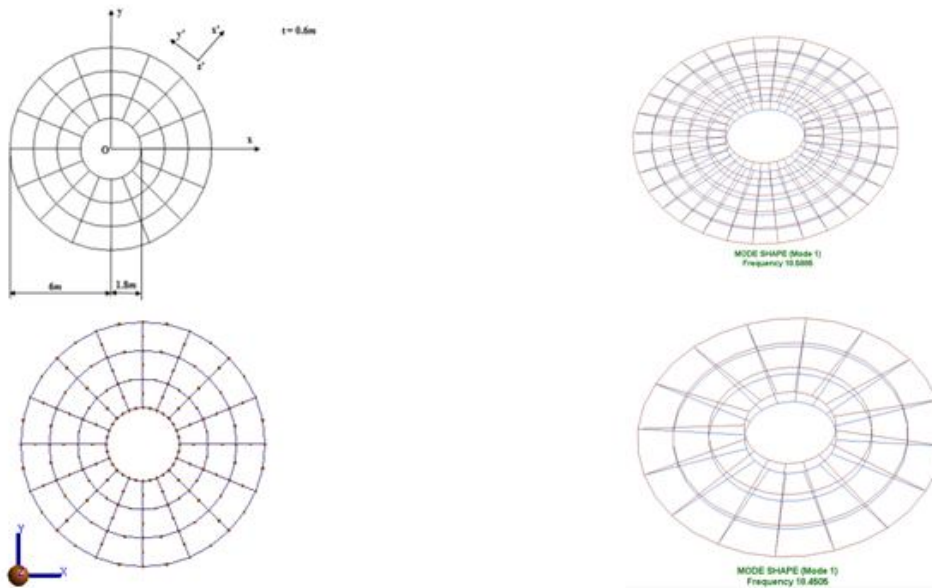


Free vibration analysis of simply supported thick annular plate



Boundary condition:	$U_x = U_y = R_z = 0$ at all nodes, $U_z = R_x = 0$ around the circumference		
Material property :	$E = 200 \text{ GPa}$, $\nu = 0.3$, Specific gravity = 8		
Element type :	Thick shell element , thickness = 0.6 m		
Mesh type :	4 Node: 5 x 32 8 Node: 3 x 16		
Finite element statistics :	Number of elements 48	Number of nodes 177	Degrees of freedom 496

Mode	4 Node			8 Node		
	NAFEMS	FEAST ^{SMT}	NASTRAN [®]	NAFEMS	FEAST ^{SMT}	NASTRAN [®]
1	18.82	18.59	18.38	18.59	18.45	18.51
2	49.82	48.37	49.73	49.02	48.31	48.95
3	49.82	48.37	49.73	49.02	48.31	48.95
4	96.06	90.74	92.08	92.90	90.26	92.34
5	96.06	91.05	92.41	92.90	90.62	92.69
6	148.34	137.91	134.42	140.86	135.37	139.98
7	153.68	141.61	142.49	146.63	141.05	145.22
8	153.68	141.61	142.49	146.63	141.05	145.22
9	174.52	161.40	162.86	167.31	160.59	166.46
10	174.52	161.40	162.86	167.31	161.59	166.46