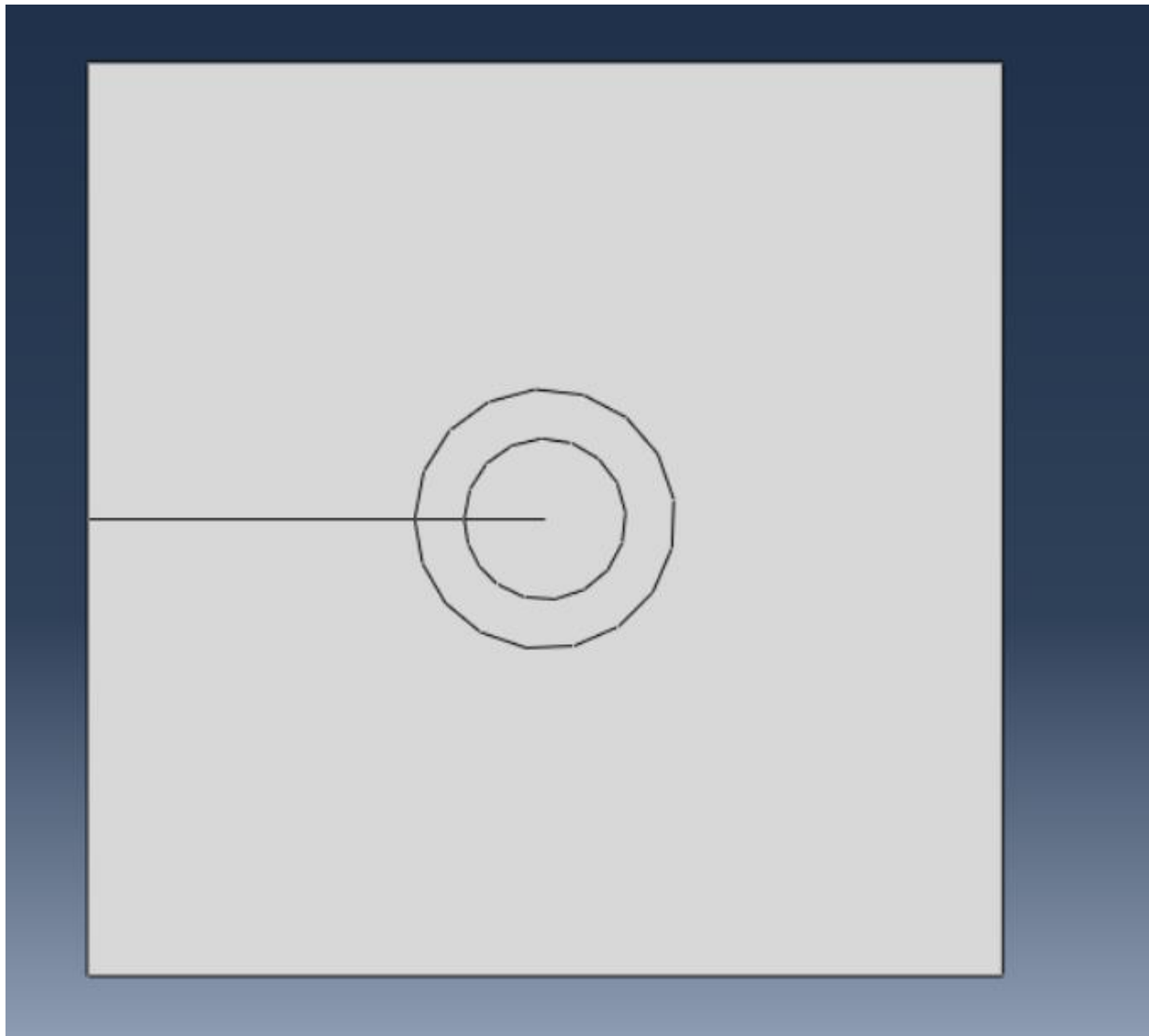Project 4: ABAQUS Fracture Mechanics: Crack Propagation

Problem Statement: Model a crack propagation from the edge of a thin plate.

Geometry:
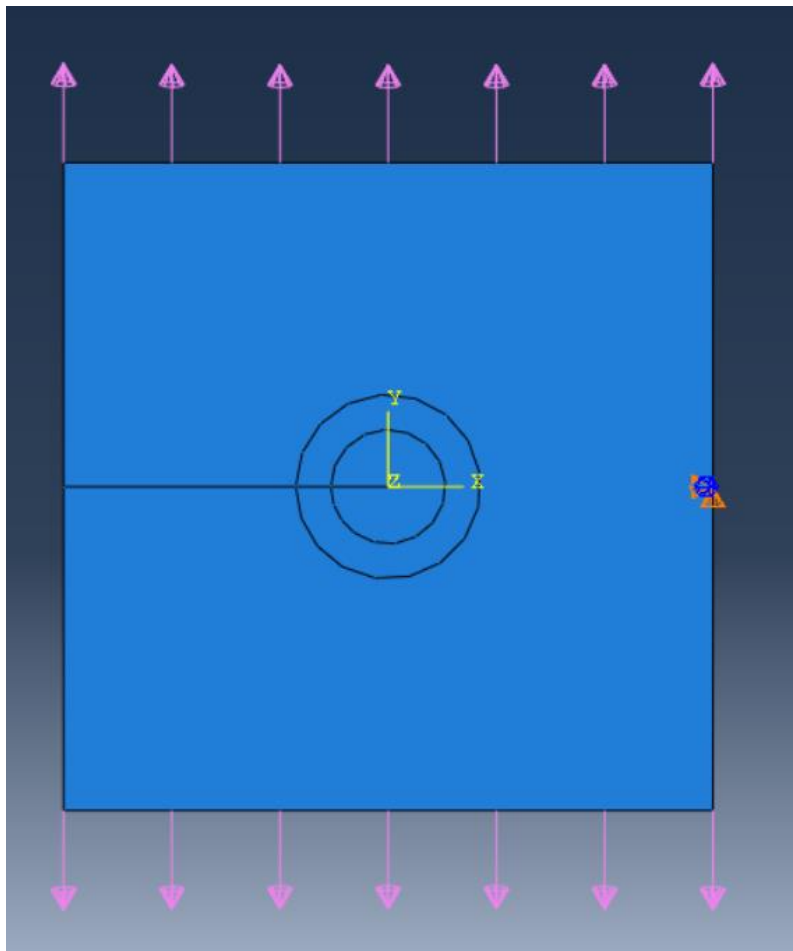
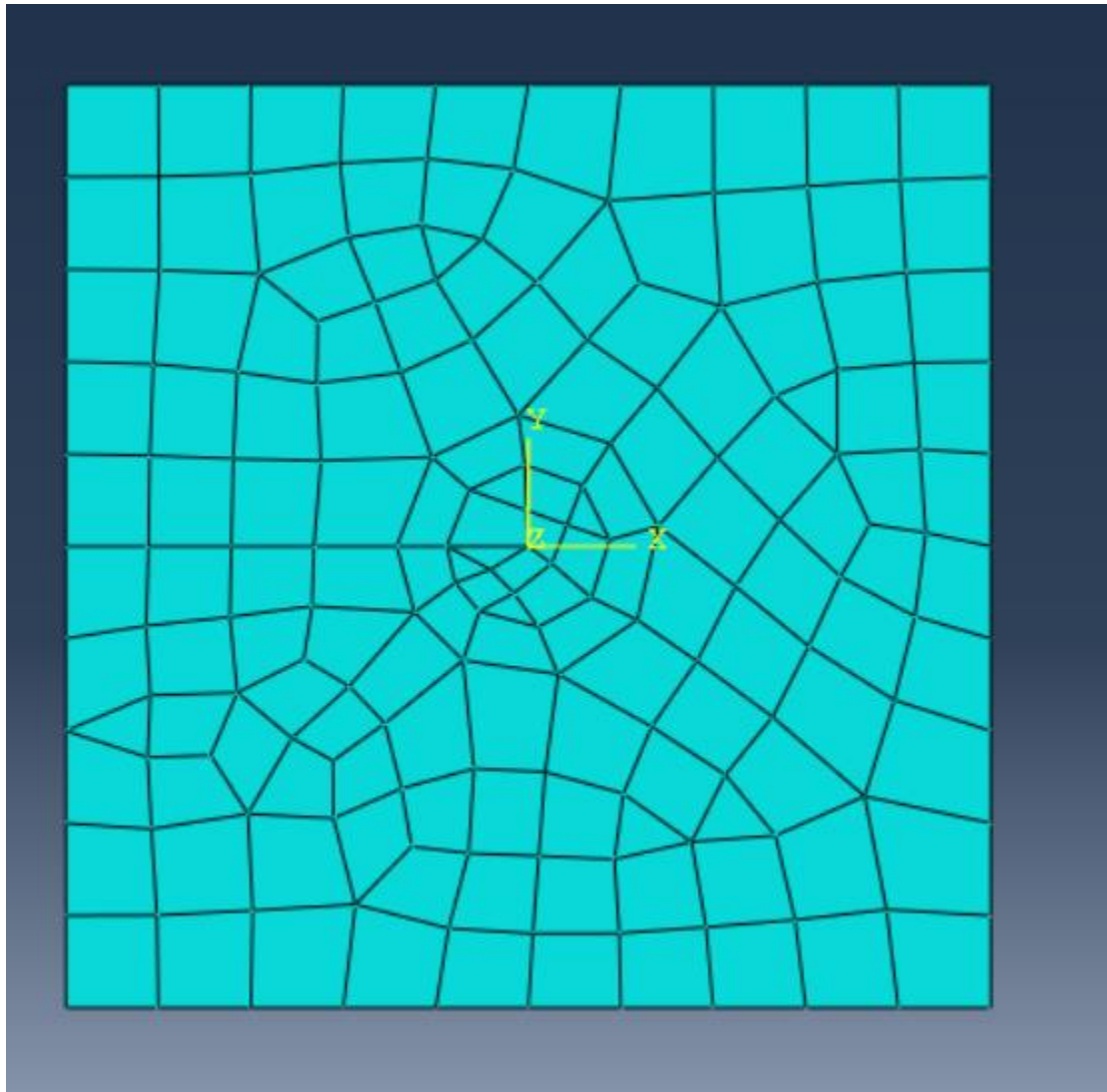Material Properties:

Young's Modulus	Poisson's Ratio
207000	0.3

Loading and boundary conditions:

1) Crack propagation from the left edge,
2) Right edge midpoint is fixed,
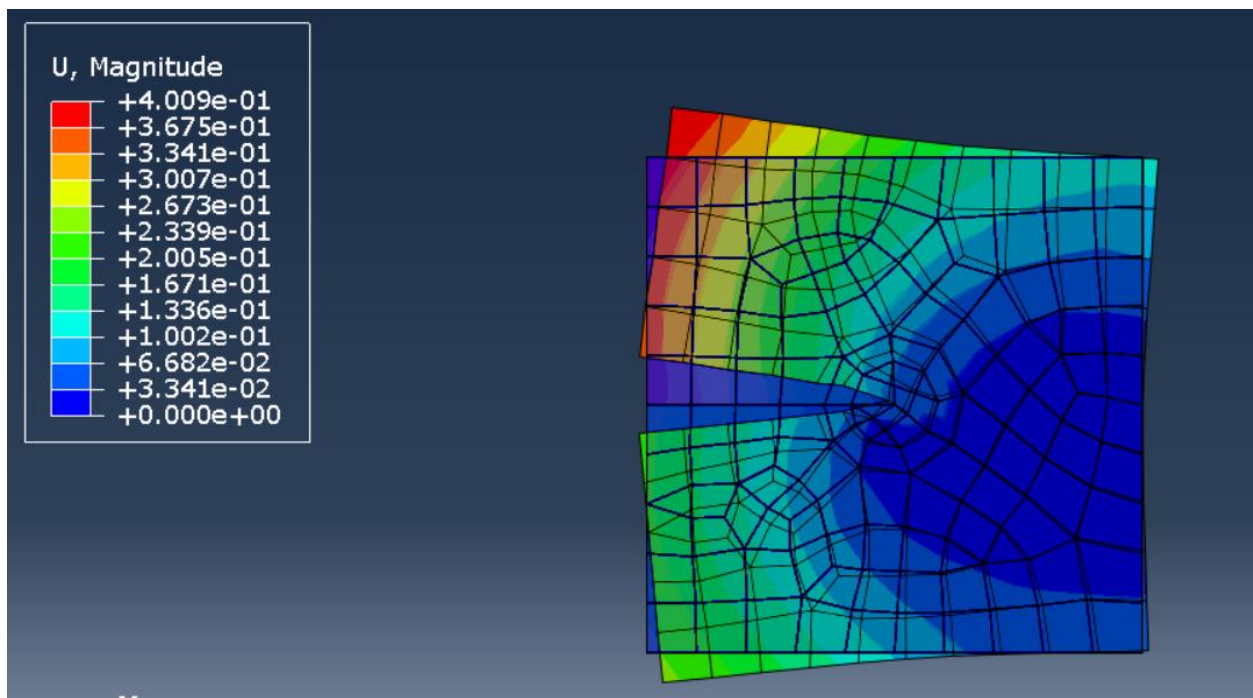3) Pressure applied from top and bottom edges.

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

Results:

Deformation:

Mises stress: