

FROST (run g9a)

Update Hadron Spectr. meeting 5/30/08

after the run (party) ... data calibration

“Lucky for all of us that JLab is getting more secure and safer with every passing day. It's good to know that some things don't change, namely the shit calibration procedure.”

calibration procedures difficult to comprehend

- many fit parameters highly correlated
- programs often only do part of the job

... why do we have so many calibration constants?

(most are simply copied around and only give opportunity to find 1001 ways to screw up the process)

... at least the newer ones are ROOT based

(though have to be checked! parts got lost in translation)

... using \$CLAS_HACK routines is fine but our codes are often rather bad

clasweb.jlab.org/rungroups/g9/monitor/monitorwrapper.html
clasweb.jlab.org/rungroups/g9/anamon/monitorwrapper.html
clasweb.jlab.org/rungroups/g9/SKanamon/monitorwrapper.html

for cooking
 we use user_ana
 - csql/calb enabled
 - check anamonhist

Pass:

SubRun:

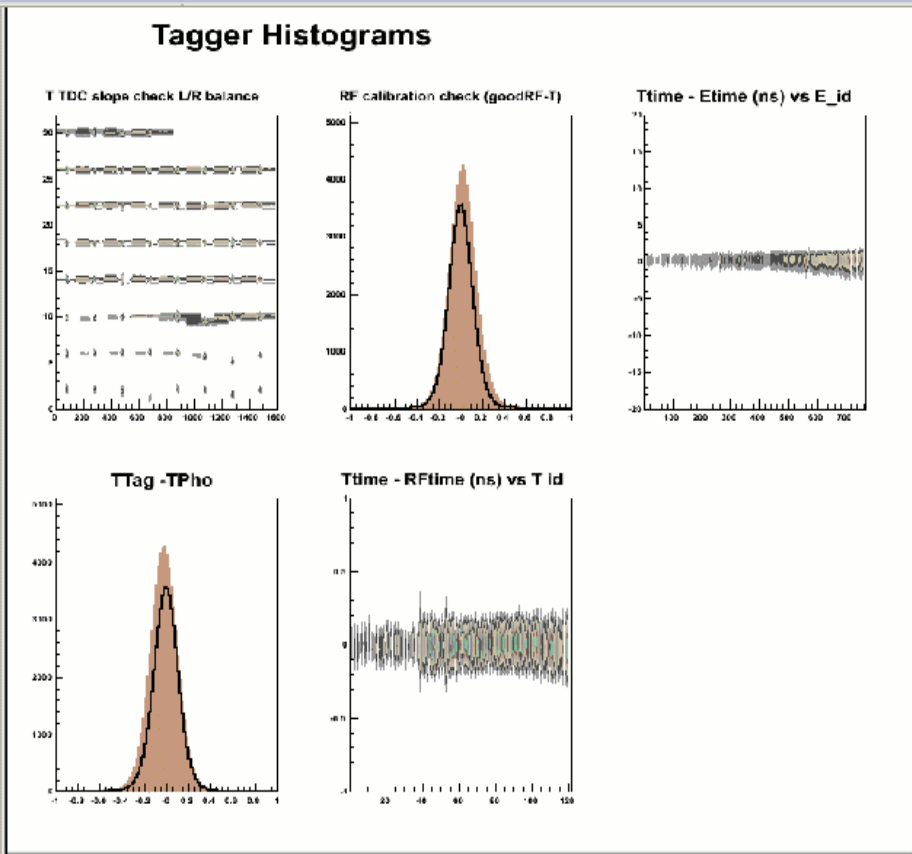
System:

SC	ST1	ST2	EC	TAG
DC1	DC2	DC3	DC4	

Runs:

```

55521 55522 55523 55527 55528 55531
55532 55533 55523 55535 55536 55537 55538 55539
55540 55541 55542 55543 55545 55546 55547 55548
55549 55550 55551 55552 55556 55557 55558 55559
55560 55561 55565 55567 55568
55569 55571 55572 55573 55574 55575 55576
55582
55591 55592 55593 55594
55604 55605 55606 55610 55611 55612 55613
55614 55615 55616 55617 55618 55619 55620 55621
55622 55623 55624 55625 55630 55631 55632 55633
55634 55635 55636 55637 55638 55639 55640 55641
55642 55643 55644 55645 55646 55647 55648 55649
55650 55651 55652 55653 55655 55656 55657 55658
55659 55660 55661 55662 55663 55664 55665 55666
55667 55668 55669 55670 55671 55672 55673 55674
55675 55676
  
```



Date	Time	Files	Events	Target	Beam I	Torus
07-12-03	03:49	26	22334410	Butanol	2482	7.0 1918

Current Run: [55650](#) Reference Run: [55521](#) Comment: *No comment!*

(Ken Livingston, Sunkyun Park)

status: pass0/v0 for circ.beam

(1) RF:

(a) lots of randoms and reflections (before hardware fix 11/30):

=> new algorithm (st/makeCL01.c): take only hits which are 80 RF cycles apart

(if no such hits are found, skip CL01 bank => no RF correction)

(b) adjust RF_offset, TAGT_ci, tag2tof, st2tof to fix overall offsets

(based on anahist/seb plots and some anahist/tag plots)

(2) TAG:

tag_calib with more ROOT macros ... but all based on raw data

(3) SC: (thanks to Paul Mattione!)

much work done to get sc_calib software updated for 57 channels per sector,

... timewalk corrections / energy loss calibration still being checked

(4) ST:

energy loss calibration added (thanks to Mukesh Saini!)

(5) DC:

calibration must be improved for Reg.2 & 3 (function type, less biased data sets)

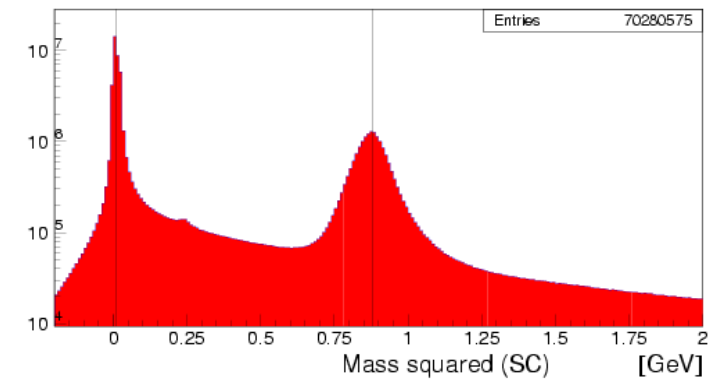
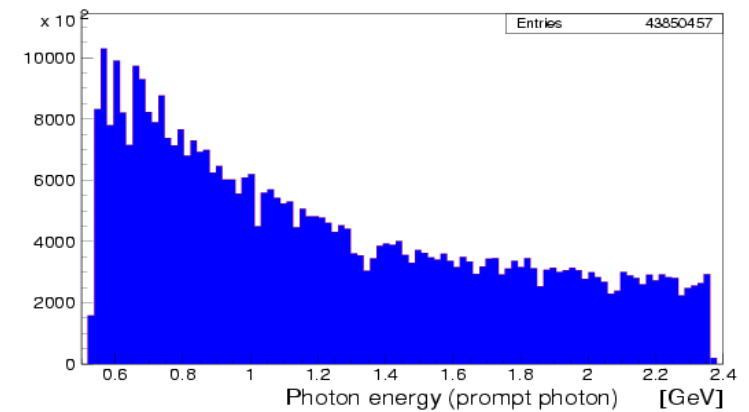
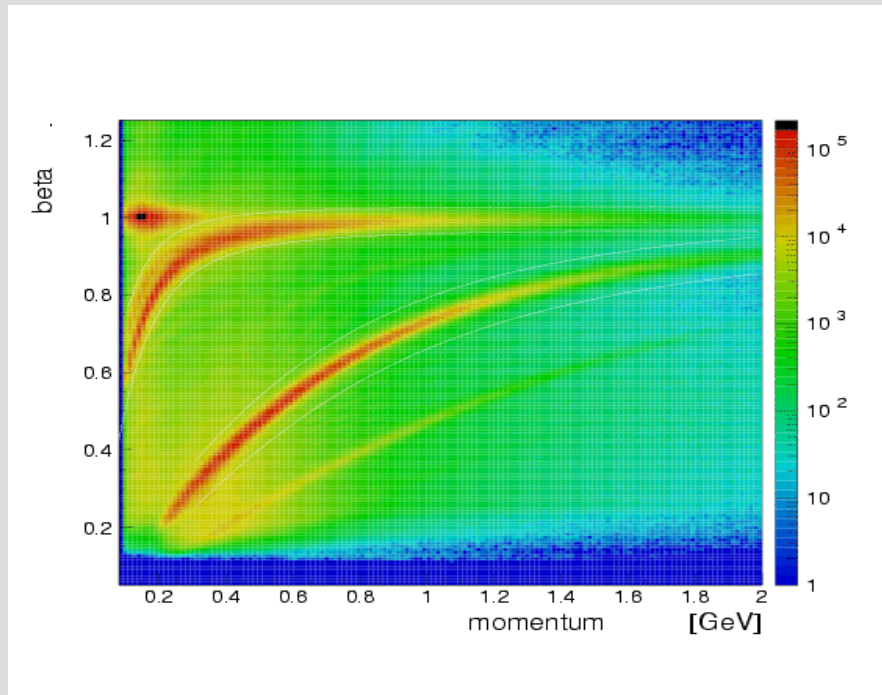
(6) EC, LAC: not started to think about!

sample analysis $\gamma p \rightarrow \pi^+ n$

runs 55604-55676 (2 files per run) (circular beam)

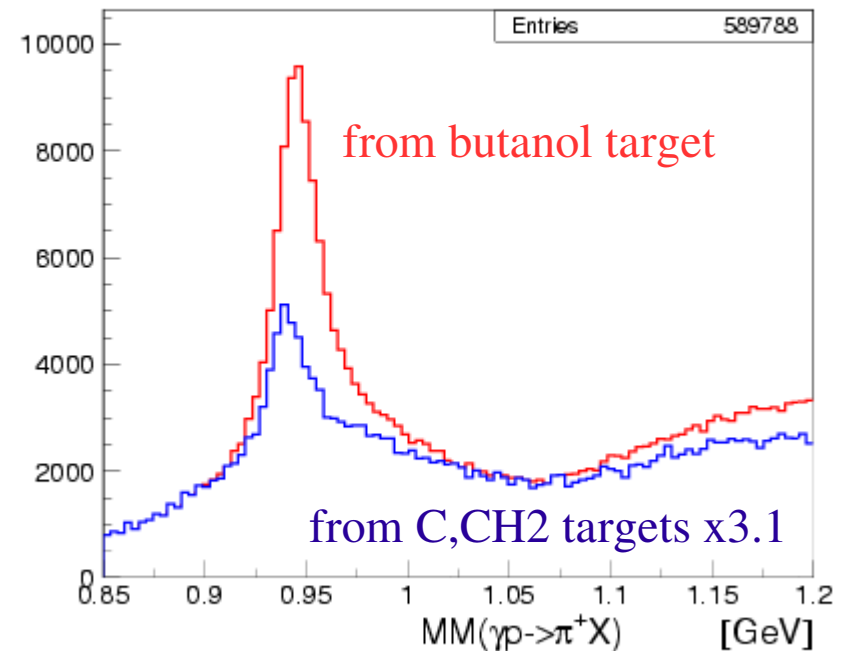
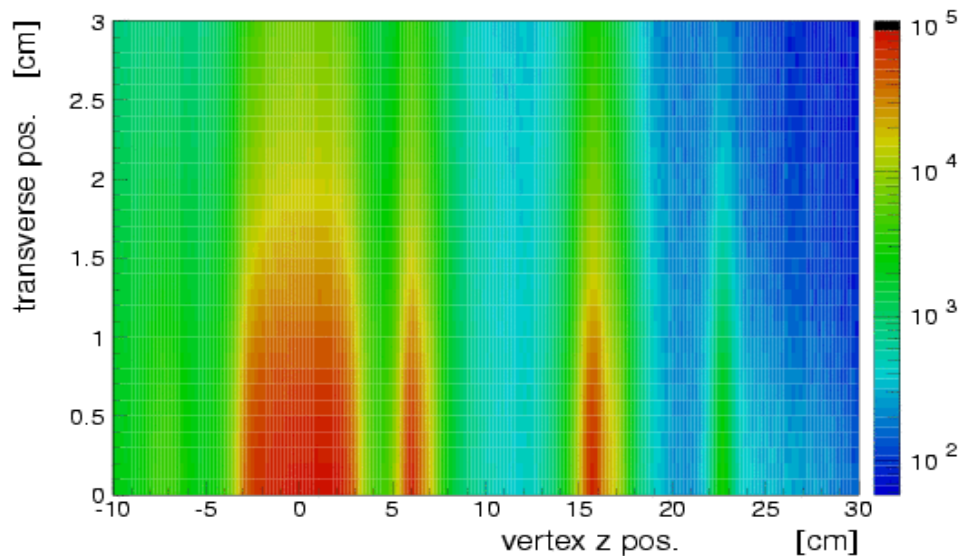
use ntuple 10 = SEB based (ROOT dsmaker was not working in cook job)

- mass squared for reconstructed tracks ($\Delta t = \pm 1 \text{ nsec}$)
- improved cut in beta vs. momentum



sample analysis $\gamma p \rightarrow \pi^+ n$

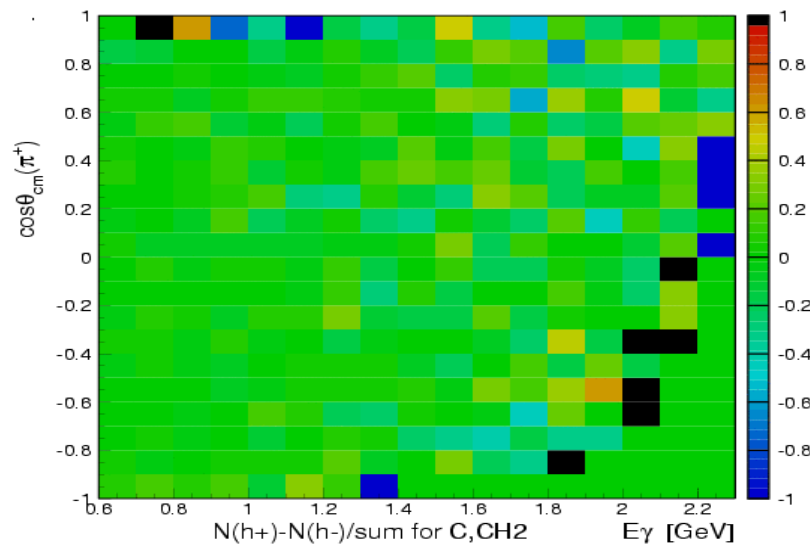
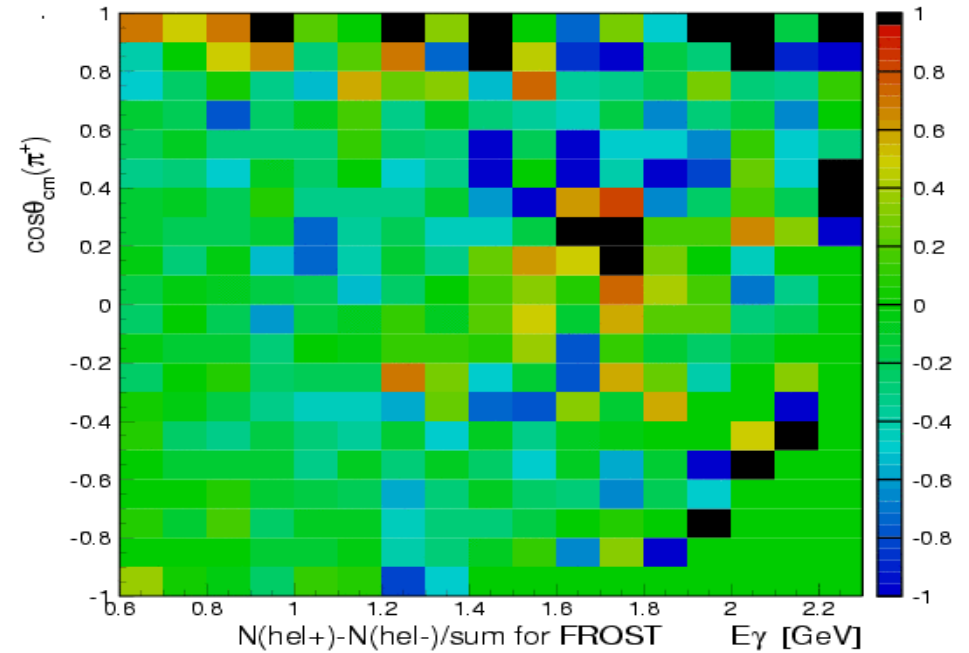
vertex cut: butanol target: -2.5 to 2.5cm; 1.5mm ^{12}C at 6.0cm; 3.5mm CH_2 at 16.0cm



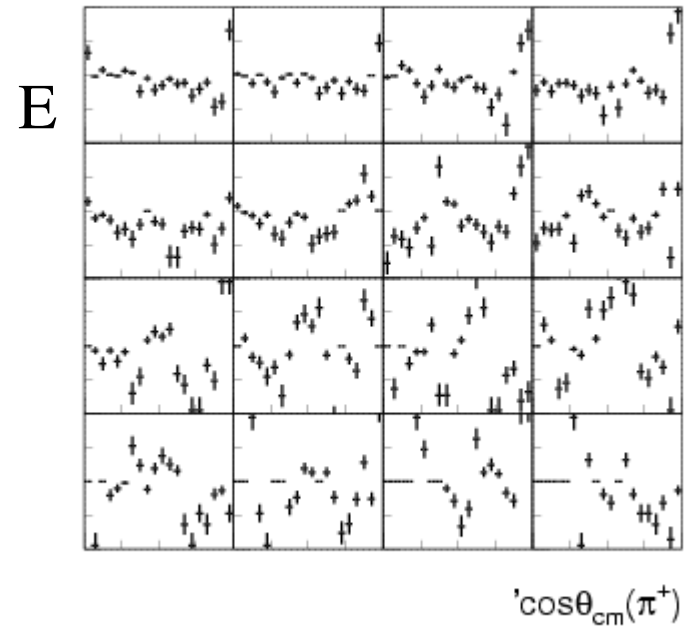
sample analysis $\gamma p \rightarrow \pi^+ n$

helicity asymmetry for FROST target:

same plot for C&CH2 targets



E_g bins: 0.6 to 2.2 GeV



next steps

- get all calibrations ready for pass0 on circ.beam data
- calibrate one run each for circ.beam settings and start with pass0/v0
- refine cuts for further sample analyses

... slowly coming along ...