5.9-GeV Replay Progress

for the d_2^n analysis meeting

Diana Parno

CENPA, UW

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5.9-GeV Replay Begun

- The surprisingly finicky 64-bit batch farm is now working (knock on wood)
- I have begun a full-scale replay of our 5.9-GeV runs
- My production run list and Matt's vary slightly, so I'm replaying the superset

Replay Task List

- Divide production list into kinematics (done by target spin direction)
  For each kinematic:
- Replay all runs (done for kin 5a/5b $(270^\circ, 0^\circ)$)
- Confirm successful status of each run, redoing runs that failed for some reason (in progress for kin 5a, done for kin 5b)
- Write runs to tape (done for kin 5b)
- Delete runs from disk (done for kin 5b)
- Automatically locate beam trips in each run (done for kin 5b)
- Hand-correct beam-trip finding
- Skim all runs to apply beam-trip flags, add physics variables
- Write skimmed root files to tape to save space

Run Failure

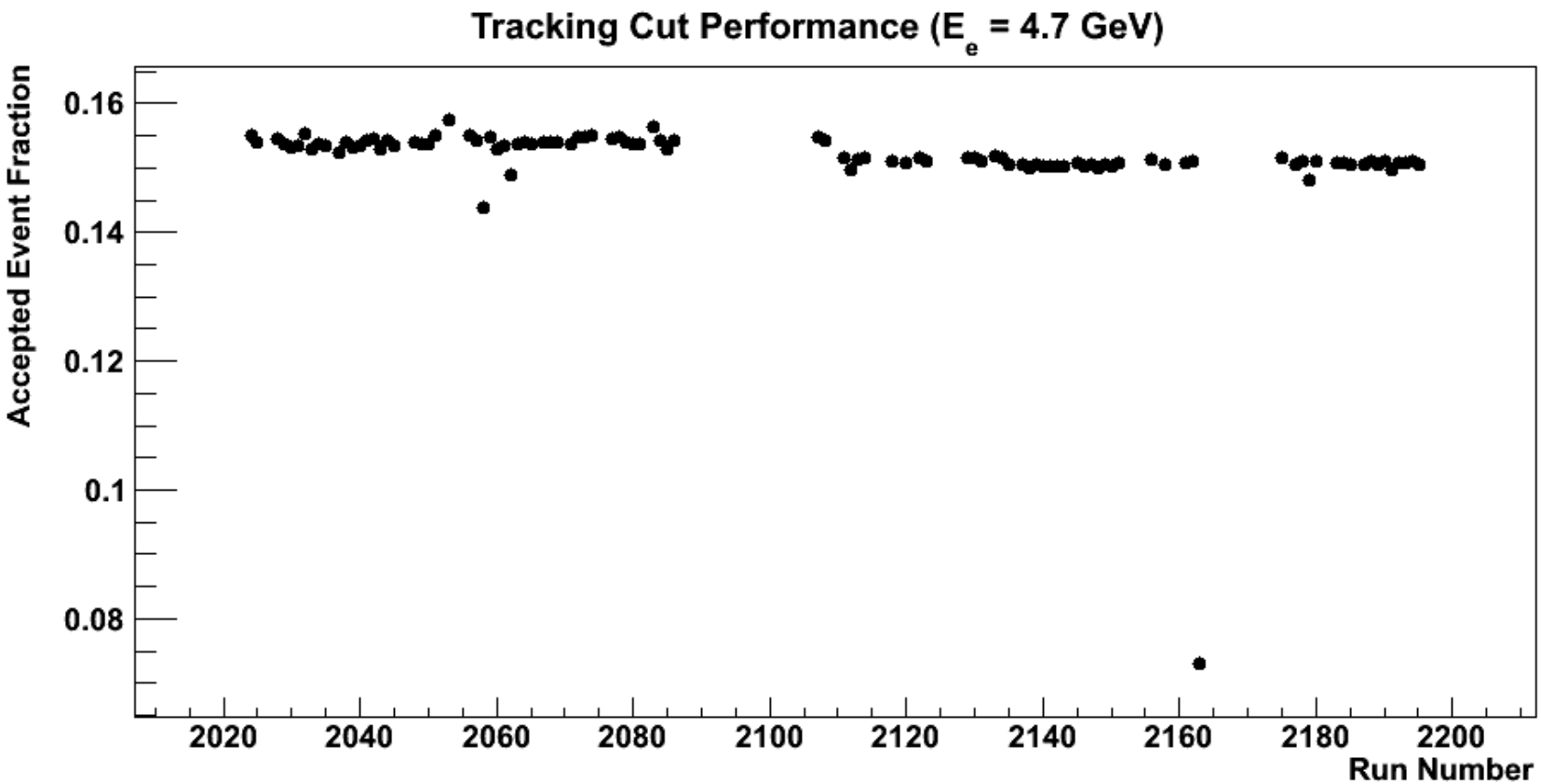
- Hard to track for hundreds of jobs
- Usual problems: analyzer hangs up or fails to start in farm environment
- Typically, just running the job again will work
- A Perl script skims farm logs to identify errors
- Some error reports differ now, compared to reports from 32-bit farm
- I'm updating the Perl script by trial-and-error

Vital Statistics

- Kinematic 5a:
  - 130 runs at 6.202 GB/run, mostly complete
  - Initial failure rate: $>$ 24/626 jobs ($>$ 4%)
  - (Still tracking down a bug in the Perl status script.)
- Kinematic 5b:
  - 35 runs at 7.355 GB/run, complete
  - Initial failure rate: 6/197 jobs (3%)

Tracking Cut Performance (i)

- Recall that, to save space, our BB replay only writes those events where at least one track has been found
- The acceptance of that cut is recorded in the farm log files
- First, let's look at the results of our 4.7-GeV replay for comparison – around 15.5%



Tracking Cut Performance (ii): Results from Partial 5.9-GeV Replay

- In the 5.9-GeV dataset so far, the performance of the tracking cut is much less steady
- Item to check: Is this correlated with trigger changes?