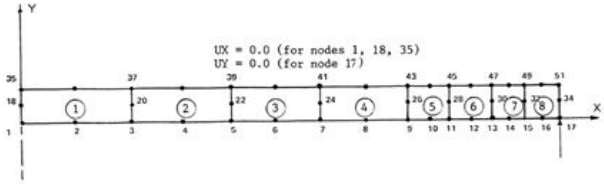
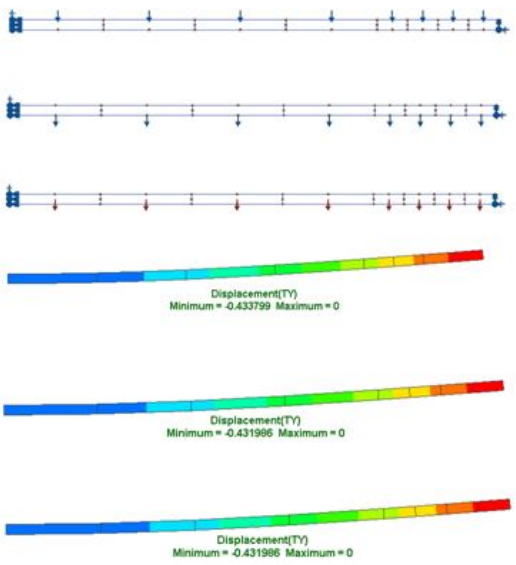
Static analysis of simply supported circular plate





Material property : E=1X 10^{-7} *psi*,ν = 0.3, ρ = 1.0 *lb-sec*^{2}/*in*^{4}

Element type : 2-D axisymmetric solid element, circular plate of 50 *inch* radius and one inch thickness, As the geometry is axisymmetric, a radial section is modeled using eight axisymmetric elements, Simply supported boundary conditions are imposed along the outer boundary (X = 50.0 *in*) by setting U_Y = 0.0. At the center of the plate (X = 0.0 *in*), due to symmetry, U_X = 0.0 at all nodes.Case1:Pressure load of 1 *psi* on bottom face**,**Case2:Pressure load of 1 *psi* on bottom face**,**Case3:Body force of 1 *lb/in*^{3}

Finite element statistics :	Number of nodes	Number of elements	Degrees of freedom
	43	8	82

Output parameters	**Theoretical value**	**FEAST**^{SMT}			**NISA2**®		
Transverse deflection TY at node # (in)		Case1	Case2	Case3	Case1	Case2	Case3
35	-0.44	-0.44	-0.44	-0.44	-0.43	-0.43	-0.43
37	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
39	-0.35	-0.35	-0.35	-0.35	-0.36	-0.36	-0.36
41	-0.28	-0.28	-0.28	-0.28	-0.27	-0.27	-0.27
43	-0.20	-0.20	-0.20	-0.20	-0.16	-0.16	-0.16
45	-0.13	-0.13	-0.13	-0.13	-0.12	-0.12	-0.12
47	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
49	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
51	0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00