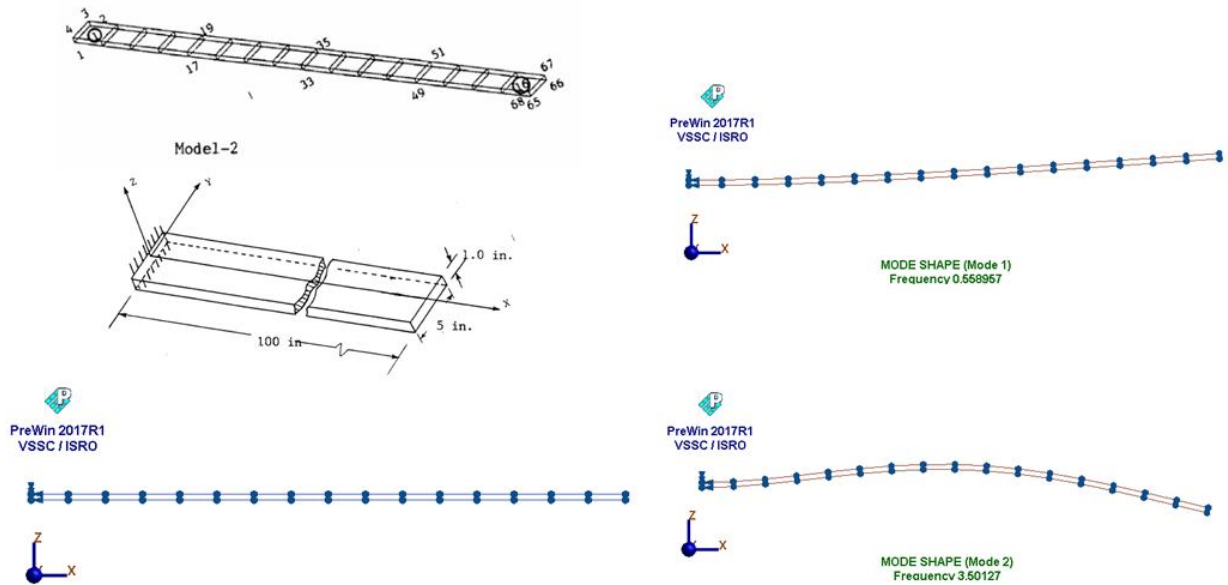


Free vibration analysis of a cantilever beam using solid elements-2



Boundary condition : $U_x, U_y, U_z = 0$ at left end. $U_y = 0$ at all nodes

Material property : $E = 12 \times 10^8 \text{ psi}$, $\nu = 0.0$, $\rho = 1.0 \text{ lb-sec}^2/\text{in}^4$

Element type : 3-D solid element

Finite element statistics	Number of elements	Number of nodes	Degrees of freedom
:	16	68	128

Mode	Theoretical	FEAST ^{SMT}	NISA2 [®]
Bending 1	0.56	0.56	0.56
Bending 2	3.51	3.50	3.54
Bending 3	9.82	9.83	10.09
Bending 4	19.24	19.37	20.31
Bending 5	31.81	32.32	34.86
Bending 6	47.52	48.94	54.64
Bending 7	66.37	69.67	80.98
Axial 1	86.60	86.57	86.64