Status of the ongoing Fall 2018 run

A. Deur
Jefferson Lab

Status of the ongoing Fall 2018 run

A. Deur
Jefferson Lab

Run plan: https://halldweb.jlab.org/wiki/index.php/Run_Coordination_Meetings:Fall2018_Run

Fall 18 run

1. Aug. 21st - Oct. 28th: GlueX-I final run (11.6 GeV)

2. Oct. 28th - Nov 19th: DIRC and ComCal installations (accelerator still at 11.6 GeV until 11/16/2018)

3. Nov 20th - Dec. 12th: GlueX-II (DIRC) and Primex (ComCal) tests. E=10.3 GeV

5. Dec. 13th - Dec. 19th: GlueX-II and Primex tests. E=9.0 GeV

Usable beam delivery is late by a month+. ⇒ Plan may change

If the collaboration decides to run GlueX-I during from Oct. 28th to Nov 16th, shifts are manned.

However, we are still missing two RCs for Oct. 31st to Nov. 14th.

Fall 18 11.6 GeV runplan

- Operation: physics running. Energy: 11.62 GeV (Similar to Fall 16 to Spring 18)
  - 4-hall ops, mostly 5-pass for all Halls, some at high current.
- Accelerator work related Hall D:
  - Act. Col. fast raster commissioning;
  - Test nA BPm, test stripline BPM improvements for lower beam current ops ?
- Hall D configuration:
  - Solenoid at 1350A. Rep. rate 250 MHz. Slit shared with C (it was with B in Fall 17 and A in Spring 18)
  - Beam current 1 nA-1.5 μA. 530 nA for standard production on 17 μm diamond;
  - Main diamond: 17 μm J70-104 (+new: 47 μm J70-105);
  - 5mm collimator hole (except for TAC runs);
  - Slow locks;
  - Tagger quadrupole on (negative polarity);
  - LH2 target.

Hall D goals:

- **Finalyze GlueX-I data taking;**
- High intensity DAQ/L1 tests;
- 2 TAC runs;
- 47 μm JD70-105 diamond alignment and performance check;
- (TRD non-invasive tests).

Fall 18 11.6 GeV runplan

1. Verify electron beam quality and establish photon beam.

2. DAQ, L1 trigger, detectors and beamline checkouts. High intensity DAQ & L1 tests.

3. Check 17 μm diamond (JD70-104) 0° and 90° alignment. Do $45^o/135^o$ alignment.

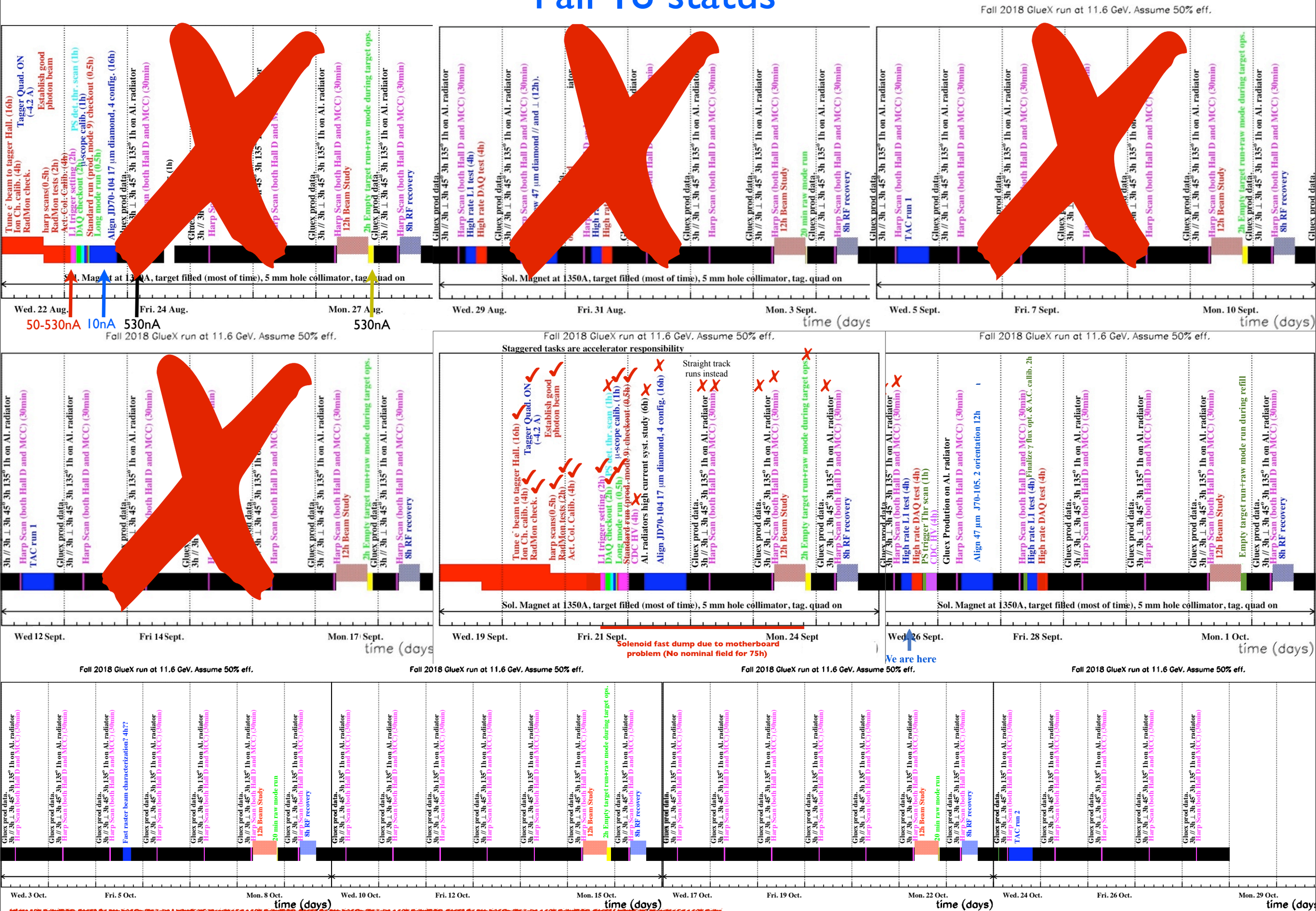
4. Beam envelope measurement with fast raster.

5. **Gluex data production**:
   - Goal: finish GlueX I data taking.
   - Harp scans (once every day).
   - Empty target run every 2 weeks. (Done at standard production current.)
   - Raw mode run every week. (Done during target fill/empty, or during Harp Scans)
   - TAC runs. 2 TAC runs (one at beginning, one in middle of the run).
   - Physics production with diamond(s) and 5 mm collimator.
     - Balanced amount of $0^o/90^o/45^o/135^o$ data + shorter Al. run per cycle: gather 10-15% of total number of triggers with Al. radiator.
     - Switch polarization every run.
     - Start production with 17 μm diamond (JD70-104).
     - Align 47 μm diamond and do 1-2 days of production runs (5 mm coll.) to assess its quality.
     - Luminosity: Same as Spring 17: ~45 kHz, 530nA on 17 μm diamond. 180 nA on amorphous rad.
     - TPol monitoring

6. Straight track data

7. Parasitic: TRD.

Fall 18 status



https://halldweb.jlab.org/wiki/index.php/Run_Coordination_Meetings:Fall2018_Run#Runplan_time_charts

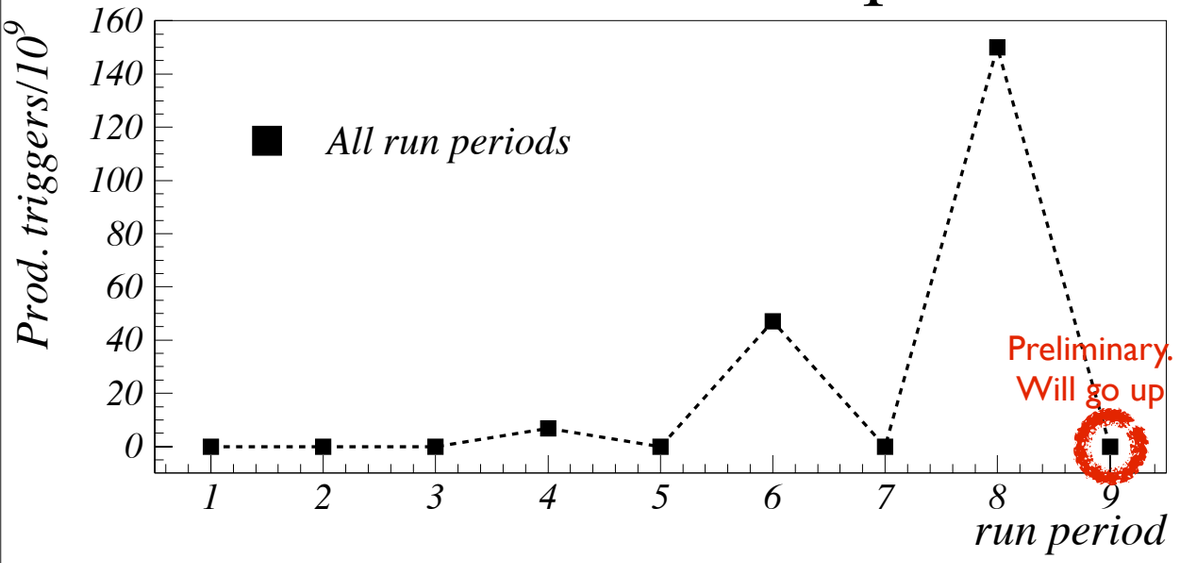
A. Deur. GlueX collaboration meeting. 09/27/2018

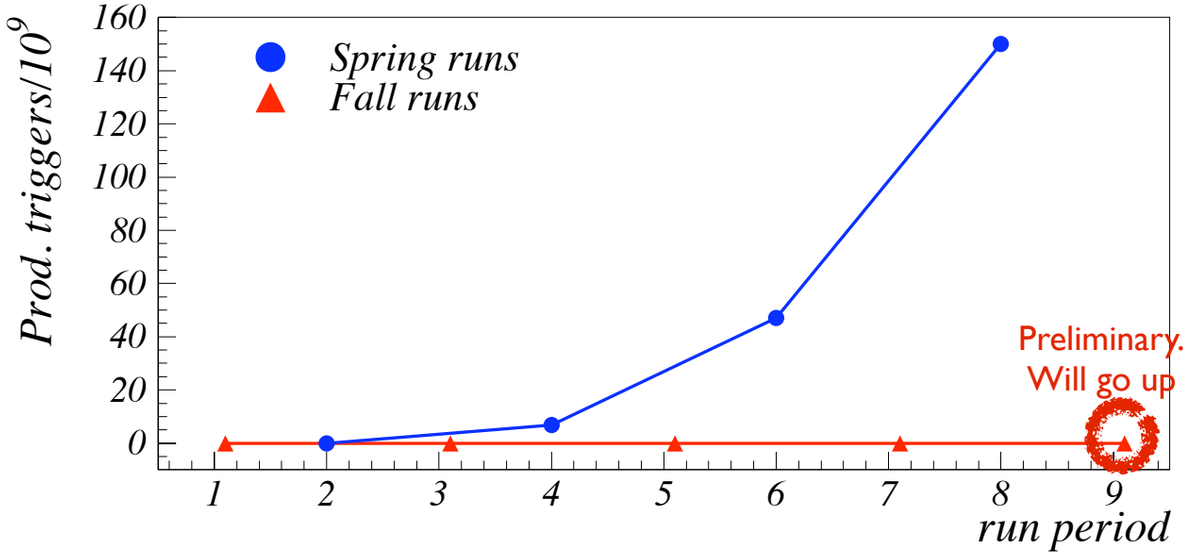
Current statistics for Fall 2018 11.6 GeV run

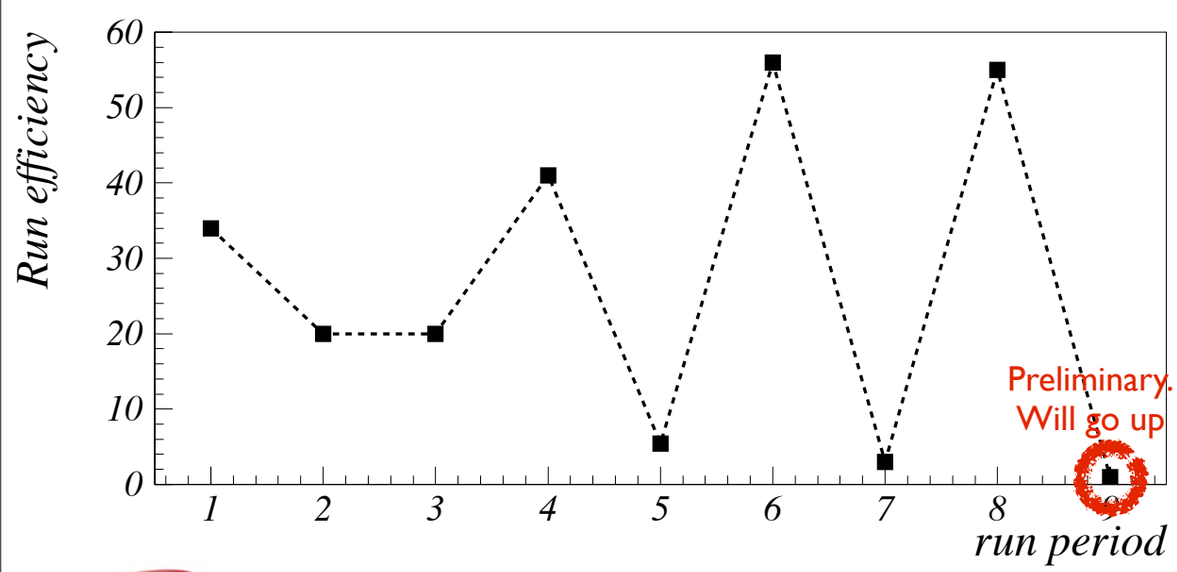
Scheduled time: 1512h (63 days)
Time spent so far: 840h (35 days)
Acceptable beam used so far: 10h
$\Rightarrow$ Running efficiency so far: 1%
No production triggers yet.

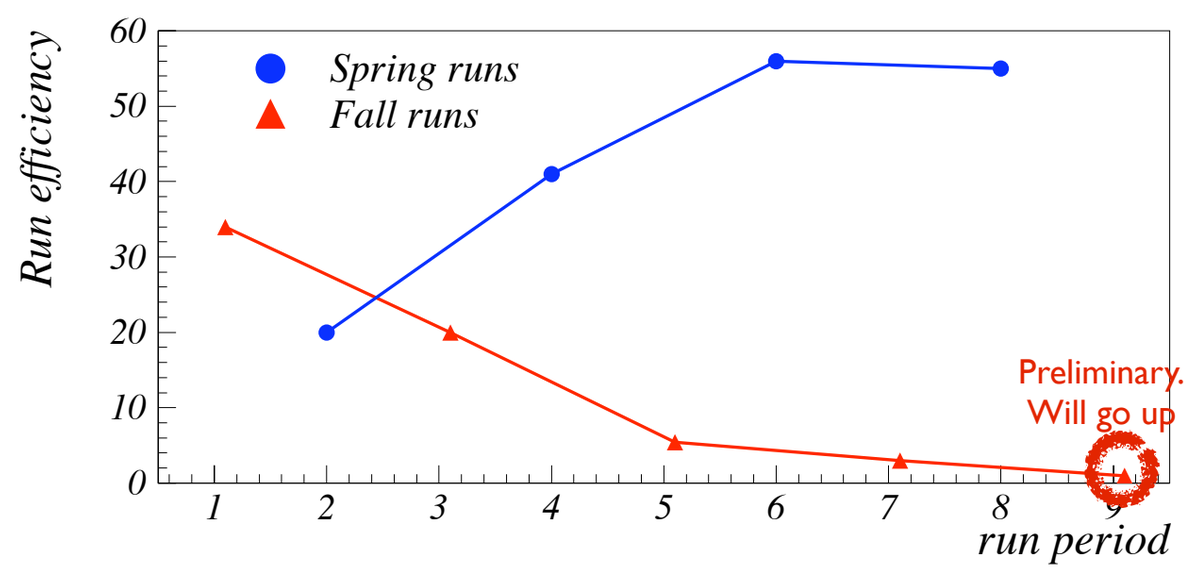
Current statistics for Fall 2018 11.6 GeV run

Scheduled time: 1512h (63 days)
Time spent so far: 840h (35 days)
Acceptable beam used so far: 10h
⇒ Running efficiency so far: 1%
No production triggers yet.









Fall 2018 lower energy run

E=10.3 GeV and 9.0 GeV

Nov 20th to Dec. 19th

- GlueX-II (DIRC) tests
  - Detailed run plan available
- Primex (ComCal) tests
  - Detailed run plan available
- Data taking for known (CLAS) reaction Cross-checks
  - To be done at night in parallel to the DIRC commissioning
  - Detailed plan not available yet