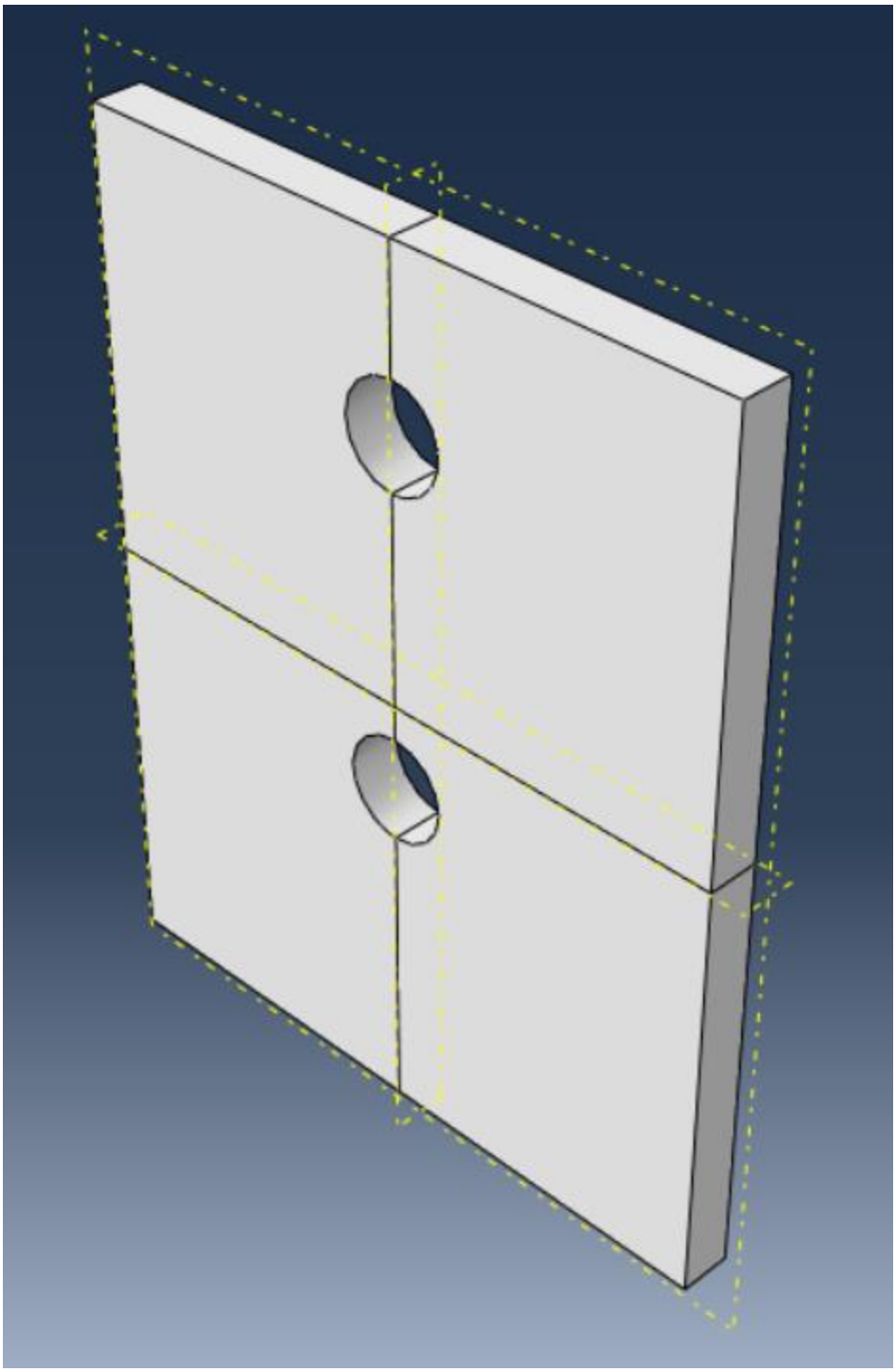
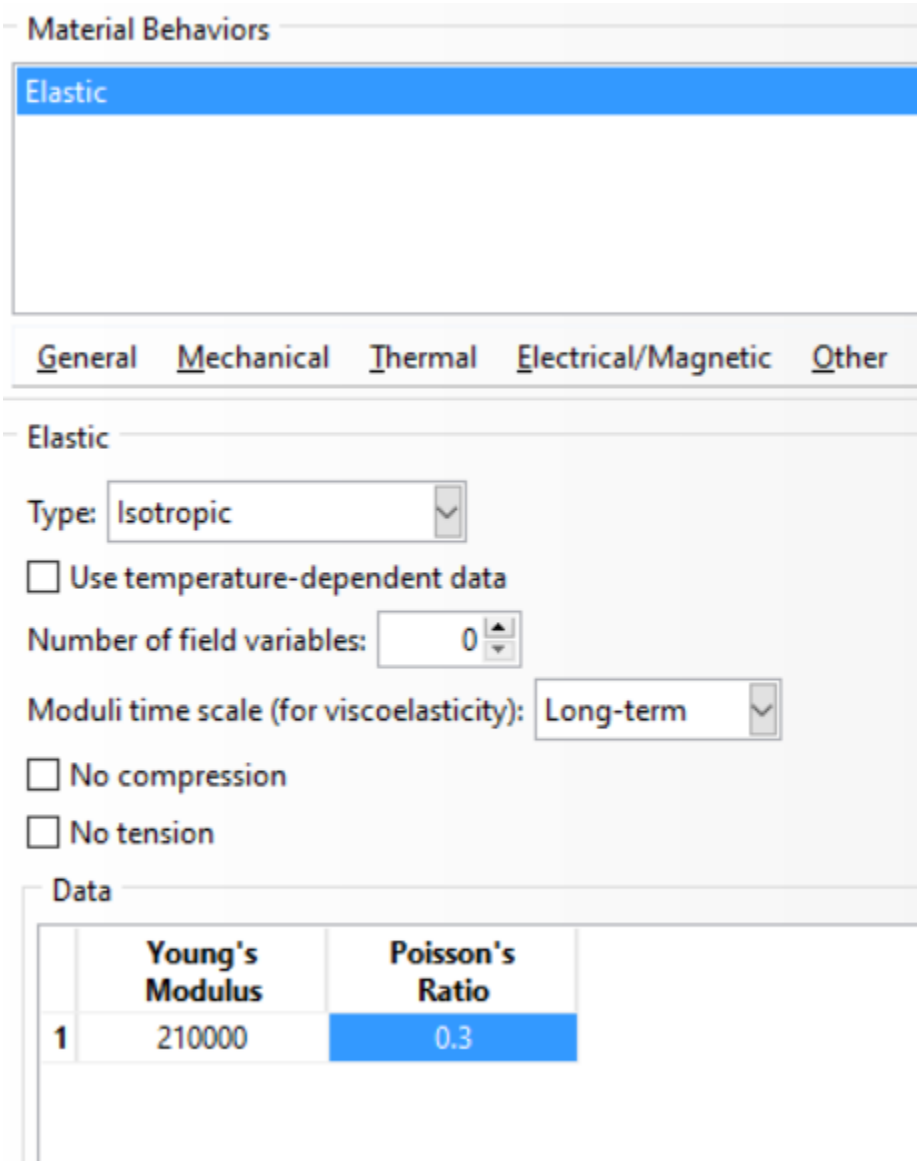
Project 25: ABAQUS: Deformation of a Plate with Multiple Holes

Problem Statement: Calculate deformation and stress of plate with multiple holes.

Geometry:

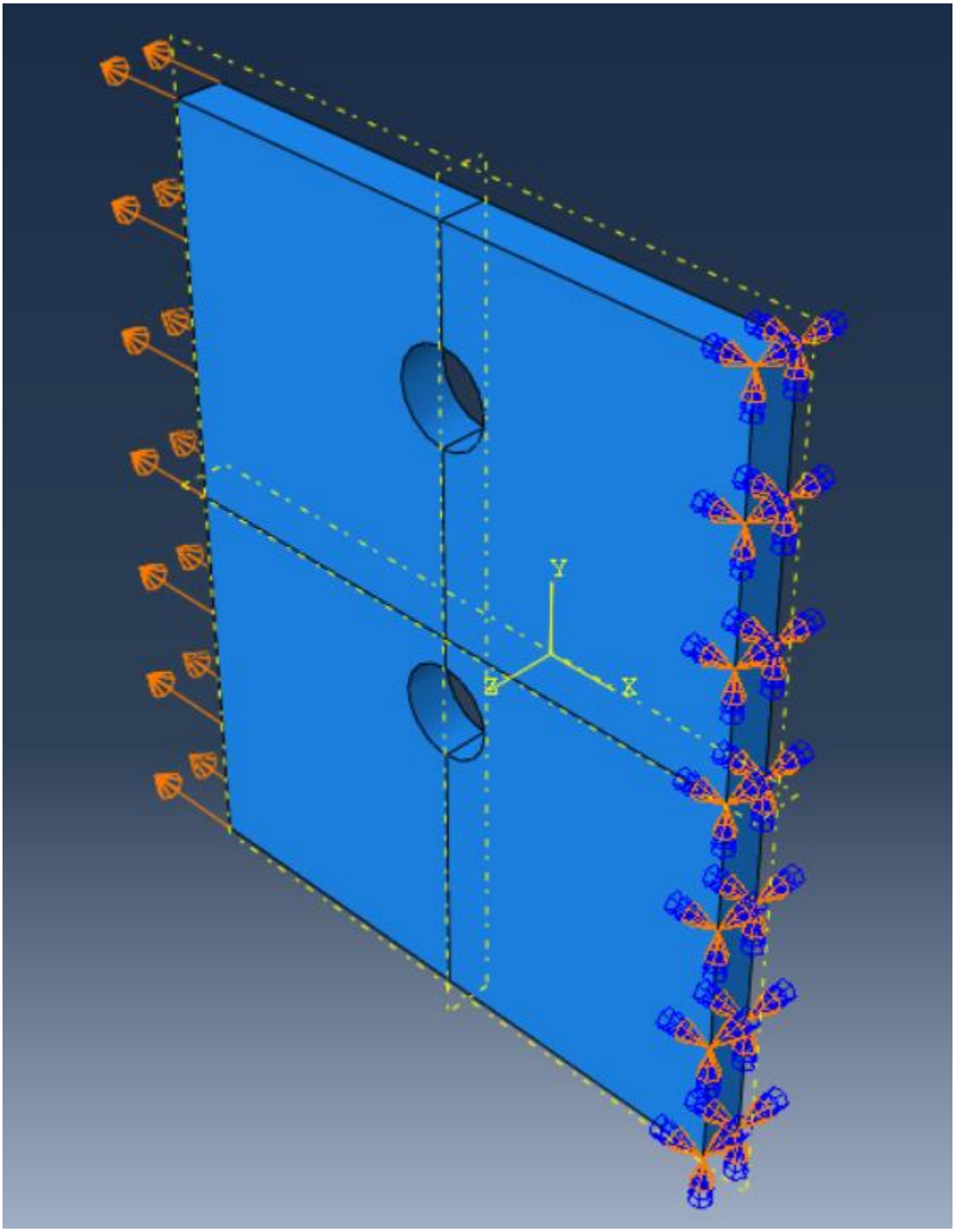


Material Properties:

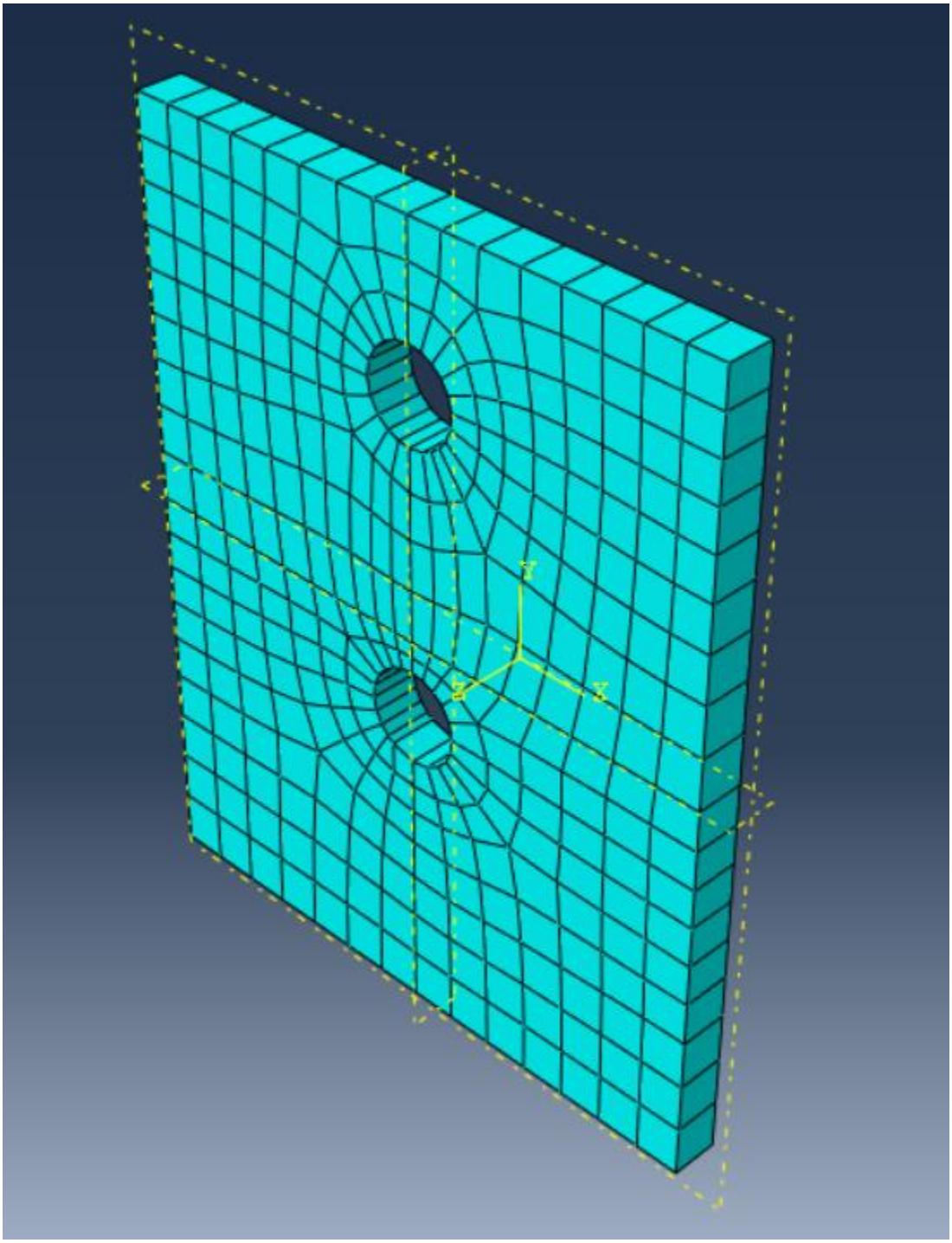


Loading and boundary conditions:

1) Right edge is fixed.
2) Left edge has a displacement applied.

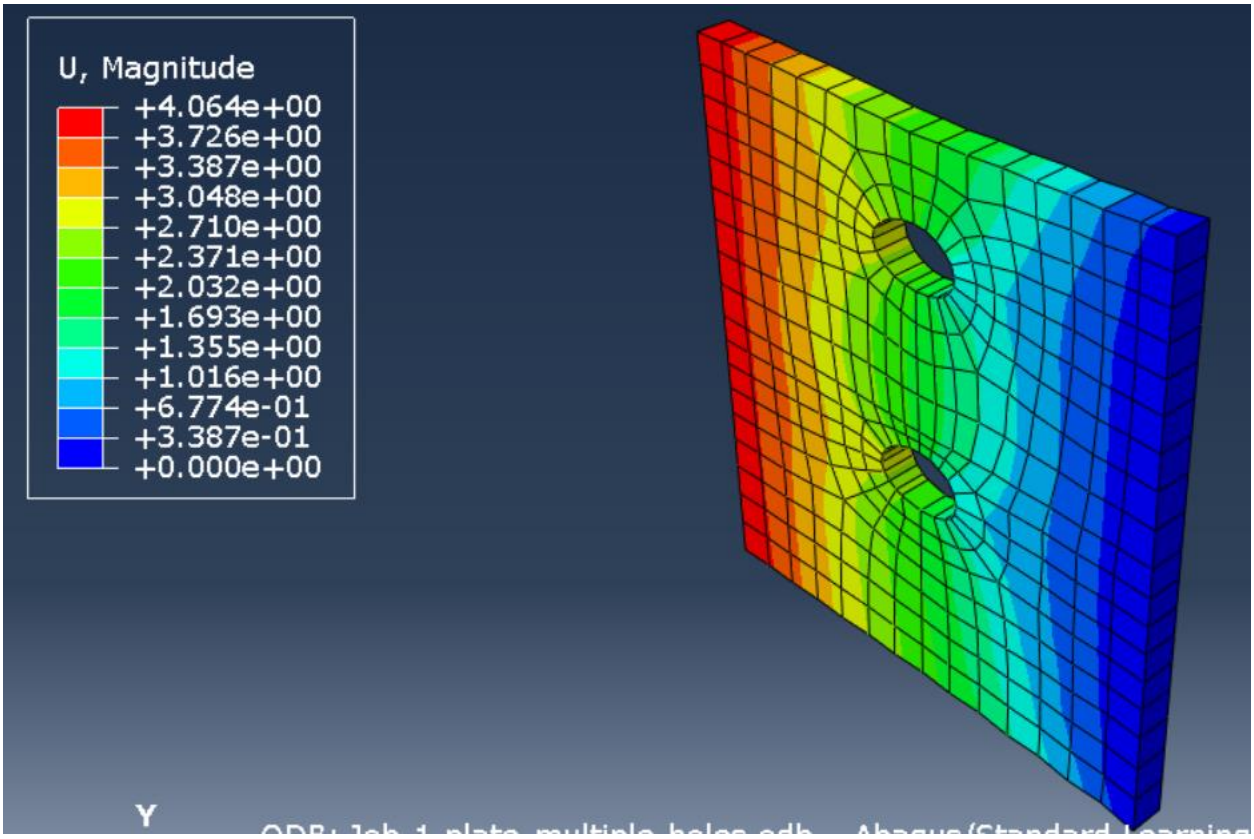


Mesh: (coarse due to limitation of 1000 nodes in ABAQUS educational version).

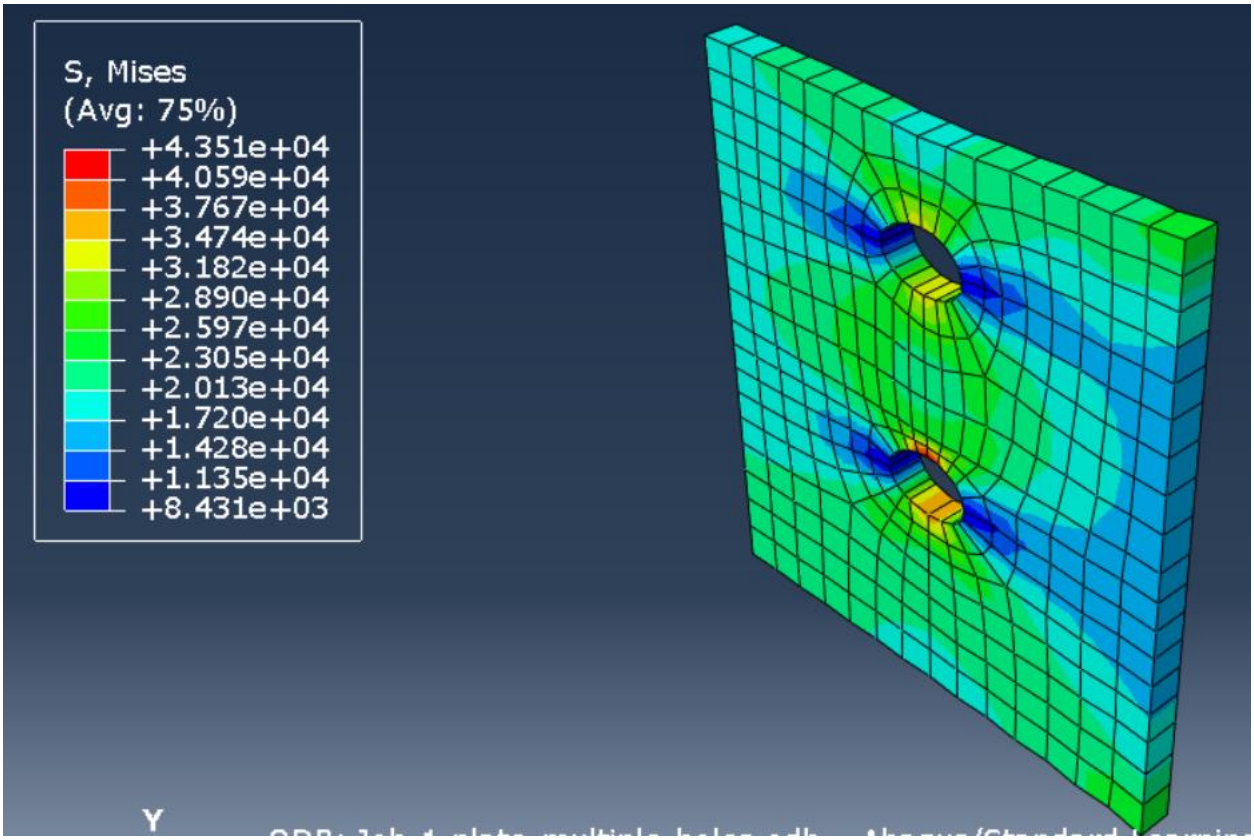


Results:

Deformation:



Mises Stress:


S, Mises
(Avg: 75%)
+4.351e+04
+4.059e+04
+3.767e+04
+3.474e+04
+3.182e+04
+2.890e+04
+2.597e+04
+2.305e+04
+2.013e+04
+1.720e+04
+1.428e+04
+1.135e+04
+8.431e+03
Y