

Chapter 10

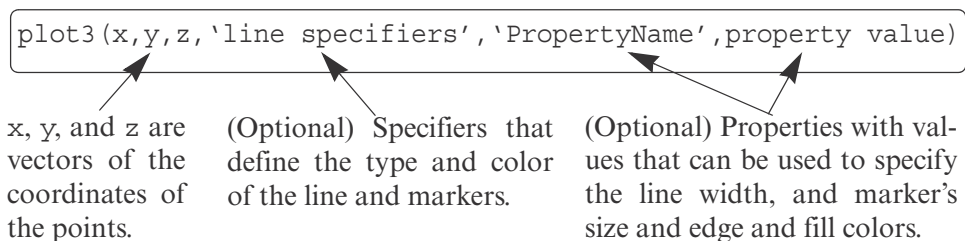
Three-Dimensional Plots

Three-dimensional (3-D) plots can be a useful way to present data that consists of more than two variables. MATLAB provides various options for displaying three-dimensional data. They include line and wire, surface, mesh plots, and many others. The plots can also be formatted to have a specific appearance and special effects. Many of the three-dimensional plotting features are described in this chapter. Additional information can be found in the Help Window under **Plotting and Data Visualization**.

In many ways this chapter is a continuation of Chapter 5, where two-dimensional plots were introduced. The 3-D plots are presented in a separate chapter because not all MATLAB users use them. In addition, new users of MATLAB will probably find it easier to practice 2-D plotting first and learn the material in Chapters 6–9 before attempting 3-D plotting. It is assumed throughout the rest of this chapter that the reader is familiar with 2-D plotting.

10.1 LINE PLOTS

A three-dimensional line plot is a line that is obtained by connecting points in three-dimensional space. A basic 3-D plot is created with the `plot3` command, which is very similar to the `plot` command and has the form:



- The three vectors with the coordinates of the data points must have the same number of elements.