Simple Swift Analysis Links

From Bruce's UBat Wiki

Swift Data Center:

Heasarc Swift Page:

Swift-BAT Software Guide: http://swift.gsfc.nasa.gov/docs/swift/analysis/bat_swguide_v6_3.pdf

HERA (not obviously useful, but has the link to fv, the fits file viewer): http://heasarc.gsfc.nasa.gov/hera/

for fv: http://heasarc.gsfc.nasa.gov/docs/software/ftools/fv/

1. To select a Swift burst: http://heasarc.gsfc.nasa.gov/cgi-bin/W3Browse/swift.pl

Select the year of burst, then the burst number. It will select the trigger or target number, you should probably note that. Check Master Log (nothing else words) and click start search. What you get back is a mess; go to step 2

2. To go get a burst 64 ms light curve:

NOT simple - don't think so for a moment. a. Wait forever (it's unbelievably slow) b. sort by start time, wait forever, in earliest row, click services "D" c. SWIFT BAT Data .... All data ... Click on "DIRECTORY" d. in "rate/" directory, look for the brtms file: sw00451901000brtms.lc.gz

3. To plot the light curves, work with the data:

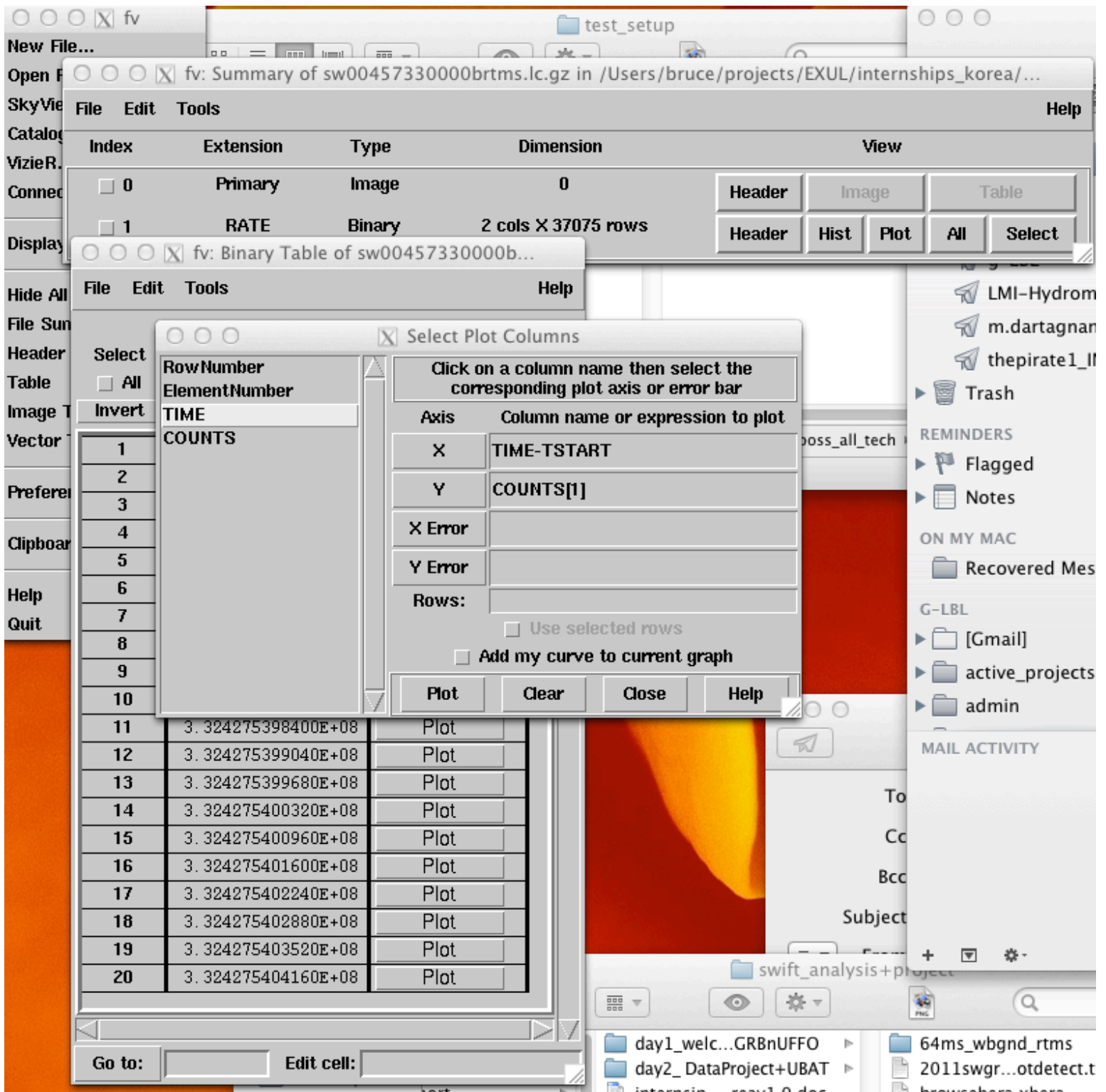Pretty much no plotting or analysis program will work unless you subtract TSTART from FITS header.

open the brtms.lc file in fv (runs on your computer)

a. Summary... window: click "All"

b. Binary Table Window: menu select Tools>Plot

c. Specify energy channel extension, subtract t0: The trick is that this tool cannot quite understand that the COUNTS column is really four columns for each of the energy ranges. You MUST put the column number after selecting COUNTS in the Y column. So, click on counts, click on Y, but TYPE in [1] or whatever column number so you have something like COUNTS[2] in this field for the second column. See the Figure Below.

Another trick: click for TIME , click for X but TYPE -TSTART so this is subtracted.

4. The Data - WHAT DID YOU GET?

From bat_swguide_vt_3.pdf:

"The four channels correspond to the four nominal energy bands used in the trigger task. (15-25, 25-50, 50-100,100-350 keV)"

Units are counts (not counts/s), no bgnd sub.

In the header there is useful information:

TIME - The TSTART is given in Mission Elapsed Time,

TRIGTIME is the Mission Elapsed Time of the start of the burst.

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