Run progress summary: March 2nd -16th 2016.

March 16, 2016

- An important milestone was reached with the DAQ (Sergey Furletov). It can now handle the data rate expected during the first part of the GlueX run (low luminosity run). The DAQ has been running at 12.5 kHz with typically 97% livetime, and 40 kHz with 85% livetime as of tonight (Sunday March 6th).
- On March 4th, Hovanes, Paul Mattione and Ken Livingston had a first pass at aligning the first production 20 um diamond (JD70-118). A 1h parallel polarization run and a 1h perpendicular polarization run were taken Friday evening. On March 6th-7th, the alignment of the 20 micron diamond JD70-118 was improved. A few hours of data were taken with it for both parallel and perpendicular configurations. Another 20 micron diamond (JD70-119) was aligned on March 9th and parallel and perpendicular data were taken. From Justin Stevens' rho analysis, from his energy spectrum fit and from Nathan Sparks and Mike Dugger analyses of the triplet polarimeter data (only JD70-118 analyzed so far), the preliminary polarizations obtained with the two thin diamonds seem similar to the one obtained with the 50 micron diamond. All these data were obtained with the 5mm collimator hole. Running on the 3.4 mm collimator hole -as we plan to do as soon as the beam comes back- could increase the polarization coming from the 20 micron diamonds. We do not plan to use the third 20 micron diamond (JD70-111) since it has a significant hole.
- The triplet Polarimeter has been providing first preliminary polarizations (Nathan Sparks, Michael Dugger).
- The TAC, a device used to calibrate the pair spectrometer (PS) in order to measure the absolute flux of photons in the Hall, started its commissioning on Feb. 25th. More studies were done on Feb. 29th, March 1st and 2nd (5mm collimator). The TAC commissioning was completed on March 7th by Hovanes and Alex Somov. The run was done on the 3.4 mm collimator (its first use ever). Preliminary offline analysis by Alex Somov shows encouraging results, although the normalization of the data is off by 30% compared to the MC expectation. A TAC run was done on March 8th.
- On March 8th, a new beam transport optics was implemented by Todd Satogata. It is better adapted to the FFB hardware configuration and seems to be working well: the FFB is now locking (Trent Allison and Brian Bevins). FFB was on during a few hours last week and suppressed the 60 Hz beam position jitter. Its slow feedback also provided a beam position stability at least as good as the one provided by the slow PID feedback system.
- The TOF HV scans were completed on March 7th by Mark Ito. The TOF will remain in its previous configuration until the end of the run.
- Two sessions of commissioning of the level-3 trigger were done (David Lawrence) with about 2h spent on March 7th and another 2h on March 9th.
- A new method to adjust the bias voltage of the microscope SiPM was implemented and data taken on March 9th (Alex Barnes, Richard Jones). The microscope was then put back in its previous configuration.
- Trigger studies were done periodically and are being analyzed by Sacha Somov. In addition to the optimization of the production trigger and the trigger efficiency studies, a trigger for the TAC was implemented.
- Several empty target runs were taken on March 8th and then 9th, following TAC runs (requires empty target).
- The solenoid is doing well.
- As of today (or rather 1 week ago: Wed. 9th, 14:00), we have accumulated 3.75 billion triggers for parallel polarization, 4.46 billion triggers for perpendicular polarization and 0.93 billion triggers for the unpolarized background runs (numbers are courtesy of Elton). In addition, about 8h of mode 8 data were taken.