Overview

- Need a suite of scripts for analysis and calibration for the upcoming run
- What do we need?
- What do we already have?
    - Does this suit our needs?
    - Can we improve/merge anything?
- Are we missing anything?

The Wishlist

- Calibration/Setup
    - Timing windows ?
    - Drift chambers ✓
    - Calorimeters ✓
    - Cherenkovs ✓/?
    - Hodoscopes ✗
- Can we combine all of the calibrations in one script?
- Analysis
    - Heep singles ✓
    - Heep coin ✓
    - Pion analysis ✓
    - Luminosity scans ✓
    - Deuterium ✗
    - Online summary/report output ✗
    - Online 50k checking script ✗
- Note, items with a checkmark (✓) may need some adjusting
- More details on the next few slides

Calibrations Checklist - Part 1

- Timing windows - These were done but I'm not sure if there was a single script to do them, should try and make one simple, straightforward script to sort this
- Drift chambers - Existing documentation/script
  - Documentation - `https://redmine.jlab.org/attachments/download/931/DC_Cal_Calib.pdf`
  - Script - `https://github.com/JeffersonLab/UTIL_BATCH/blob/develop/Analysis_Scripts/DCCalib_Batch.sh`
- Calorimeters - Done but SHMS script had some updates that I didn't get around to checking
  - Documentation - `https://redmine.jlab.org/attachments/download/931/DC_Cal_Calib.pdf`
  - Script - `https://github.com/JeffersonLab/UTIL_BATCH/blob/develop/Analysis_Scripts/CalCalib_Batch.sh`

- Cherenkovs
  - HGC done and documented but not batch script, should be easy to incorporate in another calibration script
  - Aerogel done but I don't have the script
  - HMS Cherenkov - Not touched? Need a script
  - HGC documentation - `https://hallcweb.jlab.org/DocDB/0010/001098/001/calib_shms_hgc_report_20oct27.pdf`
- Hodoscopes - Used online calibrations, script exists but had issues
  - Script - `https://github.com/JeffersonLab/UTIL_BATCH/blob/develop/Analysis_Scripts/HodoCalib_Batch.sh`
  - Need to resolve issues and make sure this works

Calibrations - Updates

- Need to check all existing scripts still work OK
  - Some scripts haven't been touched in a while
- Can we merge some scripts together?
  - Should ideally do as many calibrations as possible from a single replay
  - Some calibrations require replays with specific flags, are these compatible or not?
- Need to merge scripts I don't have into existing repositories (e.g. Aerogel)
  - Also need a quick, single script that can be run for the HGC
- Are we missing any documentation?

Analysis Checklist - Part 1

- For all of these, need **sensible**, working report and summary file as outputs
- Heep singles - Exists but basically untouched since online running
  - Need to check it's up to scratch
  - Existing script does not use python framework
- Heep coin - Same issues as Heep singles script
- Pion analysis - Exists but not explicitly used since online running
  - Needs updating to use latest python framework, UTIL_PION repo is a little behind
  - Should update and check we can reproduce online results
- Luminosity scans - Still a work in progress but can utilise scripts Richard is currently working on

Analysis Checklist - Part 2

- Deuterium script - Does not exist
  - This is completely new as we had no deuterium runs previously
  - Need a version of the pion analysis script to analyse and produce some relevant plots for these runs
- Online summary/report output - Mentioned previously but very important
  - Need a report file that contains correct and relevant info for each type of run
  - Need a summary file too that gives the relevant quantities for the run sheet/shift checklist
- Online 50k script - Already exists but need it in a usable state for us
  - This is generally a case of deleting irrelevant histograms from the 50k script and making sure all of the relevant ones are there
  - Also need to make sure it uses an up to date report/summary template

Analysis - Updates

- Need to update scripts in UTIL_PION, not as up to date as UTIL_KAONLT
  - `https://github.com/JeffersonLab/UTIL_PION`
  - `https://github.com/JeffersonLab/UTIL_KAONLT`
- Need to update the scripts to match the new python framework
- Incorporate updated report/summary templates too
- Need to check documentation is solid and that instructions are clear
- Should also update relevant def files too - don't want huge replay files

Discussion

Discussion - Backup