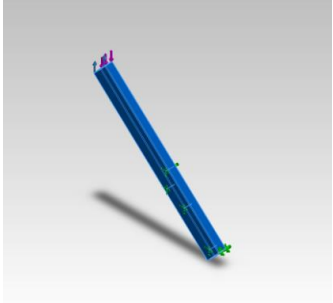
Model Information



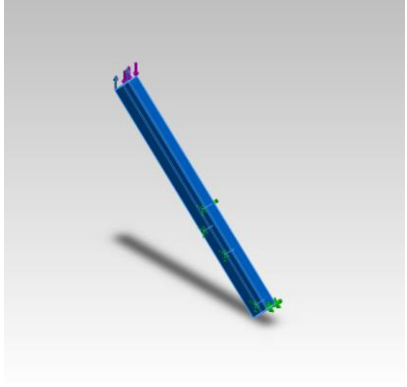
Model name: Part3
Current Configuration: Default

Solid Bodies

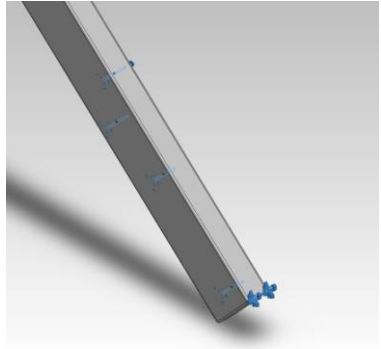
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
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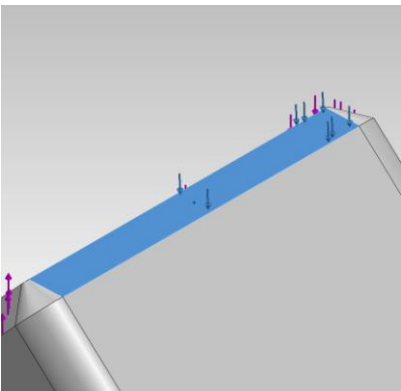
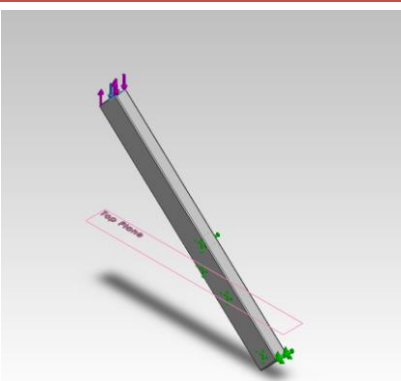
<p>Imported3</p> 	<p>Solid Body</p>	<p>Mass:0.20689 kg Volume:0.00254247 m³ Density:81.3734 kg/m³ Weight:2.02752 N</p>	
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Material Properties

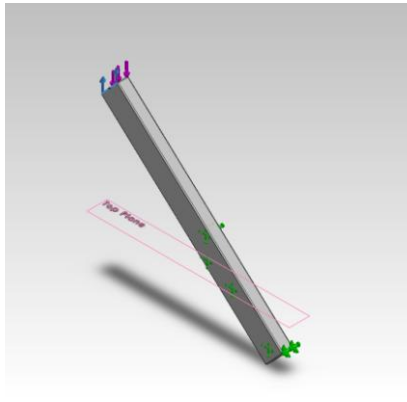
Model Reference	Properties	Components
	<p>Name: White Pine Model type: Linear Elastic Isotropic Default failure criterion: Max von Mises Stress Tensile strength: 4351.13 psi</p>	<p>SolidBody 2(Imported3)(Part3)</p>

Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-1		<p>Entities: 5 face(s) Type: Fixed Geometry</p>

Load name	Load Image	Load Details
Force-1		<p>Entities: 1 face(s) Type: Apply normal force Value: 9 lbf</p>
Force-2		<p>Entities: 1 face(s), 1 plane(s) Reference: Top Plane Type: Apply force Values: ---, ---, -33 lbf</p>

Force-3



Entities: 1 face(s), 1 plane(s)
Reference: Top Plane
Type: Apply force
Values: ---, ---, 33 lbf

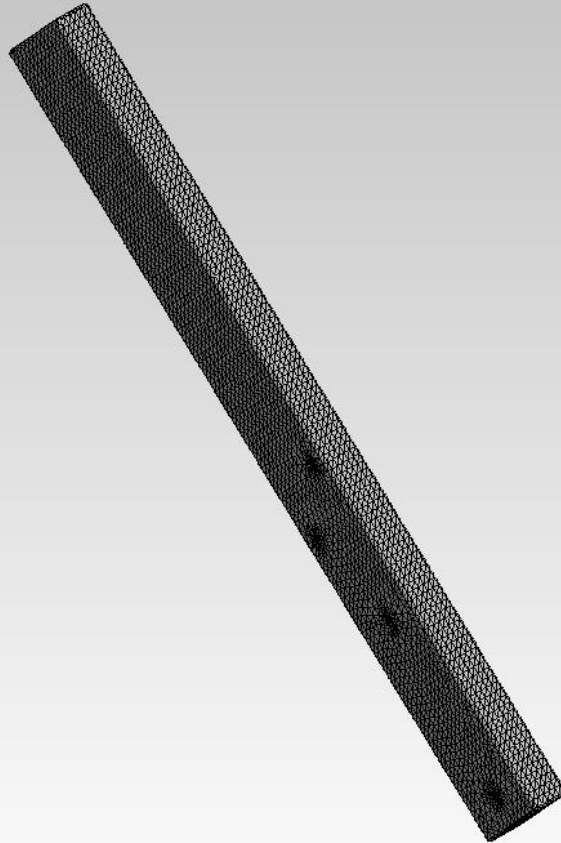
Mesh Information

Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.268725 in
Tolerance	0.0134363 in
Mesh Quality	High

Mesh Information - Details

Total Nodes	88995
Total Elements	59266
Maximum Aspect Ratio	11.075
% of elements with Aspect Ratio < 3	98.4
% of elements with Aspect Ratio > 10	0.00844
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:05
Computer name:	TWCVIA22

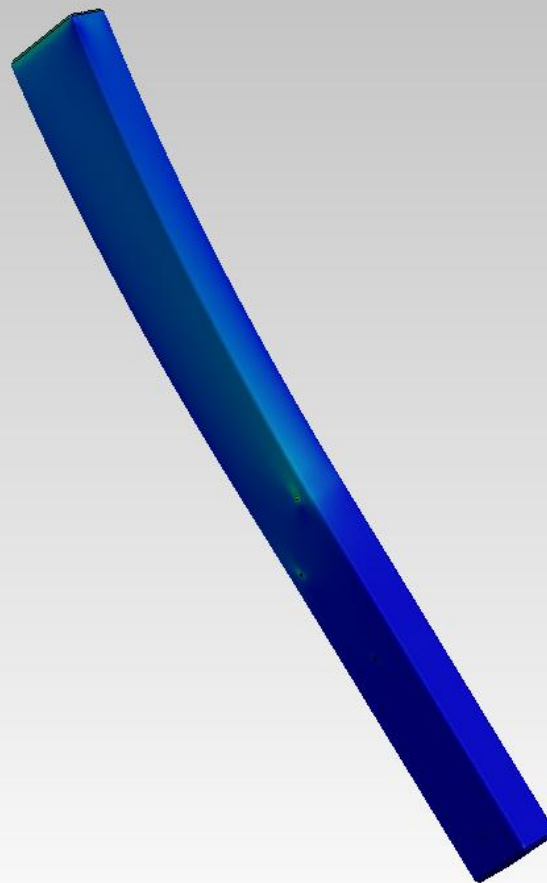
Model name: Part3
Study name: SimulationXpress Study
Mesh type: Solid mesh



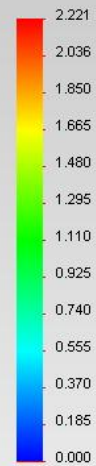
Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	1.41566e-006 N/mm ² (MPa) Node: 3270	2.22058 N/mm ² (MPa) Node: 67229

Model name: Part3
Study name: SimulationXpress Study
Plot type: Static nodal stress Stress
Deformation scale: 545.295

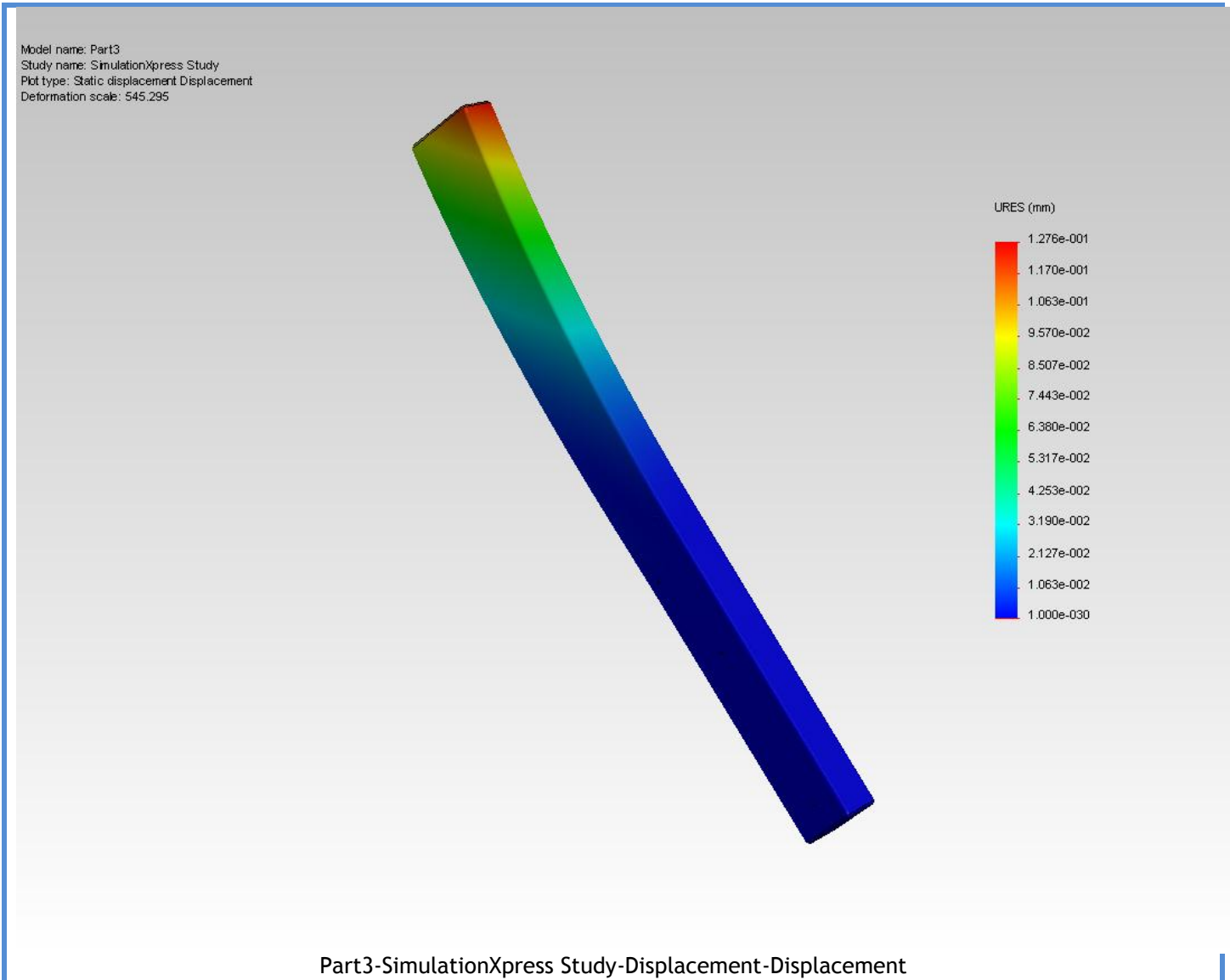


von Mises (N/mm² (MPa))

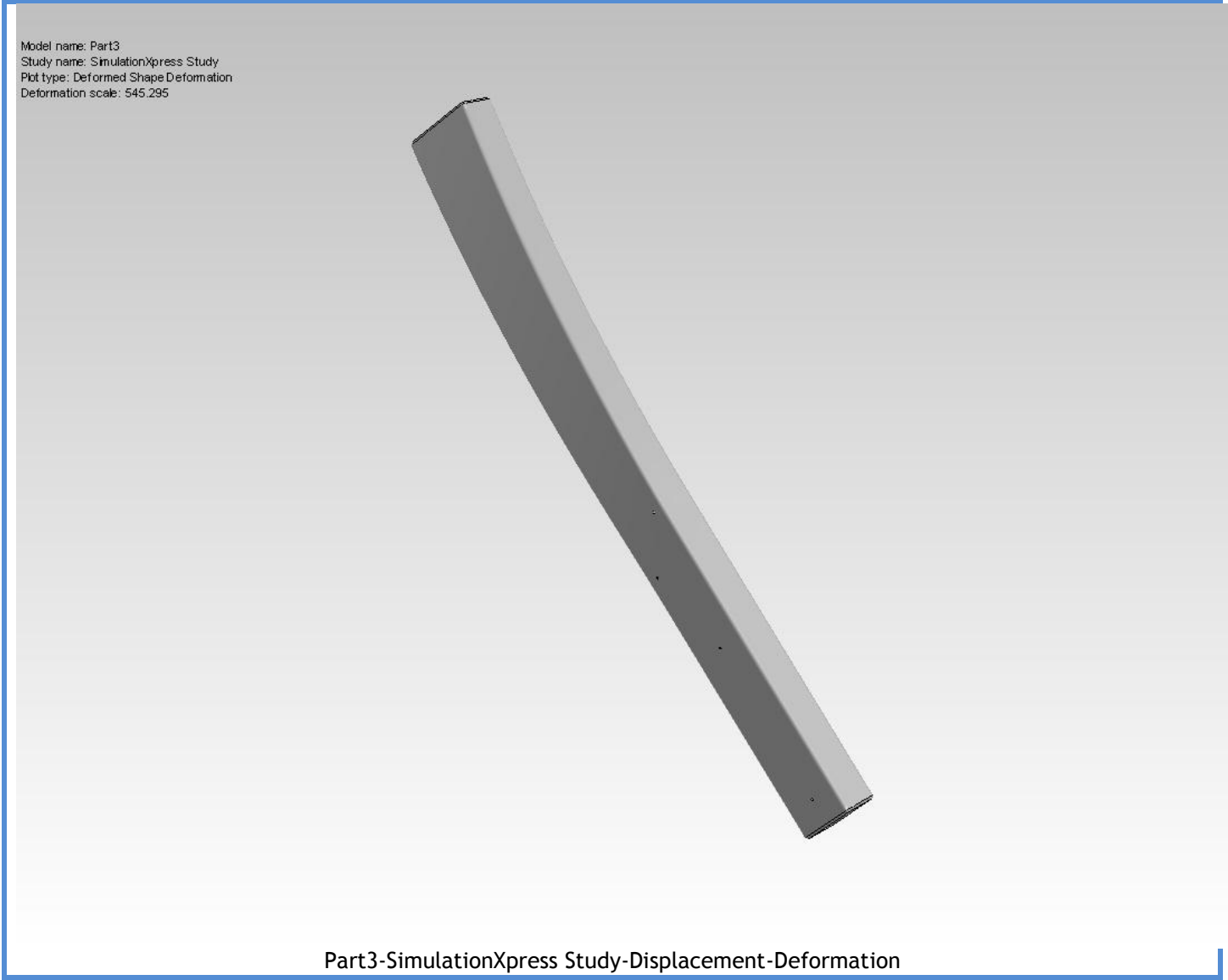


Part3-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0 mm Node: 1	0.1276 mm Node: 55837



Name	Type
Deformation	Deformed Shape



Conclusion