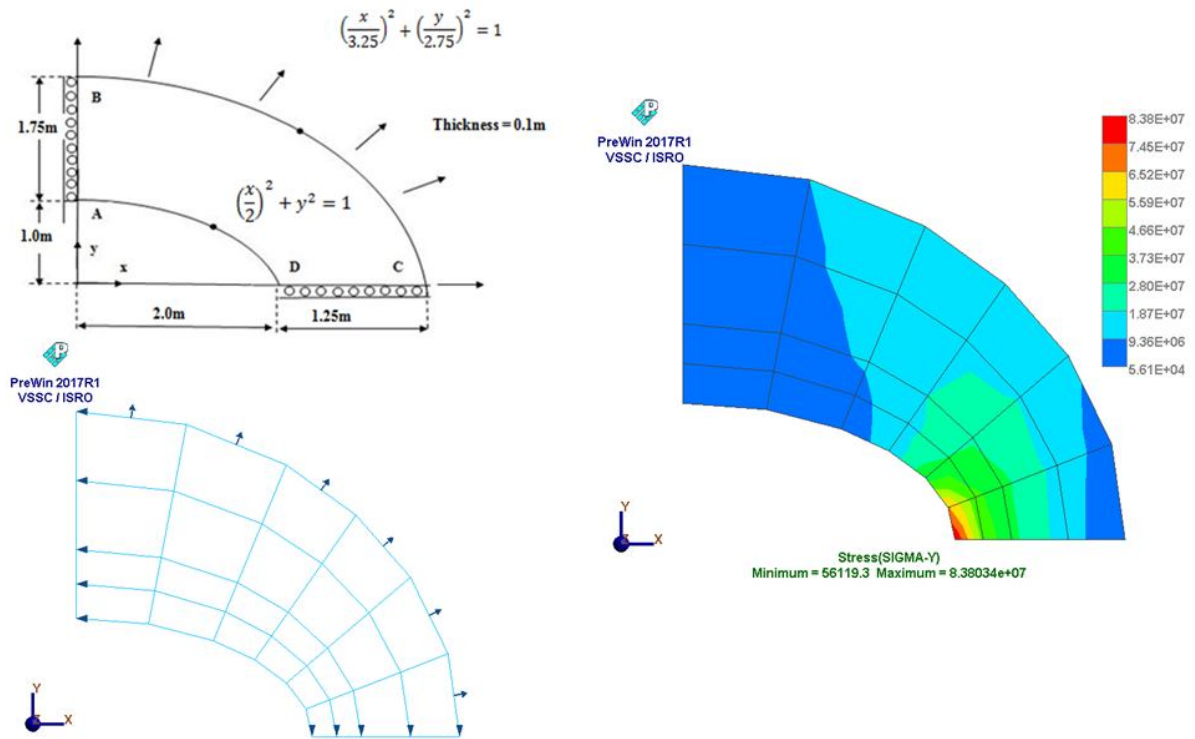


## Static analysis of elliptical membrane



<b>Loading</b>	:	Uniform outward pressure of 10 MPa at outer edge BC, Inner curved edge AD unloaded	
<b>Boundary condition</b>	:	Edge AB symmetric about y axis ( $U_x = 0$ ) Edge CD symmetric about x axis ( $U_y = 0$ )	
<b>Material property</b>	:	$E = 210GPa, \nu = 0.3$	
<b>Element types</b>	:	Plane stress quadrilateral	
<b>Finite element statistics</b>	:	Number of elements      Number of nodes      Degrees of freedom	
		24                              35                              60	

Tangential edge stress $\sigma_{yy}(MPa)$ at point D	
<b>NAFEMS</b>	92.7
<b>FEAST<sup>SMT</sup></b>	83.8
<b>NASTRAN<sup>®</sup></b>	81.6