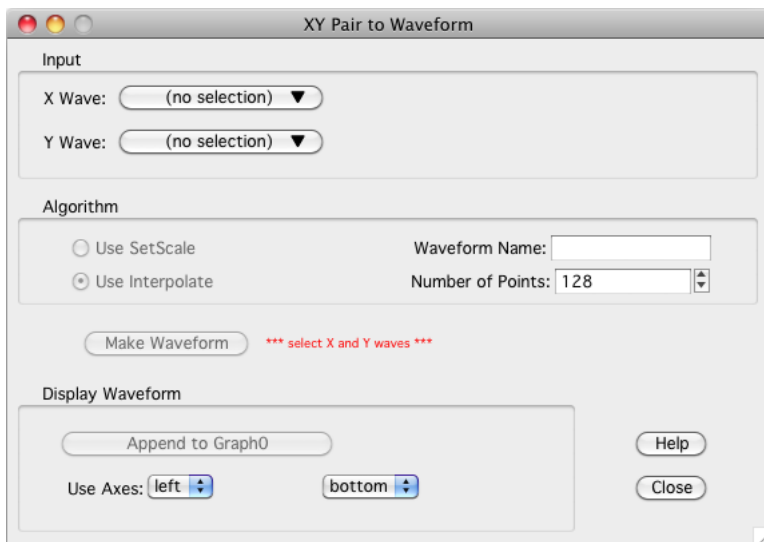The required steps are:

1. Select XY Pair to Waveform from Igor's Data→Packages submenu.
   The panel is displayed:

2. Select the X and Y waves (xData and yData) in the popup menus. When this example's xData wave is analyzed it is found to be "not regularly spaced (slope error avg= 0.52...)", which means that Set-Scale is not appropriate for converting yData into a waveform.
3. Use Interpolate is selected here, so you need a waveform name for the output. Enter any valid wave name.
4. Set the number of output points. Using a number roughly the same as the length of the input waves is a good first attempt. You can choose a larger number later if the fidelity to the original is insufficient. A good number depends on how uneven the X values are - use more points for more unevenness.
5. Click Make Waveform.
6. To compare the XY representation of the data with the waveform representation, append the waveform to a graph displaying the XY pair. Make that graph the top graph, then click the "Append to <Name of Graph>" button.
7. You can revise the Number of Points and click Make Waveform to overwrite the previously created waveform in-place.

Using the Interp Function

We can use the **interp** function (see page V-458) to create a waveform version of our Gaussian. The required steps are:

1. Make a new wave to contain the waveform representation.
2. Use the **SetScale** operation to define the range of X values in the waveform.
3. Use the interp function to set the data values of the waveform based on the XY data.

Here are the commands:

```
Duplicate yData, wData
SetScale/I x 0, 1, wData
wData = interp(x, xData, yData)
```

To compare the waveform representation to the XY representation, we append the waveform to the graph.

```
AppendToGraph wData
```

Let's take a closer look at what these commands are doing.