

08-01-24 NPS analysis meeting minutes

Attending: J. Crafts, C. Hyde, A. Singh, C. Munoz, H. Huang, M. Kerver, P. Anderson, T. Song, T. Horn, Y. Zhang, and J. Roche.

Recording:

<https://jlab-org.zoomgov.com/rec/share/YW5rU8AKOB2PR-M1Vm7b9fedhRVXjIEsUIEAn6tmkv6MBGYqIF1MTIQfIksoIkhE.EzDTsJFcL9DxdpNy>
Passcode: ask Julie

Fall meetings:

We might have to change our schedule to accommodate the school schedule. Please complete this poll before Friday August 9.

<https://www.when2meet.com/?25786391-nSZdZ>

To accommodate our worldwide group, please consider after-hours availability. We will probably have two meetings alternating mornings/evenings like we did this summer. The poll shows the week of August 26 (so the time zone feature is enabled), but we want to find a time that works for most weeks until December.

C. Morean: Computer issues

Casey will turn our cache/online directory to read-only and create a new directory labeled Pass0. Once this is done, Casey will notify nps@jlab.org. The computer center is changing how one can write to the cache: it will be via swift2 only. Casey will distribute instructions shortly.

J. Crafts: Run List

- <https://docs.google.com/spreadsheets/d/1AD6YoICDqJKk9PPtwKmw4av6W1dG-mucDaB0na7HHA0/edit?gid=0#gid=0>
- version 1.0 is ready. New kinematic name, merged with Peter's list
- ~4000 runs that Peter and Josh agree are good, 400 bad, and 600 have unknown quality (eg odd scalars). Work is ongoing, especially on the unknown category. Bad runs were started in error or with DAQ issues right at the beginning.
- Wiki will have a readme for this file
- Working on downloading a text version of the list. Can we have a snippet of C code to help read it?
- What are runs that did not make it to the list? LED, cosmics, optics, elastic calibration. Request to add all runs.

H. Huang: Run-by-run check of the health of the NPS calorimeter

- Hao started to work with Wassim on this.
- Hao presented plans as of right now. See <https://hallcweb.jlab.org/elogs/NPS-RG1a-Analysis/22>

M. Nyck: HMS Run quality based on report files

- Slides: <https://hallcweb.jlab.org/elogs/NPS-RG1a-Analysis/21>
- Mike showed the list of the quantities he was looking at.
- Mike showed some preliminary plots considering 4000 files. These are files in a specific directory without considering their good/bad status (for now). Some report files are not in the directory that Mike looked at; Josh will help Mike locate the other files.
- Mike showed some low-efficiency results. It is possible that the report file results are not super reliable (i.e., we should recheck in detail what criteria are used to produce the reports). We should double-check those report files before Pass1.

M. Kerver: HMS PID

- Mitch is working with Paul Anderson on this
- Slides: <https://hallcweb.jlab.org/elogs/NPS-RG1a-Analysis/20>
- Mitch showed some photo-electron calibration and discussed possible issues with the pedestal.
- Mitch ran the calorimeter script on 27 runs in the second part of the run period (where Yaopeng checked the reference time).

Y. Zhang: timing cuts checks

- slides: <https://hallcweb.jlab.org/elogs/NPS-RG1a-Analysis/19>
- Yaopeng checked the calorimeter multiplicity and the EL_LO EL_HI pre-triggers for the double peaks in the timing plots. The calorimeter multiplicity cut doesn't make much difference; multiple peaks remain. But the $(EL_LO \&\& EL_HI) == 0$ condition suppresses the small peaks. (relevant plots are attached)
- Yaopeng also modified "timing_window_setup.C" to add DC plots in the output file; the new macro has been updated in GitHub.
- Yaopeng updated the timing window cuts for the hodoscope and the Cherenkov. Yopeng will push all of them to the GitHub when the calorimeter part is done (pending Avnish

A. Singh: timing cut checks

- slides: <https://hallcweb.jlab.org/elogs/NPS-RG1a-Analysis/23>
- Avnish spotted that the TDC associated with the hodoscope detected multiple hits more and more throughout the Fall (from 5% to 50%). The

multiplicity suddenly dropped to 5% around run ~3000 (~November 15).
Avnish is looking into that.

The group will meet next Wednesday, August 7, at 8 am EDT. Casey Morean will chair.

Keep up the good work!