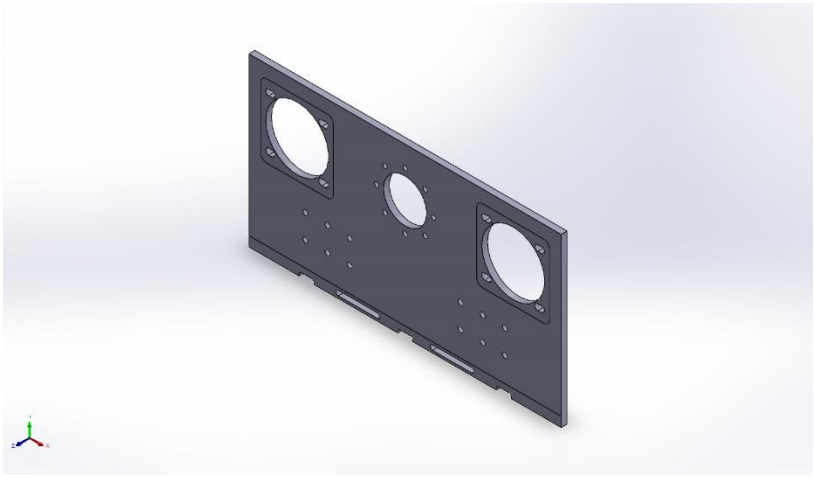


Simulation of Platform_001

Date: Freitag, 2. Mai 2025
Designer: Solidworks
Study name: Statical
Analysis type: Static

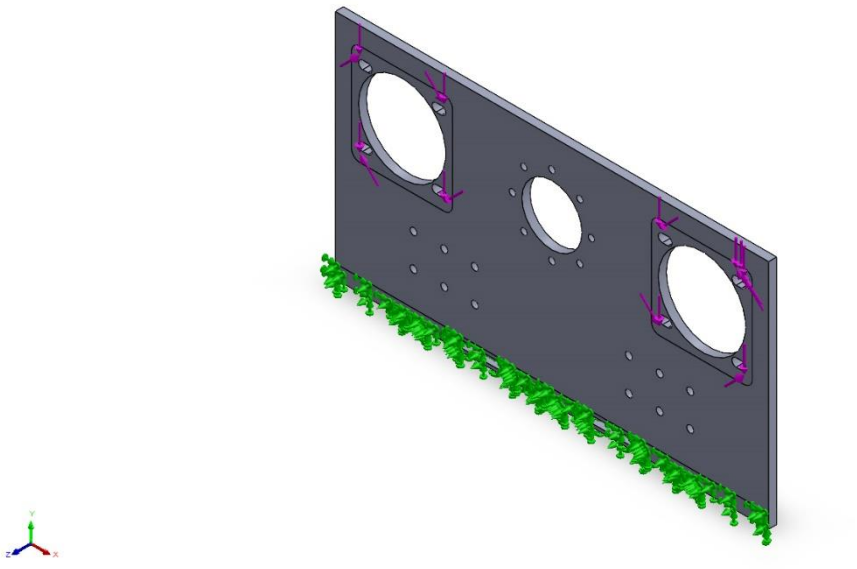
Table of Contents

Description

No Data

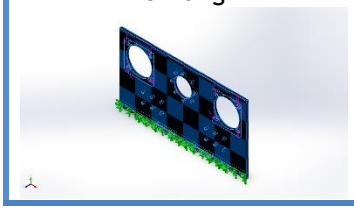
Assumptions

Model Information



Model name: Platform_001
Current Configuration: Default

Solid Bodies

Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Ø5.0 (5) Durchmesser Bohrung1 	Solid Body	**Mass:2,09626 kg** **Volume:0,000267858 m^3** **Density:7.826 kg/m^3** **Weight:20,5433 N**	**T:\Аспирантура\Стенд_016\Platform_001.sldprt**

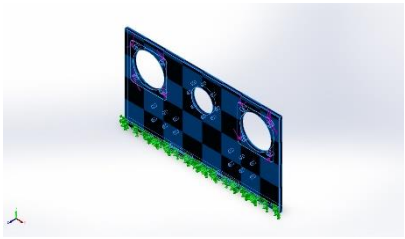
Study Properties

Study name	Statical
Analysis type	Static
Mesh type	Solid Mesh
Thermal Effect:	On
Thermal option	Include temperature loads
Zero strain temperature	298 Kelvin
Include fluid pressure effects from SOLIDWORKS Flow Simulation	Off
Solver type	FFEPlus
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On
Friction	Off
Use Adaptive Method:	Off
Result folder	SOLIDWORKS document (T:\Аспирантура\Стенд_016)

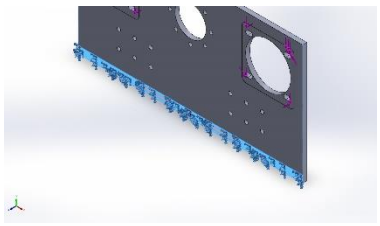
Units

Unit system:	SI (MKS)
Length/Displacement	mm
Temperature	Kelvin
Angular velocity	Rad/sec
Pressure/Stress	N/m^2

Material Properties

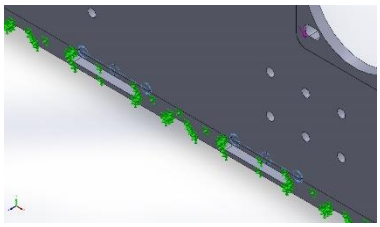
Model Reference	Properties		Components
	**Name:**	Сталь 45 ГОСТ 1050-88	Твердое тело 1(Ø5.0 (5) Durchmesser Bohrung1)(Platform_001)
	Model type:	Linear Elastic Isotropic	
	Default failure criterion:	Unknown	
	Yield strength:	8,3e+08 N/m^2	
	Tensile strength:	9,8e+08 N/m^2	
	Elastic modulus:	2,04e+11 N/m^2	
	Poisson's ratio:	0,3	
	Mass density:	7.826 kg/m^3	
	Shear modulus:	7,8e+10 N/m^2	
	Thermal expansion coefficient:	1,2e-05 /Kelvin	
Curve Data:N/A			

Loads and Fixtures

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

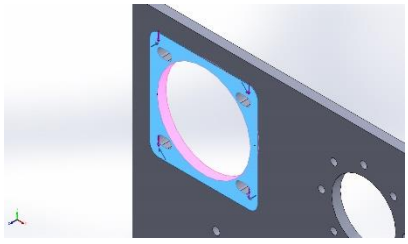
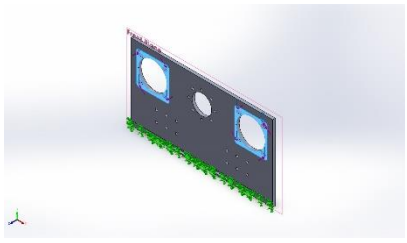
Resultant Forces

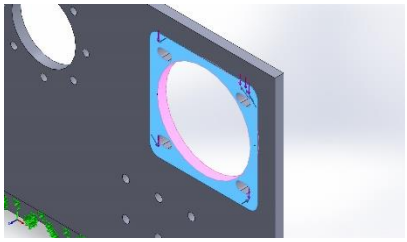
Components	X	Y	Z	Resultant
Reaction force(N)	0,00681542	1,45296	-0,656777	1,59452
Reaction Moment(N.m)	0	0	0	0

Fixture name	Fixture Image	Fixture Details
Fixiert-1		**Entities:** 8 face(s) **Type:** Fixed Geometry

Resultant Forces

Components	X	Y	Z	Resultant
Reaction force(N)	-0,00719793	1,94802	0,65478	2,05513
Reaction Moment(N.m)	0	0	0	0

Load name	Load Image	Load Details
Вращающий момент-1		**Entities:** 1 face(s) **Reference:** Face< 1 > **Type:** Apply torque **Value:** 1,73 N.m
Вращающий момент-2		**Entities:** 2 face(s), 1 plane(s) **Reference:** Front Plane **Type:** Apply force **Values:** ---; -1,7; --- N

Вращающий момент-3		**Entities:** 1 face(s) **Reference:** Face< 1 > **Type:** Apply torque **Value:** -1,73 N.m

Connector Definitions

No Data

Contact Information

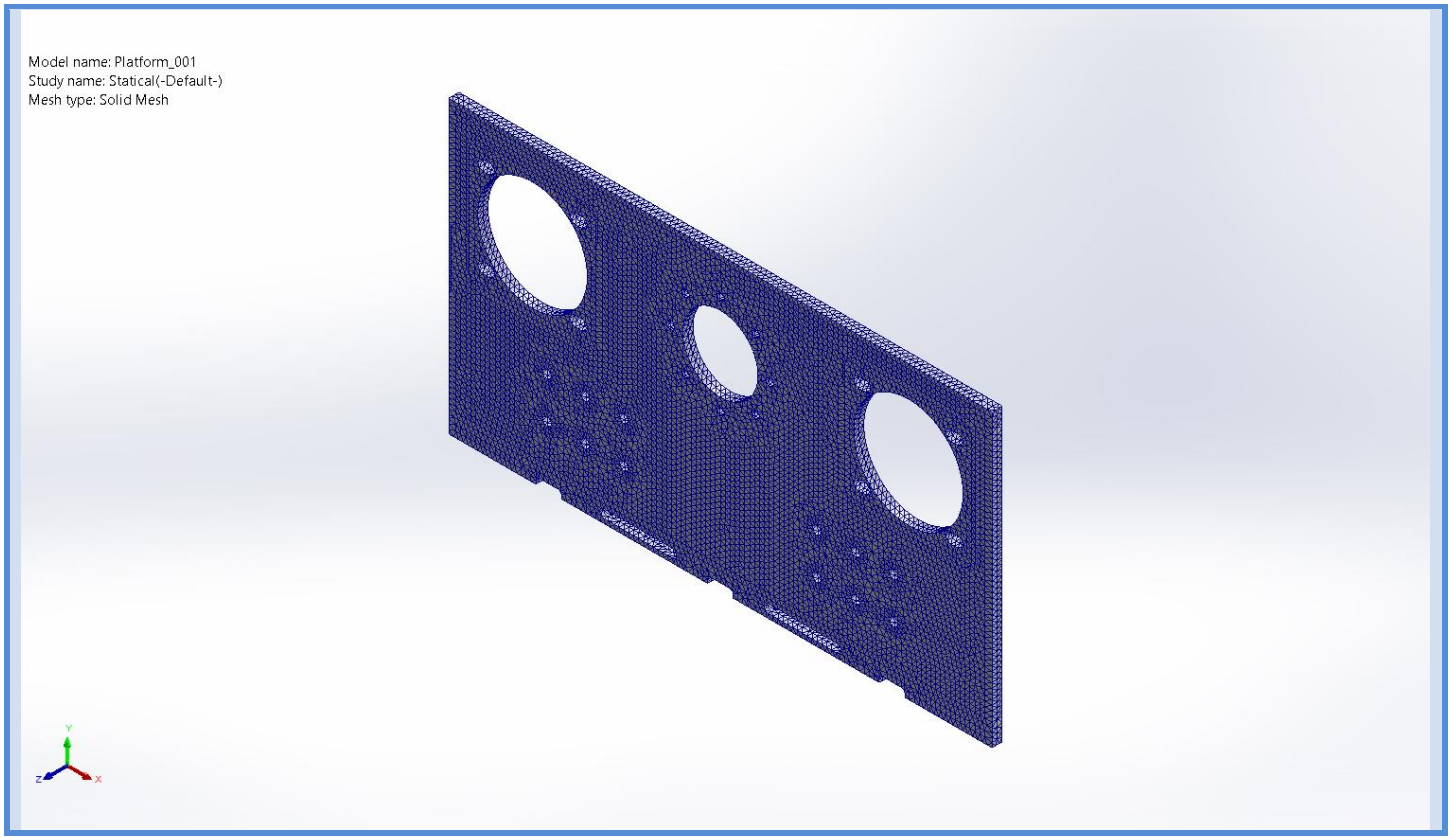
No Data

Mesh information

Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points for High quality mesh	4 Points
Element Size	2,88429 mm
Tolerance	0,144215 mm
Mesh Quality	High

Mesh information - Details

Total Nodes	143535
Total Elements	88008
Maximum Aspect Ratio	6,2869
% of elements with Aspect Ratio < 3	99,6
Percentage of elements with Aspect Ratio > 10	0
Percentage of distorted elements	0
Time to complete mesh(hh;mm;ss):	00:00:08
Computer name:	RUSLANPC



Sensor Details

No Data

Resultant Forces

Reaction forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	-0,000382665	3,40098	-0,00199675	3,40098

Reaction Moments

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0	0	0	0

Free body forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	0,0316978	0,00358156	0,0123174	0,0341949

Free body moments

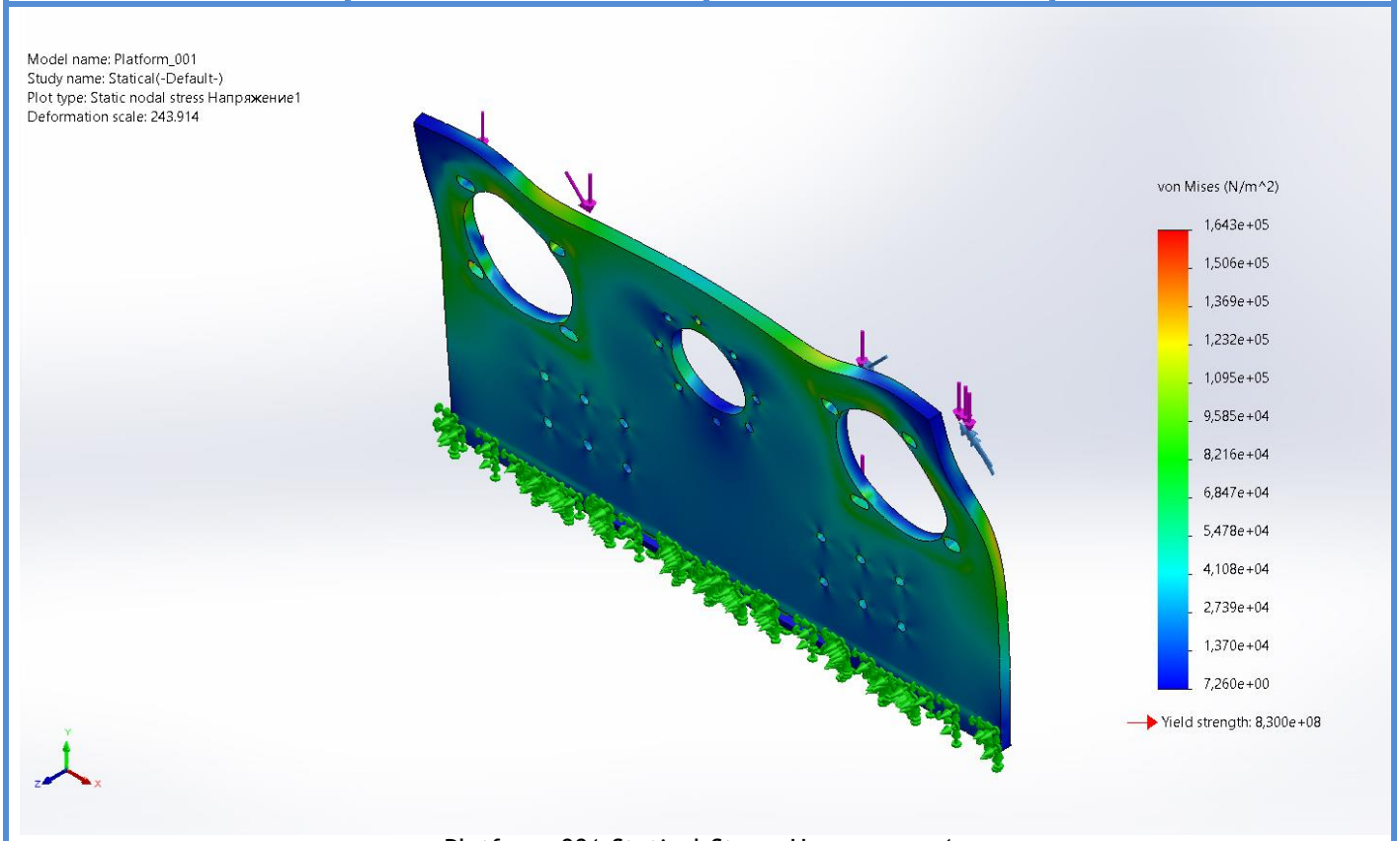
Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0	0	0	1e-33

Beams

No Data

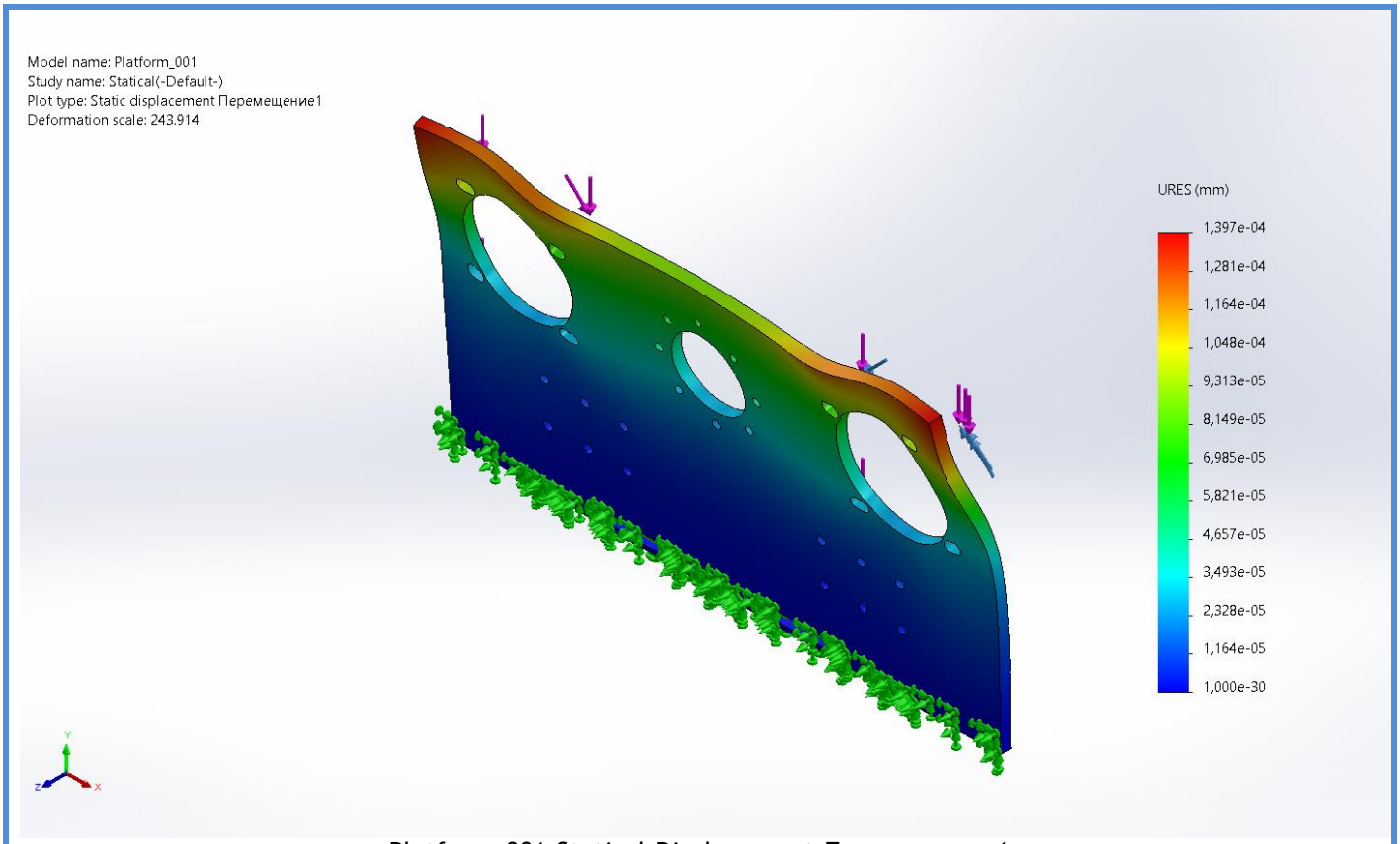
Study Results

Name	Type	Min	Max
Напряжение1	VON: von Mises Stress	7,260e+00N/m^2 Node: 65103	1,643e+05N/m^2 Node: 138995



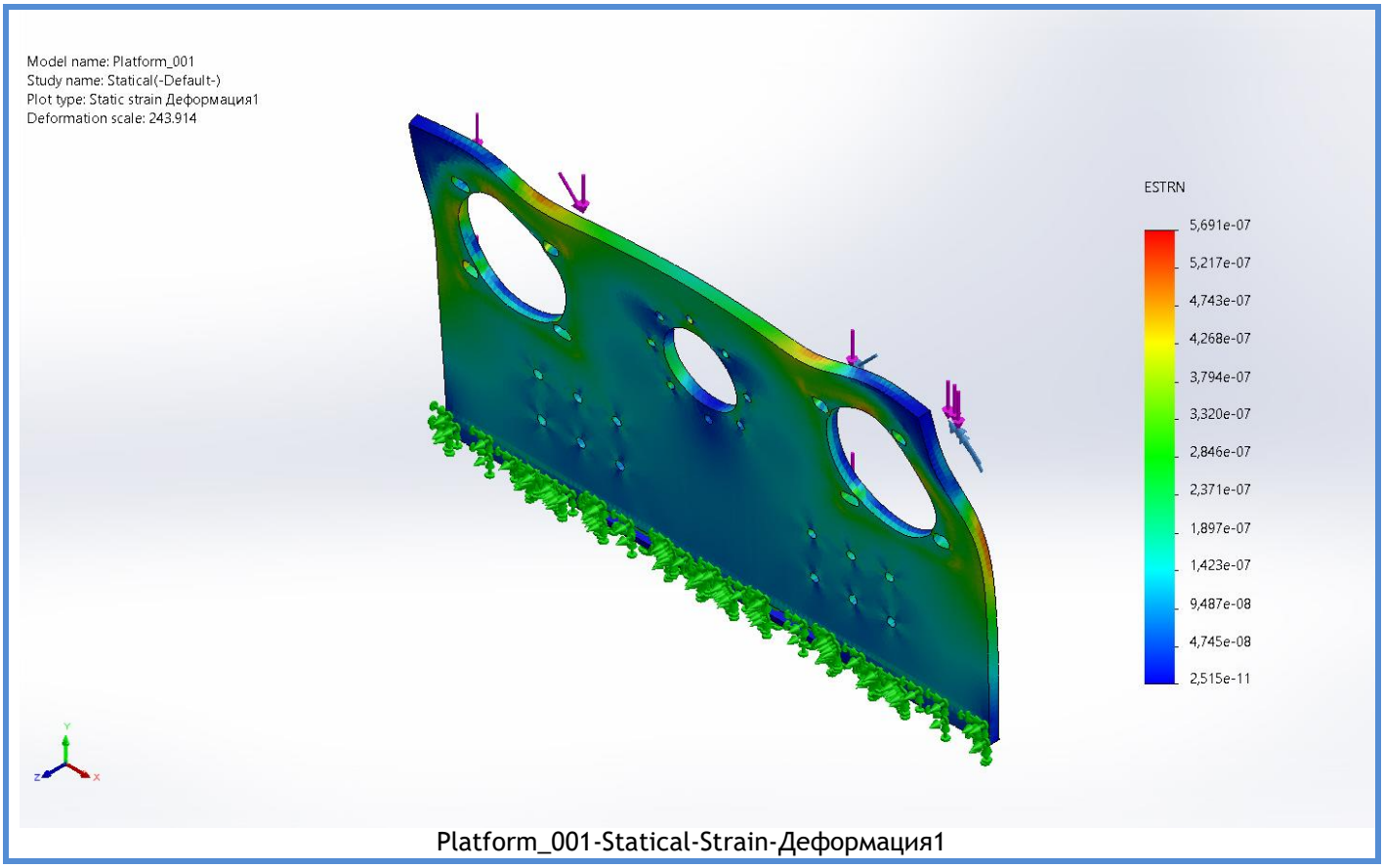
Platform_001-Statical-Stress-Напряжение1

Name	Type	Min	Max
Перемещение1	URES: Resultant Displacement	0,000e+00mm Node: 727	1,397e-04mm Node: 6318



Platform_001-Statical-Displacement-Перемещение1

Name	Type	Min	Max
Деформация1	ESTRN: Equivalent Strain	2,515e-11 Element: 64274	5,691e-07 Element: 37435



Platform_001-Statical-Strain-Деформация1

Conclusion