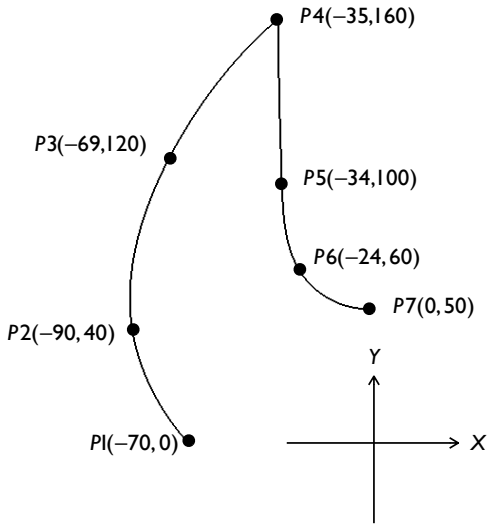
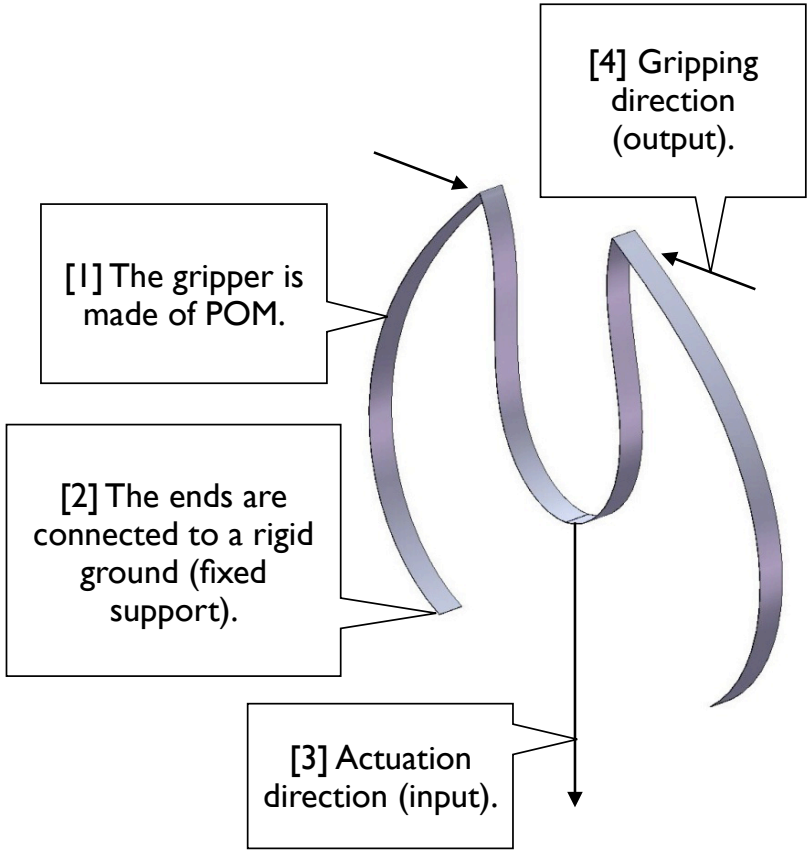
Chapter 7
Line Models

Section 7.1

Flexible Gripper

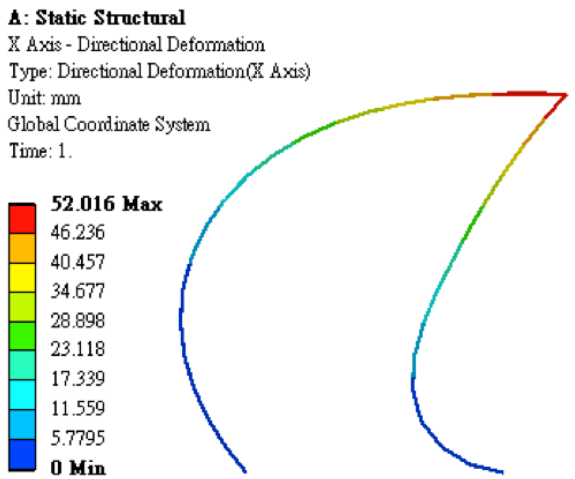
Problem Description

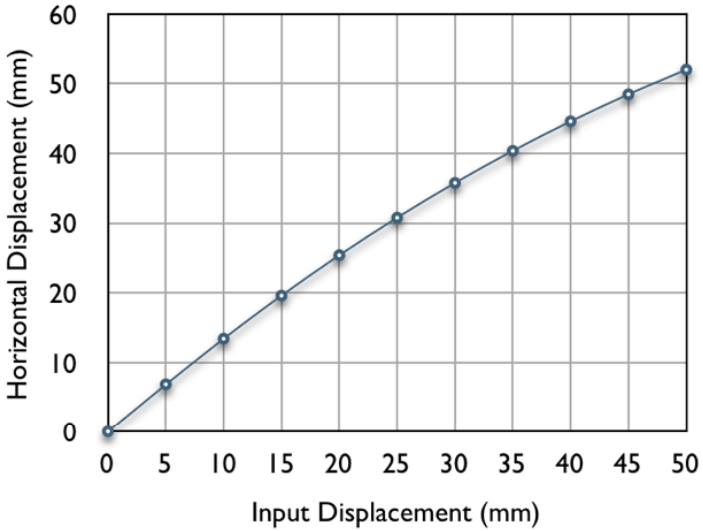




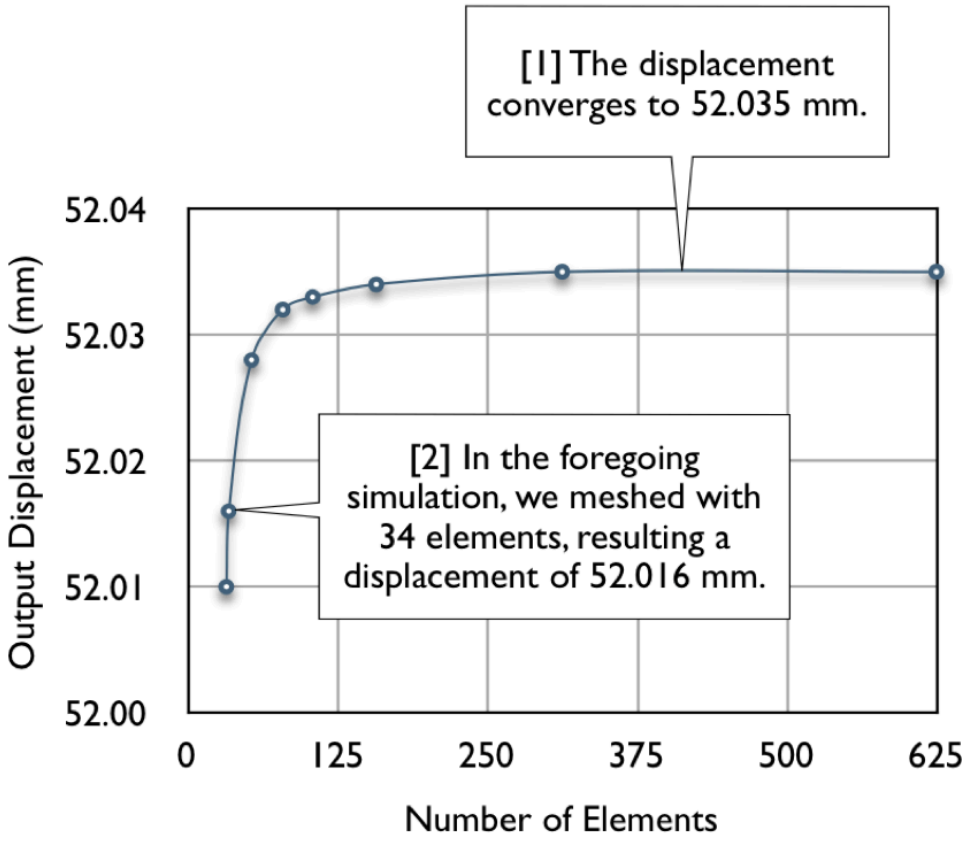
Techniques/Concepts

- Line bodies
- Cross Sections
- Cross Section Alignments
- Cross Section Solids
- Beam Elements
- Symmetry Conditions
- Geometric Advantage





Convergence Study of Beam Elements



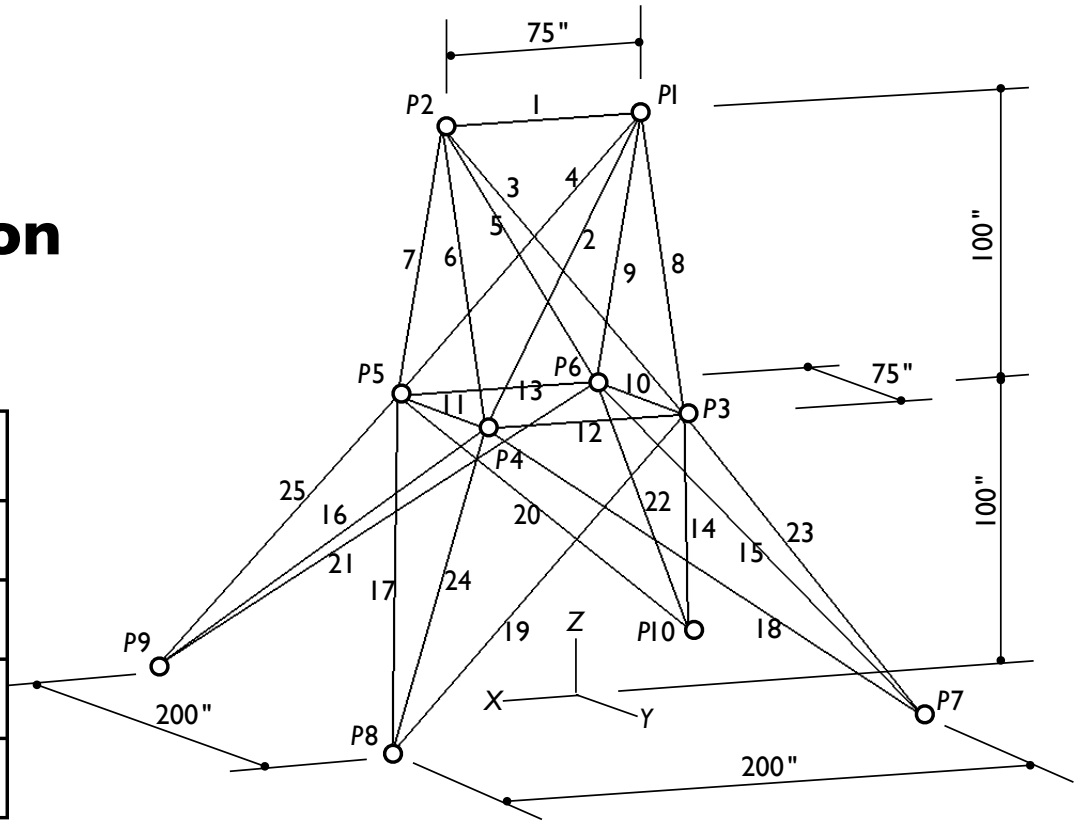
Section 7.2

3D Truss

Problem Description

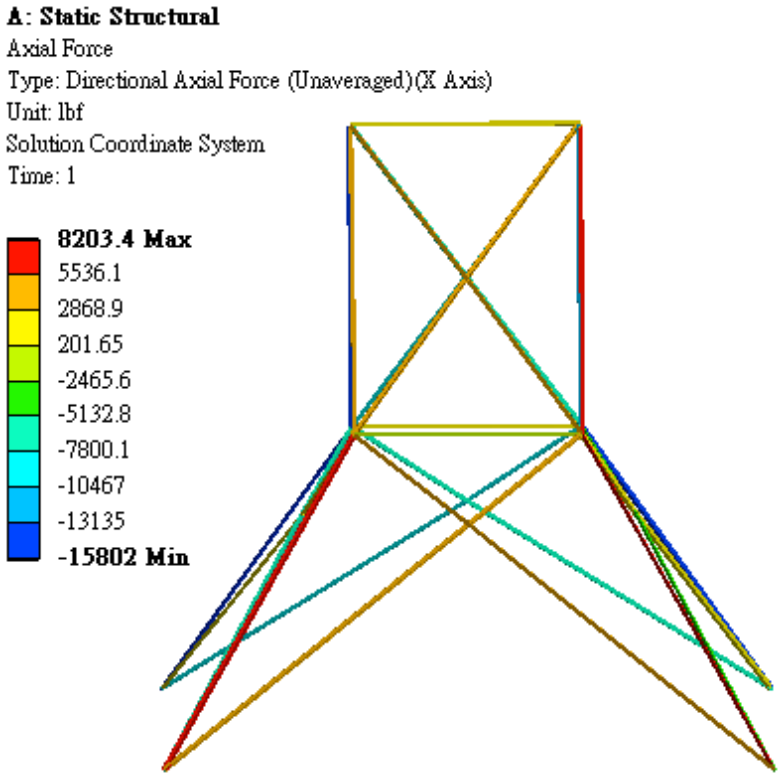
Design Loads for the Transmission Tower

Joint	F_X (lb)	F_Y (lb)	F_Z (lb)
P1	1,000	-10,000	-10,000
P2	0	-10,000	-10,000
P3	500	0	0
P6	600	0	0



Techniques/Concepts

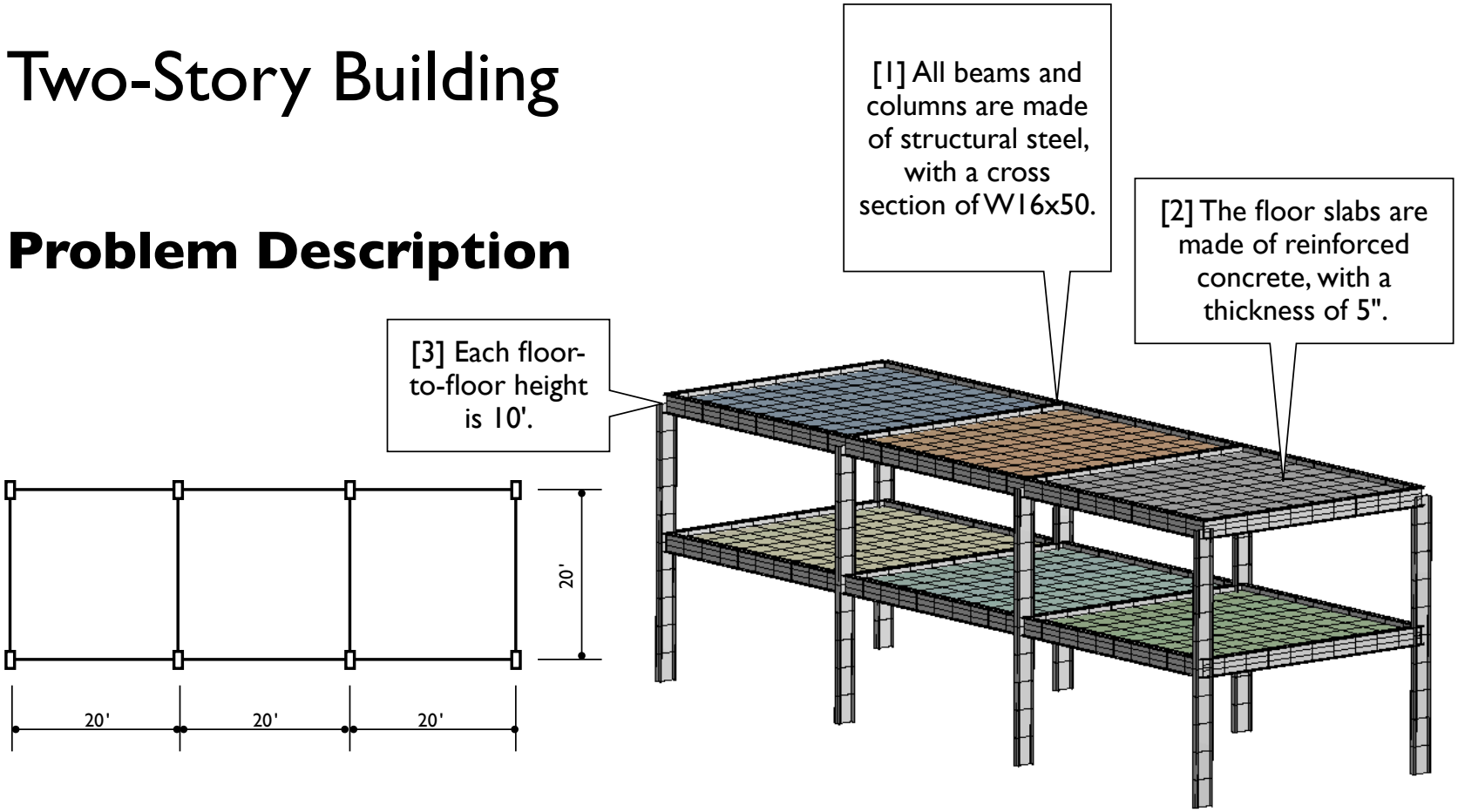
- Create points
- Concepts>Lines From Points
- Convergence of straight beam elements



Section 7.3

Two-Story Building

Problem Description



Techniques/Concepts

- Adjust Cross Section Alignments
- Concepts>Surface From Edges
- Use of Selection Panes
- Flip Surface Normal
- Form New Part
- Import Engineering Data
- Inertial>Standard Earth Gravity
- Inertial>Acceleration