STRIP CHARTS

The slow controls EPICS software provides a method to display a scrolling strip chart display for any variable that is measured. As part of the TPC controls I usually pop 6 of these charts and display them on the Linux box nest to the TPC control computer. This provides some feedback for the operators and allowed me to scroll back to look at the previous 24 hours to check on the state of the chamber over night etc.

The six standard charts can be brought up by using an alias on the main slow controls computer. In the past this has been SC3, but since that is being retired, it may be necessary to ask slow controls to install the same pointers on SC5. The current aliases are:

strip2 = PT8, the TPC pressure

strip3 = PTB, the barometric pressure

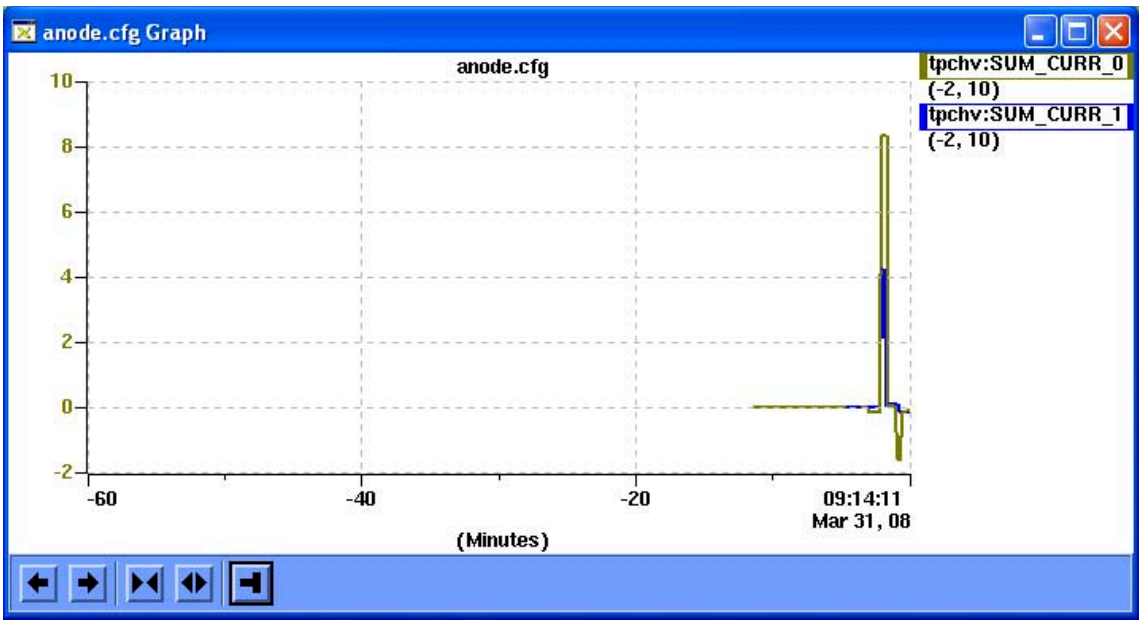
strip4 = the sum of the inner anode currents and the sum of the outer

strip6 = the outer field cages currents, east and west

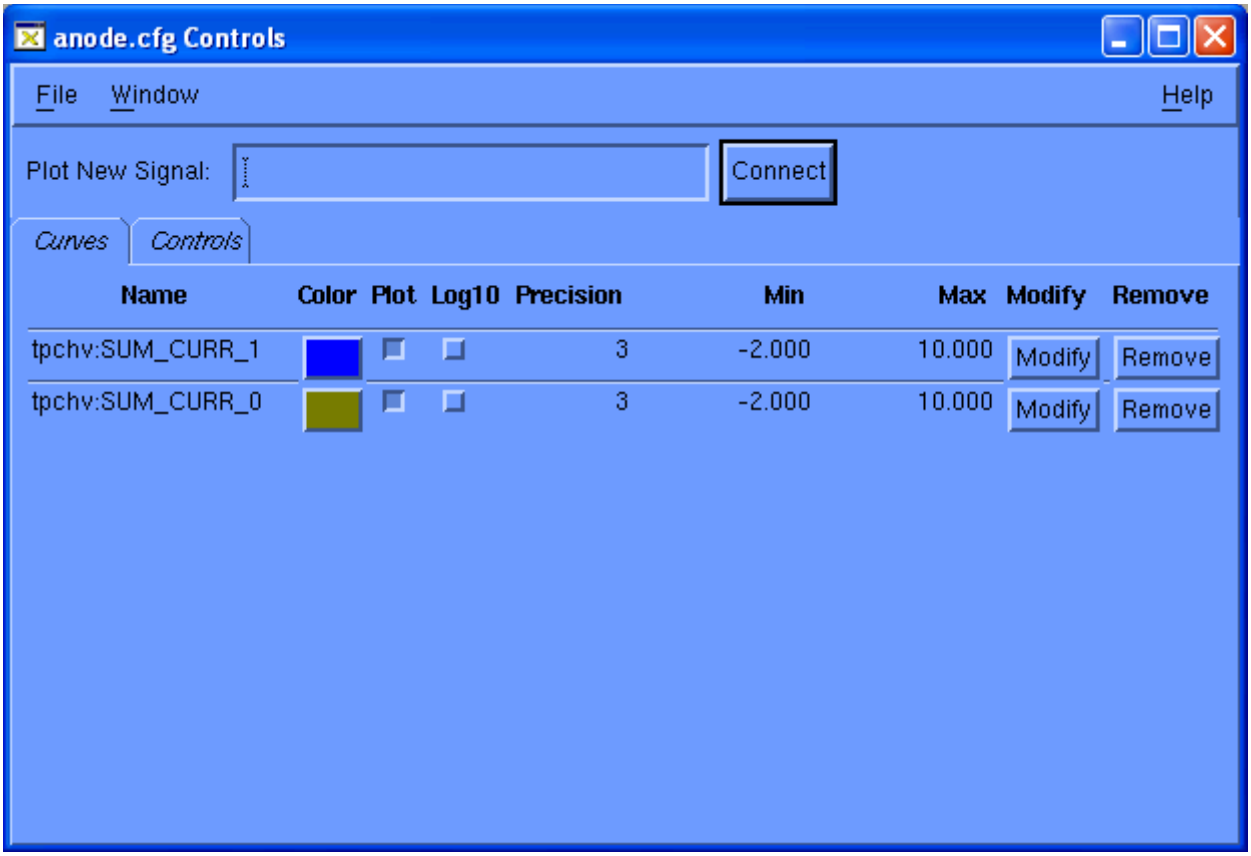
strip7 = inner field cage currents, east and west

To pop these charts, login to SC3 (or SC5) and type the corresponding alias. (You need to have X windowing software running).

A strip chart looks like:

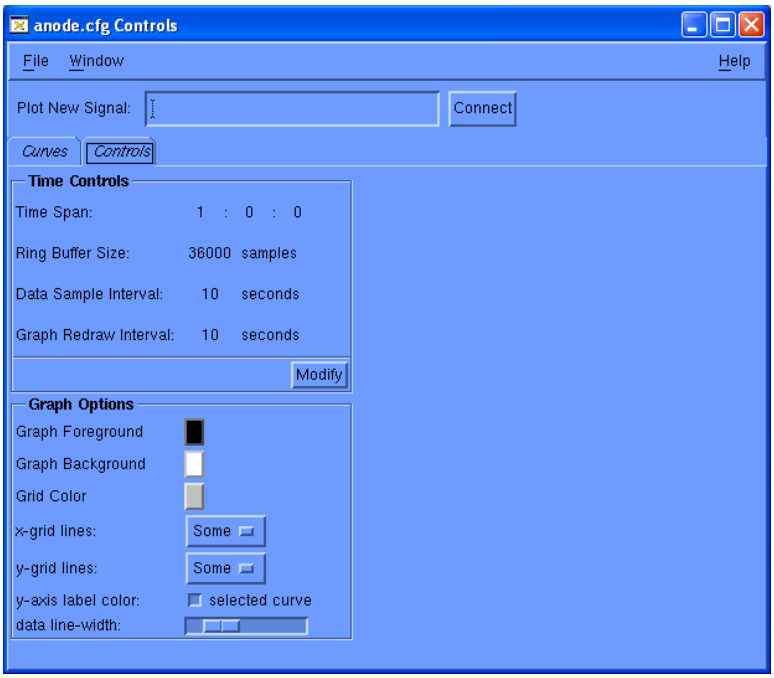


The two arrow buttons on the bottom will scroll the chart forward and backward in time. The next two buttons expand and contract the time axis. The fifth button starts the chart data collection and display. The x and y axes can be changed via the controls dialog for the chart. To access this, right click on the chart and select “Controls Dialog”. This pops the window:



From this window you can change the y axis by clicking on the “Modify” button for each variable and typing in new values. For two variables you have to change both. One can also remove a variable from the plot (“Remove” button) or add a new variable by typing the variable name into the “Plot New Signal” box and clicking on “Connect”

To change the time axis and plotting frequency, click on the “Controls” tab next to the “Curves” tab:



Here one can change can change the time span for the display, the ring buffer size, the data sample interval and the data sample redraw interval. Note that the strip chart only reads the last value stored in that variable name, it does NOT actually go out and measure it at the device. So it makes no sense to plot faster than the variable is getting updated.

If the changes to the plot are meant to be temporary, you can kill the controls dialog box after your changes. The display will keep the temporary changes, but if you kill the plot, the next time it comes up it will revert to the canonical values. To save your changes to the plots you must click on “file” in the controls GUI and drag down to “save”.