Run List Status Update

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Outline

- Overview
  - Current Status
  - Revised Color Code (for current google sheet)
- Cleaning up
  - Non Standard Runs
  - Special Case Items
- Criteria for selection
  - Current flag items and factors
  - Peter's list now with new items.
- Next Steps
  - Continue to add information that may be pertinent
  - Convert the list into a version managed text file with update notes

KinC_x50_2	10-03	1572		g	36.88	18	8.99
KinC_x50_2		1573	junk	b	36.88		
KinC_x50_2		1574			36.88	28	49.79
KinC_x50_2		1575			36.88	19	24.45
KinC_x50_2		1576			36.88	20	31.59
KinC_x50_2		1577			36.88	20	30.82
KinC_x50_2		1578			36.88	19	66.37
KinC_x50_2		1579			36.88	19	29.46
KinC_x50_2		1580			36.88	17	18.1
KinC_x50_2		1581	junk		36.88		
KinC_x50_2		1582			36.88	10	10.05
KinC_x50_2		1583			36.88	15	
KinC_x50_2		1584			36.88	15	
KinC_x50_2		1585	efficiency		36.88	20	
KinC_x50_2		1586	junk		36.88		
KinC_x50_2		1587	junk		36.88		
KinC_x50_2		1588	efficiency		36.88	30	
KinC_x50_2		1589			36.88	30	
KinC_x50_2		1590			36.88	23	6.66
KinC_x50_2		1591			36.88	30	
KinC_x50_2		1592	junk		36.88		
KinC_x50_2		1593	efficiency		36.88	19	18.44
KinC_x50_2		1594	efficiency		36.88	19	19.78
KinC_x50_2		1595			36.88	26	51.66
KinC_x50_2	10-4	1596			36.88	14	19.68
KinC_x50_2		1597			36.88	13	36.23
KinC_x50_2		1598			36.88	14	45.8
KinC_x50_2		1599			36.88	15	
KinC_x50_2		1600			36.88	15	
KinC_x50_2		1601-1609	junk		36.88		
KinC_x50_2		1610	efficiency		36.88	14	19.9
KinC_x50_2		1611	junk		36.88		
KinC_x50_2		1612			36.88	14	1.19
KinC_x50_2		1613			36.88	14	40.79
KinC_x50_2		1614	junk		36.88		
KinC_x50_2		1615	junk		36.88		
KinC_x50_2		1616			36.88	14	19.72
KinC_x50_2		1617	efficiency		36.88	14	24.56
KinC_x50_2		1618			36.88	28	70.49
KinC_x50_2		1619			36.88	28	46.55
KinC_x50_2		1620			36.88	28	91.5

Current Status

❑Overview

- New spreadsheet available
- Separated by Kinematic

https://docs.google.com/spreadsheets/d/1AD6YolCDqJKk9PPtwKmw4av6W1dG-mucDaB0na7HHA0/edit?usp=sharing

❑Color Coding

- White cells are LH2, yellow are LD2, green are dummy, blue are optics, pink are special runs such as LED, red are non-standard request/test runs, and magenta are the runs that were conducted during our kinematic sweeps at the end of the run.

KinC_x36_6		4685	junk	23.801	8
KinC_x36_6		4686	production	23.801	12
KinC_x36_6		4687	production	23.801	12
KinC_x36_6		4688	production	23.801	12
KinC_x36_6		4689	production	23.801	12
KinC_x36_6		4690	production	23.801	12
KinC_x36_6		4691	production	23.801	12
KinC_x36_6		4692	production	23.801	12
KinC_x36_6		4693	production	23.801	12
KinC_x36_6		4694	production	23.801	12
KinC_x36_6		4695	production	23.801	12
KinC_x36_6		4696	production	23.801	12
KinC_x36_6		4697	DIS	23.801	20
KinC_x36_6		4698	DIS	23.801	20
KinC_x36_6		4699	DIS	23.801	20
KinC_x36_6		4700	DIS	23.801	20
KinC_x36_6		4701	DIS	23.801	12
KinC_x36_6		4702	DIS	23.801	20
KinC_x36_6		4703	DIS	23.801	8
KinC_x36_6		4704	DIS	23.801	15
KinC_x36_6		4705	junk	23.801	12
KinC_x36_6		4706	junk	23.801	8
KinC_x36_6		4707	DIS	23.801	8
KinC_x36_6		4708	DIS	23.801	3
KinC_x36_6		4709	FC Measurement	23.801	n/a
KinC_x36_6		4710	BCM Measurement	23.801	n/a
KinC_x36_6		4711	junk	23.801	16
KinC_x36_6		4712	16uA run 1/2	23.801	16
KinC_x36_6		4713	16uA run 2/2	23.801	16
KinC_x36_6		4714	production	23.801	12
KinC_x36_6		4715	production	23.801	8
KinC_x36_6		4716	production	23.801	8
KinC_x36_6		4717	production	23.801	8
KinC_x36_6		4718	production	23.801	8
KinC_x36_6		4719	production	23.801	8

Some Bookkeeping Numbers

- General statistics
  - Total of 4576 runs currently in hand that were taken.
  - Around 403 runs of these are already in the junk pile (more on that later).
  - This leaves us with an impressive number or runs across wide kinematic ranges.
  - ~105 Coulombs of charge (just bookkeeping numbers), and ~90 days of active production run accumulation time (not including elastic calibration runs or initial calibration at the beginning).
- Current state
  - Still living in a google doc, for the time being.
  - Will be converted to a text document and uploaded to a location on the group/work disk for easy access.

Things to Separate

- Extraneous Runs
  - Optics, LED, etc.
  - These are non standard runs are contained in other spreadsheets separate from the main run list by the experts working on the topics.
- Non Production Runs
  - Fan Speed Tests
  - Trigger Tests
- Moving them to another “kinematic” of their own
  - This will allow for further analysis with less cluttered lists.
  - The new kinematic will technically be a new flag identifier.

Incoming Changes

- Kinematic naming convention change
  - Due to the confusing nature of kinematics naming system we have decided to rename the kinematics in the following way.

x36_q40_p5_#

  - In this example the first integer is the x-Bjorken scale times 100, the second item is the central momentum (Q^2) times 10 and the third is the beam pass that the data was taken at.
  - The last number is an integer value which will count up into the number of different sub changes we encounter that are major identifiers.
  - This system will remove the necessity for the prime naming convention and replace it with in table items.

Kinematic Conversion Table

- Table
  - With the new naming convention will come a conversion table that will be put on the wiki in a new section for the run list which will also be used for other record keeping.
  - New changes to the kinematics, new indices, will also be updated onto the conversion table as the run list continues to mature.
- Version keeping
  - When major revisions to the run list occur these changes will be documented in the wiki page as well.
  - Keeping an accurate track of the versions of the run list will be crucial to maintaining organization across the different analysis tasks.

Items to Add

- Detector distance
  - This change will be included in a new column of the list, and will be sourced from Peter's table.
- Record keeping
  - As we continue to add items to the table we will keep track of the source of the information, e.g. was it from the run sheets, the post run analysis, or the end of run coda outputs. This will allow us to keep a record of the source as the analysis progresses.
- Other items
  - Threshold readouts, one photon, two photon, seed etc.
  - Sparsification state (another source for comparison).
  - Different cryogenic loop speed and pressures .
  - Half Wave Plate (HWP) status.

Syntax

- Current Nomenclature
  - The current run list has the old format still junk, production, test, etc.
  - These will be supplemented for production runs with a simplified three character code, “g” will denote good runs accepted into their kinematic list, “b” will be for bad runs, and “u” will stand for undetermined status.
- The indeterminate/unknown category
  - This category will be a critical component as we work on the run plan and process runs; it will continue to be a living item.
  - Runs will be added and removed from this category as problems and questions are identified and resolved.
  - At the moment this set will include the runs which had some abnormal coda run behavior or other daq issues noted. E.g. a crate was observed to drop out mid run.

Criterion for selection Good/Bad

- Basic Identifiers First
  - Short runs, usually do to CODA glitching or wrong prescale factor etc.
  - Run time/event count criteria for selection (currently ~<5min).
  - Multiple triggers on one run.
  - Significant known issues.
- Peter's List
  - Peters list of good runs (and runs he's excluded) are determined by scaler/event counts as well as the e to π ratio stability within a given kinematic setting.
  - Bob Michaels has been working on this to see if some of them can be recovered and he has some news.
- New criteria to be added
  - Considering from previous Hall A DVCS:
  - https://hallaweb.jlab.org/experiment/DVCS/documents/results/Frederic_thesis.pdf, page 51

Next Steps.

- Updating the current list
  - Cleaning the unnecessary runs.
  - We will use a green, yellow, red labeling scheme to mark runs that are good, indeterminate, bad.
  - Casey and Michael are working on some methods to recover angle images and epics values that can be run over the entire run list.
- Improve on the indeterminate category
  - Iterating on the primary list adding and removing as necessary,
  - This category will continue to be processing space for runs that have oddities or unknown issues that need further investigation.
- "Source of Truth"
  - As we proceeded forward we recommend that critical items also include the source that they were determined from such as the camera angles etc.

Source of Truth…?

- Where did that number come from?
  - As we proceeded forward with the analysis there are going to be times when we have to decide which number is the right one.
  - There may be instances where there are multiple sources or methods that can be used.
  - We will be keeping track of the source of our entries into the run sheet.
  - Currently most of the items currently in place came from the end of run script output or coda. And most (but not all) of the angles reported were as seen on the camera angle screenshot log entries.
- New additions will be decided as we go
  - New columns and additions to the run list will be added to this record once the group has decided to include them.

Summary

- The run list is evolving
  - New categories (columns) are being added.
  - Current items are being looked at.
  - Establishing the good the bad and the in between.
- A versioned controlled system will be implemented
  - This list will include documentation to identify what changed between versions.
  - A translation table from the old kinematic names to the new one (on the wiki and ELOG)
- Source of Truth
  - New items added to the run list will be verified and their source recorded.

Thank you all for your time
Questions?