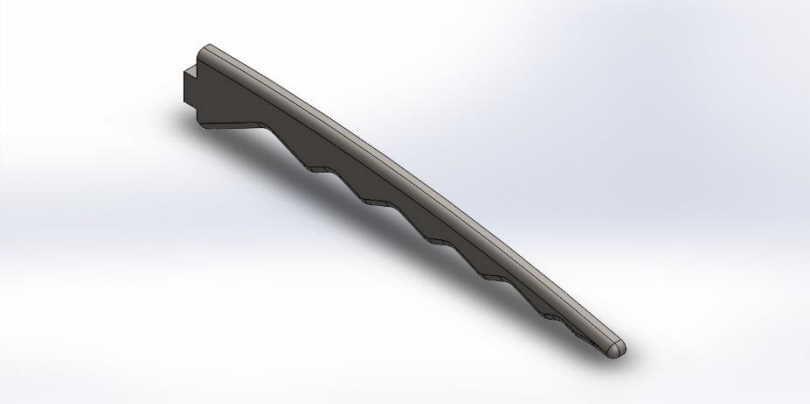
NYCCT



Simulation of ex01_zhang_01

Date: Friday, June 08, 2018
Designer: Yishi Zhang
Study name: SimulationXpress Study
Analysis type: Static

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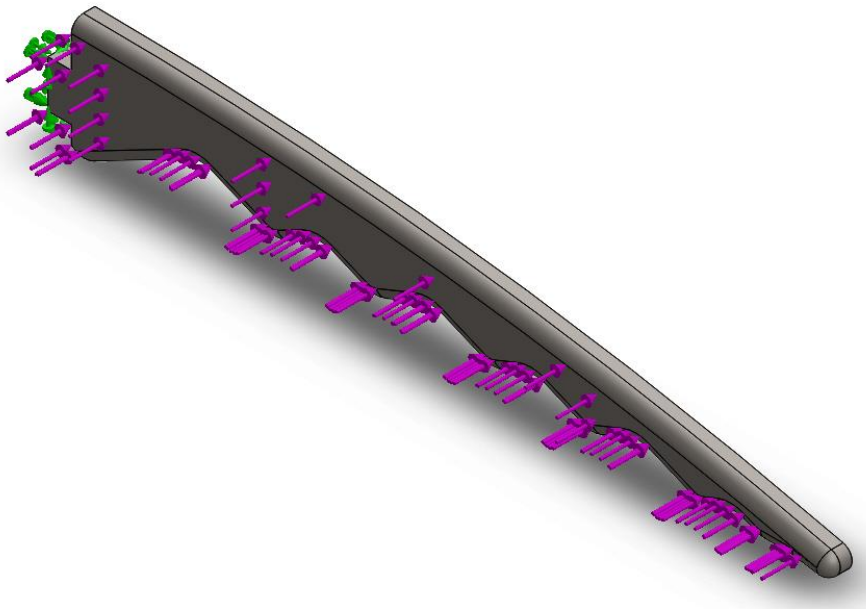
Description

EX06 Advanced Solids Modeling II

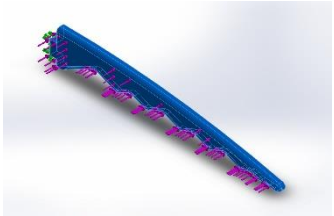
Assumptions

Model Information

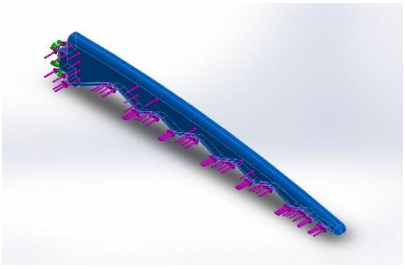


Model name: ex01_zhang_01
Current Configuration: Default

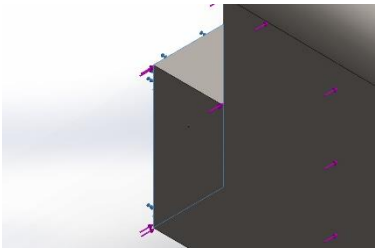
Solid Bodies

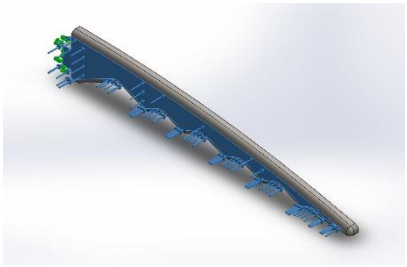
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Fillet2 	Solid Body	**Mass:1.31466 kg** **Volume:0.000167473 m^3** **Density:7850.01 kg/m^3** **Weight:12.8837 N**	**C:\Users\Labs.METID\Desktop\ex01_zhang_01.SLDPRT** Jun 08 17:55:45 2018

Material Properties

Model Reference	Properties	Components
	**Name:** AISI 4130 Steel, annealed at 865C **Model type:** Linear Elastic Isotropic **Default failure criterion:** Max von Mises Stress **Yield strength:** 4.6e+008 N/m^2 **Tensile strength:** 5.6e+008 N/m^2	SolidBody 1(Fillet2)(ex01_zhang_01)

Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-2		**Entities:** 1 face(s) **Type:** Fixed Geometry

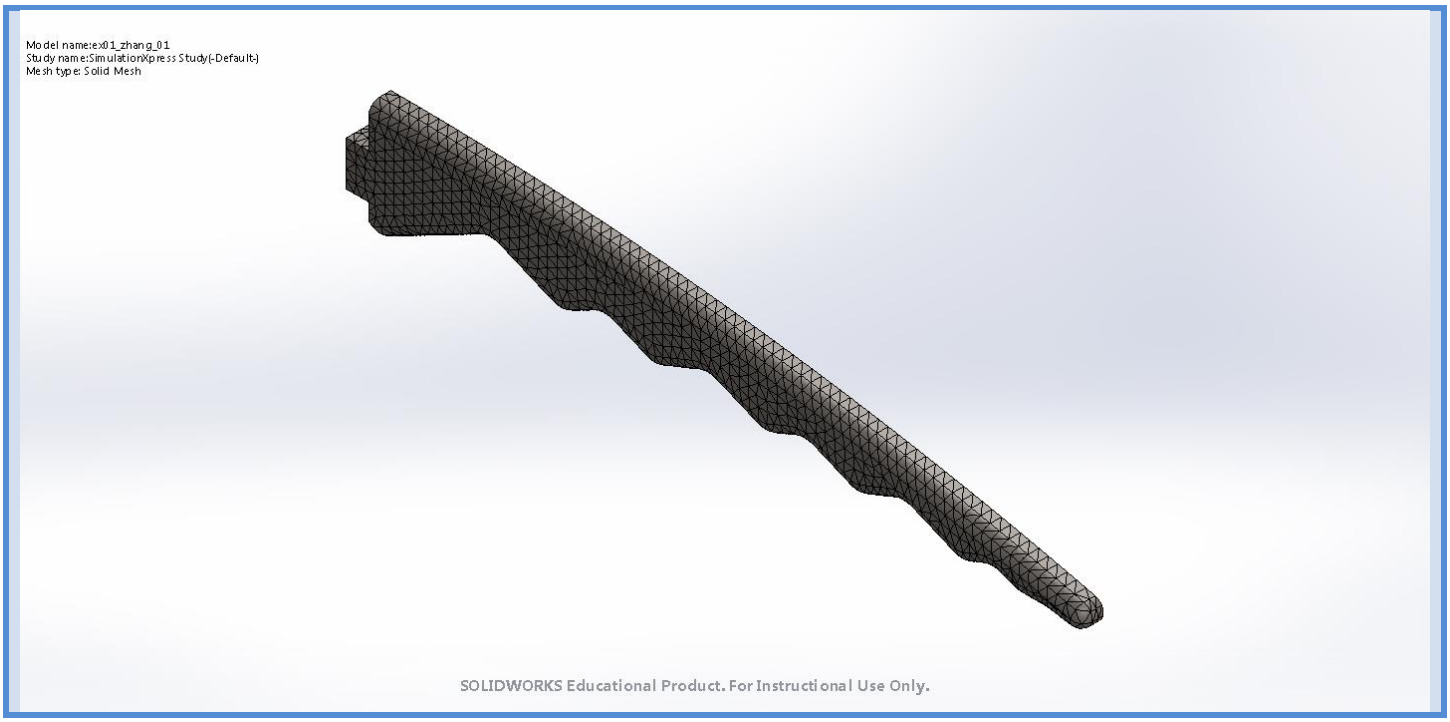
Load name	Load Image	Load Details
Force-3		**Entities:** 1 face(s) **Type:** Apply normal force **Value:** 10 N

Mesh information

Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.217074 in
Tolerance	0.0108537 in
Mesh Quality Plot	High

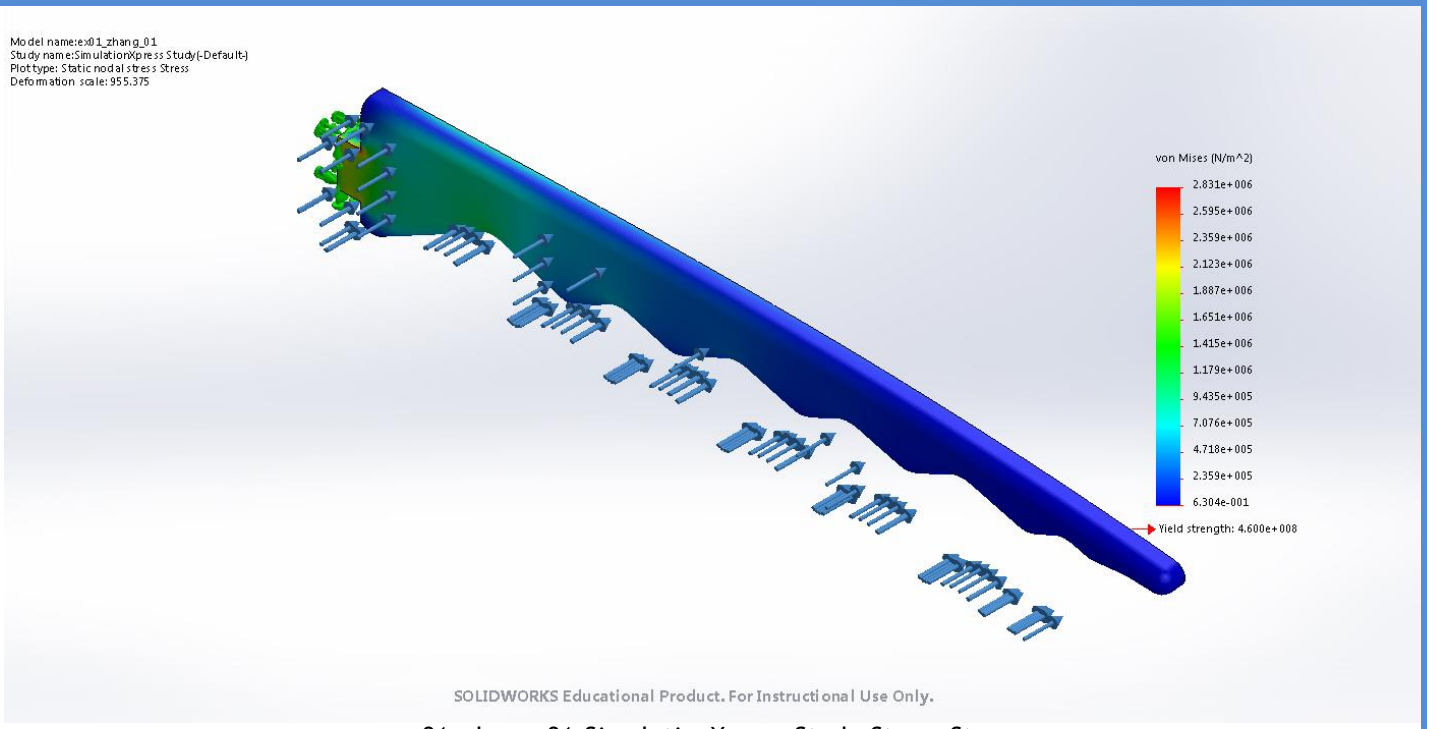
Mesh information - Details

Total Nodes	13654
Total Elements	8136
Maximum Aspect Ratio	11.263
% of elements with Aspect Ratio < 3	99.7
% of elements with Aspect Ratio > 10	0.0369
% of distorted elements(Jacobian)	0
Time to complete mesh(hh;mm;ss):	00:00:01
Computer name:	V511A-20


Model name:ex01_zhang_01
Study name:SimulationXpress Study(-Default-)
Mesh type: Solid Mesh
SOLIDWORKS Educational Product. For Instructional Use Only.

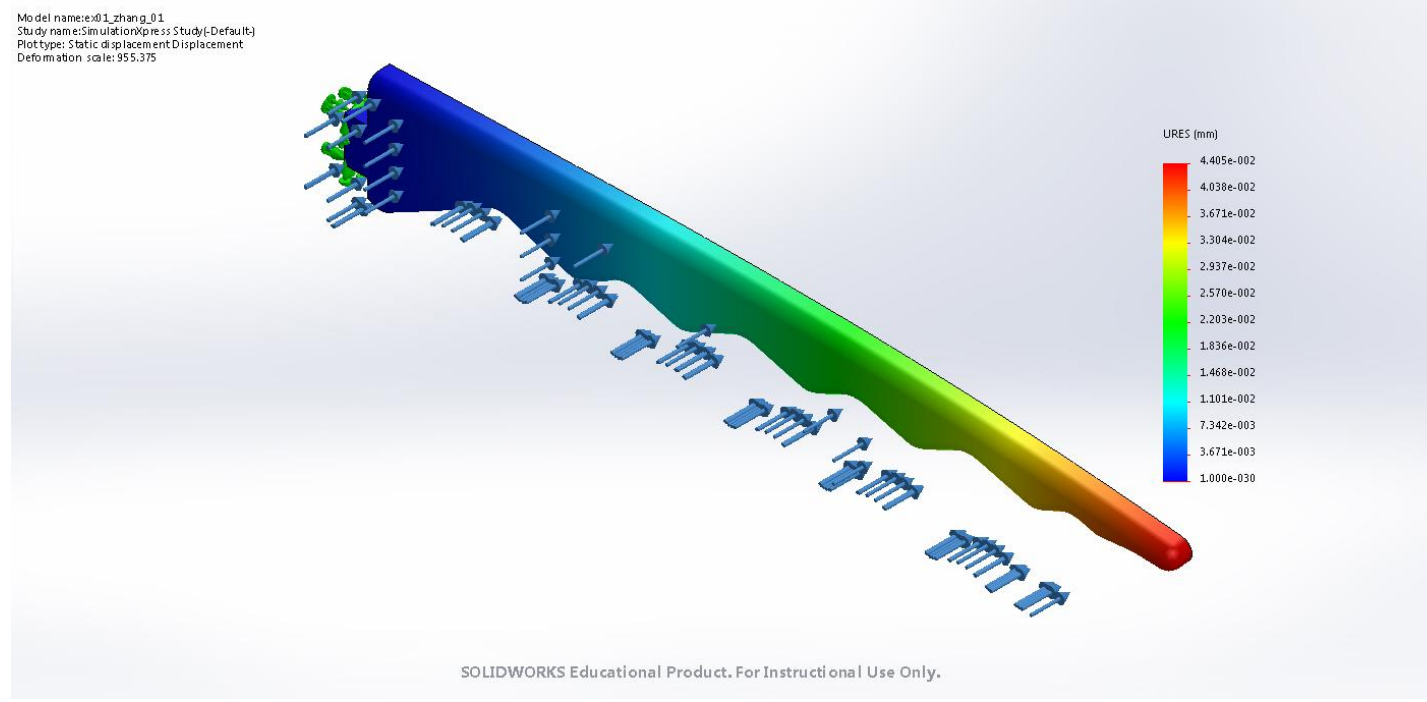
Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	6.304e-001N/m^2 Node: 13624	2.831e+006N/m^2 Node: 11083



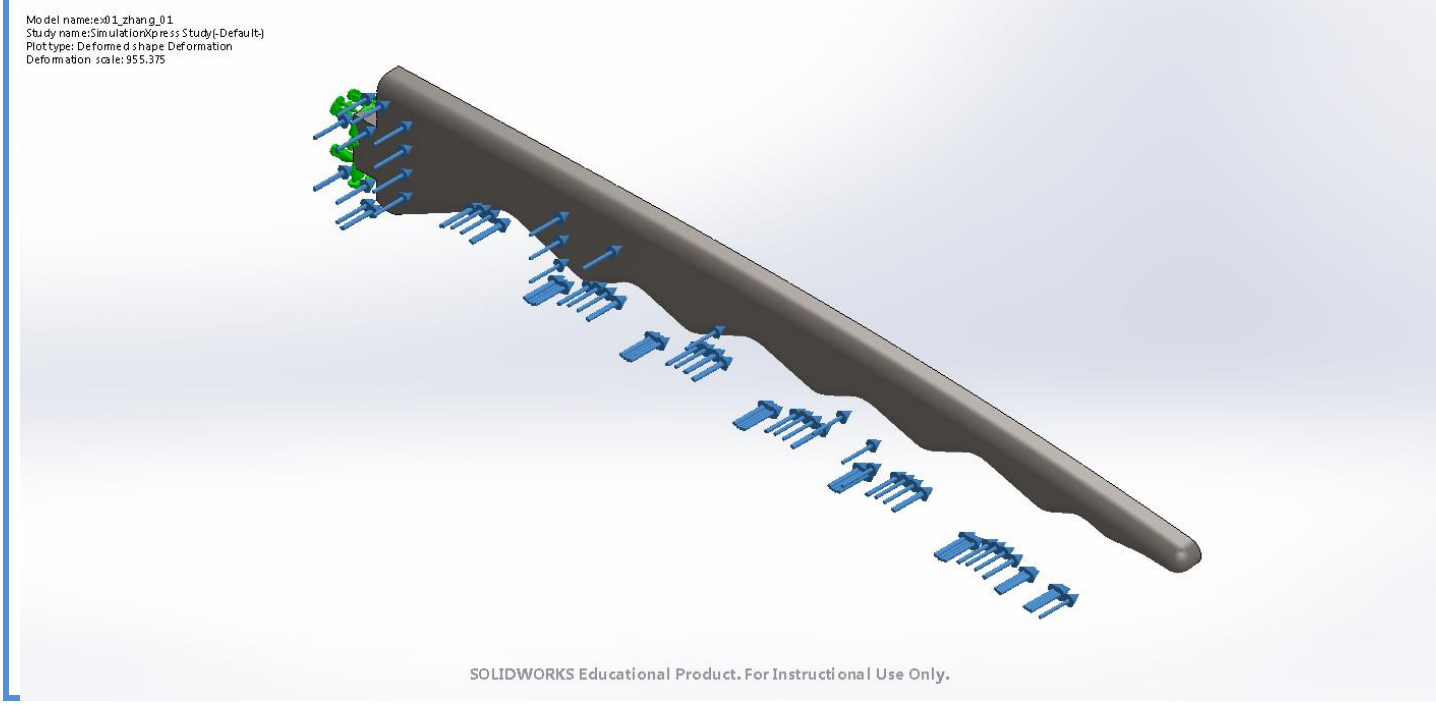
ex01_zhang_01-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0.000e+000mm Node: 10	4.405e-002mm Node: 5



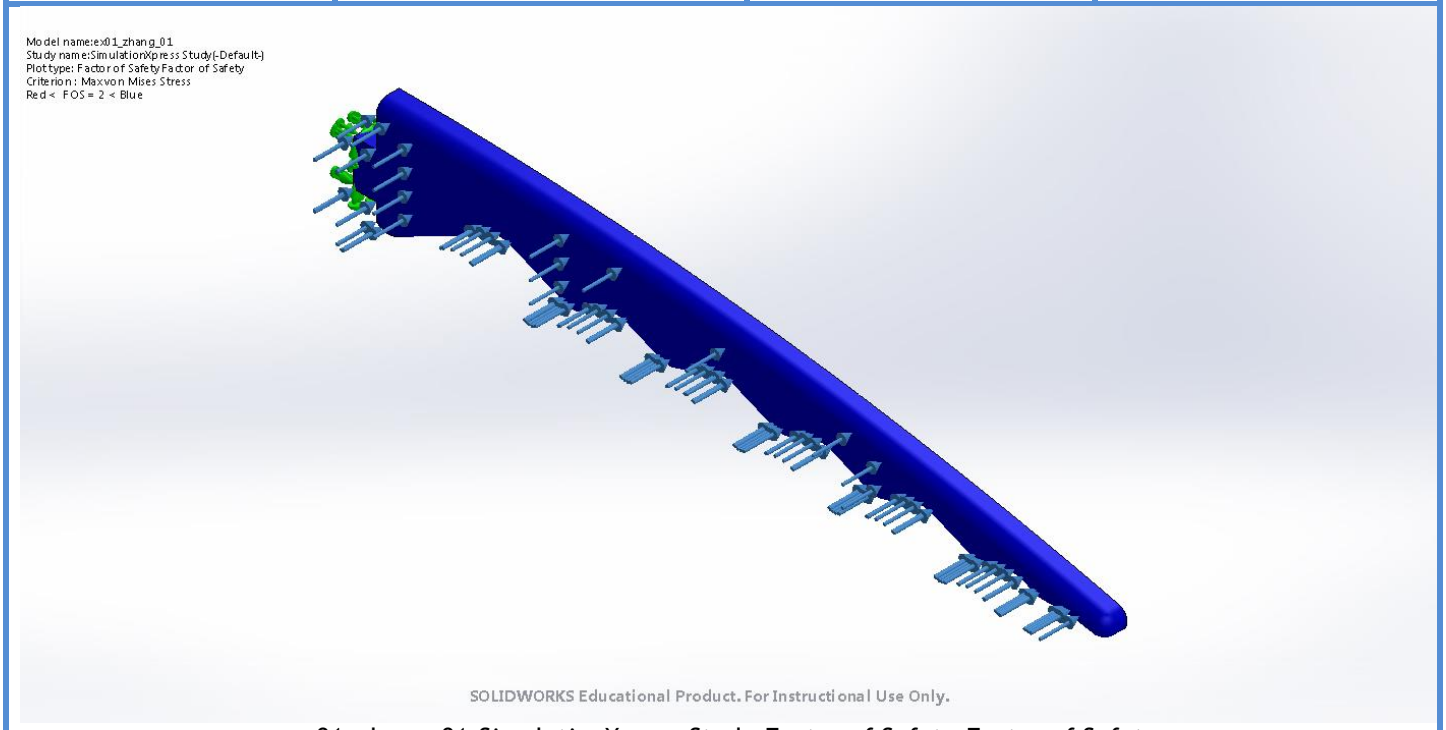
ex01_zhang_01-SimulationXpress Study-Displacement-Displacement

Name	Type
Deformation	Deformed shape



ex01_zhang_01-SimulationXpress Study-Displacement-Deformation

Name	Type	Min	Max
Factor of Safety	Max von Mises Stress	1.625e+002 Node: 11083	7.297e+008 Node: 13624



ex01_zhang_01-SimulationXpress Study-Factor of Safety-Factor of Safety

Conclusion