

Simulation of EX01_Nakamura_01

Date: Friday, June 08, 2018
Designer: Masato Nakamura
Study name: SimulationXpress Study
Analysis type: Static

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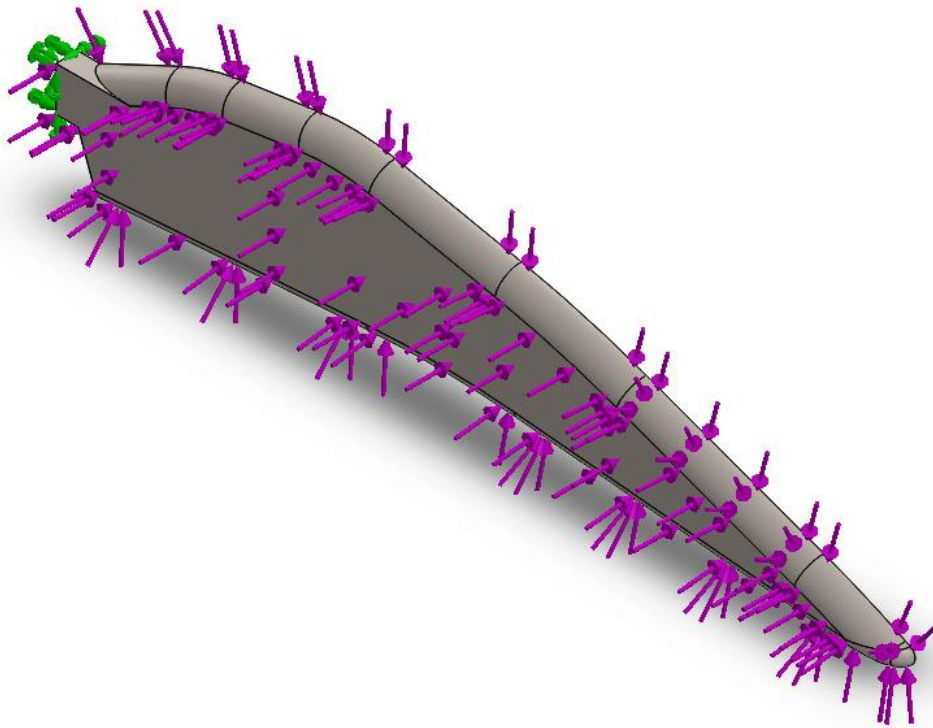
Description

EX06 Adv Solid Modeling II



Assumptions

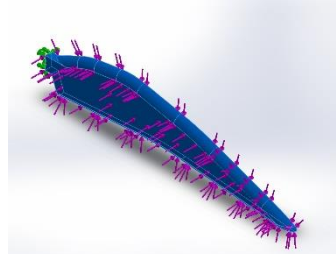
Model Information



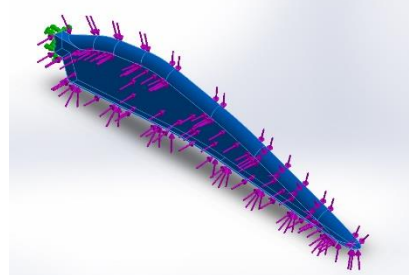
Model name: EX01_Nakamura_01
Current Configuration: Default

Solid Bodies

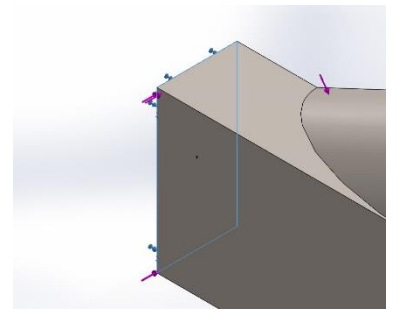
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
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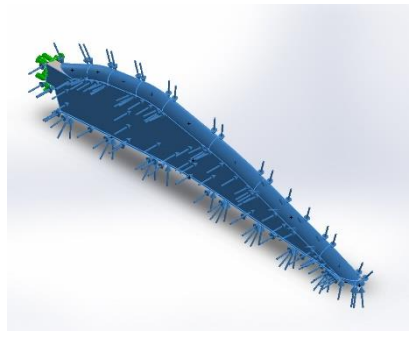
<p>Fillet2</p> 	<p>Solid Body</p>	<p>Mass:2.67613 kg Volume:0.000347549 m³ Density:7699.99 kg/m³ Weight:26.2261 N</p>	<p>F:\City Tech Teaching Classes new\IND3510_Advanced_ Solid_Modeling_II\2018Su mmer\EX01_Nakamura_0 1.SLDPRT Jun 04 19:04:04 2018</p>
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Material Properties

Model Reference	Properties	Components
	<p>Name: Alloy Steel Model type: Linear Elastic Isotropic Default failure criterion: Max von Mises Stress Yield strength: 6.20422e+008 N/m² Tensile strength: 7.23826e+008 N/m²</p>	<p>SolidBody 1(Fillet2)(EX01_Nakamura_01)</p>

Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-1		Entities: 1 face(s) Type: Fixed Geometry

Load name	Load Image	Load Details
Force-1		Entities: 14 face(s) Type: Apply normal force Value: 10 N

Mesh information

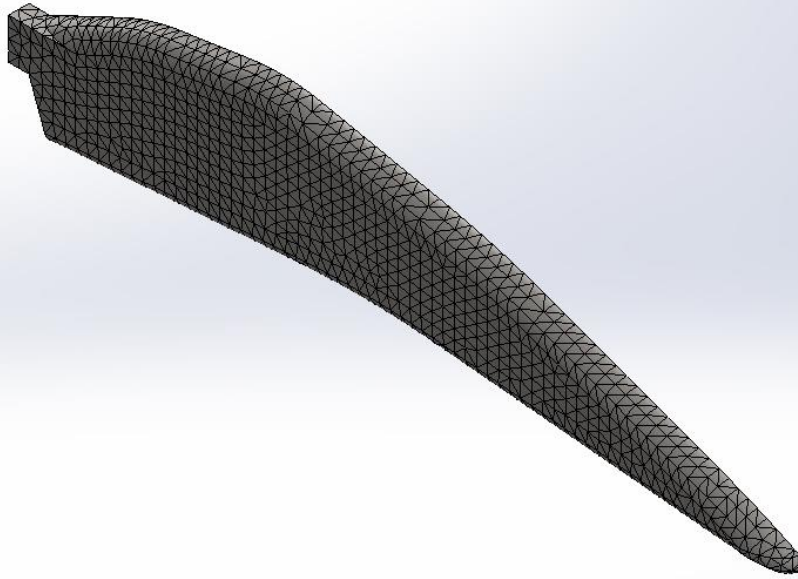
Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.276877 in
Tolerance	0.0138439 in
Mesh Quality Plot	High

Mesh information - Details

Total Nodes	12343
Total Elements	7034
Maximum Aspect Ratio	15.911
% of elements with Aspect Ratio < 3	99.8
% of elements with Aspect Ratio > 10	0.0284
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:01
Computer name:	V511A-MM



Model name: EX01_Nakamura_01
Study name: SimulationXpress Study(-Default)
Mesh type: Solid Mesh



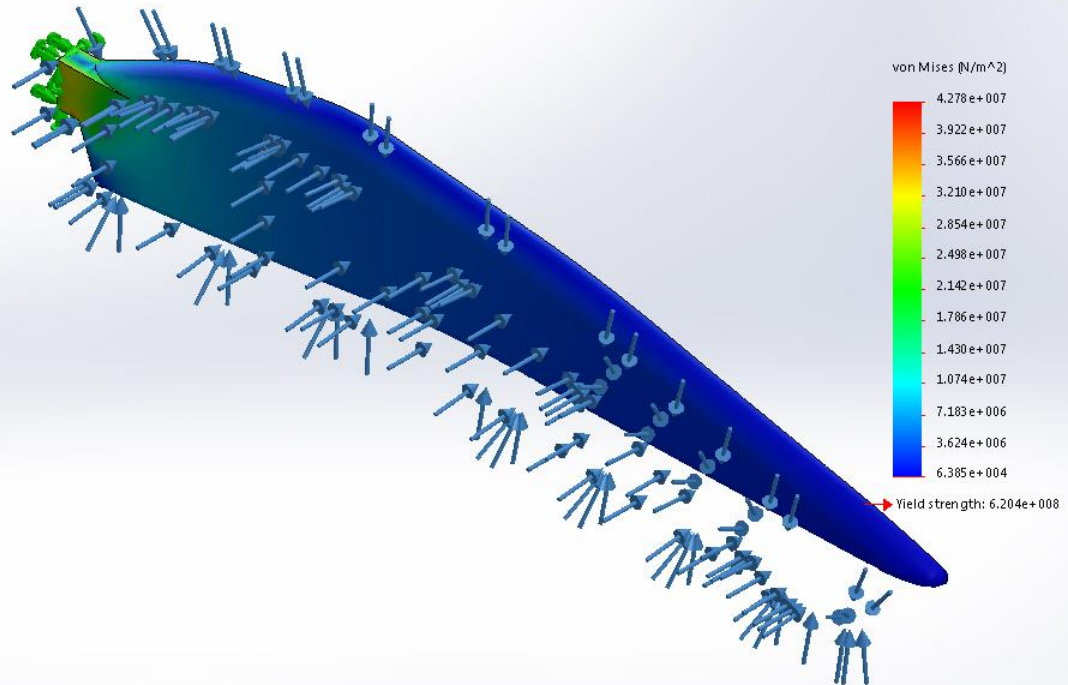
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Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	6.385e+004N/m ² Node: 3092	4.278e+007N/m ² Node: 12134

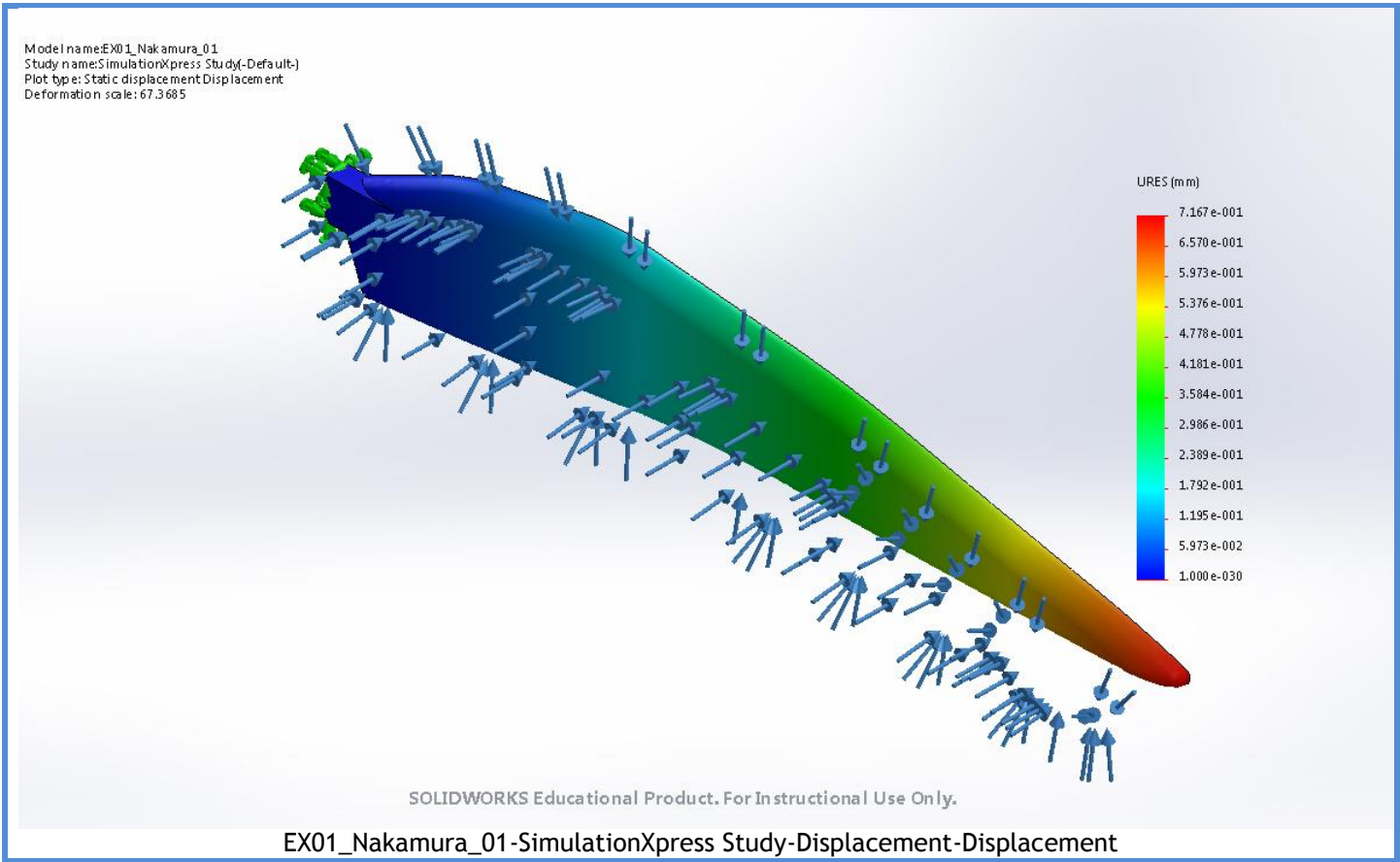
Model name: EX01_Nakamura_01
Study name: SimulationXpress Study-(Default-)
Plot type: Static modal stress: Stress
Deformation scale: 67.3685



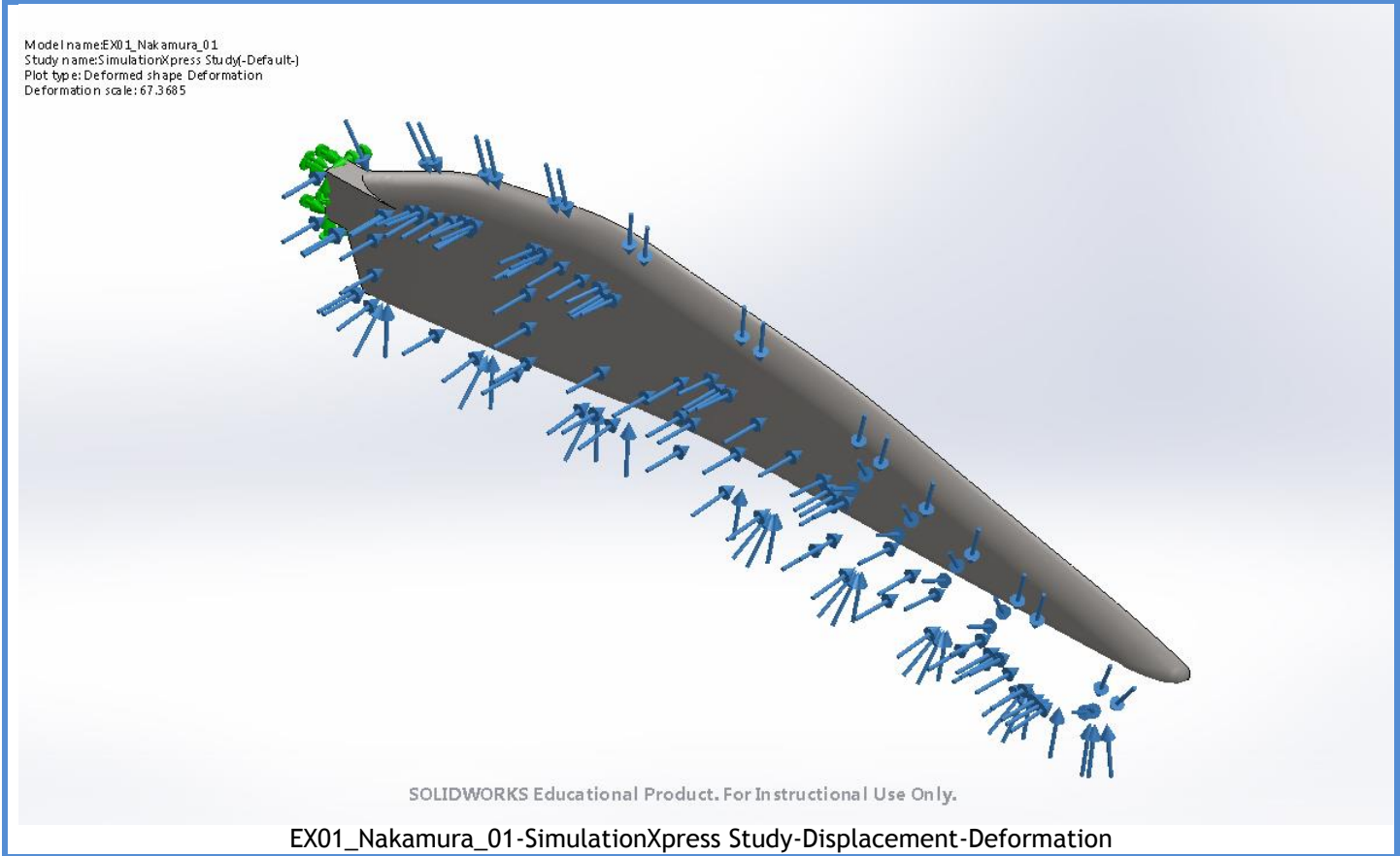
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EX01_Nakamura_01-SimulationXpress Study-Stress-Stress

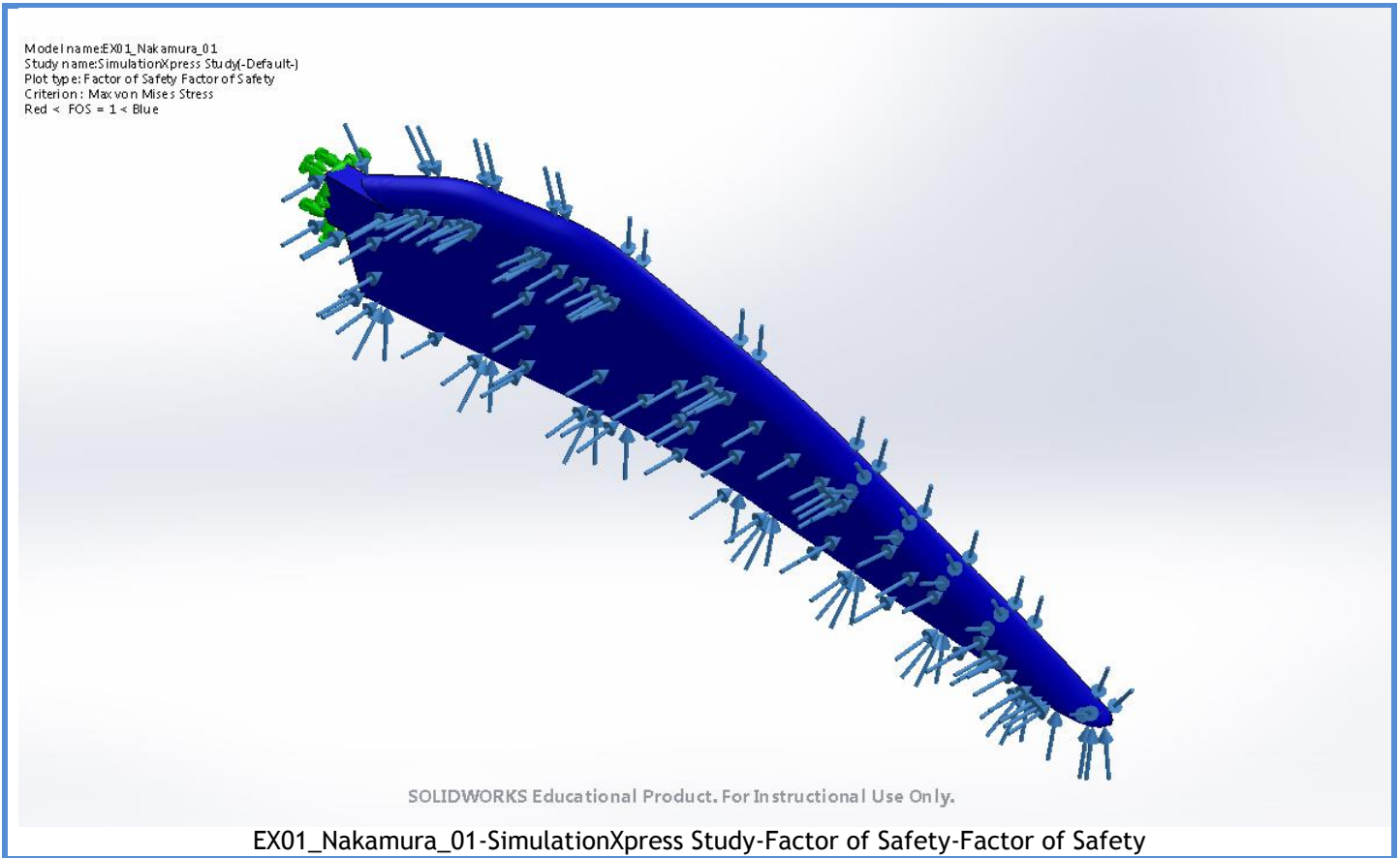
Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0.000e+000mm Node: 11	7.167e-001mm Node: 12334



Name	Type
Deformation	Deformed shape



Name	Type	Min	Max
Factor of Safety	Max von Mises Stress	1.450e+001 Node: 12134	9.717e+003 Node: 3092



Conclusion