Run Coordination

LArIAT meeting
August 26th, 2014

R. Acciarri on behalf of Jason St. John

Chasing bugs

- *Last Saturday, Alberto found an impedance mismatching problem on the SC3 analog signal causing the loss of 50% of the analog pulse. This was killing our trigger rate.*

- *Once restored the correct impedance, the trigger rate increased of a factor 2.5 and the reconstruction efficiency (Doug's program) went from ~2.4% to > 3% (32 GeV, -50A configuration).*

- *We don't know when this happened. Probably we run in "trigger loss" mode for less than two weeks.*

Chasing bugs/2

- *Michael Backfish "discovered" yesterday two quads along the secondary beam line that were messing up the beam tune at 8 Gev.*

- *He worked on beam tuning yesterday and improved it. He'll eventually play around more today.*

Chasing bugs / 3

- *We have been in open access from midnight till 10 am this morning, to allow techs to access the enclosure.*
- *Used that time to check why the punchthrough counters were not counting.*
- *Voltage dividers of PMT2 and PMT3 were partially unplugged.*
- *No signal from Counter 4, likely a problem in the BNC cable.*
- *Counters 2 and 3 are back to life and Counter 4 left dead till shutdown.*
- *AND of the two sets of paddles counts 60-80 cts / spill (~20 Hz) with no beam and ~150k-200k cts / spill (~50 KHz) with secondary beam intensity of 500k cts.*

Status – Beamline detectors

- *Wire Chambers: up and ruunning*
- *TOF: running*
- *Halo Veto: running*
- *Cosmic Tagger: running in telescope stacks*
- *Punch-through: running – we see counts now!*
- *Test paddles: cabled up but not running yet. Need to play with them!*

Status – Accelerator and enclosure

- *Good beam, around 500k counts. Only minor beam downtimes (like lightning strikes or hot rooms..)*

- *Running the magnets with negative polarity. Taken data both at 8 GeV and 32 GeV, in both cases with magnets at -50 A and -100 A. We acquired data with the mini-DAQ for each combination of energy, magnets current and polarity.*

- *Bill acquired some data with the LArIAT DAQ to be compared with data taken with the mini-DAQ in the same configuration and beam intensity.*

To Do

- *Check number of triggers acquired and reconstruction efficiency for each configuration, to understand whether or not we have enough statistics for the data already collected.*

- *Run the miniDAQ with magnets at 40 A to confirm predicted momentum spectrum.*

- *Run the miniDAQ with a different trigger setting – i.e. including SC1 (secondary beam) to investigate possible improved trigger / better understand tertiary beam we have been using.*

- *Run the LArIAT DAQ for several configurations to exercise and commission DAQ.*