

Suggestion.

Run QA and FGT QA should be done separately.

We should exclude the FGT from the run QA. Then after the run QA is done using the first priority run list and have the golden list is determined, use the FGT QA to filter the golden list further and keep the filtered list as a record.

(Same should do for the second and third priority)

You would send the golden list without filtering out using FGT QA, for pre production and later filter out the MuDST's (I guess this is possible) according to the record we have when we do the forward analysis.

**So in this way by not including FGT QA in run QA we can save a run for mid- rapidity analysis, which would throw away due to bad FGT performance.**

Here's how we do it.

Let's take the first priority list.

\*All the QA people do run QA according to Hal's instructions and produce the golden list at the end.

\*Mean time me and Danny (Since me and Danny already knows the FGT problems occurred during the run period, it can be done faster by us than trying explain to everyone how to do it) will take the list and do FGT QA according to our propose criteria (explains below) and then we embed our QA'd list on the golden list and produce a filtered list for forward region use later.

Our propose criteria to do FGT QA.

Probably the offline QA is more useful measure for the quality of the data, though the online QA is still important.

Sources:

Already QA'd FGT spread sheets:

Offline- can use

Online- can use the info about FGT gas, HV and shift crew comments only (online QA has done using J-plot, which have plots in assembly vise. But we need to do QA in detector vise)

Instructions:

- 1) All runs that are marked no plots available should be marked bad
- 2) Determine the good quadrant threshold (can use Maxence's suggestion) and any run below threshold marked bad
- 3) Determine the threshold value for minimum # of FGT events and below mark bad (Danny has used threshold as 700 FGT events but not sure it was a strong cut)
- 4) We had following HV problems:

Some time we had different HV ramping up/down profile for some channels (But we wouldn't have any run during ramping up or down periods)-

And we had communication errors. Since 03/28

Should these HV problems affect a run to be determine as bad or good?????

- 5) If shift crew comments says 100% FGT dead time or any other similar Issue run should mark as bad.

Maxence's suggestion to determine the "good quadrants" threshold value

We fill a histogram of summation of "good quadrants" for every run. Once we get the distribution we can determine the threshold value.

But still this way we can't determine a particular track will have at least 3 hits on FGT. (Maxence suggest a solution for this as well but it will take lot of time ) But for the purpose of run QA is this necessary to determine??????????????

## Determining good/bad quadrant

### Online

A quadrant with,

- 1) Pedestal shift --bad
- 2) 3 or more APV chips missing signal ---bad
- 3) 3 or more chips low amplification --- bad
- 4) HV off ---bad
- 5) 3 or more APV chips have saturation problems ---bad

### Offline

Note: From online QA I do not have info to determine good/bad quadrant, because it was done in assembly vise. But I can make a list of FGT bad configuration with the period they were present (almost all the FGT problems were continuously present once they started except for one or two)