Analysis meeting 26-06-2012 Glasgow

14:30 Analysis status *10'* Speaker: Alain Blondel (Universite de Geneve (CH))
14:40 beam line optics - D1 scan *20'* Speaker: Ole Hansen
15:00 Progress on emittance paper and related discussions *35'* Speaker: Victoria Blackmore (University of Oxford)
Material: (6, 200) mu+ Plots (6, 200) mu- Plots Plot Descriptions Slides
15:35 TOF rate dependance (NB concentrating on amplitude and baseline shifts) *15'* Speaker: Durga Rajaram

15:50 coffee *20'*

16:10 Software for Analysis and online reco *20'* Speaker: Dr. Chris Rogers (STFC)
16:30 CKOV analysis (details not covered in plenary talk) *15'* Speaker: Lucien Cremaldi (University of Mississippi (US))
16:45 Step IV absorber measurements MS and dE/dx in Geant4 *20'* Speaker: Timothy Carlisle
17:05 Tracker analysis progress *20'* Speaker: Adam Dobbs (Imperial College London)

Standing items

-- step I emittance paper

-- intense work by Victoria, Mark, John

main point is to compare simulation with results and produce the table/plots of in-out emittance simulated from our actual beams.

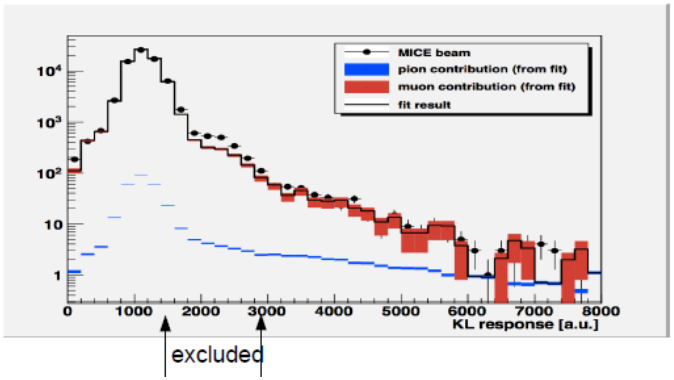
-- pion contamination in muon beam

great progress made by Mariyan and Domizia. Need to conclude.

some progress (not) shown by Domizia last time.

double particles?

- It has been observed that KL distributions show a second peak at ~ 2xMIP probably due to events with a second particle in KL (but not disentangled by TOFs, where it is explicitly vetoed)
- The amplitude of that peak is not stable over data taking (likey to be correlated to beam intensity)
- The fit has been modified to exclude that region



Summary

- Attempts to document systematics and performance with the real low contamination were not significative
- Study as a function of an injected contamination just started
  - Does the method allow to estimate the intrinsic contamination?
  - Does it respond linearly to the contamination?
  - For sure it allows to set an upper limit at the minimal value of an injected background which can be observed, grants us already a pion contamination < 1%.
- The documentation (note/paper) will be based on these studies

TOF rate effect (Durga, Yordan)

-- rate effect very well established

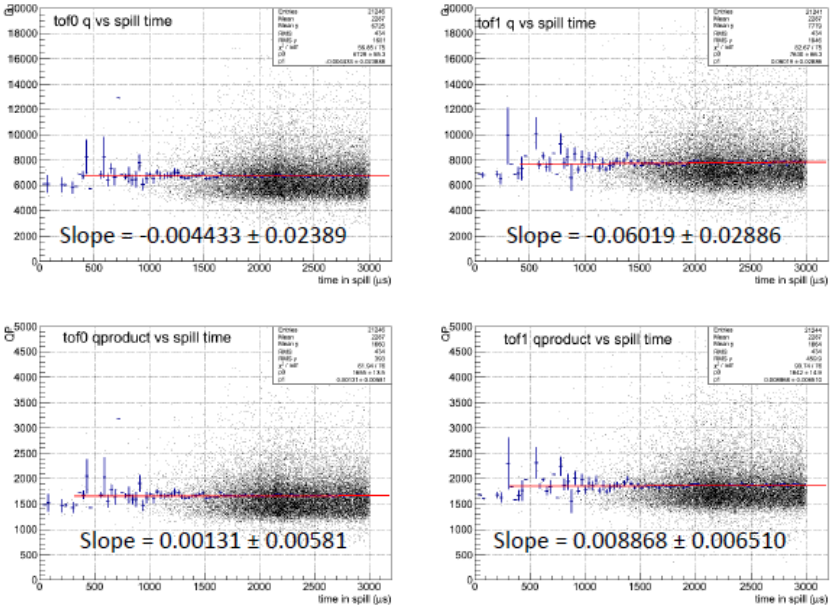
-- surprise: the pulse height does not seem to change (droop) with rate

more investigation going on.

-- where are we going with this?

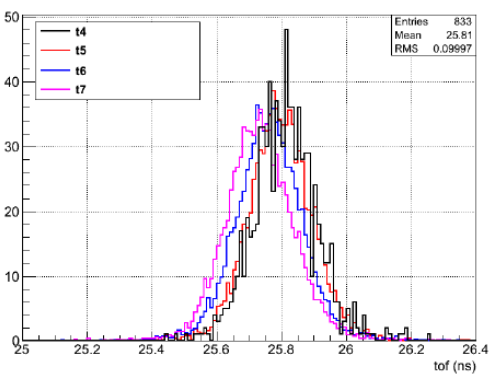
→ understand and implement fix

- Charge & charge product practically flat across the spill. [Had shown last time that q & qp don't show any dependence on #hits either]



DR, A/M, 6/21/12

- ToF for various slices of the time within the spill



Integrate all detectors in Analysis

-- TOF now OK
but are requirements the same with tracker than with just TOF's?

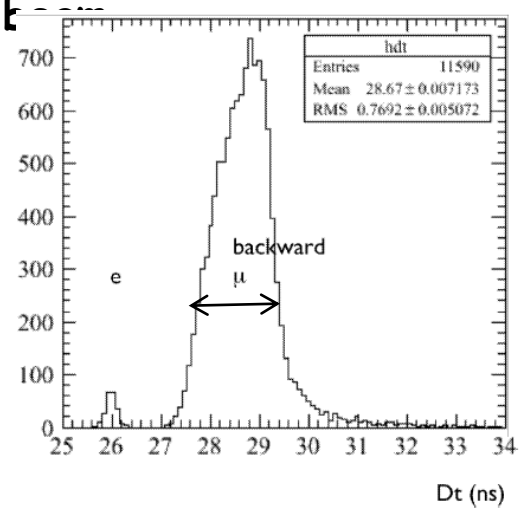
-- next is Tracker and KL and EMR
-- start with tracker today

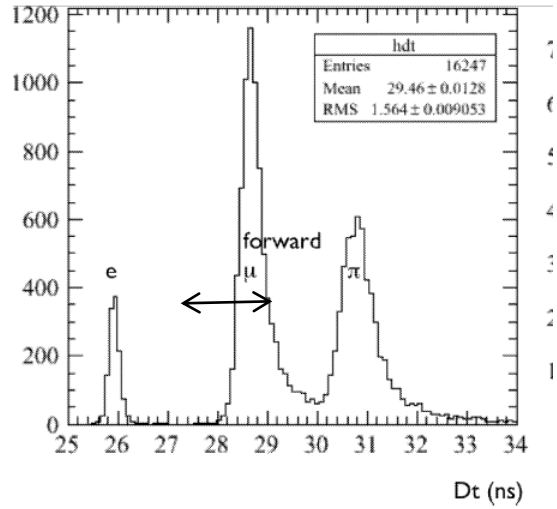
-- beam-line

-- revisit the better matching into diffuser → Maria
can we fix 'mismatch' by culling using a

-- produce more symmetric beam → Ole, Maria

NB was pointed out that 'pion beam' provides a very good muon b





-- step IV physics

-- reconstruction and online reconstruction

need to run the simulations and find out what is useful to have online

-- step IV run plan. → Pavel, Ulisse

-- some issues need to be tackled:

knowledge of Hydrogen/solid abosrber density*thickness

-- simulation (Tim Carlisle)

is GEANT4 completely wrong or is it the way we use it?

suggested addressing the G4 people.

-- are we clear about which beam/MICE optics are best suited to do the M.S. and dE/dx meaasurements?