

# Automatic Labels

## Axis Labels:

The goal is to have all automatic labels be

<Quantity> [<Units>],

eg

Time [s]

or

Rotation Rate [°/s]

- Vectors will provide two strings: Quantity() and Units(), which will be empty if they are not defined.
- Quantity and Units will default to automatic strings by those names from the data source, but can be over-ridden in the vector edit dialog.
- Data sources which provide slave vectors are responsible to supply their slaves with Quantity and Units.
- In cases where Units is empty, but Quantity is not, just Quantity will be printed (eg, Index, or Number in bin)
- The first curve in a plot's list which has quantity/units will define the plot's label.
- Axis will not be defined by their field name.
- The Index automatic field needs an automatic scalar Quantity set to Index
- Time still needs to be handled.

## Spectra:

y:

Quantity is set by the type of spectrum (eg Power Spectral Density)

Units is set by the units of the input vector (eg, V), and the rate units specified in the dialog (eg, Hz).... so, eg, V<sup>2</sup>/Hz.

x:

Quantity defaults to Frequency but can be overridden in the dialog.

Units defaults to Hz but can be overridden in the dialog.

## Histograms:

y:

Quantity is set depending on the type of histogram (eg, Number in Bin)  
Units is not set.

**x:**

Quantity and Units are set to the the values of the input vector.

### **Equations:**

**y:**

Quantity and Units are not set.

**x:**

Quantity and Units are set to the the values of the input vector.

### **Spectrograms:**

**y:**

Quantity and Units are set in the same way as Spectra x axis.

**x:**

Quantity is set to Time.

Units is set to s.

### **Plugins:**

Plugins need to set their output vector Quantity and Units as appropriate. In most cases, fits and filters will pass through the values from their input vectors.

### **Legend Labels**

Curves and Images supply default legend labels. These labels should be the same as the curve's descriptive name, except that special characters in field names need to be escaped.