Data and function visualization

Basic setup

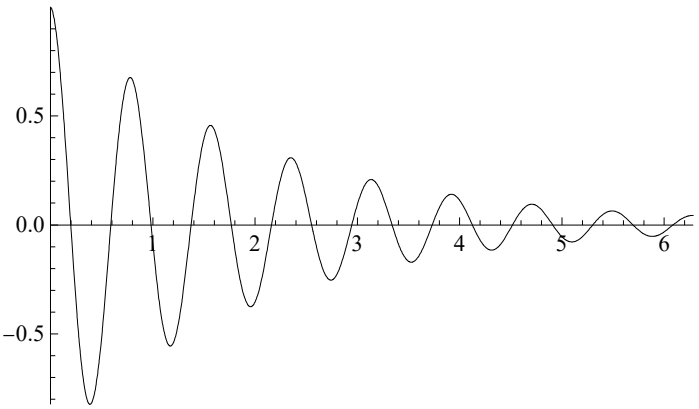
First, import the latest version from GitHub.

In[1]:=
```
Import["https://raw.githubusercontent.com/jonasmusall/sciplot/main/SciPlot.m"]
```

SciPlot can be used to create plots of functions and of lists of points. Note that the function and the specification for its argument are enclosed in a list together.

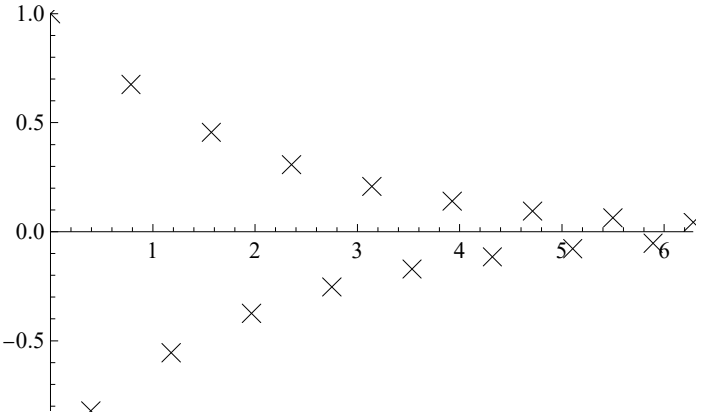
In[2]:=
```
f[x_] := Cos[8 x] Exp[-x / 2]
SciPlot[{f[x], {x, 0, 2 Pi}}]
```

Out[3]=



In[4]:=
```
data1 = Table[{x, f[x]}, {x, 0, 2 Pi, Pi / 8}];
SciPlot[data1]
```

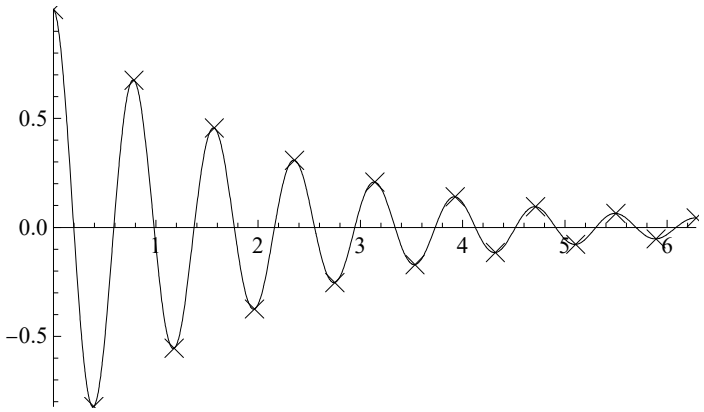
Out[5]=



Supply a sequence of datasets and functions to plot them together.

In[6]:=
```
SciPlot[{f[x], {x, 0, 2 Pi}}, data1]
```

Out[6]=



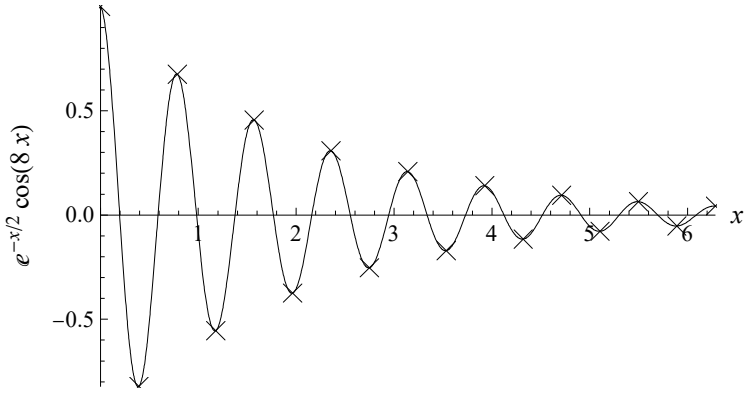
Options

AxesLabel

Labels which are automatically placed according to the position of the axes. Use a pair of labels to put one on each axis.

In[7]:=
```
SciPlot[{f[x], {x, 0, 2 Pi}}, data1, AxesLabel → {x, f[x] // TraditionalForm}]
```

Out[7]=

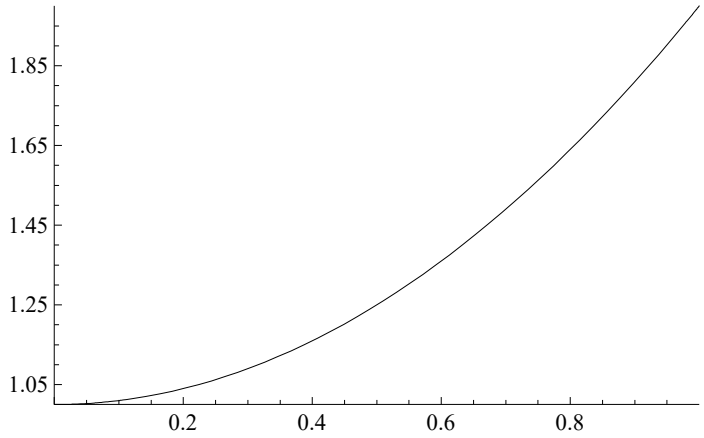


AxesOrigin

Point where the axes cross. Default value is **`Automatic`**, which may place the origin at a different point than **`{0,0}`** depending on the plot contents.

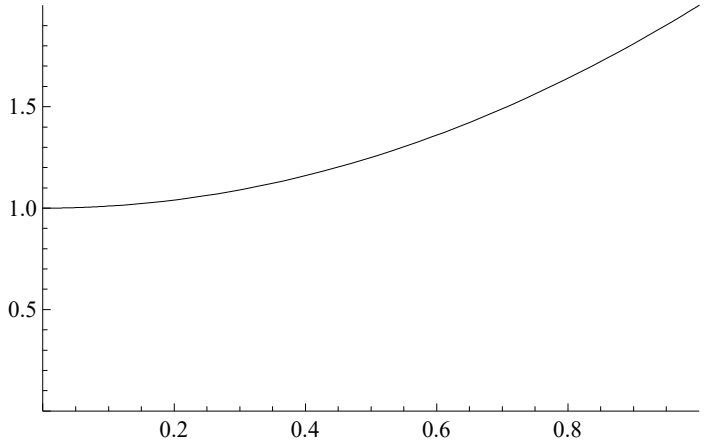
In[8]:=
```
SciPlot[{x^2 + 1, {x, 0, 1}}]
```

Out[8]=



In[9]:=
```
SciPlot[{x^2 + 1, {x, 0, 1}}, AxesOrigin → {0, 0}]
```

Out[9]=

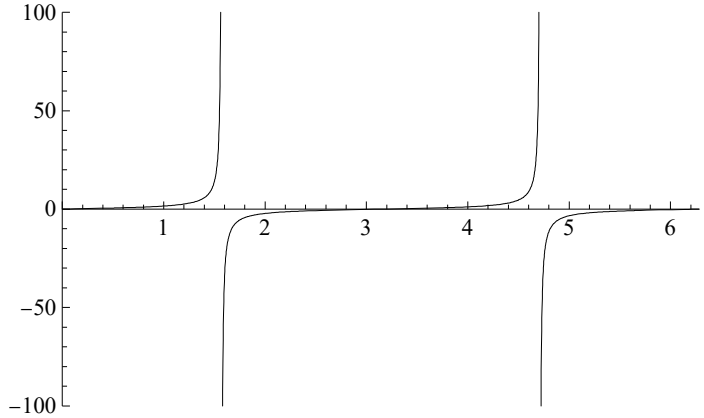


PlotRange

Range to display in the plot. Valid values are ranges for both direction $\{\{x_{min}, x_{max}\}, \{y_{min}, y_{max}\}\}$ or **Automatic**.

In[10]:=
```
SciPlot[{Tan[x], {x, 0, 2 Pi}}, PlotRange → {{0, 2 Pi}, {-100, 100}}]
```

Out[10]=

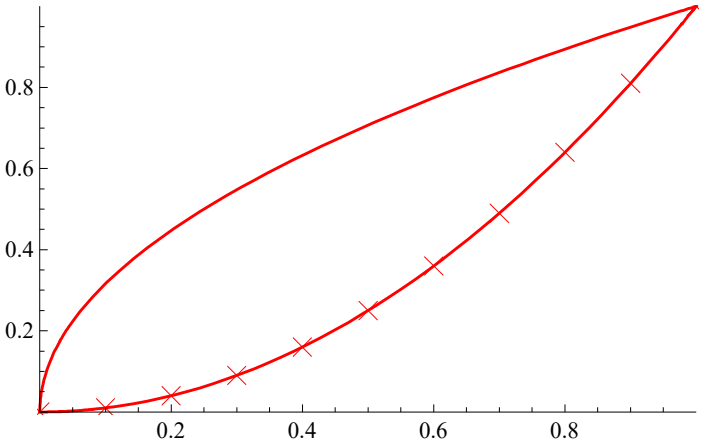


PlotStyle

Style for the plots to be drawn in. Specify a single style to be applied to all plots or a list of styles.

In[11]:=
```
SciPlot[{{x^1/2, x^2}, {x, 0, 1}}, Table[{x, x^2}, {x, 0, 1, 0.1}], PlotStyle → Red]
```

Out[11]=



In[12]:=
```
SciPlot[{{x^1/2, x^2}, {x, 0, 1}}, Table[{x, x^2}, {x, 0, 1, 0.1}],
 PlotStyle → {{Red, Dashed}, Blue, Black}]
```

Out[12]=