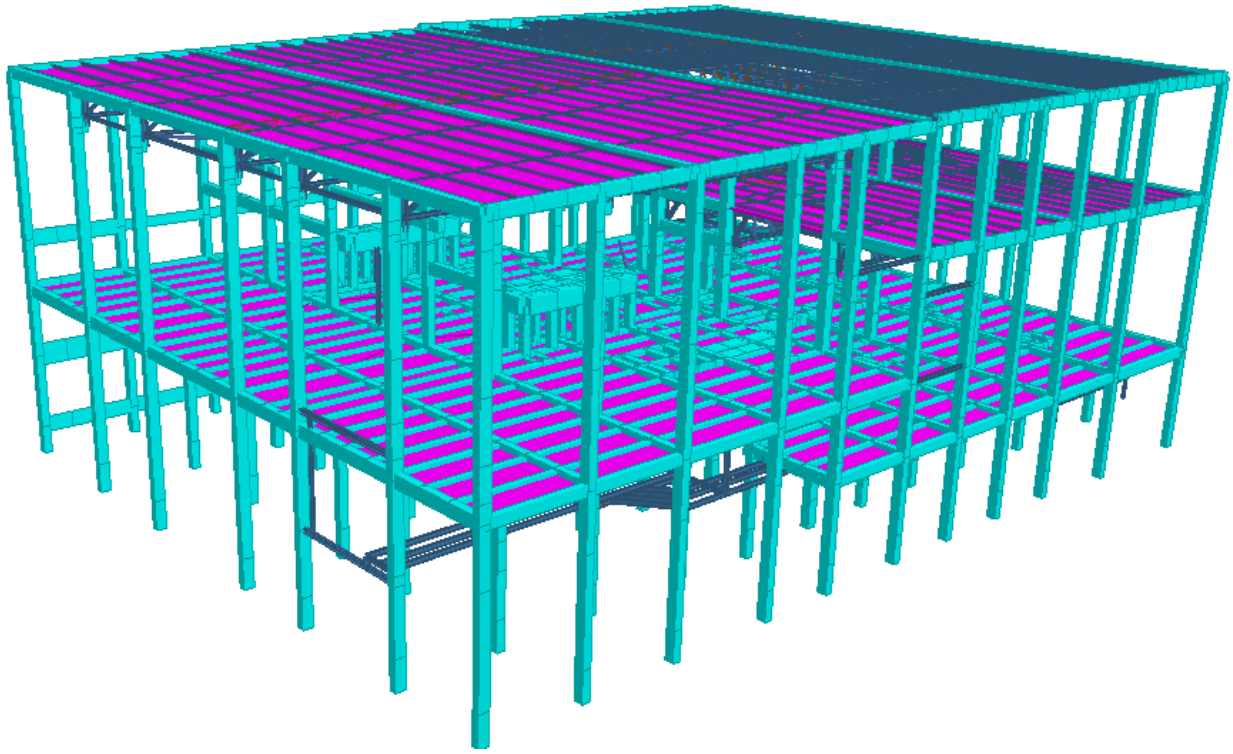
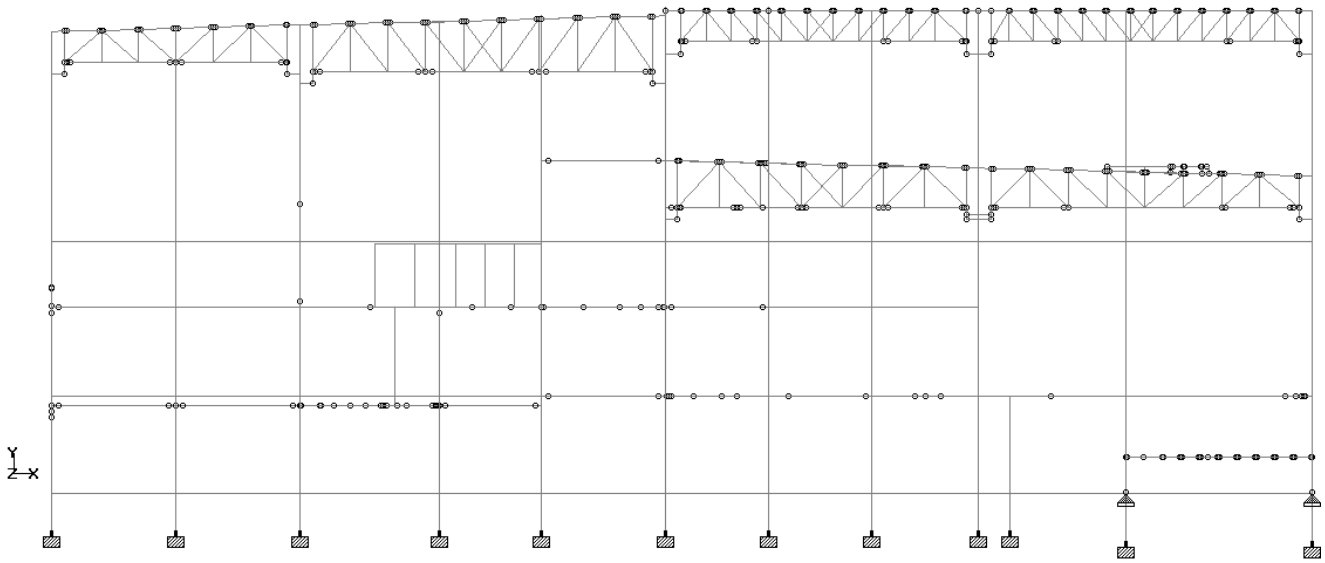
A. VIBRATION STUDY OF AN INDUSTRIAL BUILDING

- Project: Halobutyl Project, Saudi Arabia
- Summary: A Rubber Finishing Building supporting many equipment, of which around 20 were dynamic in nature, was analysed for its vibration characteristics. A detailed floor-wise vibration amplitude distribution was calculated and remediation was suggested in areas of high vibration. Some snapshots of the analysis are presented in the following pages.

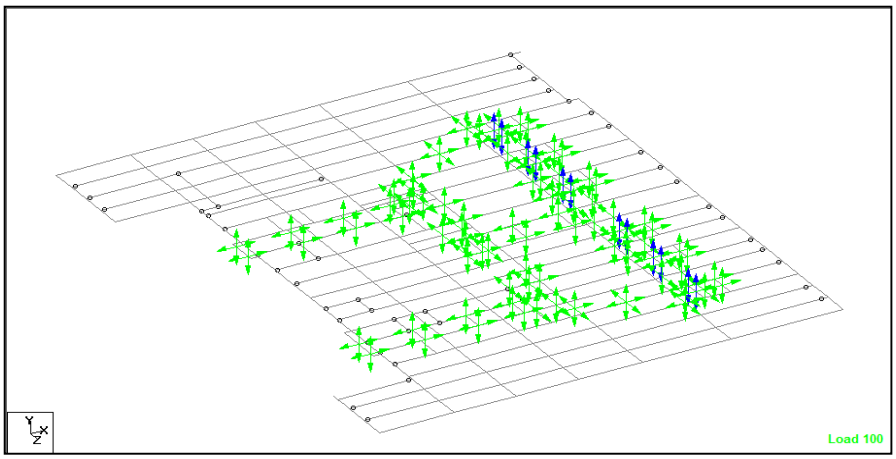
Finite Element Model of Building

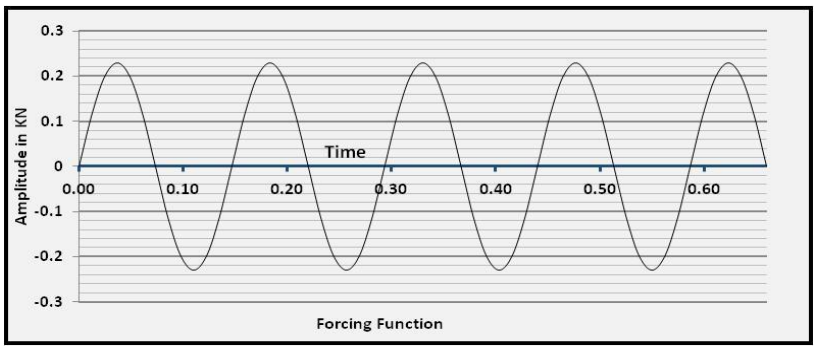


Structural Framing

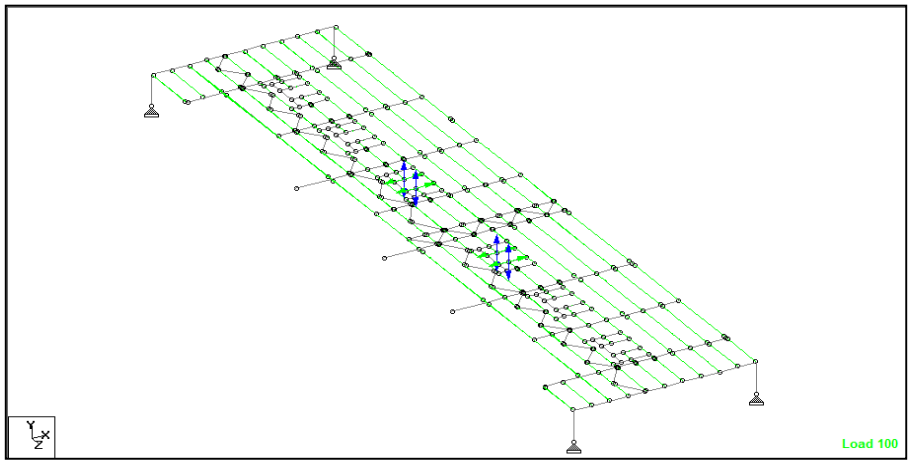


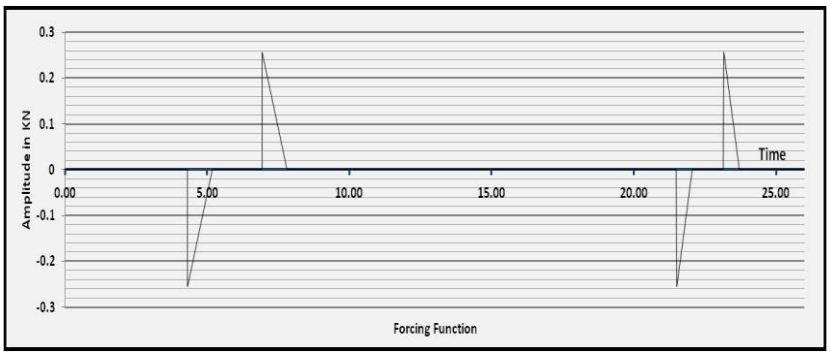
Dynamic Loads

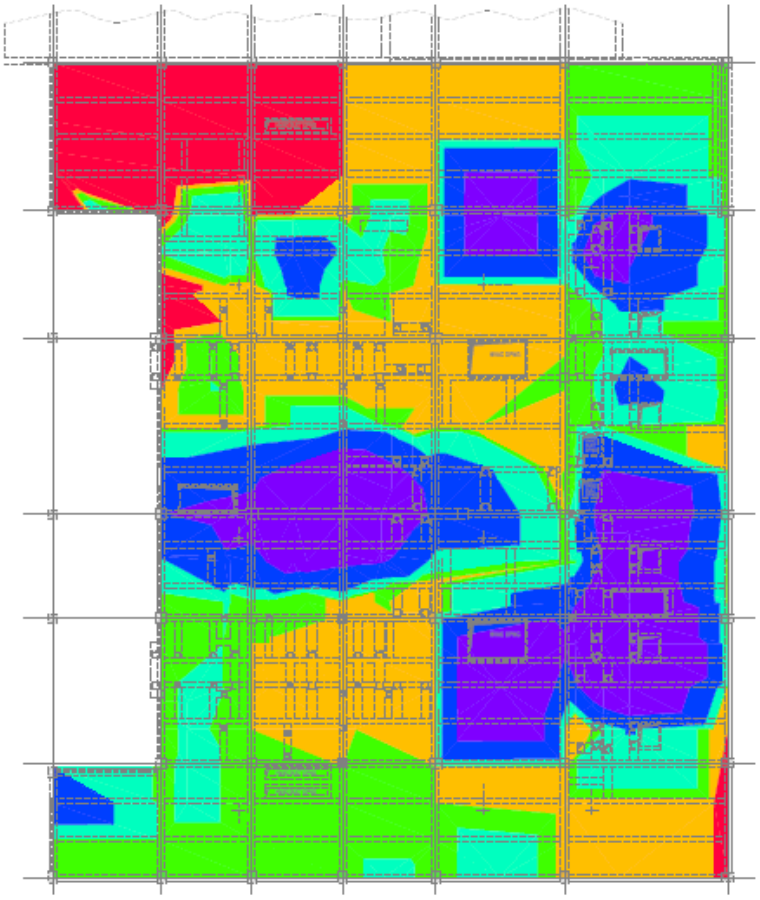


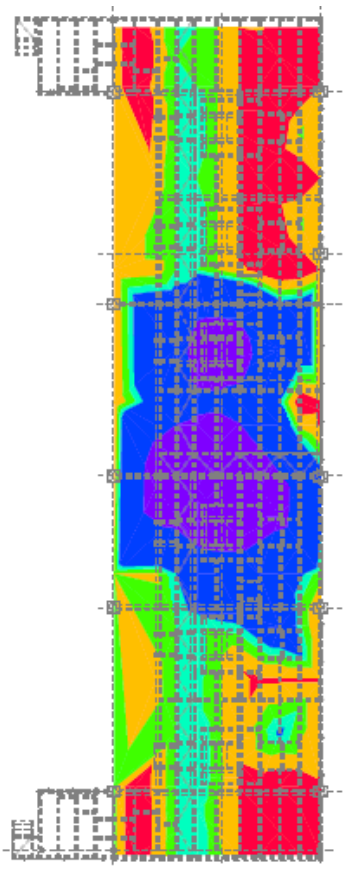


Vibration Amplitude Cartograms







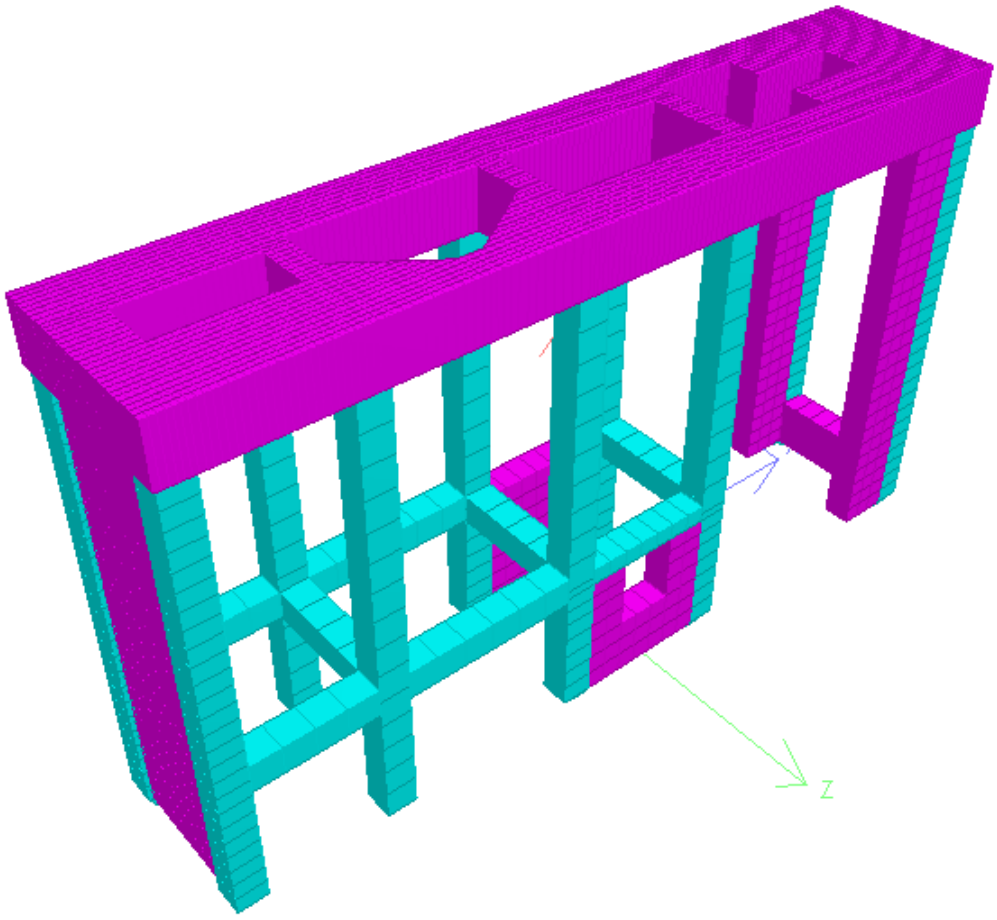


DISPLACEMENT AMPLITUDE				
Number	Minimum Amplitude (Micron)	Maximum Amplitude (Micron)	Area (Sq.m)	Color
1	18.00	26.00	57.05	
2	26.00	32.00	72.59	
3	32.00	36.00	49.88	
4	36.00	39.00	34.97	
5	39.00	75.00	74.98	
6	75.00	114.00	35.43	

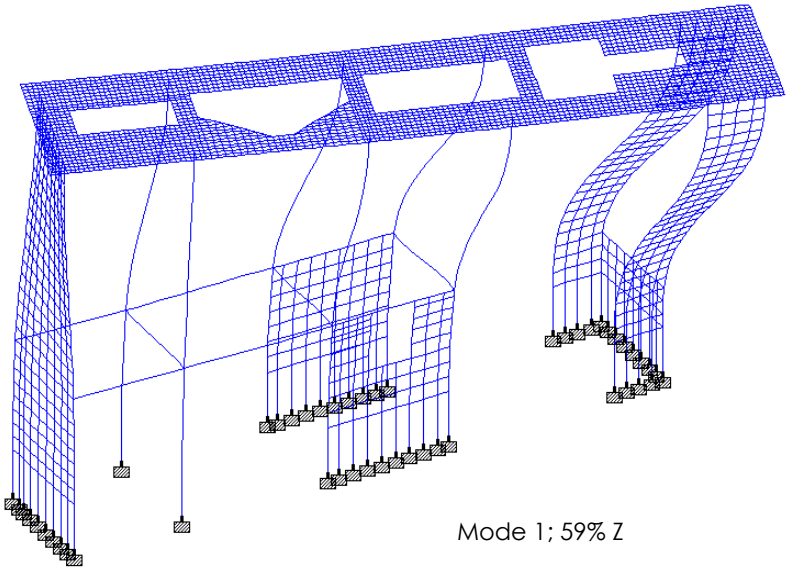
B. DESIGN OF A 3-STAGE COMPRESSOR FOUNDATION

- Project: ROG Cracker, India
- Summary: Dynamic behavior was checked under machine vibration. Foundation sizing and reinforcement design was done for operating and seismic loads.

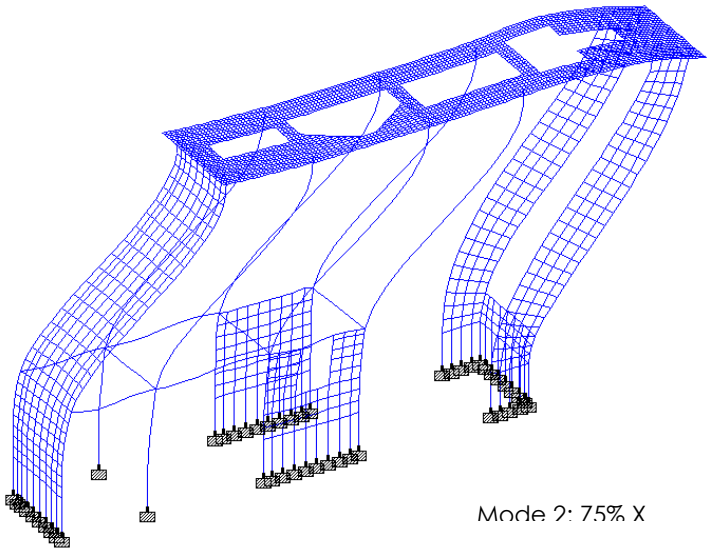
Finite Element Model of Table-Top Foundation



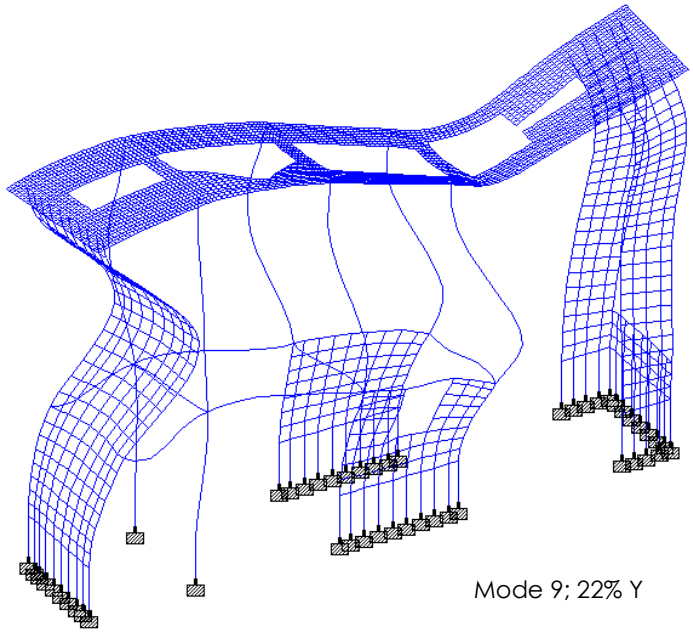
Dominant Mode Shapes



Mode 1; 59% Z

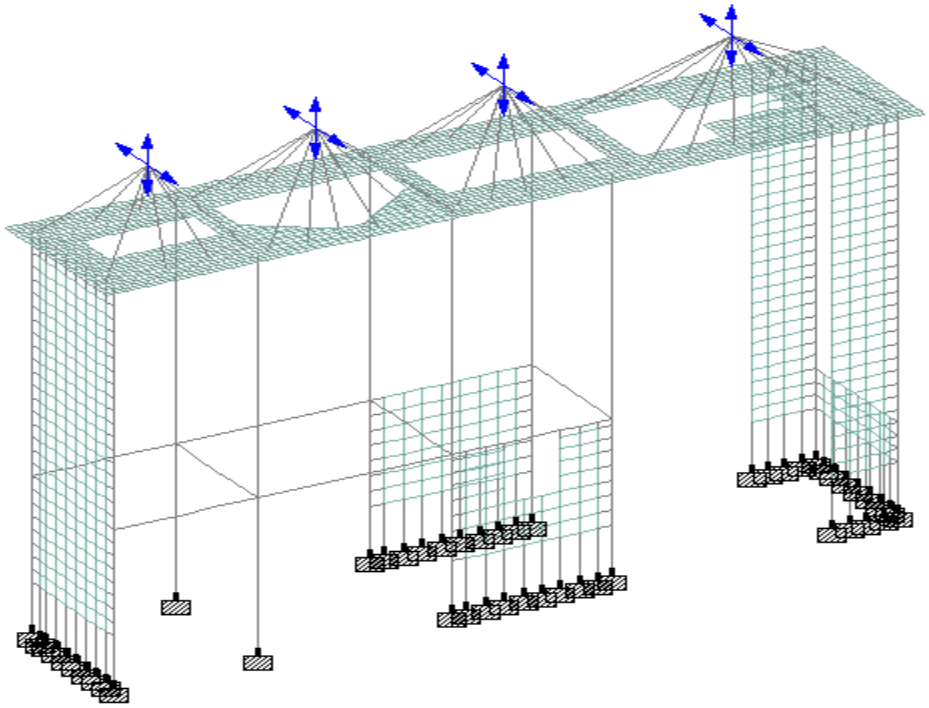


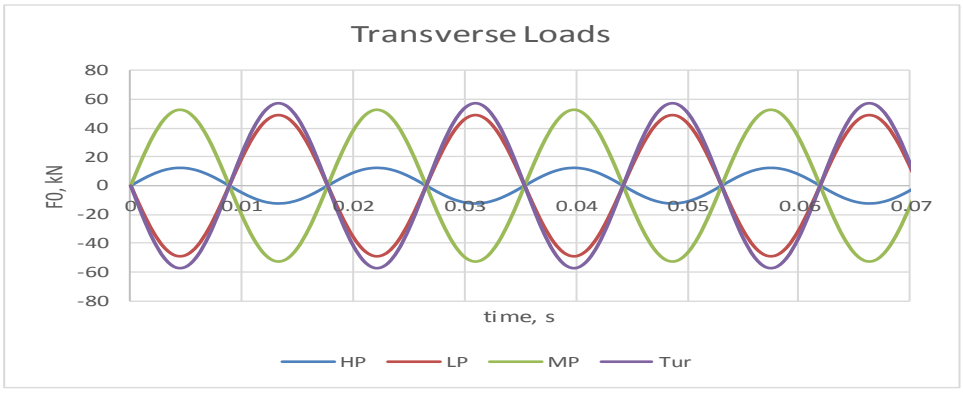
Mode 2; 75% X

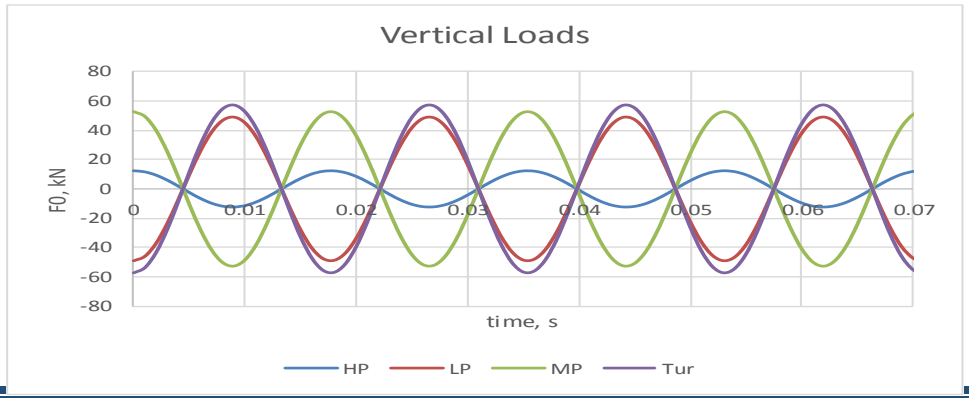


Mode 9; 22% Y

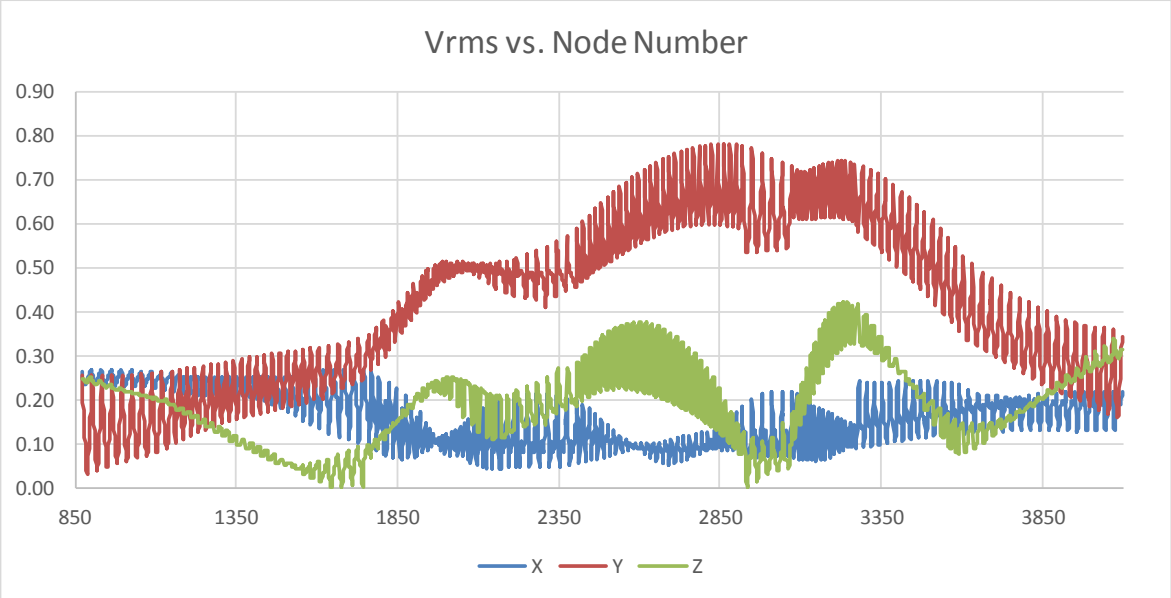
Dynamic Loads

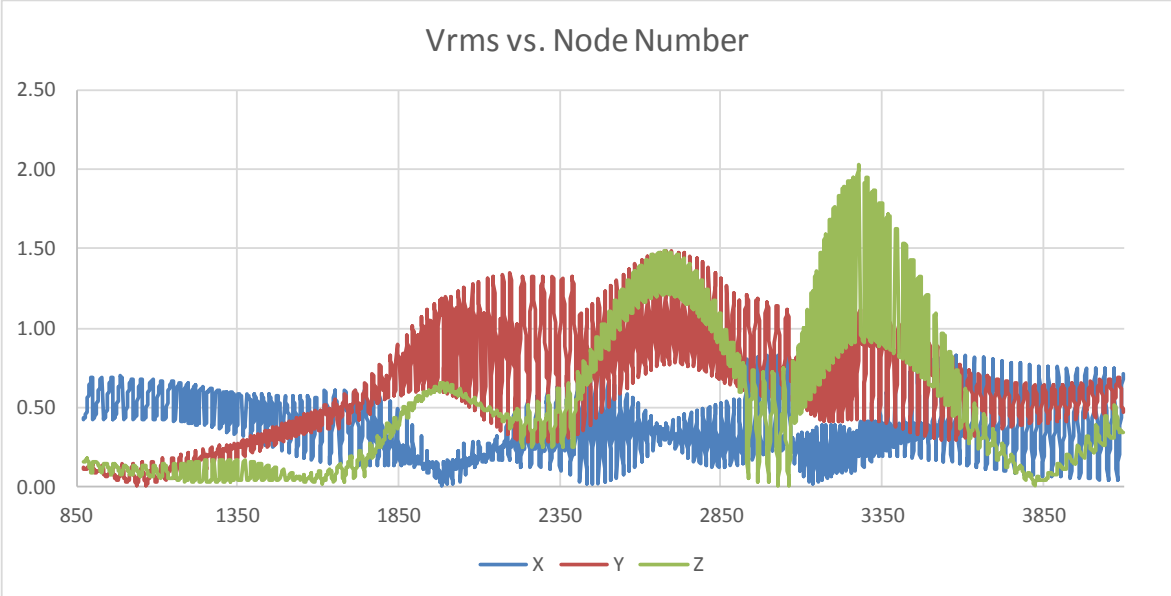






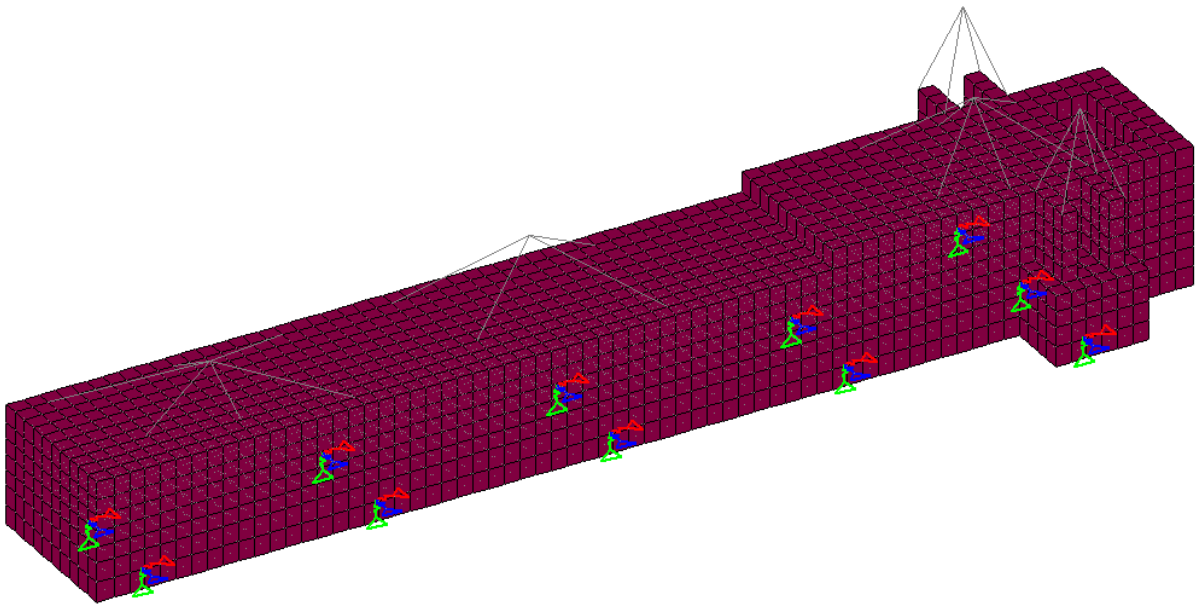
Vibration Amplitude Cartograms



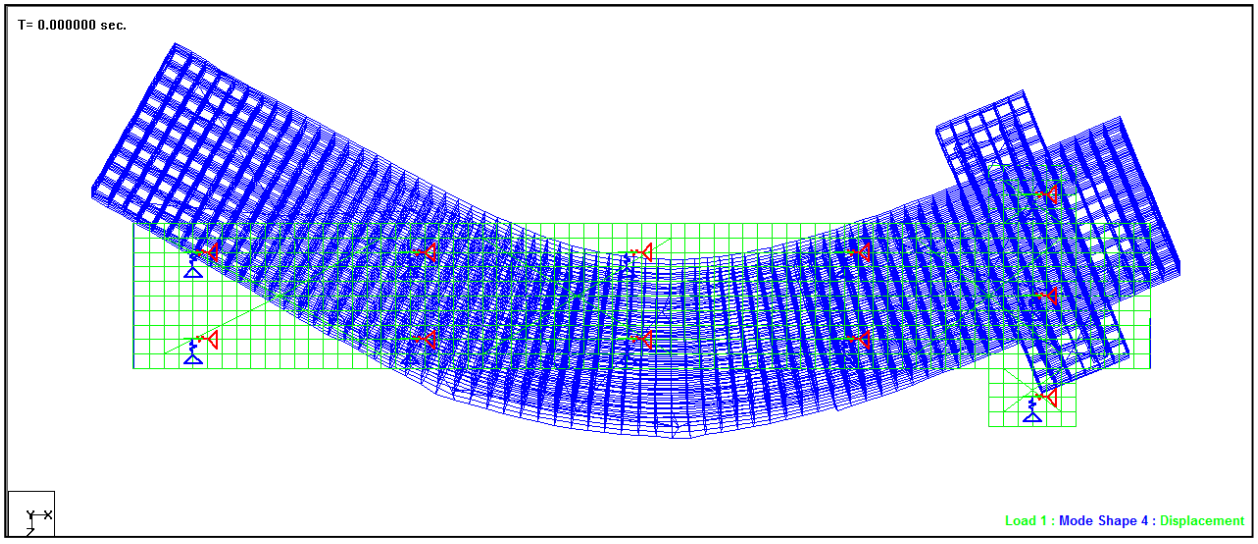


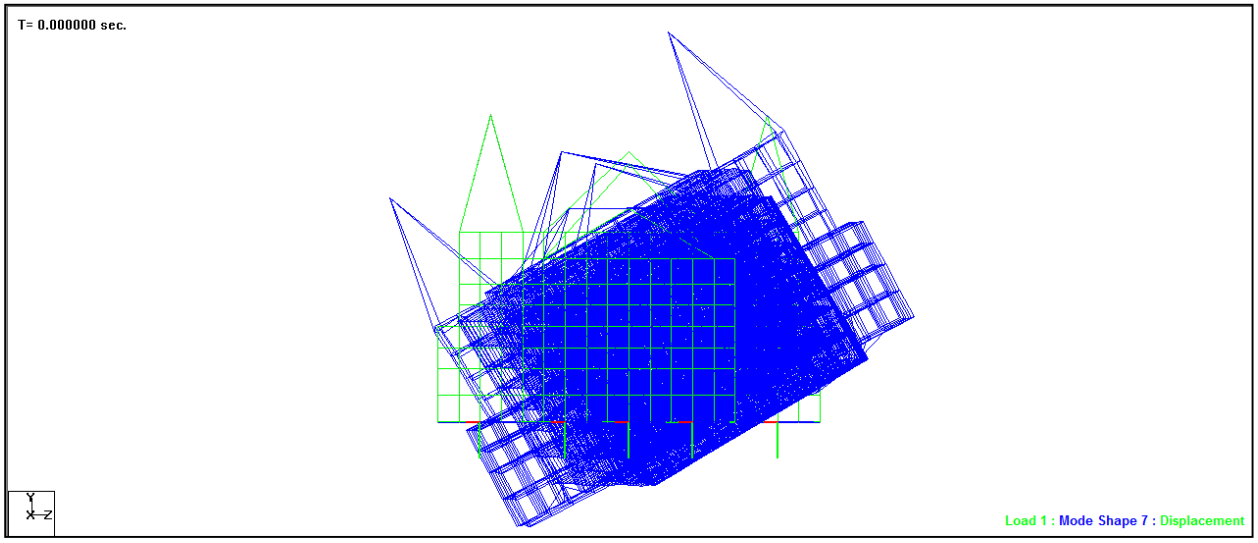
TURBINE-GENERATOR FOUNDATION

Finite Element Model of the Block Foundation on Piles

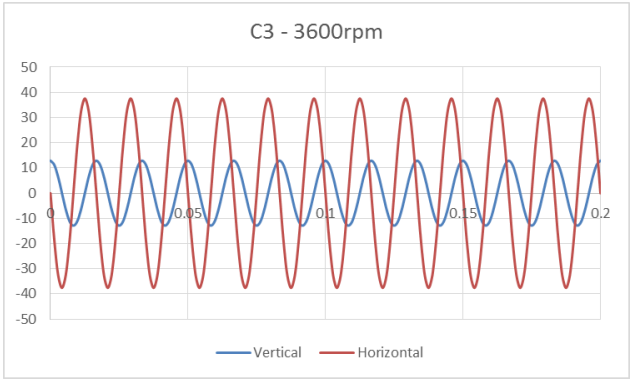


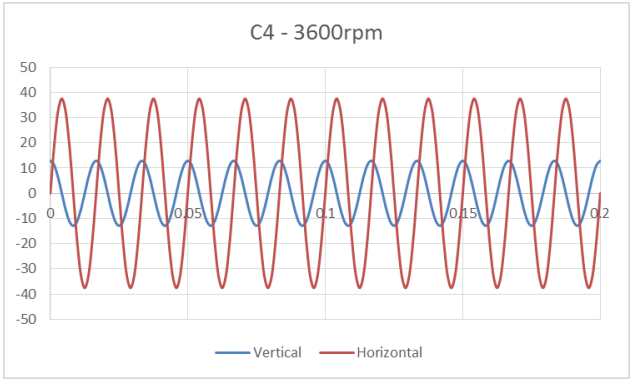
Typical Mode Shapes

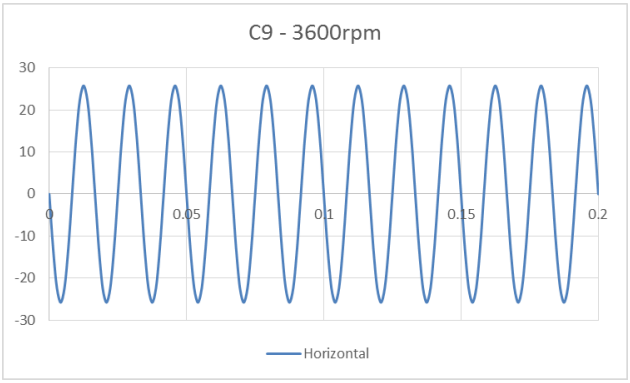




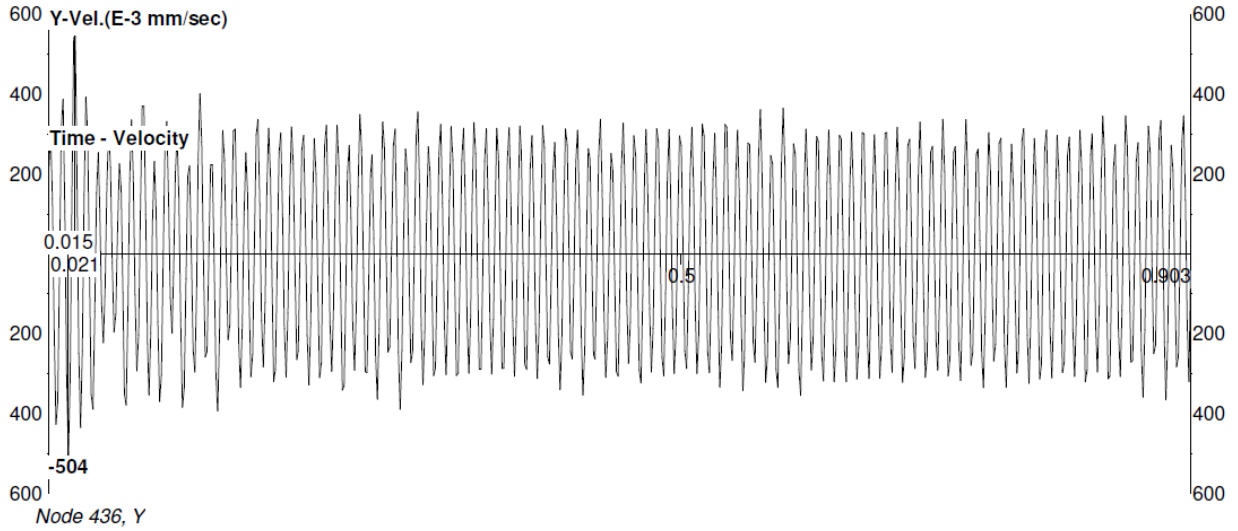
Dynamic Loads

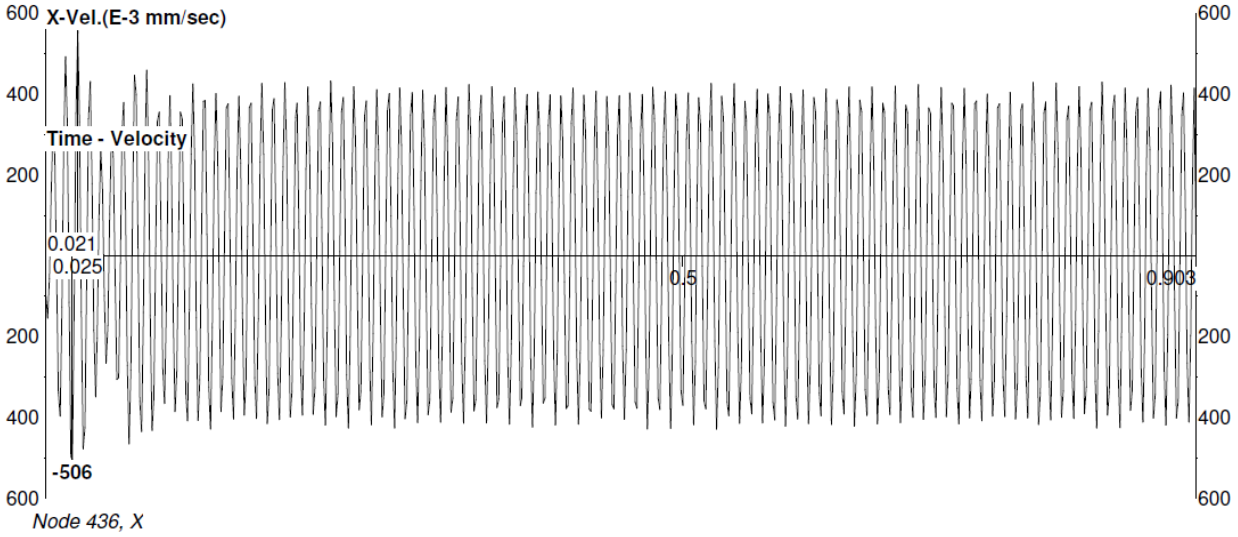


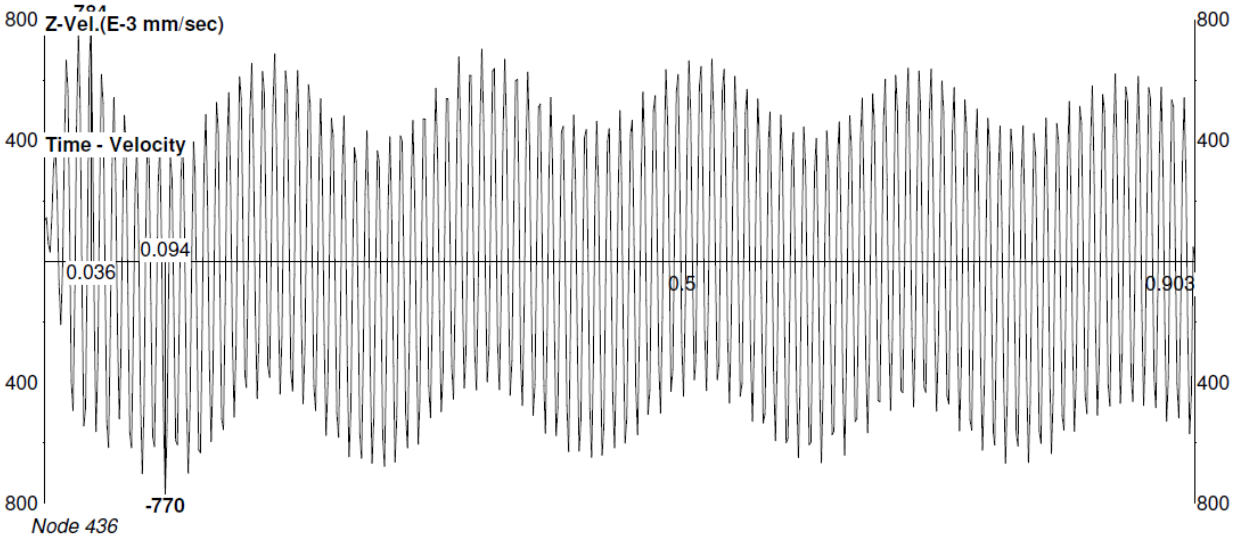




Vibration Time Histories







CRYOGENIC TANK FOUNDATION