STAR Status From February 4th to February 10th

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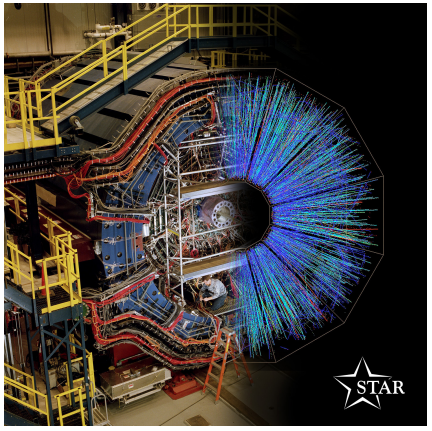
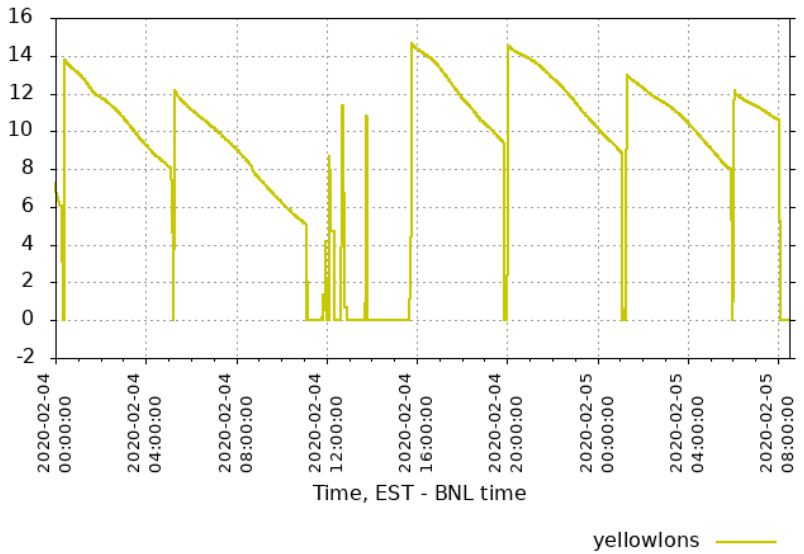


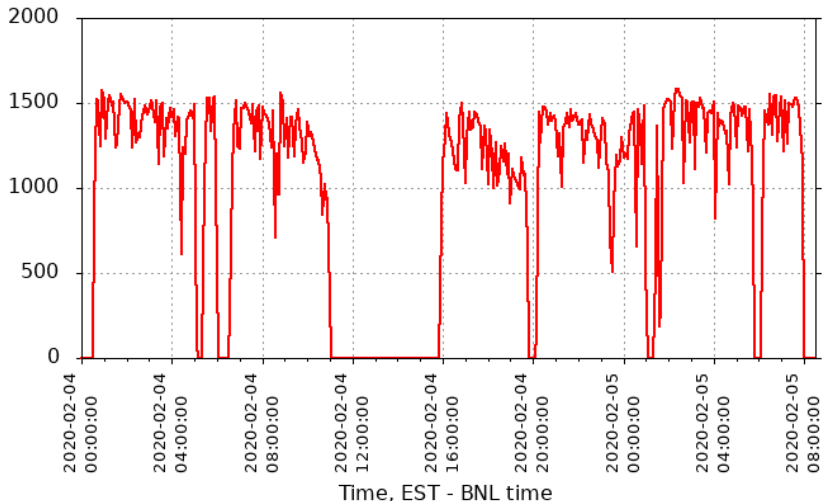
Outline

- Fix target experiment at 7.3 GeV
- 4.6 GeV beam collisions with LEReC and beta squeeze
- 5.75 GeV beam collisions
- Summary

Fix target at 7.3 GeV

- STAR detector components: BBC, VPD, TOF, TPC, BEMC, and ETOF
- Event selection: high level trigger (HLT) system



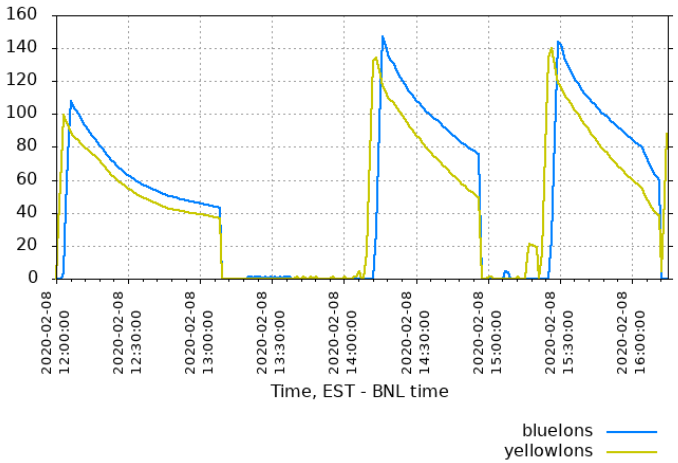


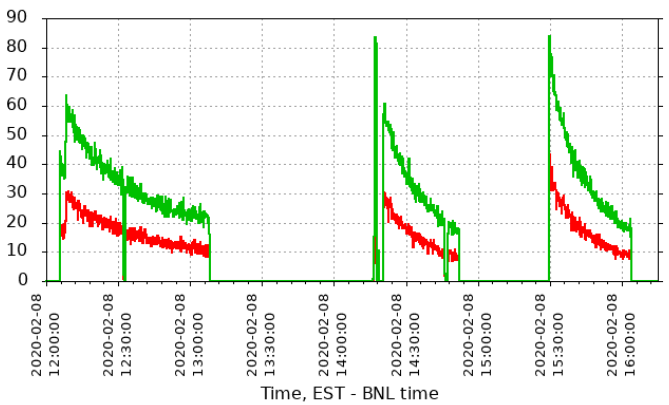
- STAR good HLT event rates stablized around 1400 to 1500 Hz even though beam intensity drops slowly with time
- Interrupted by APEX for a few hours

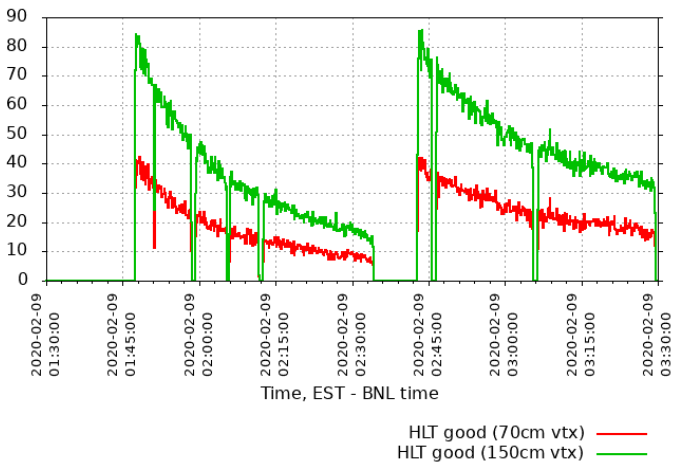
Beam energy (in GeV)	Start	Finish	Number of good events (in M)	Target(in M)
7.3	02/04/20	02/05/20	117	100

4.6 GeV beam collisions with LEReC and beta squeeze

- To achieve 160 M events in 12 weeks, the HLT effective rate $>$ 35 Hz
- HLT effective rate = HLTvtx70 + 0.3 $\times$ (HLTvtx150 - HLTvtx70)
- From the last week's beam study with LEReC, HLT effective rate was at 24 Hz
- To increase the HLT effective rates:
  - Increase beam intensity: rate $\sim I^2$
  - LEReC + beta squeeze

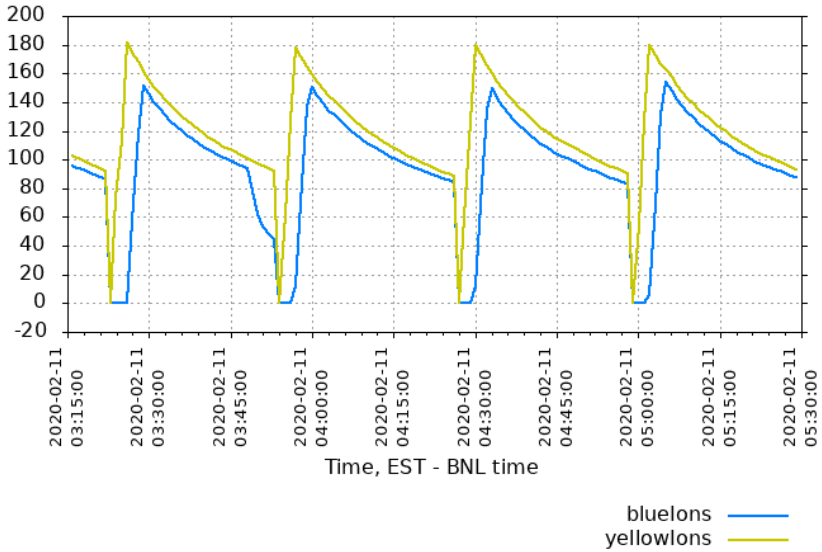


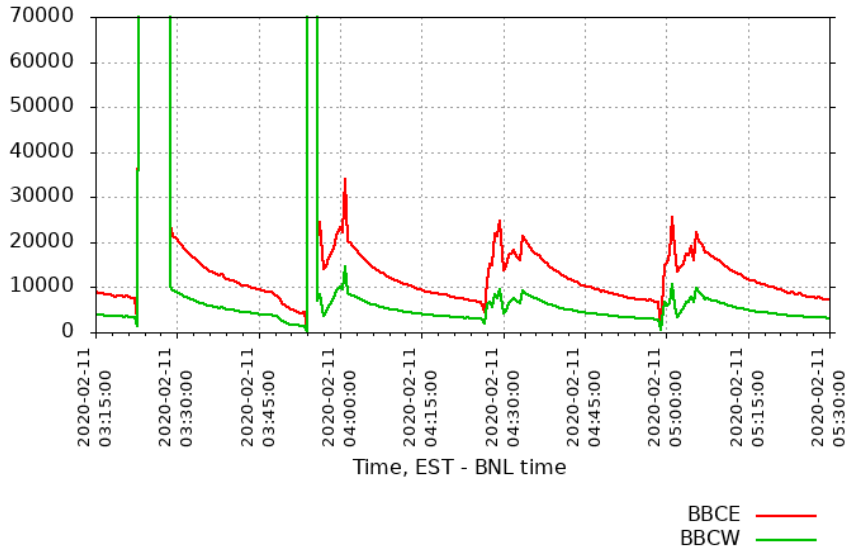




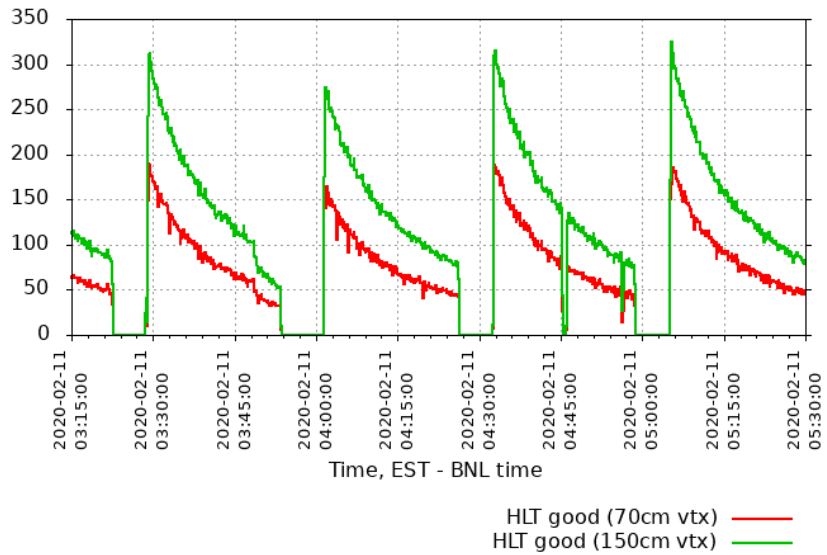
- An increase of rate to 37 Hz on Sunday morning around 2, during the day several fills around 35 Hz, the highest rate was 38 Hz, after fine tuning, including optimal 40-minute store length.

5.75 GeV beam collisions





- Yellow beam intensity is bigger than the blue beam, CAD is working on this now
- Background reduced (BBC singles rate) around 4:15 am today
- HLT vtx70 rate started around 180 Hz ended at 50 Hz over a 25-minute store
- Collected about 4.6 M events in about 16 hours, grand average 80 Hz, since yesterday



Summary

- Other issues: A trigger cable for TPC sector 12 behind poletip is tripped, action is taken to fix the issue with minimal impact
- Achieved goals for fix targets at 31.2, 19.5, 13.5, 9.8 and 7.3 GeV
- Back to non-stop physics running from 5.75 GeV beam collisions in the next three weeks, and expect around 100 Hz event rate
- 5.75 GeV fix targe scheduled on Thursday, expected to be completed in 24 hours
- Expect to finish 4.6 GeV beam collisions in 12 weeks
- On track to fulfill all of our goals.

Beam energy (in GeV)	Status	Number of good events (in M)	Target(in M)
FXT 31.2	Done	112	100
FXT 19.5	Done	118	100
FXT 13.5	Done	103	100
FXT 9.8	Done	108	100
FXT 7.3	Done	117	100
FXT 5.75	Ongoing	0	100
Collision 5.75	Ongoing	131	230
Collision 4.6	Ongoing	7	160