

Finite Element method

Number of elements = 2

Element-1

Mass Matrix [M]1

0.010194	0.000000
0.000000	0.000306

Stiffness matrix [K]1

1325.359401	-1325.359401
-1325.359401	1325.359401

Element-2

Mass Matrix [M]2

0.000051	0.000000
0.000000	0.008155

Stiffness matrix [K]2

49.087385	98.174770
98.174770	196.349541

Global Mass matrix

0.010194	0.000000	0.000000
0.000000	0.000357	0.000000
0.000000	0.000000	0.008155

Global Stiffness matrix

1.33e+03	-1.33e+03	0.00e+00
-1.33e+03	1.37e+03	9.82e+01
0.00e+00	9.82e+01	1.96e+02

"Free-Free" Boundary condition

Natural frequencies:

0.000
166.623
1994.670

Eigen vector matrix

-0.0338	-0.6667	0.3488
0.9994	-0.6667	0.2744

0.0030 0.3333 0.8961

Normalised eigen vector matrix

0.0000 0.3893 -0.0338

0.0000 0.3062 1.0000

0.0000 1.0000 0.0030