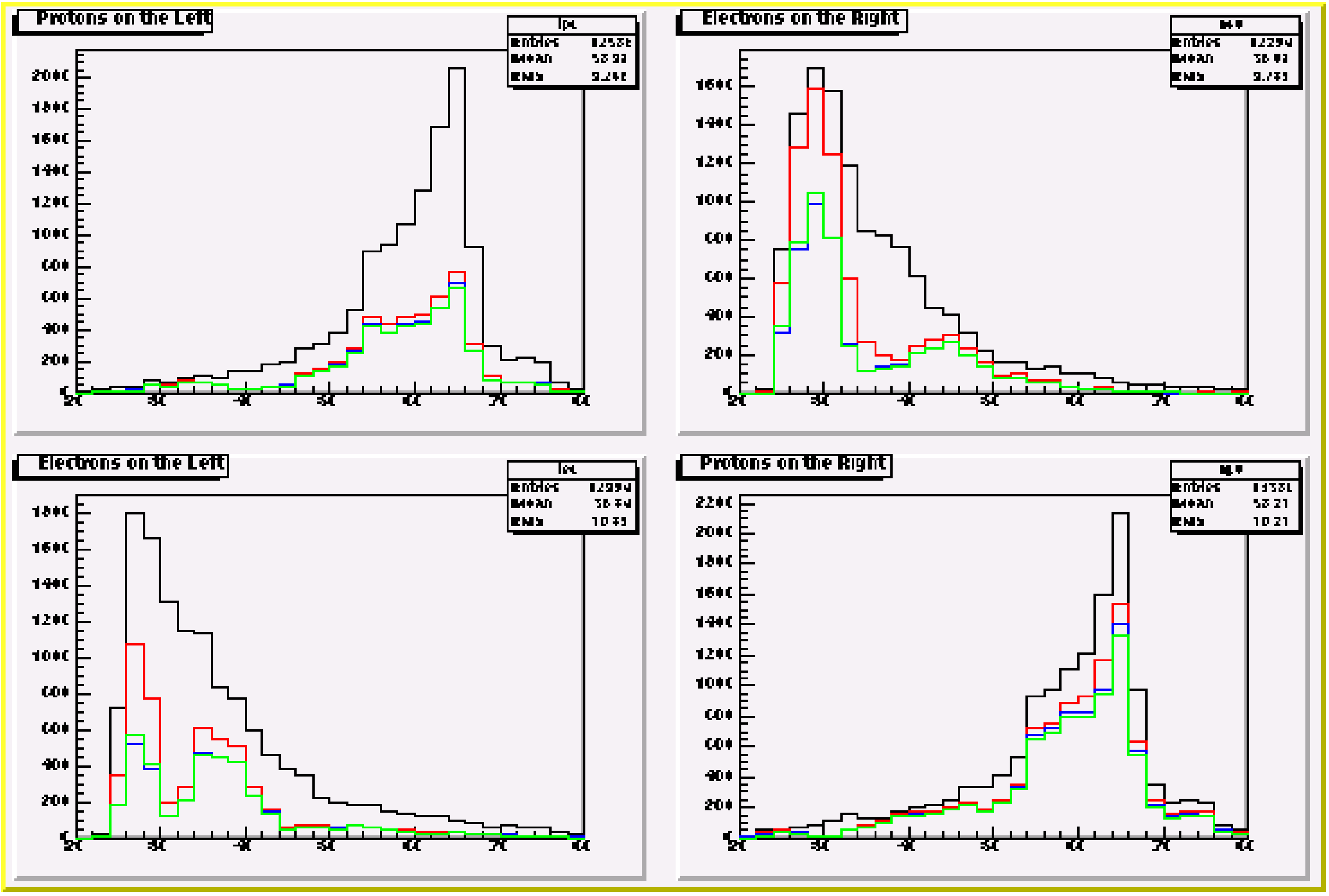
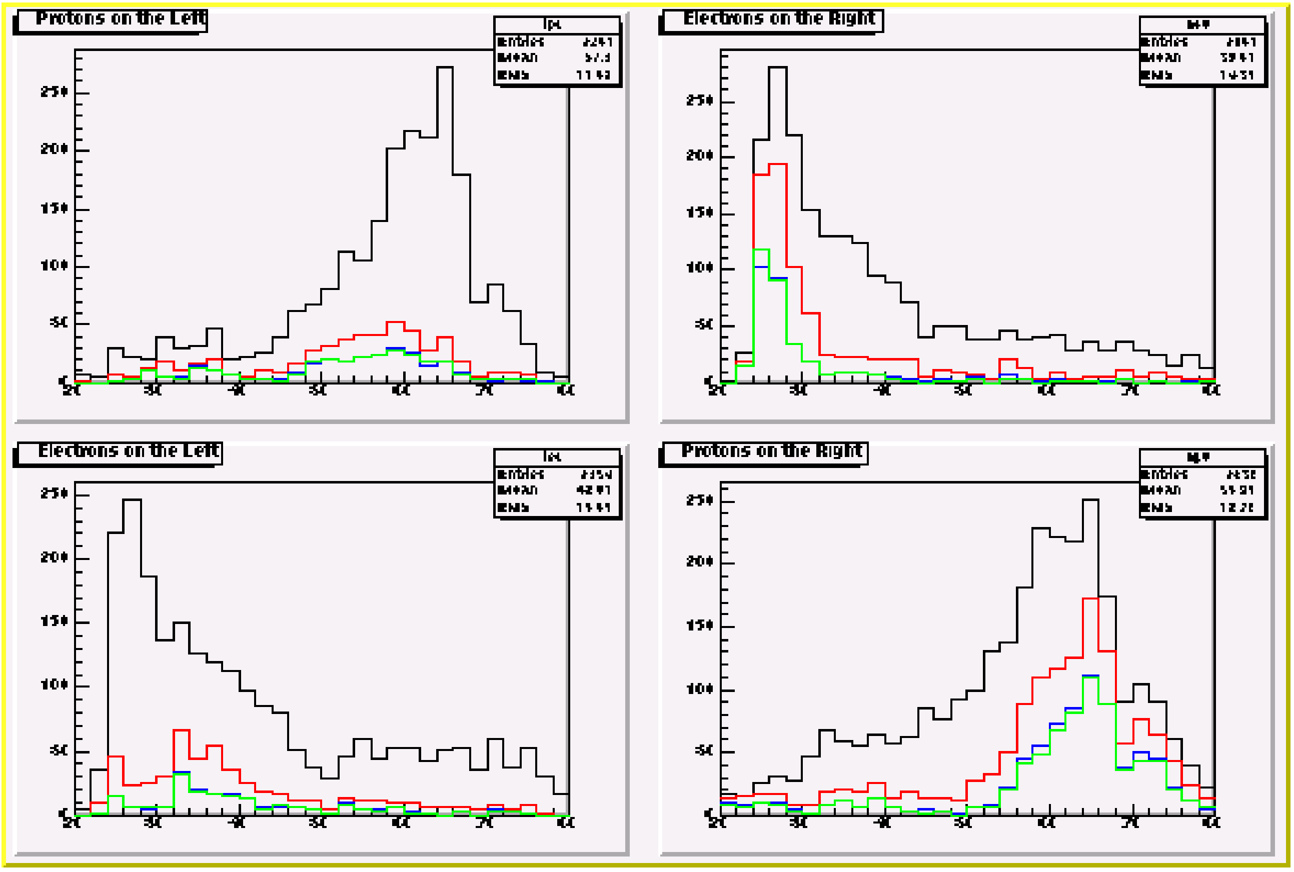
TRacking (last week's results)



- "Old" result for runs 3063-3070 ("golden runs") **after** tof cuts
- **Lazy fitter** OK, 95 % tracks (circle fit only)
- 3 segments events to FastFit
- if FastFit OK, then FastBack and Newton OK

- results quickly much worse for runs with S/N ≈ 1-2

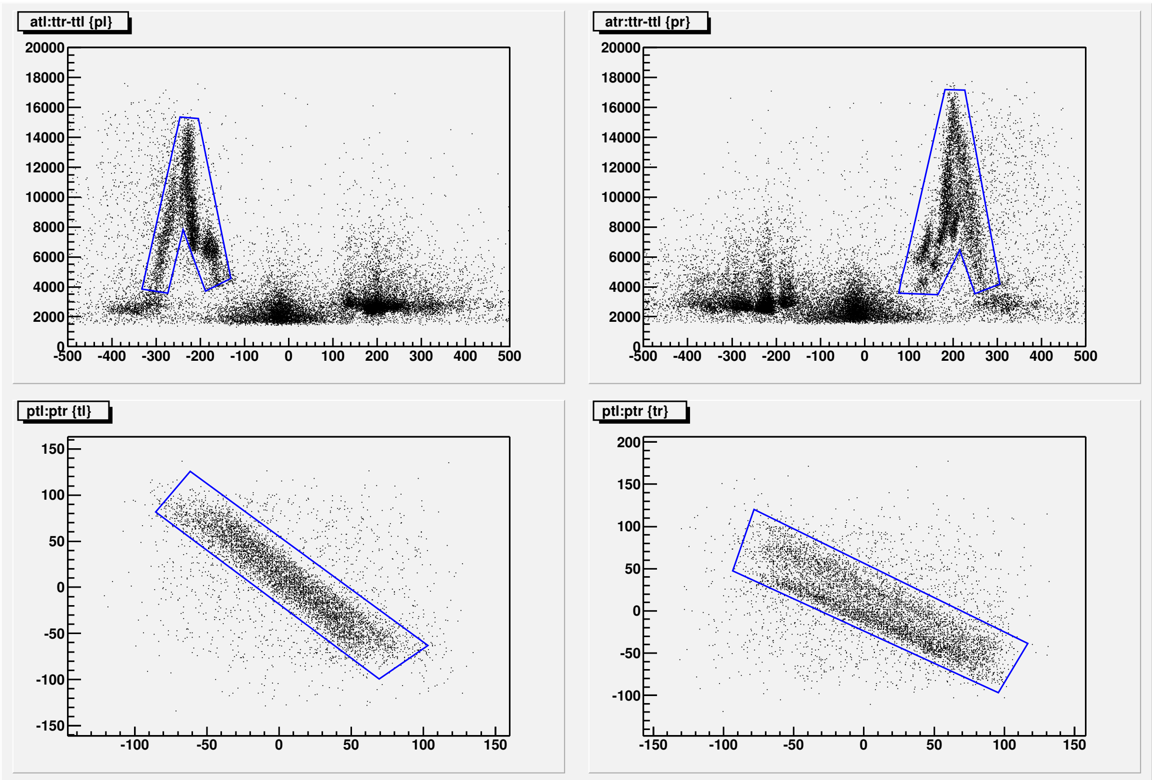
TRacking: bad S/N runs



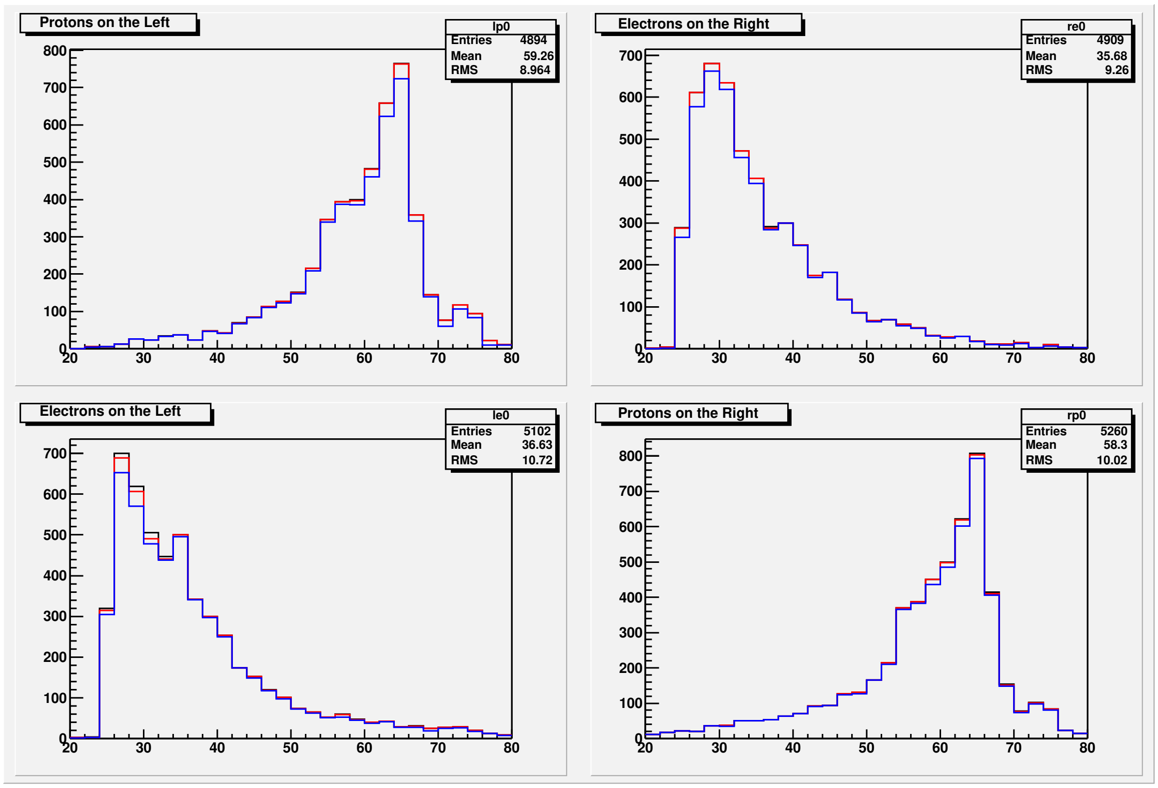
- New result not available yet (crashed ?)
- Expect improvement but probably need more robust code
- It is unclear you ”don’t have tracking” (yet). Of course it would be very important to know.

TRacking: improvements

- Added "single-hit" and "fake" stubs mechanisms
- Could produce the missing 3 segment (when 3rd was missing)
- Set a limit on # hits/stubs/segments , faster code
- re-run same data, same tof cuts



TRacking: new results



- Always a FastFit/FastBack track (!)
- No position dependence (!!)
- Still using Wch information

- No accuracy warranted
- Newton gets stuck on a few events (no time to fix it)

- Has to be bullet proof and hopefully faster

TRacking: to do !

- Still some polishing left to do in the fitting sector:
  - Consistency between clusters/single-hits/cell boundaries
  - Reject "obvious" bad stubs/segments wrt lazy/vertex/tofs
  - tune parameters

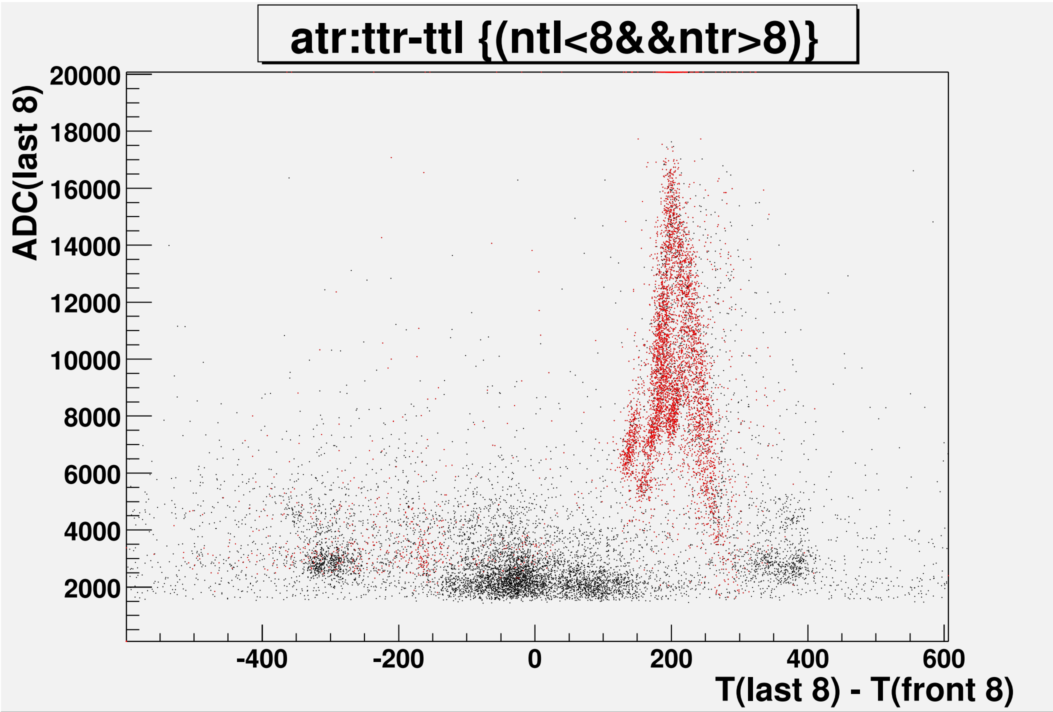
Urgent: pay more attention to accuracy

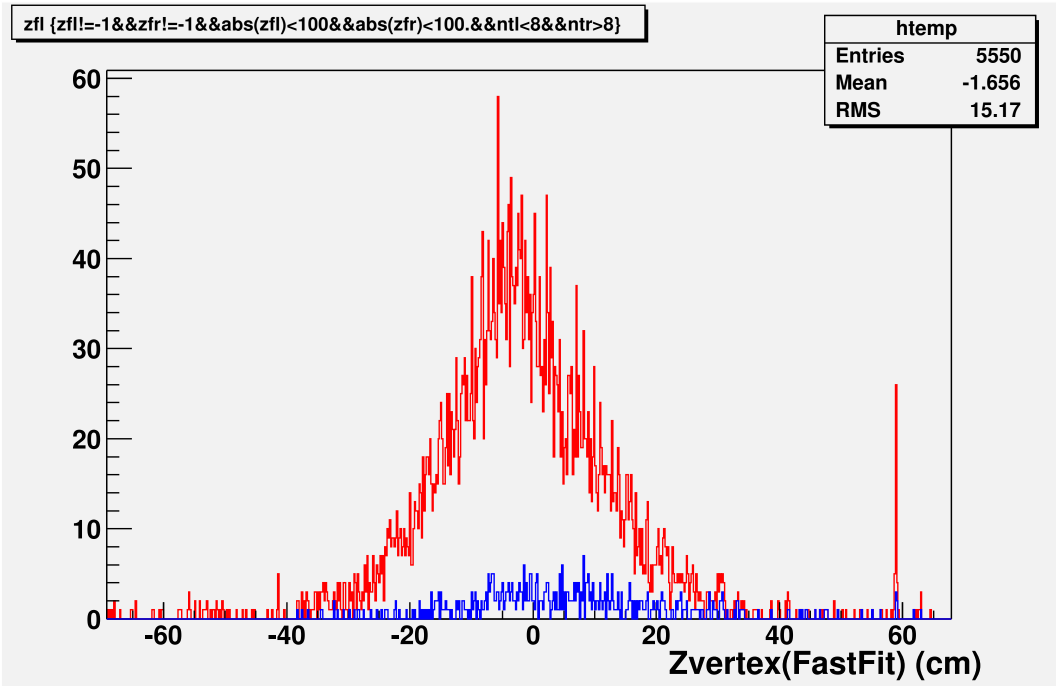
- Calibration data
  - drift-time/space relationships
  - x0 offsets (wire stagger)
- Timing correction (time particles crosses a wire plane)
- Energy loss correction

- Also need time to do more internal checking
  - Wch calibration constants (e.g. drift cell)
  - Need accurate TOF position, better than flasher (done)

Realistically at least 4-5 weeks to go through this items

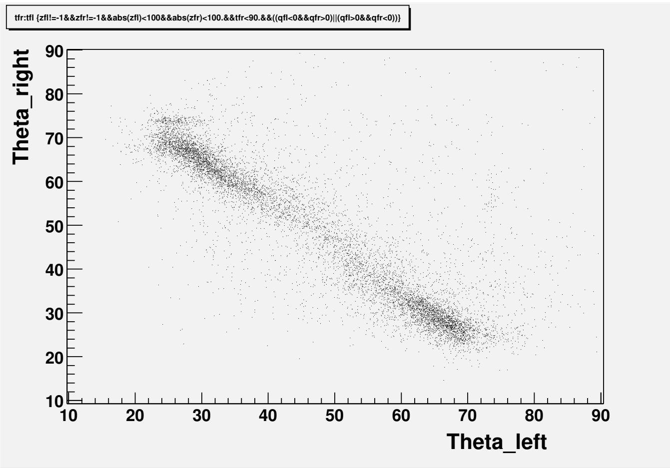
TRacking: more results

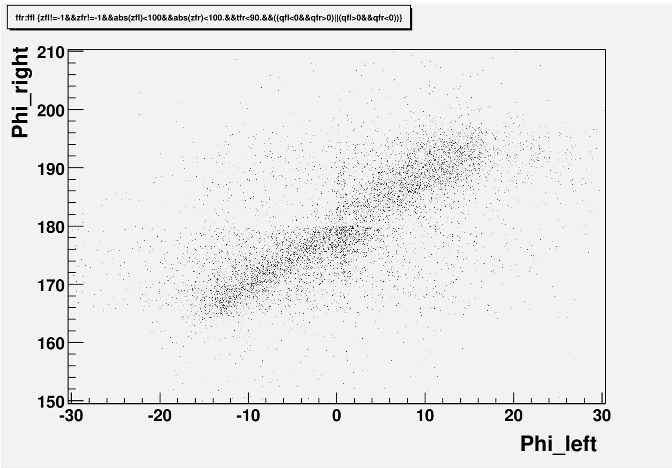


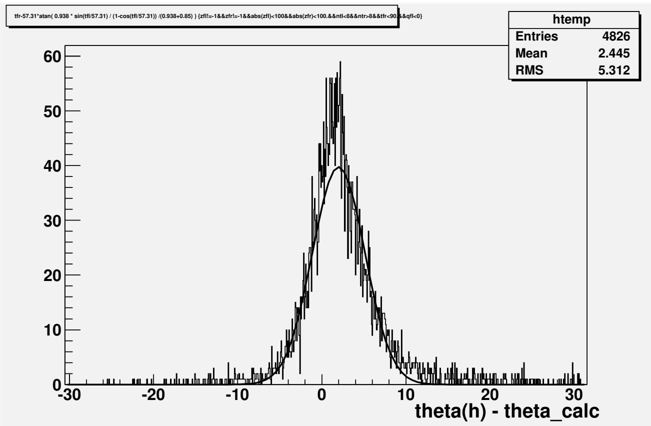


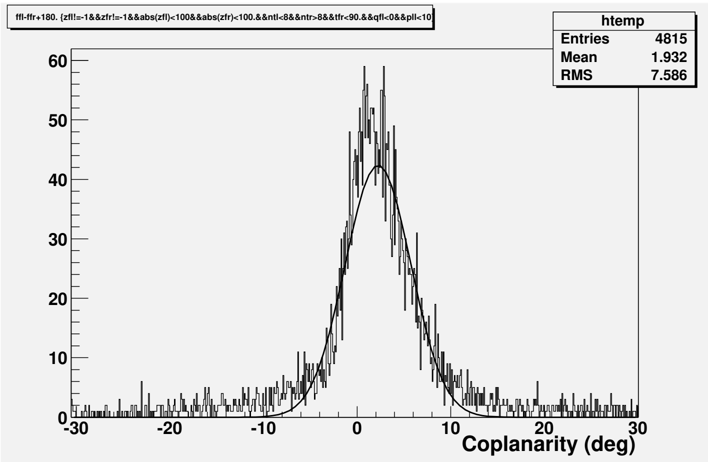
- In Red events that have a FF vertex (Blue ADC ¡ 4000)
- Vertex and PID seem good. BCKG doesn't reconstruct

TRacking: angular reconstruction



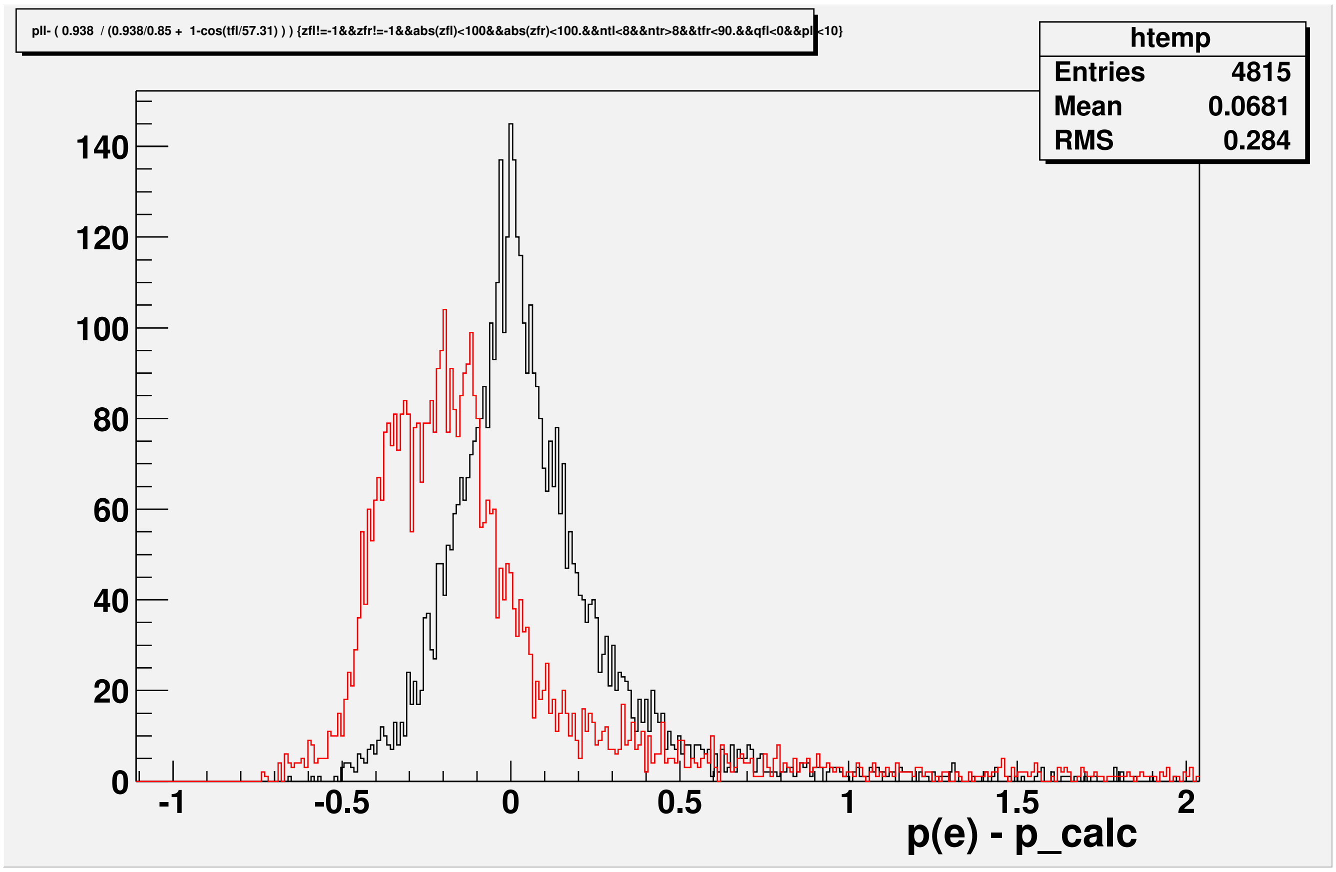






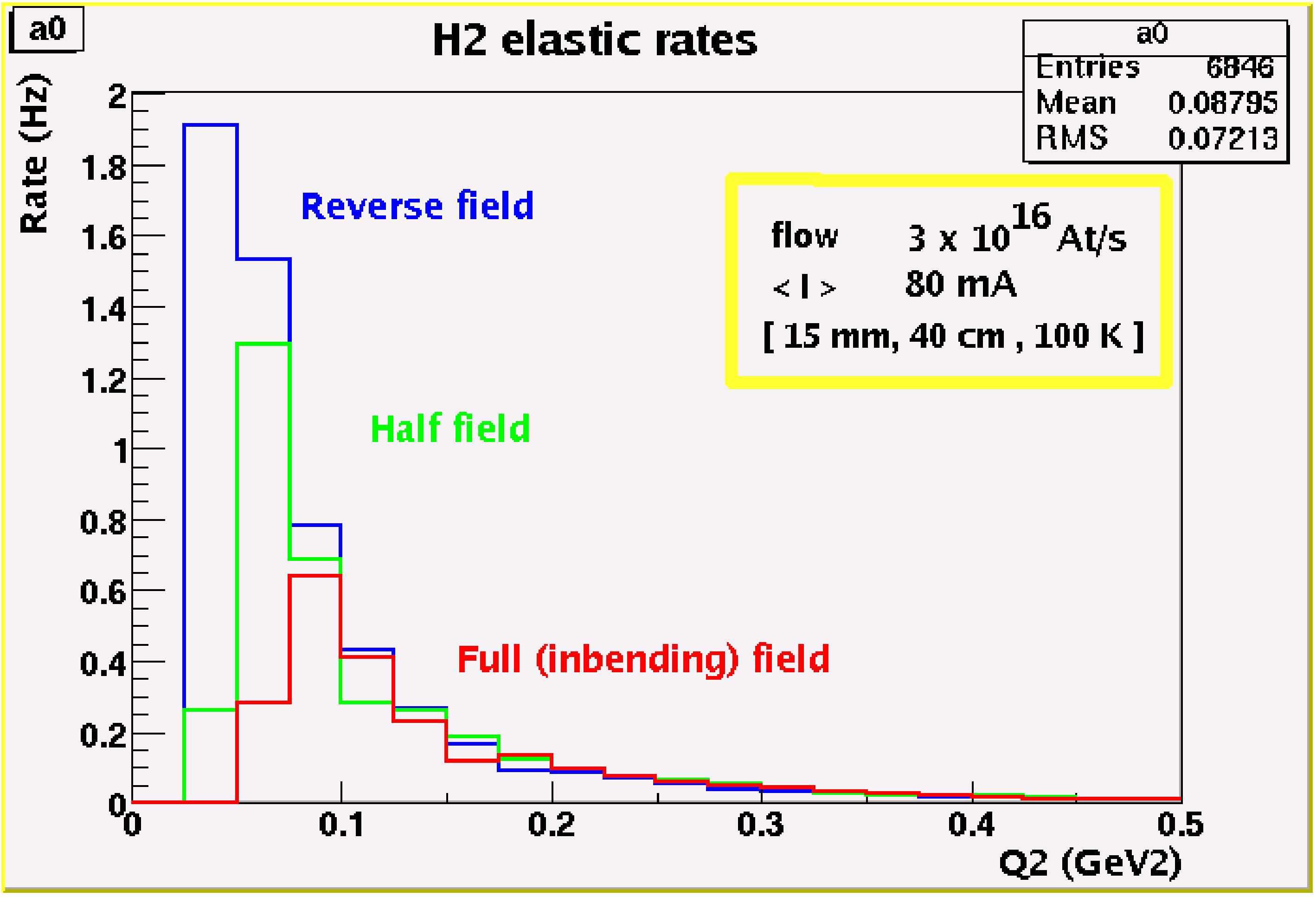
- First consistency checks for over-determined reaction
- Scattering angle/ OOP angle accuracy $\approx$ 30 mrad

TRacking: momentum reconstruction



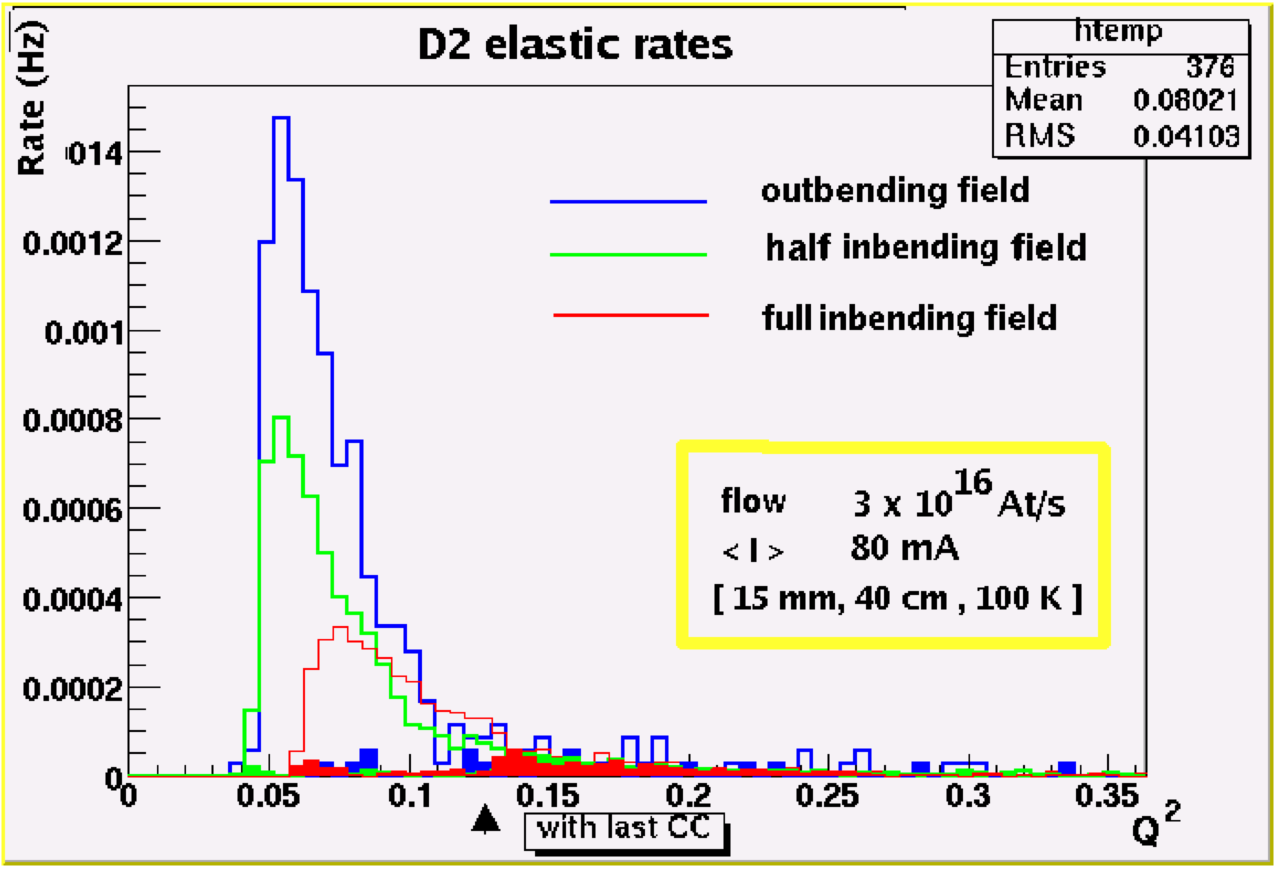
- Momentum resolution ≈ 20 % (Lazy Fit)
- Need to compare with Newton fit

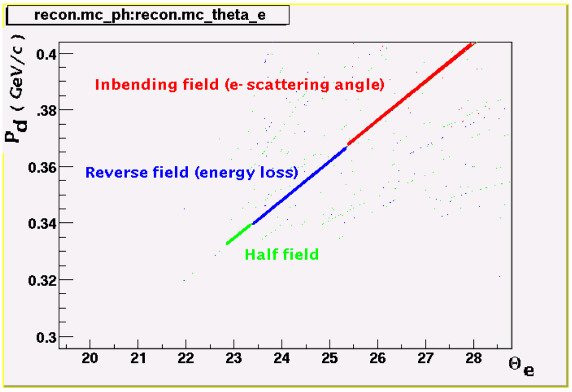
MonteCarlo simulations



- 1000 counts/hour/sector in 0.075-0.10 bin
- For "abs" measuraments of last year we had 3000 counts max in a TOF
- Acceptance completely determined by electron angle (CC not an issue)

MonteCarlo results





- Cross section is down x 1/300 at $Q^2 = 0.07$
- Rate with CC3 in corresponds to less 100 cnts in 100 hrs. Impacts D(e,e'd) commissioning (and 2 experiments).

Runplan

Minimal list: next two weeks

- Presently re-installing all TOFs (need all sections)
- We will have a working trigger, we have all tools of last year (hv, epics, beamgating..).
- Need to do tof/trigger/flasher work
- Can do "online" tracking for a subset of the data
- Do not expect a full automated run-control system but sure enough you can crunch while taking data.
- Critical software people should work on critical software !
- Suggest we start without one backward Cerenkov.
  - Allows parallel D2 commissioning
  - Allows for parallel testing BATs concept with TOFs 11-15
  - Needs new tof frame

- If CC-shielding and NC are installed later we need at least one week for calibrations (after installation). Note that NC are calibrated with flasher.We need more time for NC commissioning with beam.
- We need 4-5 weeks for elogbook / epics / ringfill
  - Elogbook is very functional for data retrival, will save all critical information about the run
  - No need to replace paper logbook, (but replacement is possible)
  - Will save a lot of photocopying... ! available to all users simultaneously