

Muon $g-2$ status

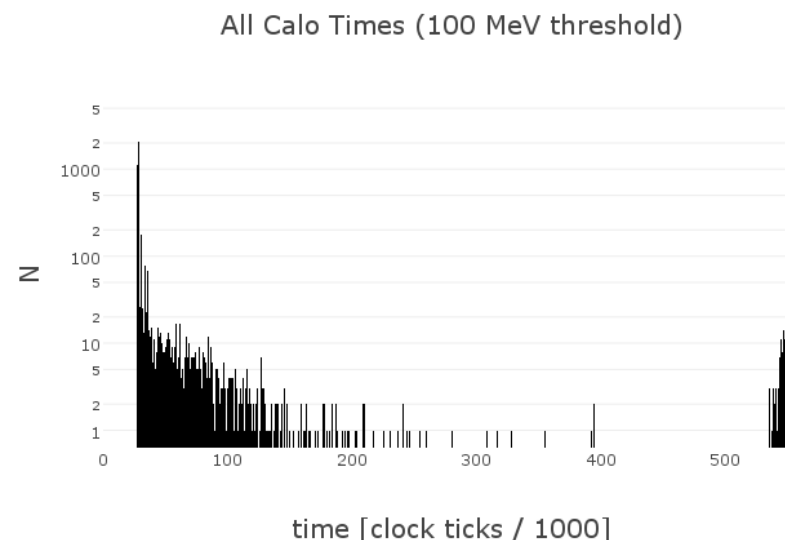
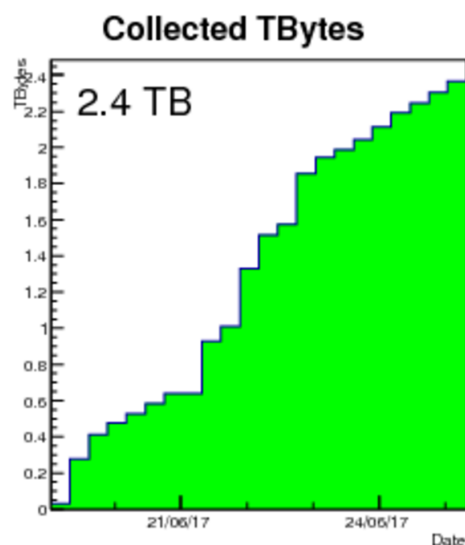
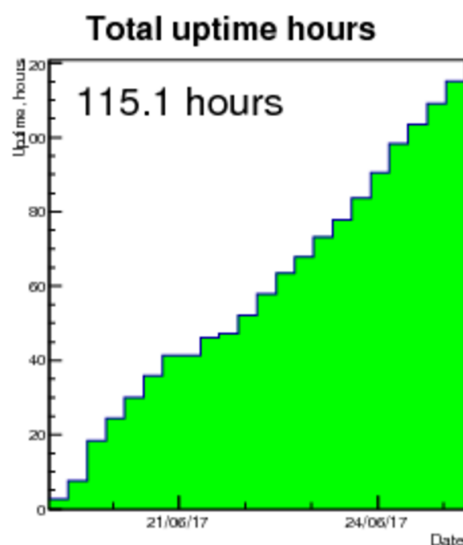
Becky Chislett

All Experimenters' Meeting
26th June 2017

Summary of the last week

Focussed on taking beam data to continue enhancing our understanding

- ~68% DAQ uptime, 2.4 TB of data taken
- Open access for 1.5 days (7am 6/21/17 until 7pm 7/21/17) to install surface coils and checks and slight modifications to other systems
- Continued scanning with kickers, quads and inflector to study to best configuration for beam storage
- Changed the quads such that they remain connected to the pulsar for the full 650 μ s spill

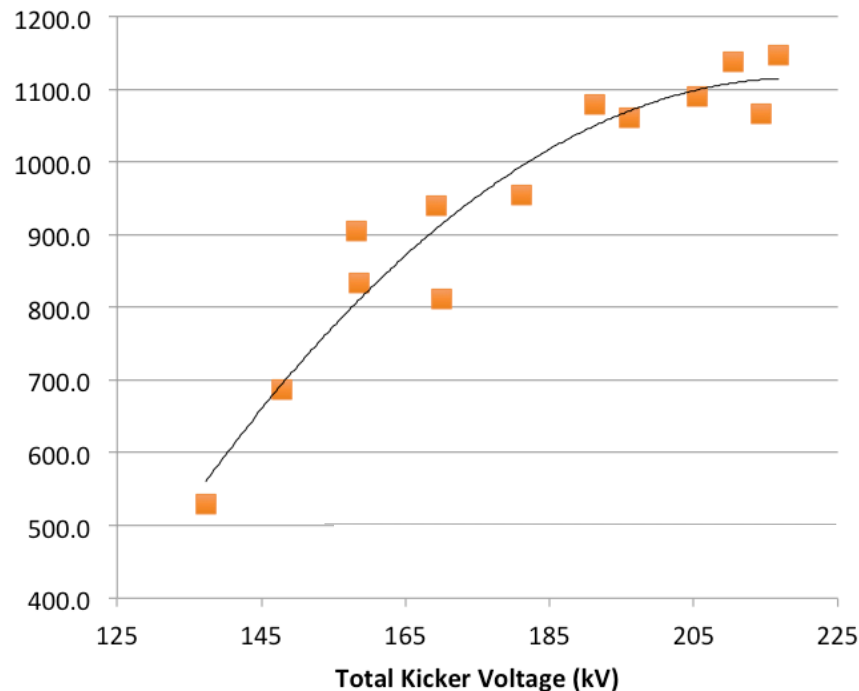


Highlights – kicker scans

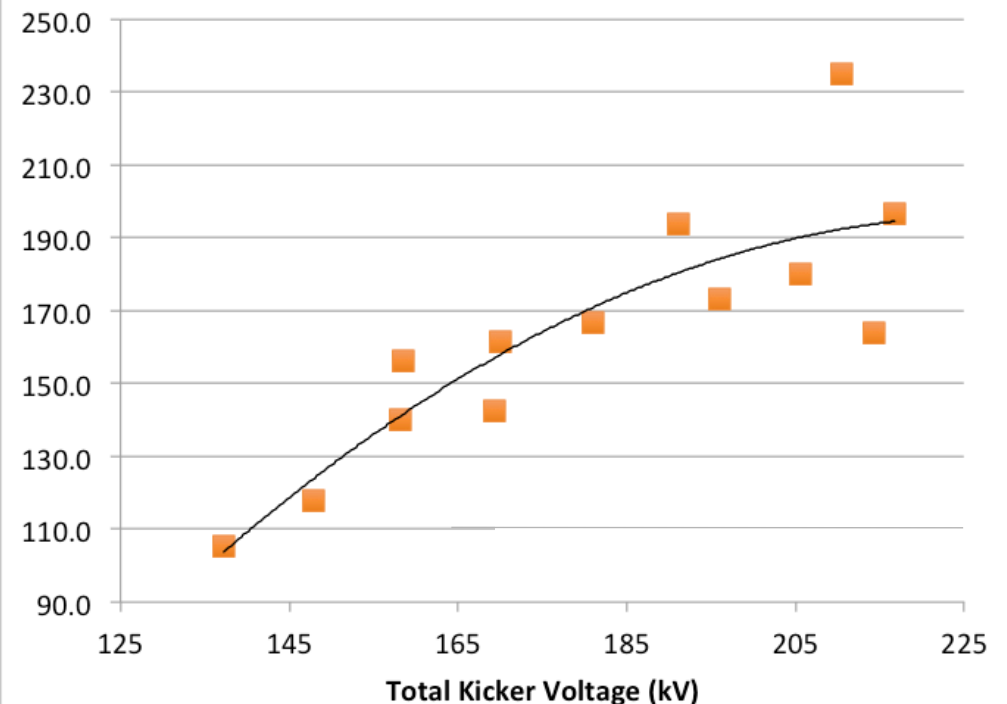
Managed to increase the kicker voltage such that the number of particles stored starts to turn over

- Kickers 2 and 3 running at close to full voltage
- Kicker 1 running at about half of this
- The number of particles stored in the ring gradually increases up to the point where it starts to flatten out (maximum)

Stored protons



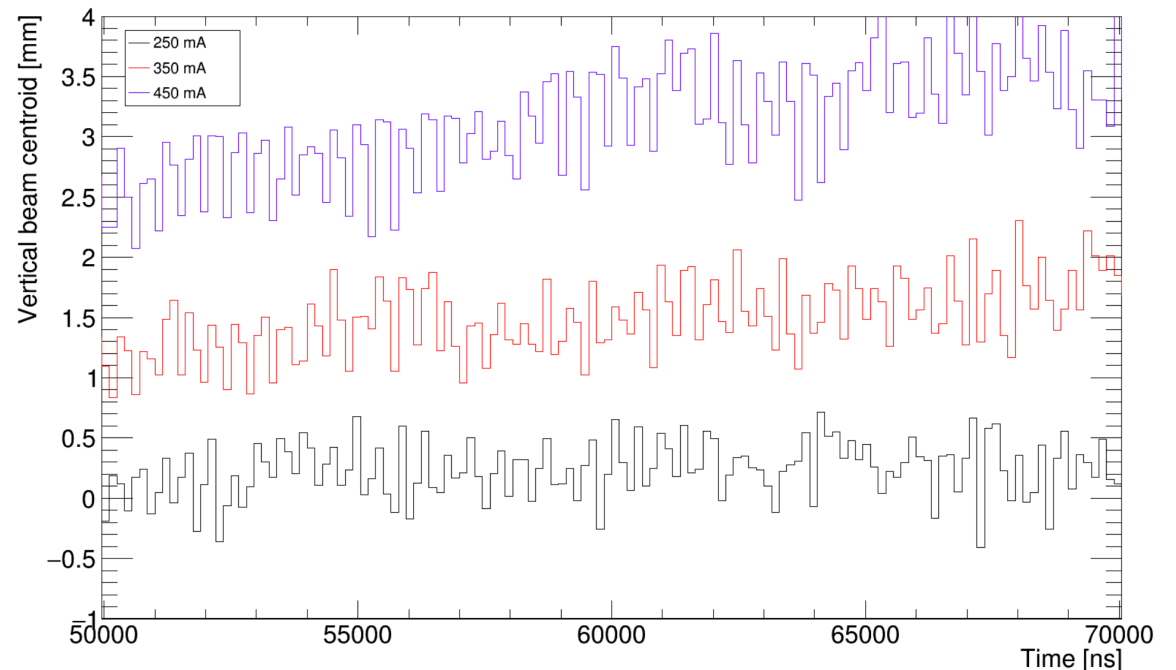
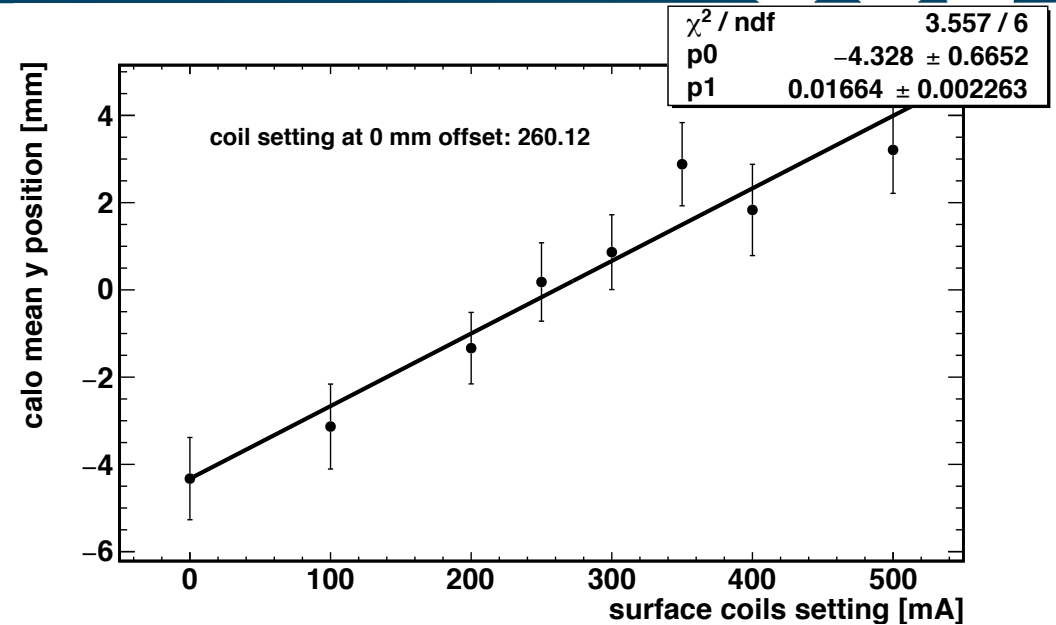
Stored positrons



Highlights – surface coils

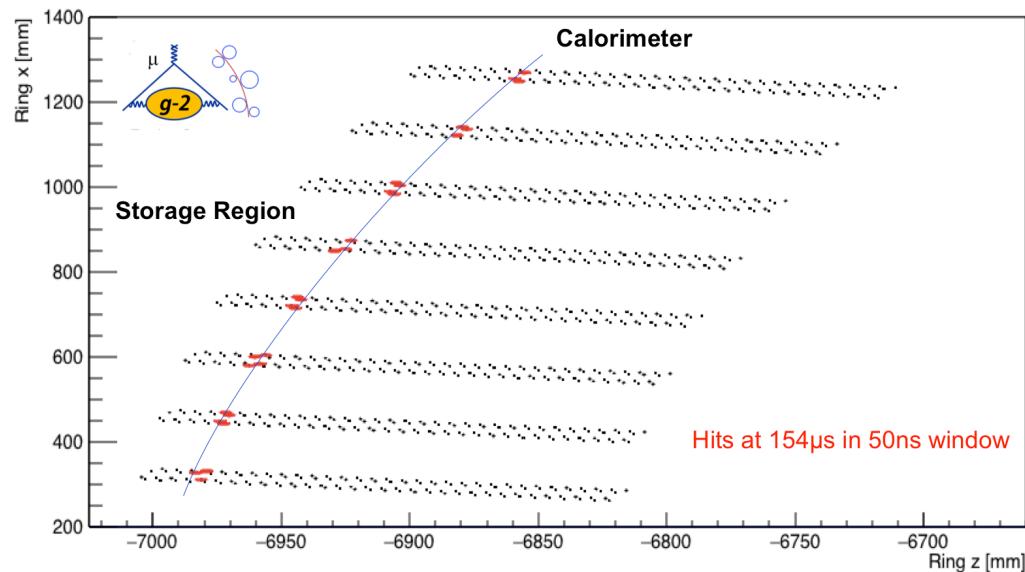
After the surface coils were fully installed they were used to change the vertical position of the beam

- The current on the surface coils was adjusted to do a rough scan
- The vertical motion of the beams was observed in both the calorimeters and the fibre harps
- The optimum current was found to be close to 250mA

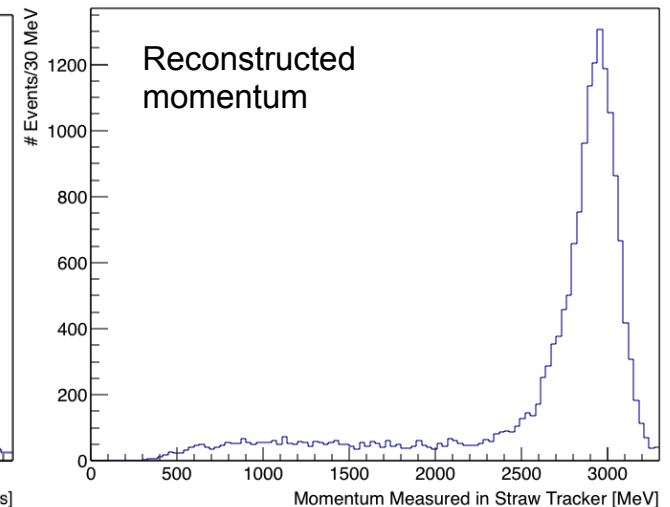
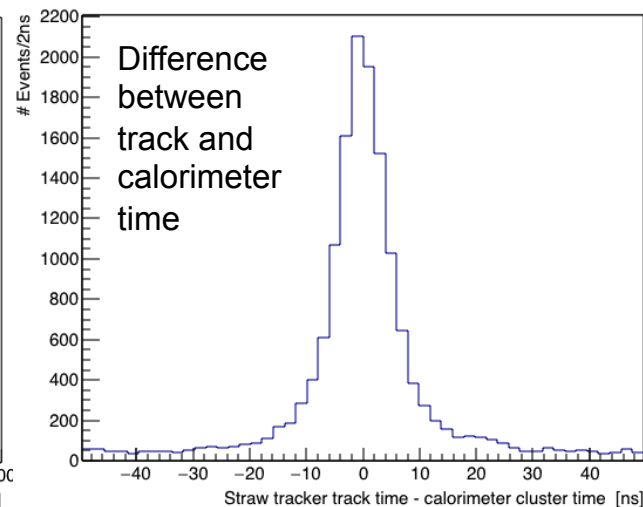
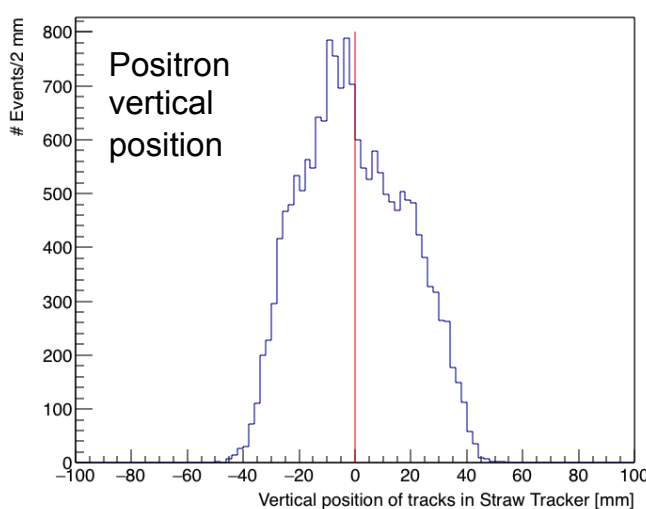


Highlights – trackers

The data taken so far has been used to test the tracking algorithms and match up tracks to calorimeter hits



- Currently have fit > 300,000 tracks
- Tracks have been matched to calorimeter clusters
- The momentum distribution is centred around 3 GeV



The wiggle!

