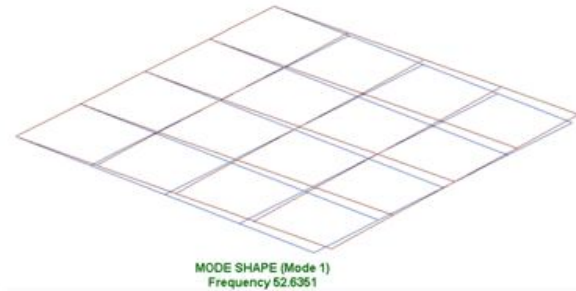
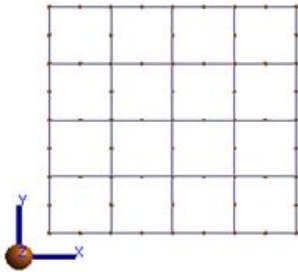
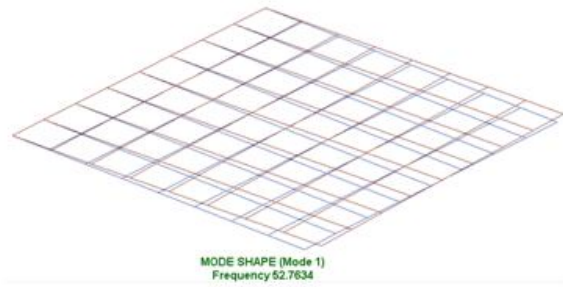
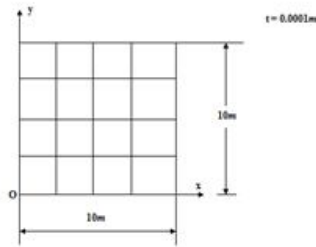


Free vibration analysis of cantilevered square membrane



Boundary condition : $U_z = 0$ at all nodes, $U_x = U_y = 0$ along y -axis

Material property : $E = 200 \text{ GPa}$, $\nu = 0.3$, Specific gravity = 8

Element type : Isoparametric membrane element, Thickness = 0.0001 m

Mesh type :
 4 Node: 8×8
 8 Node: 4×4

Finite element statistics :

Number of elements	Number of nodes	Degrees of freedom
16	65	307

Mode	4 Node			8 Node		
	NAFEMS	FEAST ^{SMT}	NASTRAN [®]	NAFEMS	FEAST ^{SMT}	NASTRAN [®]
1	52.91	52.76	52.43	52.64	52.63	52.30
2	126.11	126.07	125.59	125.87	125.87	125.71
3	143.20	142.86	139.48	141.47	141.47	139.46
4	228.85	227.35	214.51	224.59	224.59	214.43
5	247.90	247.36	239.81	243.26	243.26	242.27
6	260.61	259.67	252.04	256.76	256.76	254.64