

INTT Weekly Meeting

Joseph Bertaux

Purdue University

August 17, 2023



Helping debug new Fun4All workflow:

- Chris is developing a new workflow that:
 - Allows multiple PRDF files to be read in simultaneously to a single Fun4All macro
 - Organizes events based on GTM BCO
 - Requires a qualitatively different looping structure in analysis libraries
- Goal was/is:
 - Implement the new structure in the INTT library (Done)
 - Write new production macros to produce analyzable files (Done)
 - Write new analysis macro(s) to check against existing analysis to verify all hits are obtained (Done)
 - Continue to work to test and debug the new workflow (Ongoing)

Summary of findings are presented on subsequent slides

- New class `InttCombinedRawDataConverter` for the `libintt.so` library is already merged to the [sPHENIX coresetware repository](#)
- New production [macro](#) and [shell script](#) in my subdirectory of the INTT repository ([README](#))
- These are mostly for a back-and-forth between Chris and I but I prefer to link codes out of principle, or if anyone is curious about how a new workflow might work
- All my existing codes are unchanged and this shouldn't affect any existing workflow; these were strictly additive changes

- Analyzed run 20455
- Made histograms of the distribution of chip and channel readings from the hits
- Found the new workflow grossly undercounts $\sim 2 \times 10^5$ previous
- Gross undercount makes qualitative differences in distribution shape uninteresting, but plots are on next slide

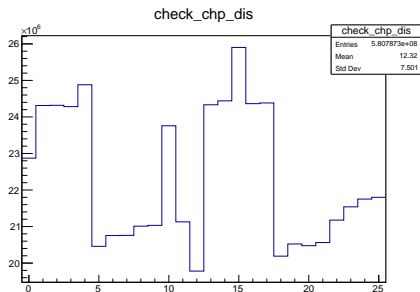


Figure: Reference distribution of decoded chip indexes ($\sim 5.8 \times 10^8$ entries)

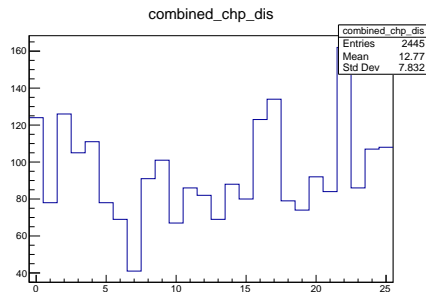


Figure: Debug distribution of decoded chip indexes ($\sim 2.2 \times 10^3$ entries)

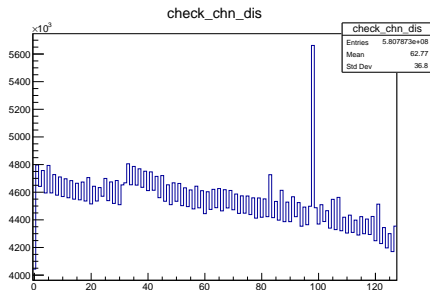


Figure: Reference distribution of decoded channel indexes ($\sim 5.8 \times 10^8$ entries)

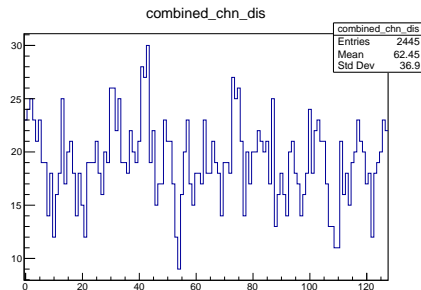


Figure: Debug distribution of decoded channel indexes ($\sim 2.2 \times 10^3$ entries)

- Continue ongoing process of debugging new workflow with Chris
- Continue forwarding of survey data to Tracking Group
 - Should be finished by end of next week, ideally by next tracking meeting (8/17)
 - Will provide
- Work on Online Monitoring
 - Offline debugging of existing runs
 - Will implement Jaein's hot channel classification method