



SHMS Tracking Update and HMS DC Calib

Stephen Kay
University of Regina

30/04/19

SHMS Tracking Update 1/2

- Pete Bosted and Mark Jones looked into this issue
- Removed stub cuts (made them artificially very large) as they were not having any effect on the quality of tracks selected
- Increased max tracks from 10 to 30
- Track pruning code was re-implemented, selects the best track if more than one found

SHMS Tracking Update 2/2

- In THcDC.cxx, one variable in the section that links stubs together was only retaining 10 space points, if it was provided more than this it stated that no tracks at all were found
- This was altered to retain 100 points and in the rare cases where more were found, keep the first 100
- Resulted in a significant increase in SHMS tracking efficiency
- Code is not live on git *yet*, I've consulted with Mark Jones and he has put in a pull request with it, hopefully it will be merged soon (after next meeting potentially)
- I plan to test the new version versus the older version later this week, currently stuck in a small (~ 30) job run of the files where we were varying the current.

HMS DC Calibration 1/2

- Already an existing calibration script
- Script is actually designed to work for both the HMS and SHMS drift chambers
- Scripts under CALIBRATION/hms_dc_calib are actually obsolete
- Correct script is under CALIBRATION/dc_calib/scripts/
- First step is to replay files to be calibrated with t_0 per wire set to 0
- Submitted a batch job of all Lumi Scan runs with this set for calibration

HMS DC Calibration 2/2

- Are Lumi Scan runs best for this?
- For HMS choice of run shouldn't matter too much, always -ve polarity
- Script has the capability to do PID when calibrating, for HMS will tell it to expect electrons
- Can easily replay more if needed
- Some issues with older files, 51XX, likely a DEF files problem, looking into this today

Group iFarm area and Batch Running

Richard has probably already said some of this but...

- Group directory that is backed up under `/group/c-kaonIt/`
- *NOT* a large directory, for *software*
- You should store your own replay fork under `/USERS/USER` in this group area, preferably you should use your *exact* JLab username as the folder name in this directory
- Read the README in this directory and in the `hallc_replay_kaonIt` directory before starting
- Use `/volatile/hallc/c-kaonIt/USER/` for *temporary* storage of files, it's not just called volatile for a joke!
- Test your code before submitting it as a farm job
- Read Brad's slides on the software environment

Bonus Slide - Resources

- <https://scicomp.jlab.org/scicomp/#/farmJobs/activeJob>, check Farm Job status
- https://scicomp.jlab.org/docs/text_command_file, info about what each line in your command file does when you submit a batch job
- <https://redmine.jlab.org/projects/podd/wiki/Workshop2018>, talk by Brad about software/farm usage
- https://redmine.jlab.org/projects/kltextp/wiki/Analysis_How-To, KaonLT Redmine with info from Richard

Bonus Slide

Outstanding (Pending/Active) Batch Farm Jobs

Outstanding Job	Recent Job	Job Priority	Job Query	Queue Info				
User	Org	Depend	Pending	PbsPending	StageIn	Running	StageOut	Total
clas12	clas12	230	0	0	0	126	0	356
dlersch	halld	0	0	0	0	2	0	2
gleasonc	halld	0	0	0	0	23	0	23
gxproj2	halld	320	0	0	0	141	0	461
gxproj5	halld	0	0	0	0	27	0	27
hps	hallb	0	0	82	0	1,024	0	1,106
kai	halla	34	0	0	0	0	0	34
karki	halla	0	0	0	0	4	0	4
ksuresh	halld	4,863	0	0	0	4	0	4,867
marki	halld	0	0	0	0	2	0	2
mboer	hallc	0	0	0	0	68	0	68
mkamel	halld	26	0	0	0	5	0	31
nwickjlb	halld	0	0	0	0	221	0	221
segarrae	clas12	0	251	594	0	6	0	851
shankar	halld	0	0	0	0	11	0	11
sjdkay	hallc	19	0	0	0	8	0	27
staylor	halld	0	3,414	583	0	150	0	4,147
tireman	hallc	0	55	0	0	0	0	55
xbai	hallb	0	0	0	0	123	0	123
xiongw	hallb	0	66	26	47	143	0	282
		5,492	3,786	1,285	47	2,088	0	12,698