

## 2D & 3D Plotting Functions

### Basic Plotting Functions

Function	Description
plot	Graph 2D data with linear scales for both axes
plot3	Graph 3D data with linear scales for both axes
loglog	Graph with logarithmic scales for both axes
semilogx	Graph with a logarithmic scale for the x-axis and a linear scale for the y-axis
semilogy	Graph with a logarithmic scale for the y-axis and a linear scale for the x-axis
plotyy	Graph with y-tick labels on the left and right side
errorbar	Plot error bars along curve
fplot	Plot function between specified limits
fzplot	Easy-to-use function plotter
ezplot3	Easy-to-use 3D parametric curve plotter

### Pie Charts, Bar Plots, and Histograms

Function	Description
bar	Bar graph
bar3	Plot 3D bar graph
barh	Plot bar graph horizontally
bar3h	Plot horizontal 3D bar graph
hist	Histogram plot
histc	Histogram count
area	Filled area 2D plot
pareto	Pareto chart
pie	Pie chart
pie3	3D pie chart
rose	Angle histogram plot

### Discrete Data Plots

Function	Description
stem	Plot discrete sequence data
stairs	Stairstep graph
stem3	Plot 3D discrete sequence data

scatter	Scatter plot
scatter3	3D scatter plot
spy	Visualize sparsity pattern
plotmatrix	Scatter plot matrix

### Polar Plots

Function	Description
polar	Polar coordinate plot
rose	Angle histogram plot
compass	Plot arrows emanating from origin
ezpolar	Easy-to-use polar coordinate plotter

### Contour Plots

Function	Description
contour	Contour plot of matrix
contourf	Filled 2D contour plot
contourc	Low-level contour plot computation
contour3	3D contour plot
contourslice	Draw contours in volume slice planes
ezcontour	Easy-to-use filled contour plotter
ezcontourf	Easy-to-use filled contour plotter

### Vector Fields

Function	Description
feather	Plot velocity vectors
quiver	Quiver or velocity plot
compass	Plot arrows emanating from origin
quiver3	3D quiver or velocity plot
streamslice	Plot streamlines in slice planes
streamline	Plot streamlines from 2D or 3D vector data

### Surface & Mesh Plots

Function	Description
surf	3D shaded surface plot

surf	Contour plot under a 3D shaded surface plot
surface	Create surface object
surf1	Surface plot with colormap-based lighting
surfnorm	Compute and display 3D surface normal's
mesh	Mesh plot
meshc	Plot a contour graph under mesh graph
meshz	Plot a curtain around mesh plot
waterfall	Waterfall plot
ribbon	Ribbon plot
contour3	3D contour plot
peaks	Example function of two variables
cylinder	Generate cylinder
ellipsoid	Generate ellipsoid
sphere	Generate sphere
pcolor	Pseudocolor (checkerboard) plot
surf2patch	Convert surface data to patch data
ezsurf	Easy-to-use 3D colored surface plotter
ezsurf	Easy-to-use combination surface/contour plotter
ezmesh	Easy-to-use 3D mesh plotter
ezmeshc	Easy-to-use combination mesh/contour plotter

## Animation

Function	Description
movie	Play recorded movie frames
noanimate	Change <i>EraseMode</i> of all objects to <i>normal</i>
drawnow	Flush event queue and update figure window
refreshdata	Refresh data in graph when data source is specified
frame2im	Return image data associated with movie frame
getframe	Capture movie frame
im2frame	Convert image to movie frame
comet	2D comet plot
comet3	3D comet plot