Run34 quick beam analysis report

A.Murakami

2010.6.17

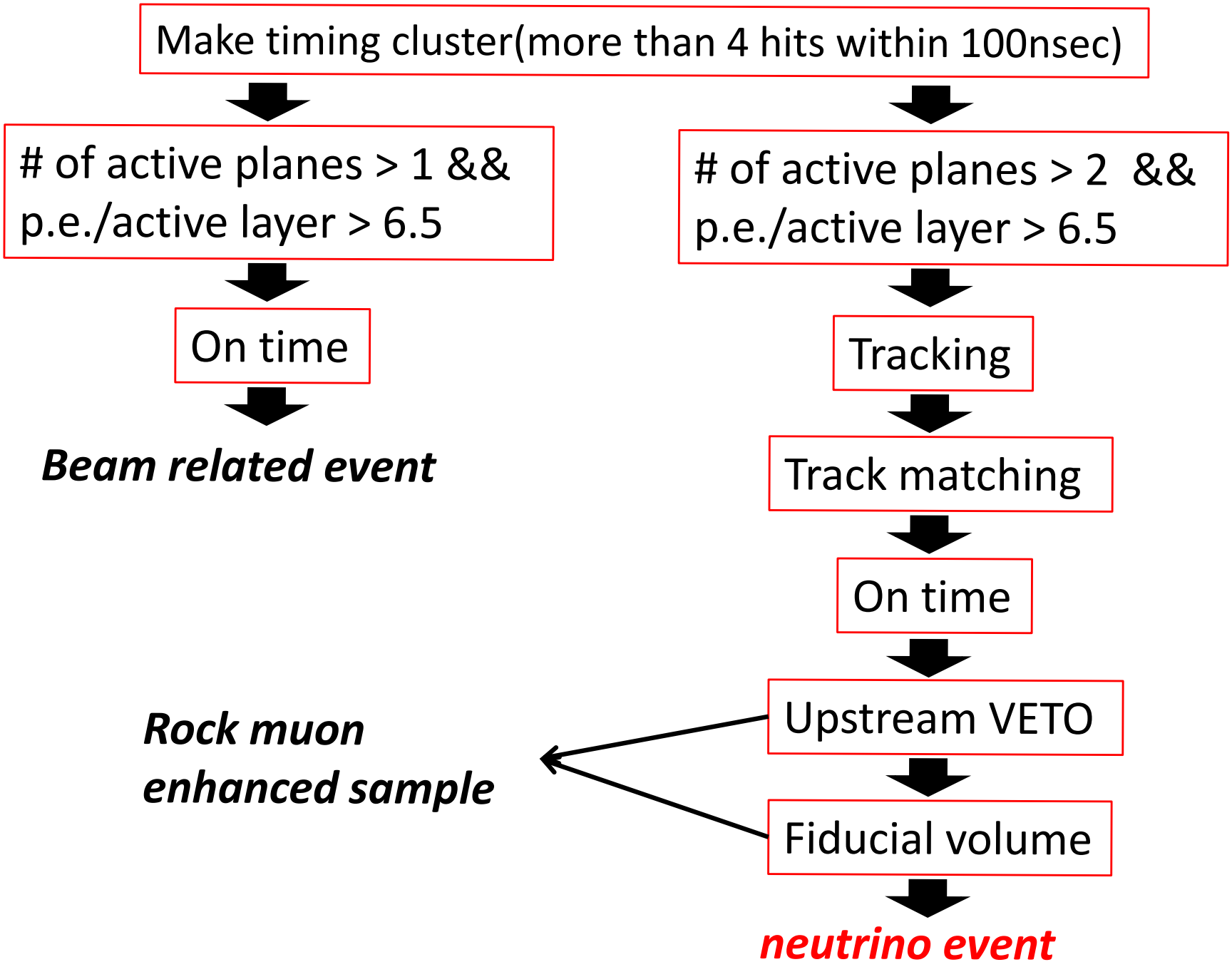
INGRID Status

- INGRID DAQ is very stable.
- Data quality of INGRID is good at check online monitor (if possible) & quick analysis level.
  - This slide shows the quick analysis result from p.4.
- One problem with online monitor happened.
  - Online monitor hanged up 6/15 several times.
    - Then, CPU Usage of Online monitor was 100%.
- I don't understand the reason. We should check this after Otani-san comes back from Neutrino 2010 conference.
- But, the current status of the monitor is stable.
  - From night 6/15, the problem does not happen.

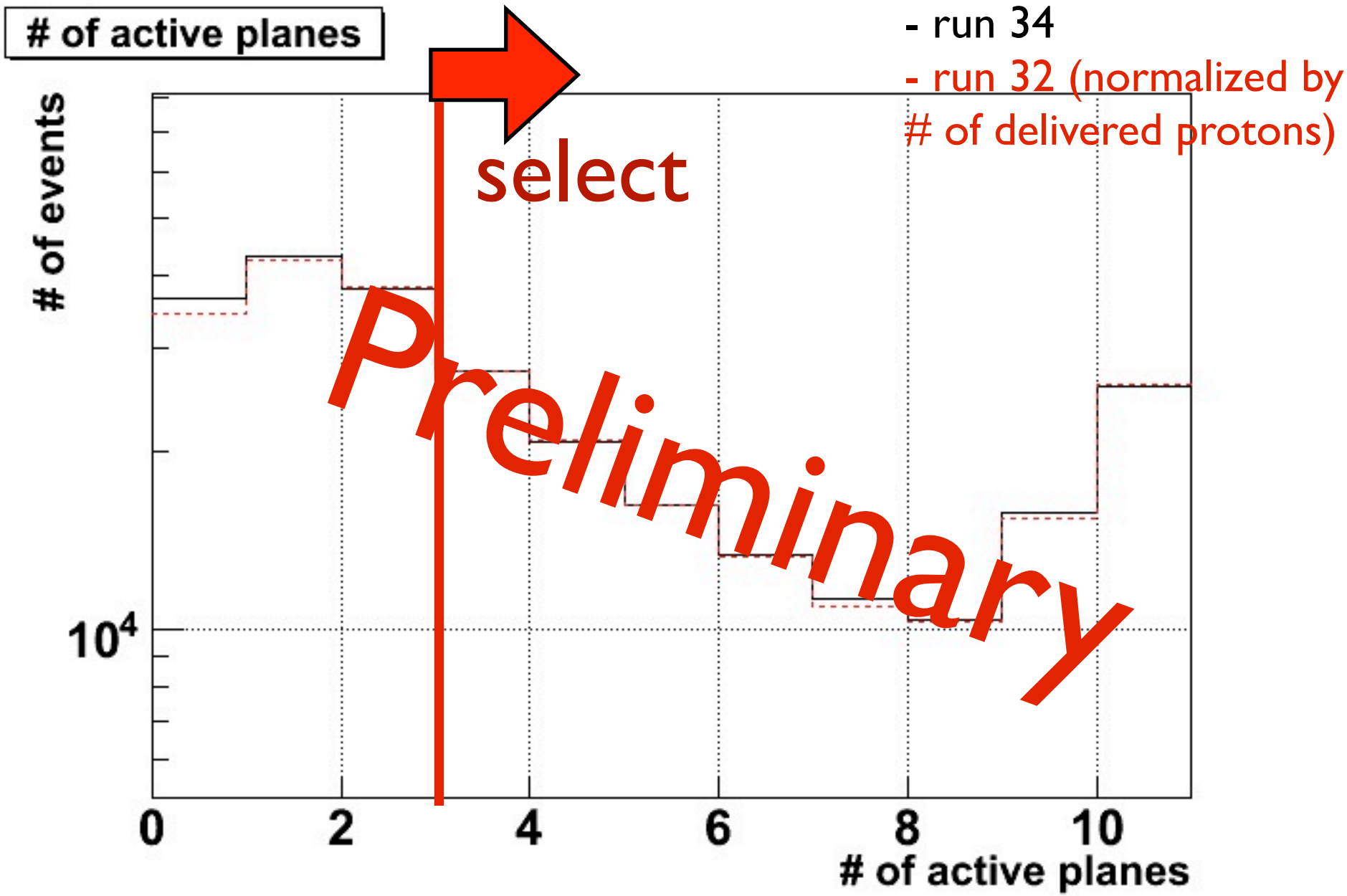
Quick analysis of Run34 data

- Analyzed the data set.
  - June.13th late-evening ~ June. 17th early morning. data is analyzed with quick beam summary (ver p02).
- Total # of good spills ~ 6.3×10^{4}, total delivered protons ~ 2.4×10^{18}

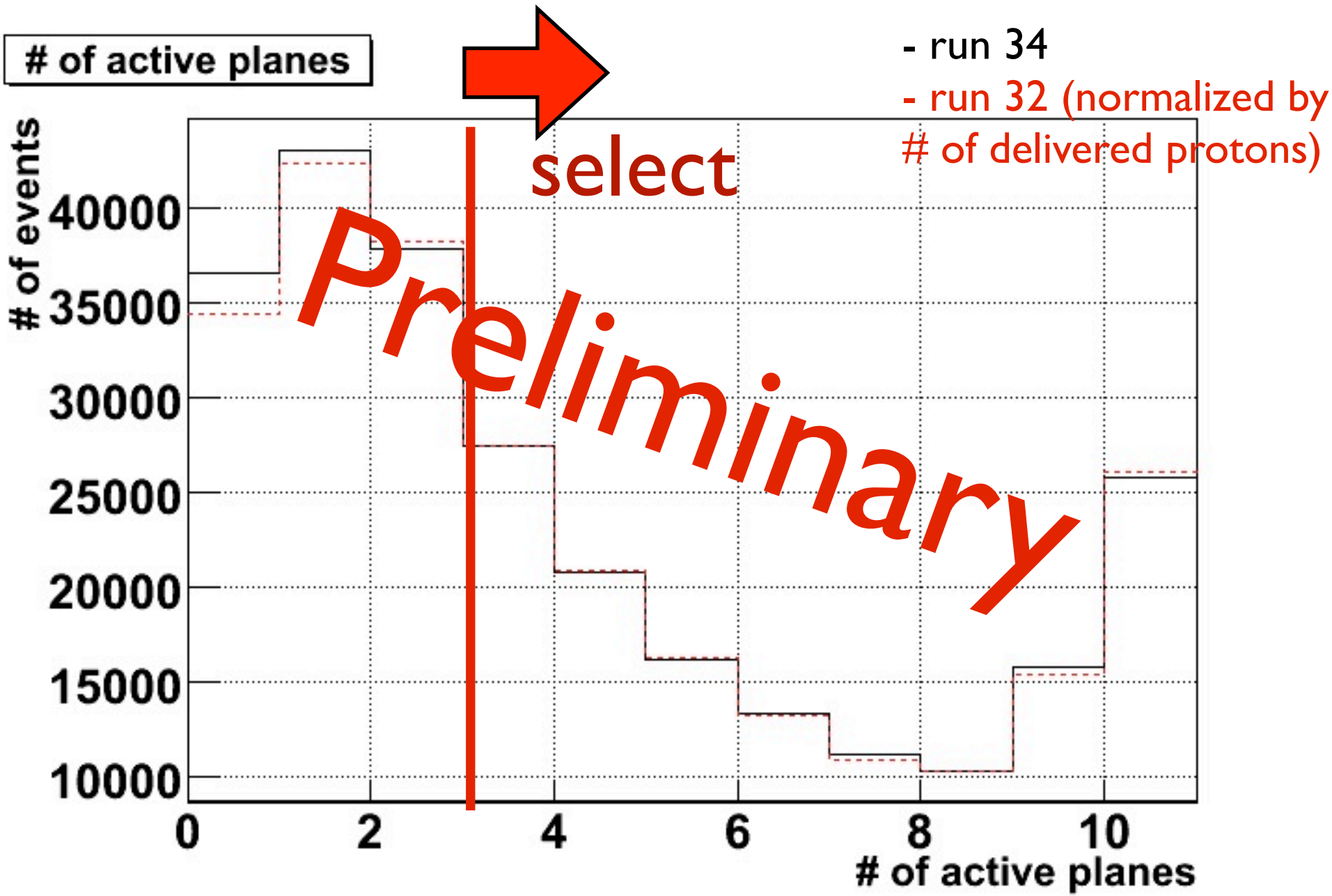
Analysis flow chart



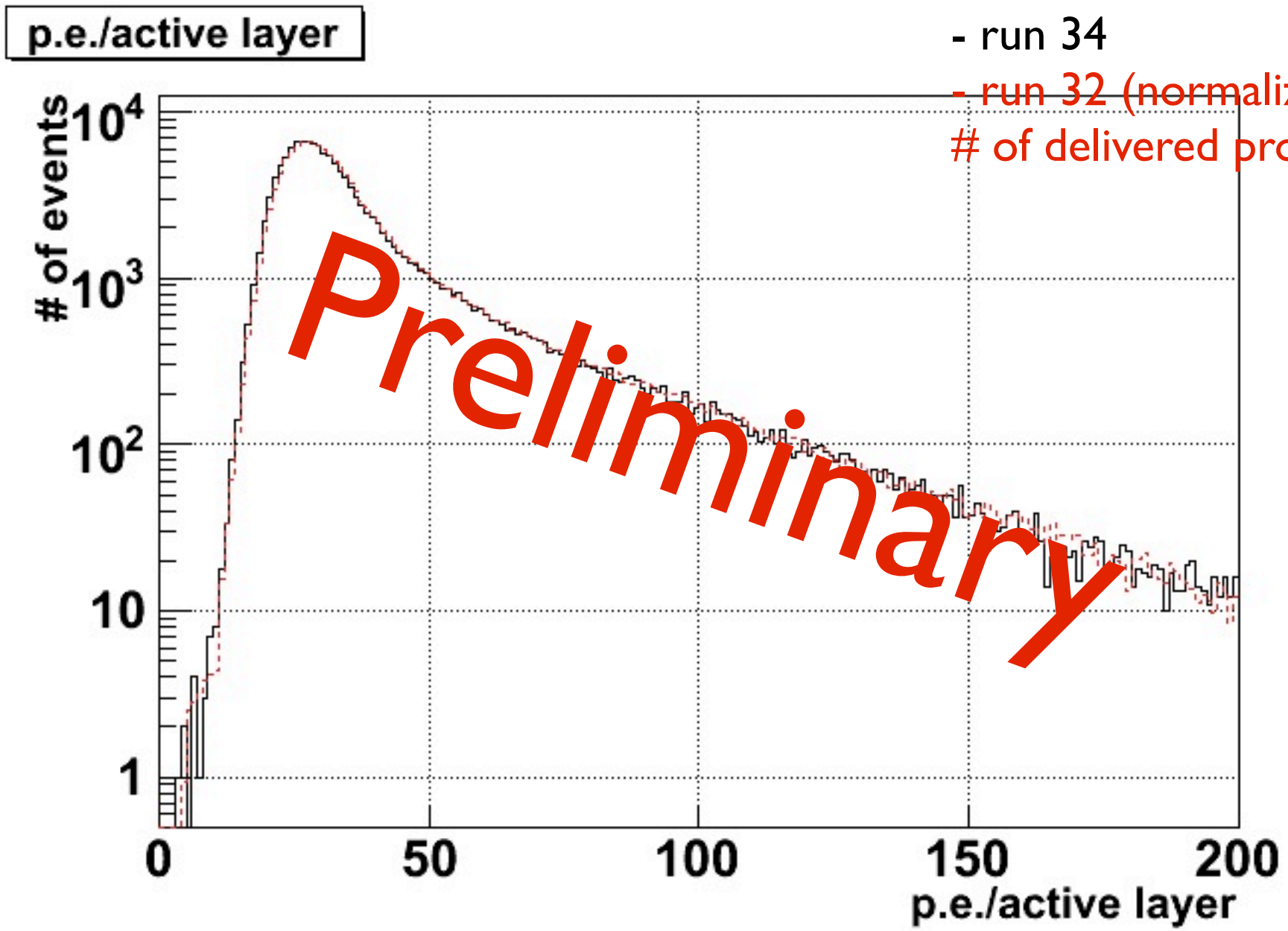
of active plane (log)



of active plane (linear)

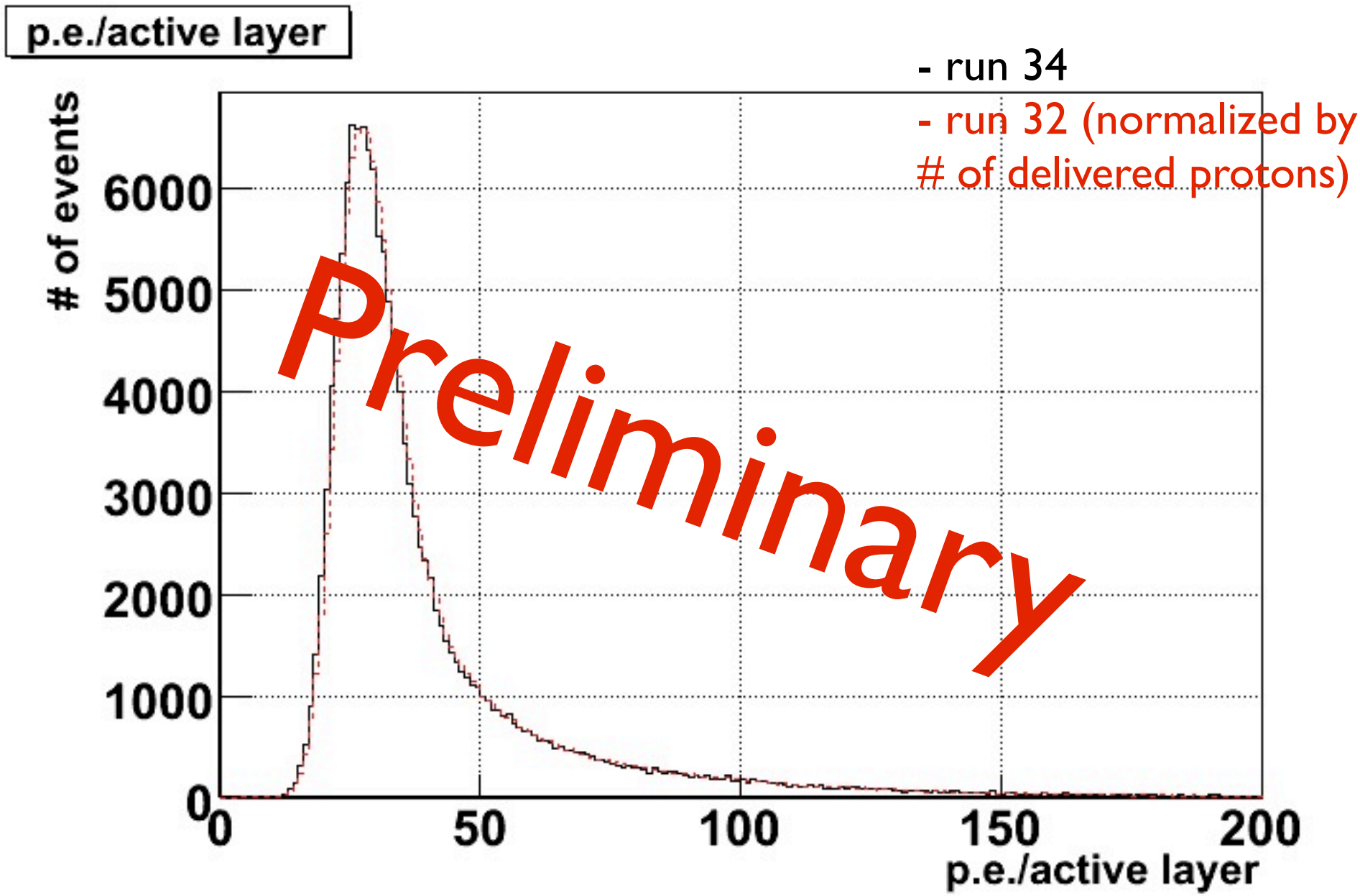


p.e. / active layer(log)

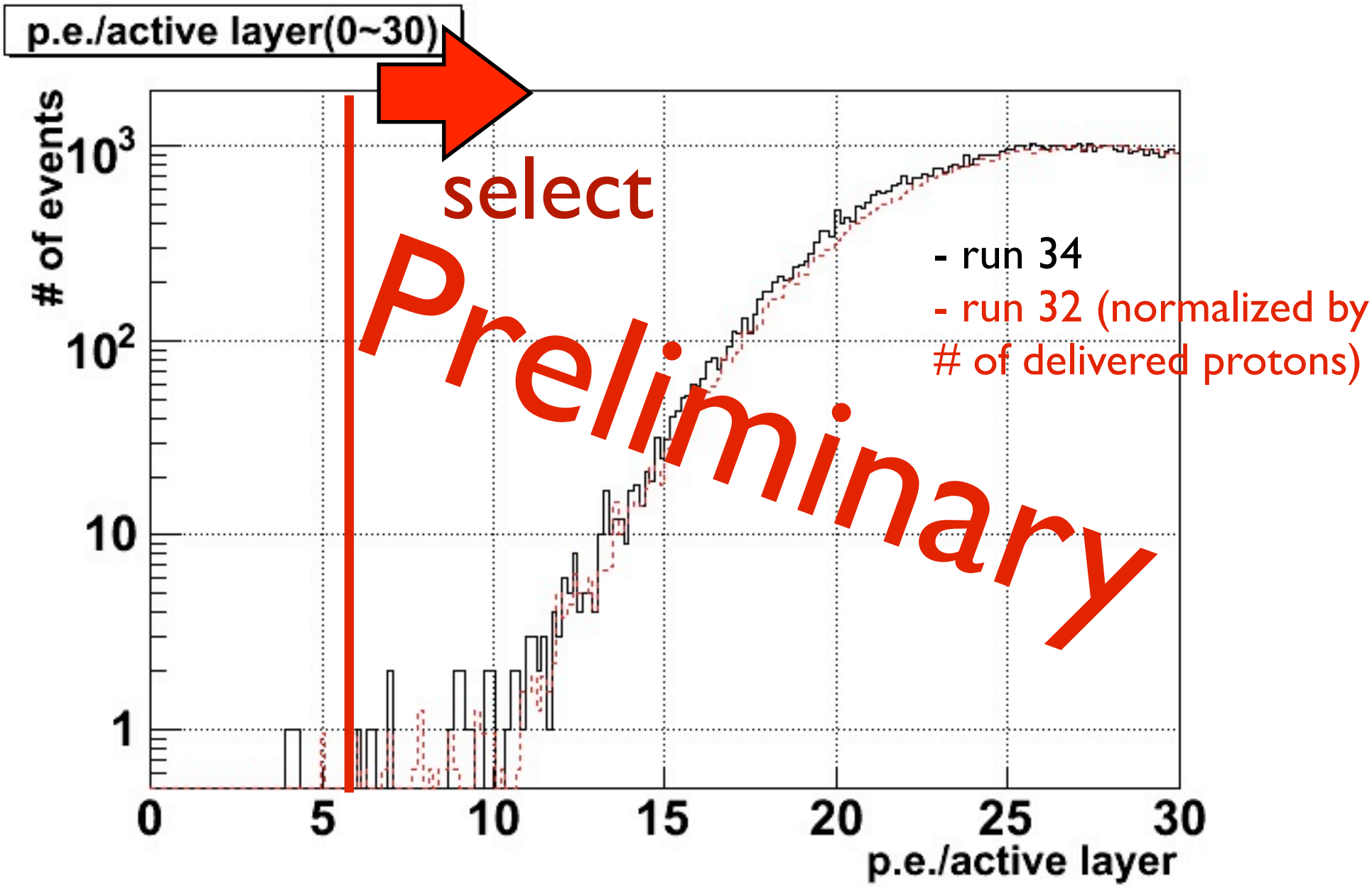


- run 34
- run 32 (normalized by # of delivered protons)

p.e. / active layer(linear)

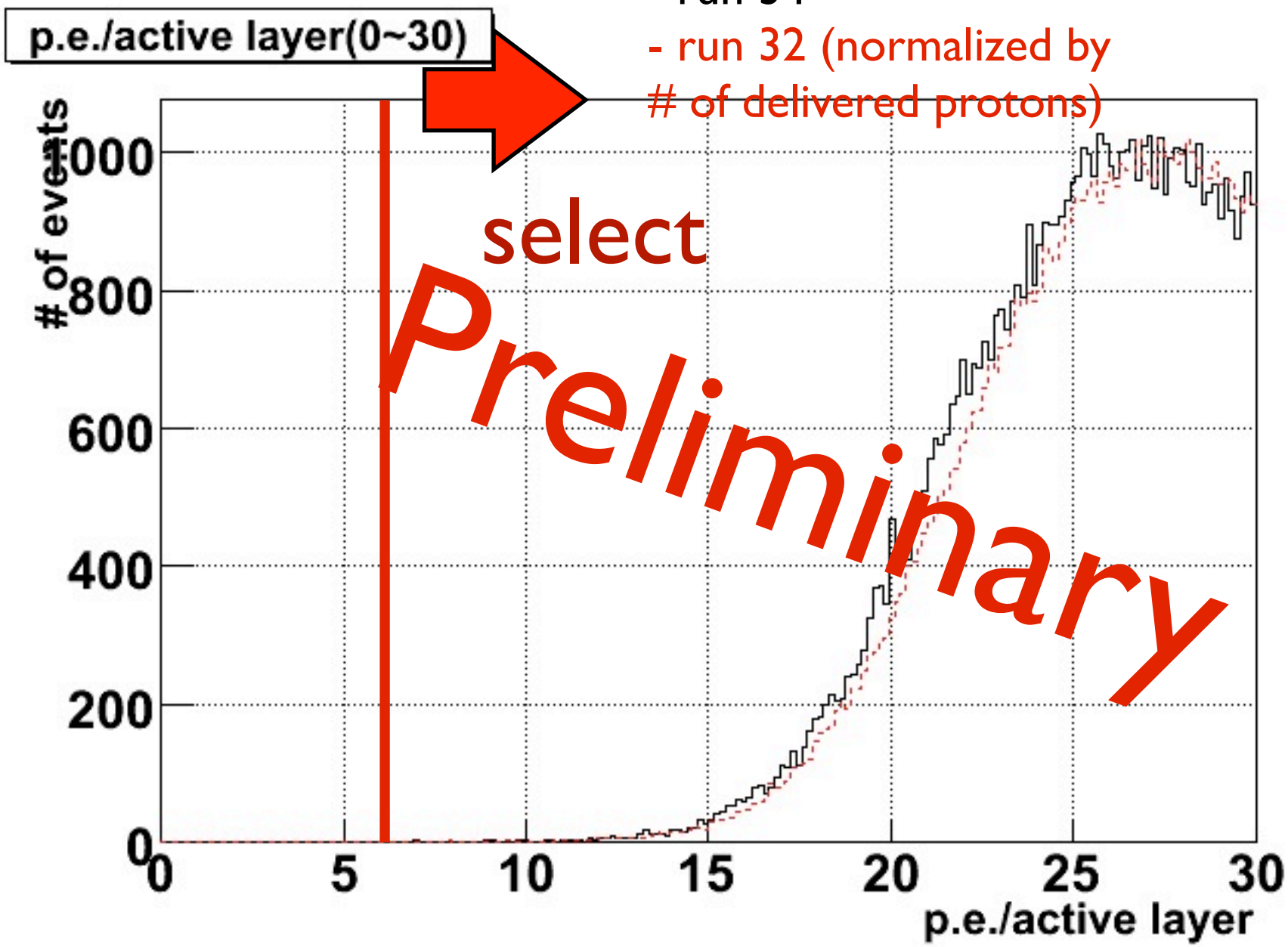


p.e. / active layer (log, zoom)



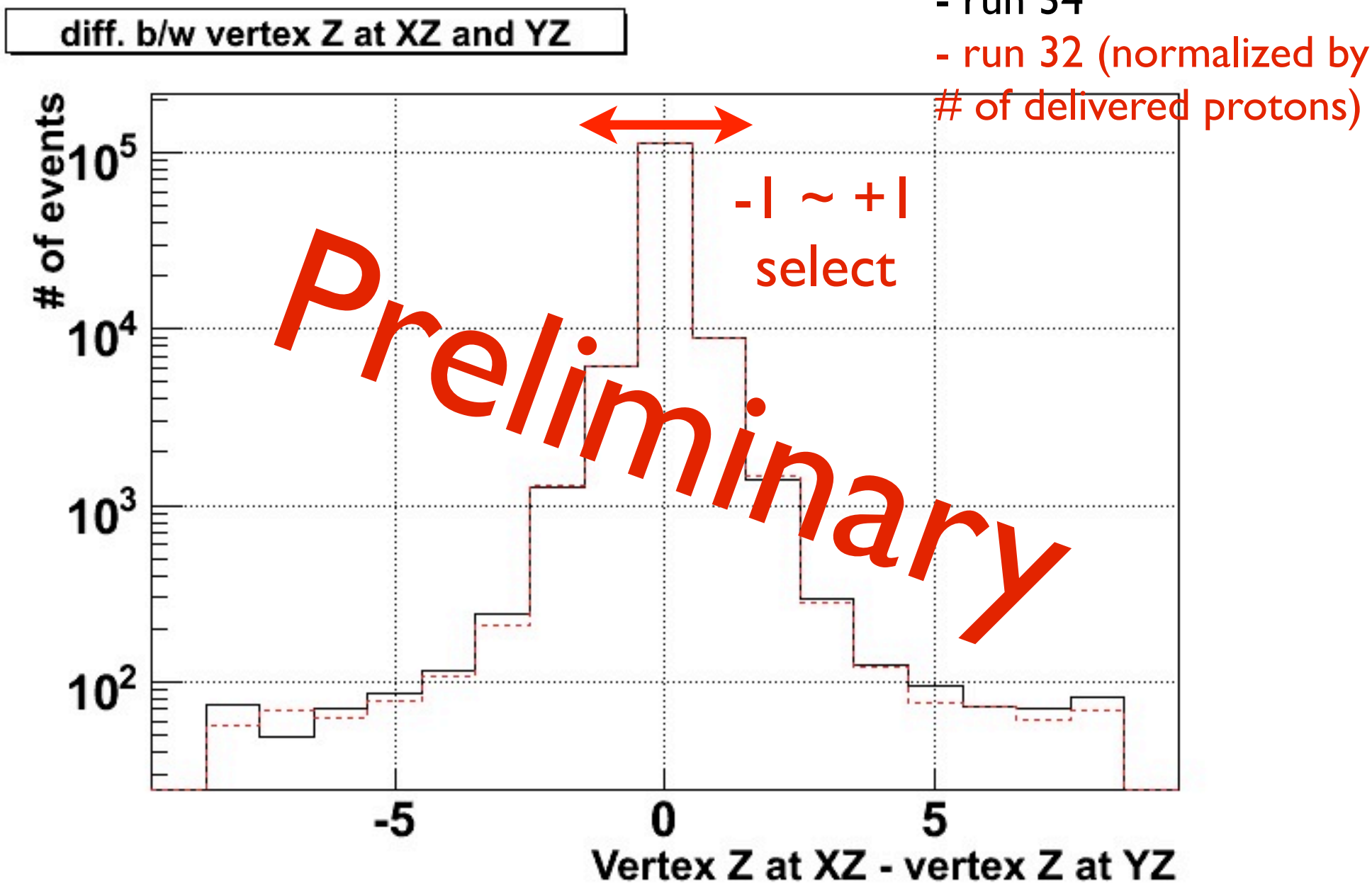
p.e. / active layer (linear,zoom)

- run 34
- run 32 (normalized by # of delivered protons)



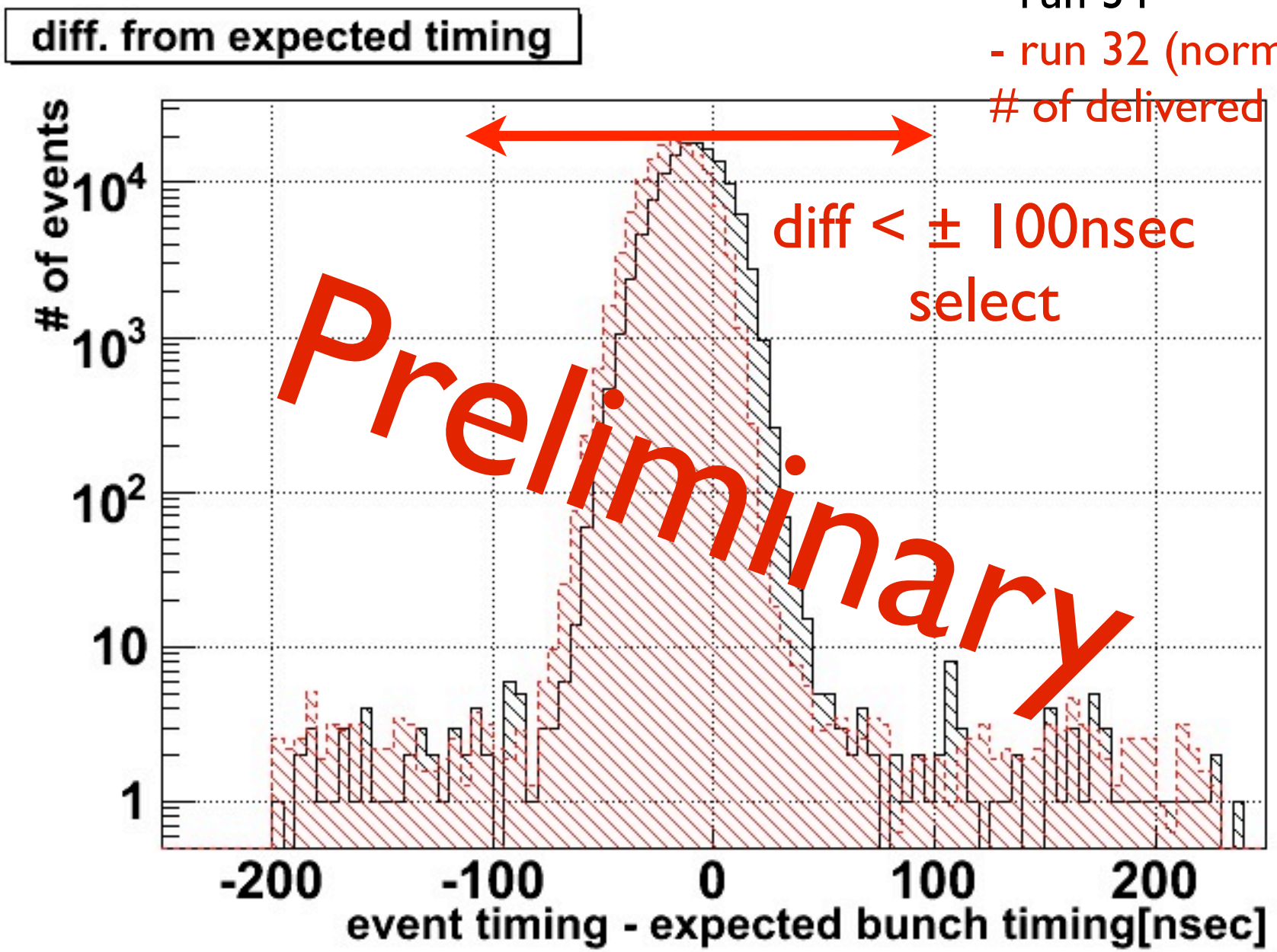
XZ and YZ Track matching

- run 34
- run 32 (normalized by # of delivered protons)

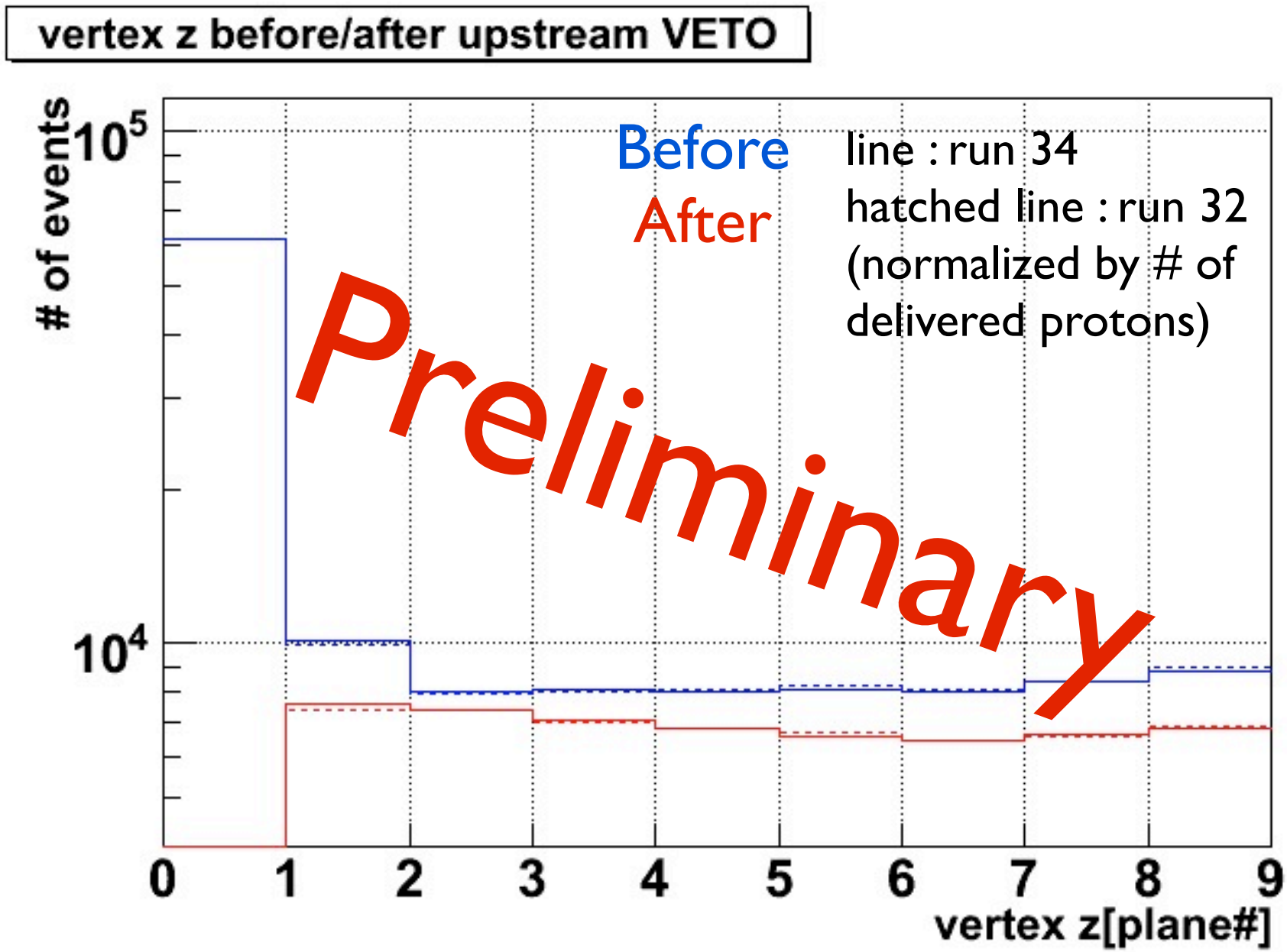


On time

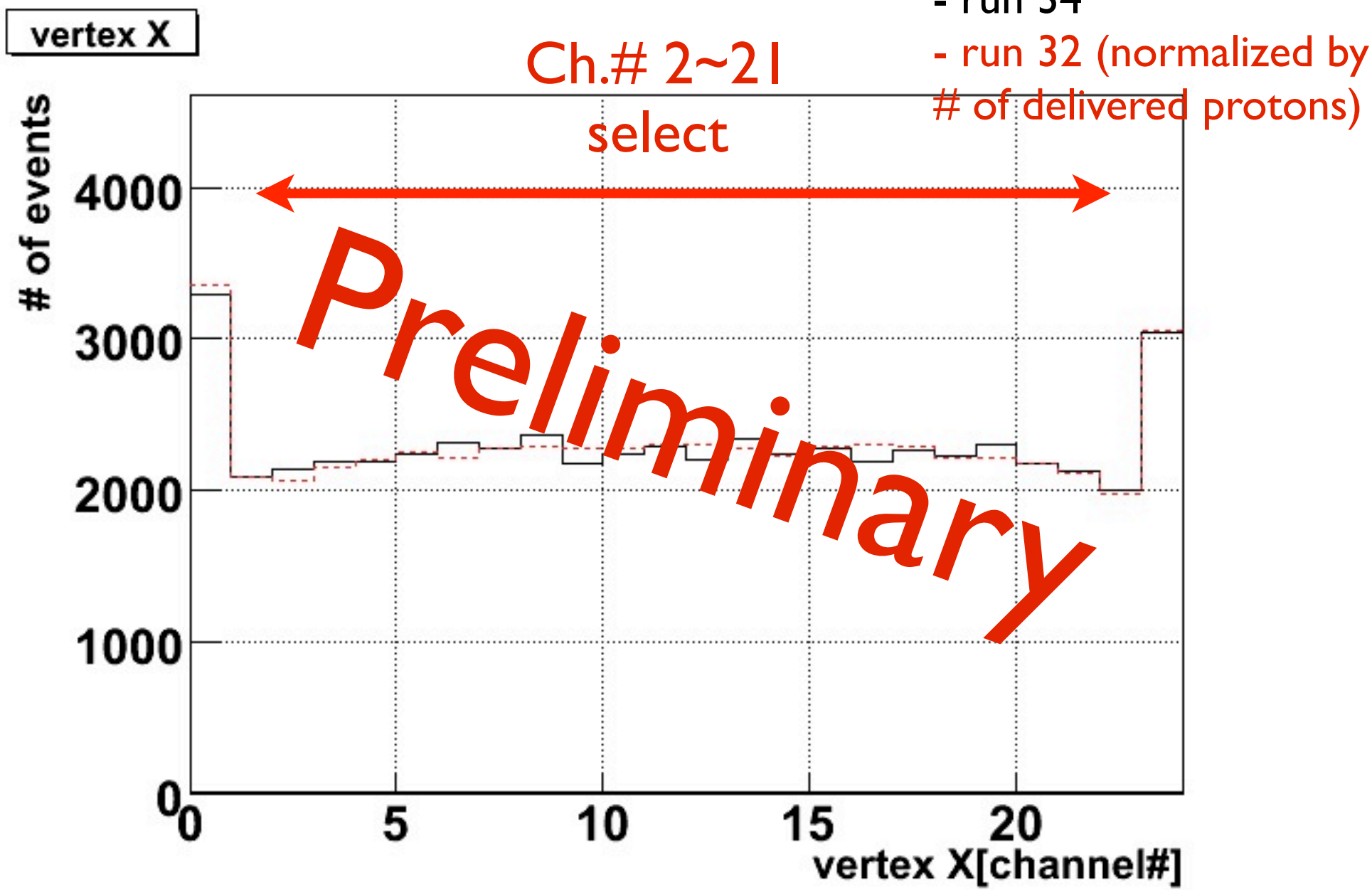
- run 34
- run 32 (normalized by # of delivered protons)



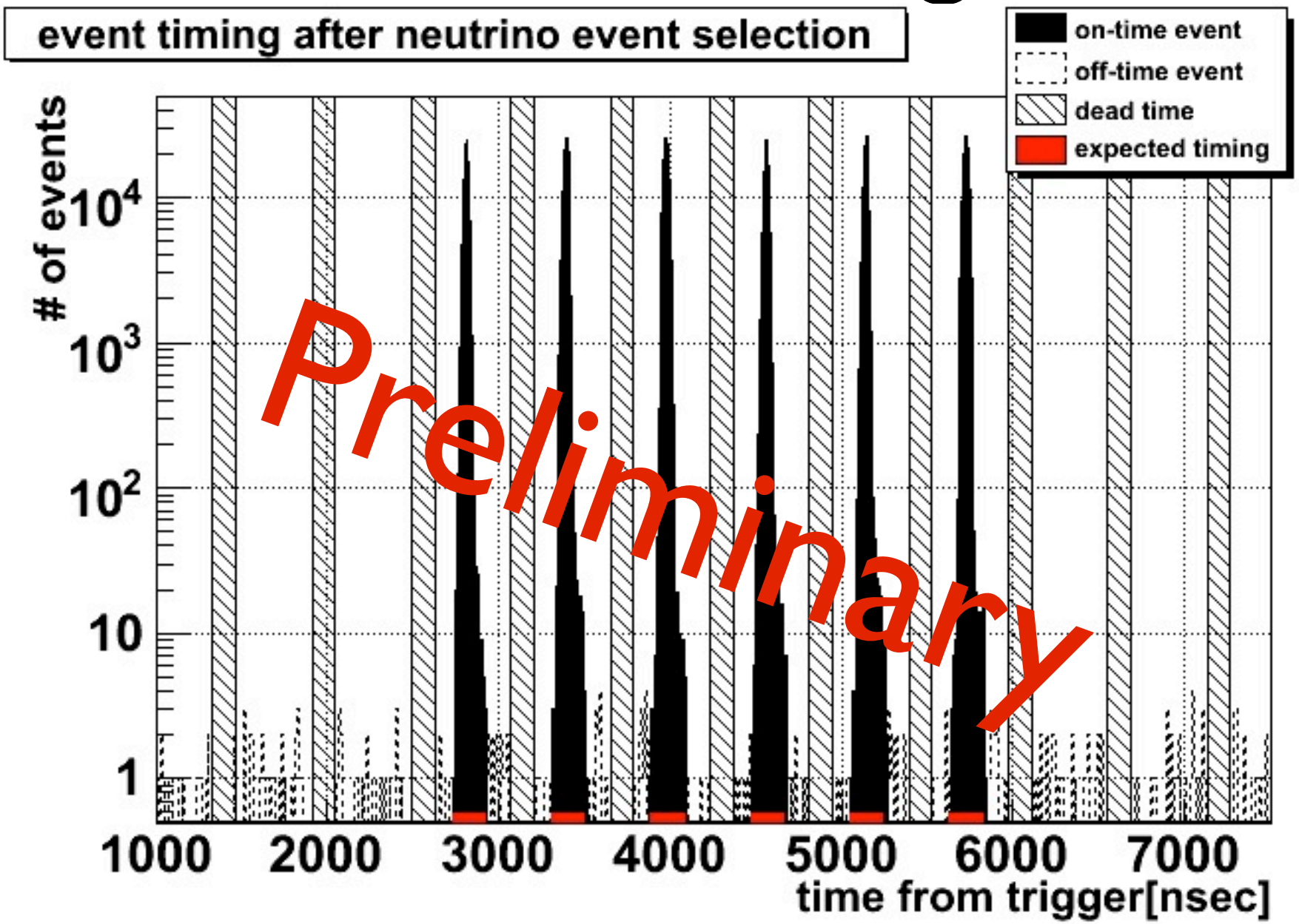
Upstream VETO



Fiducial volume cut

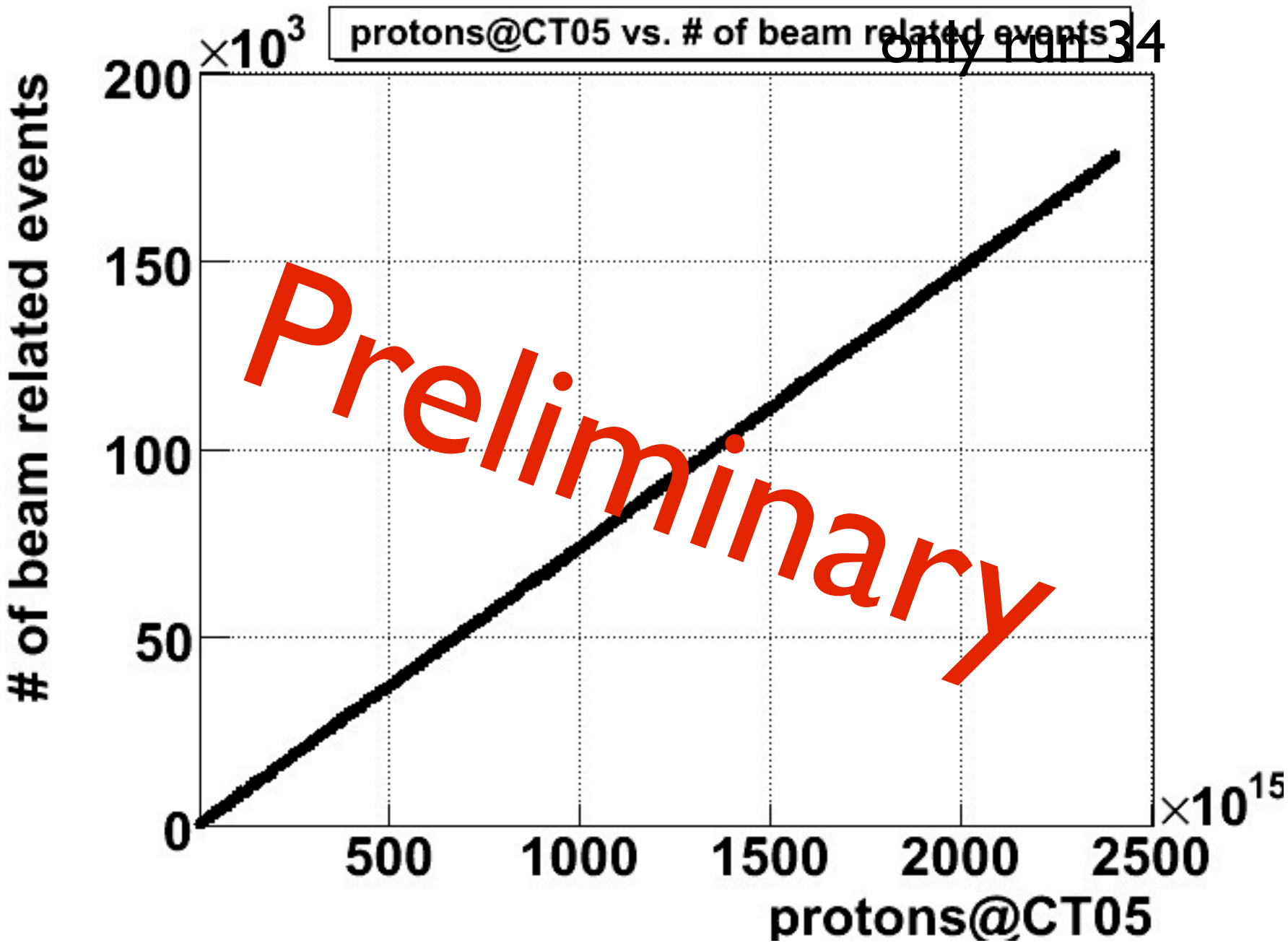


Event timing

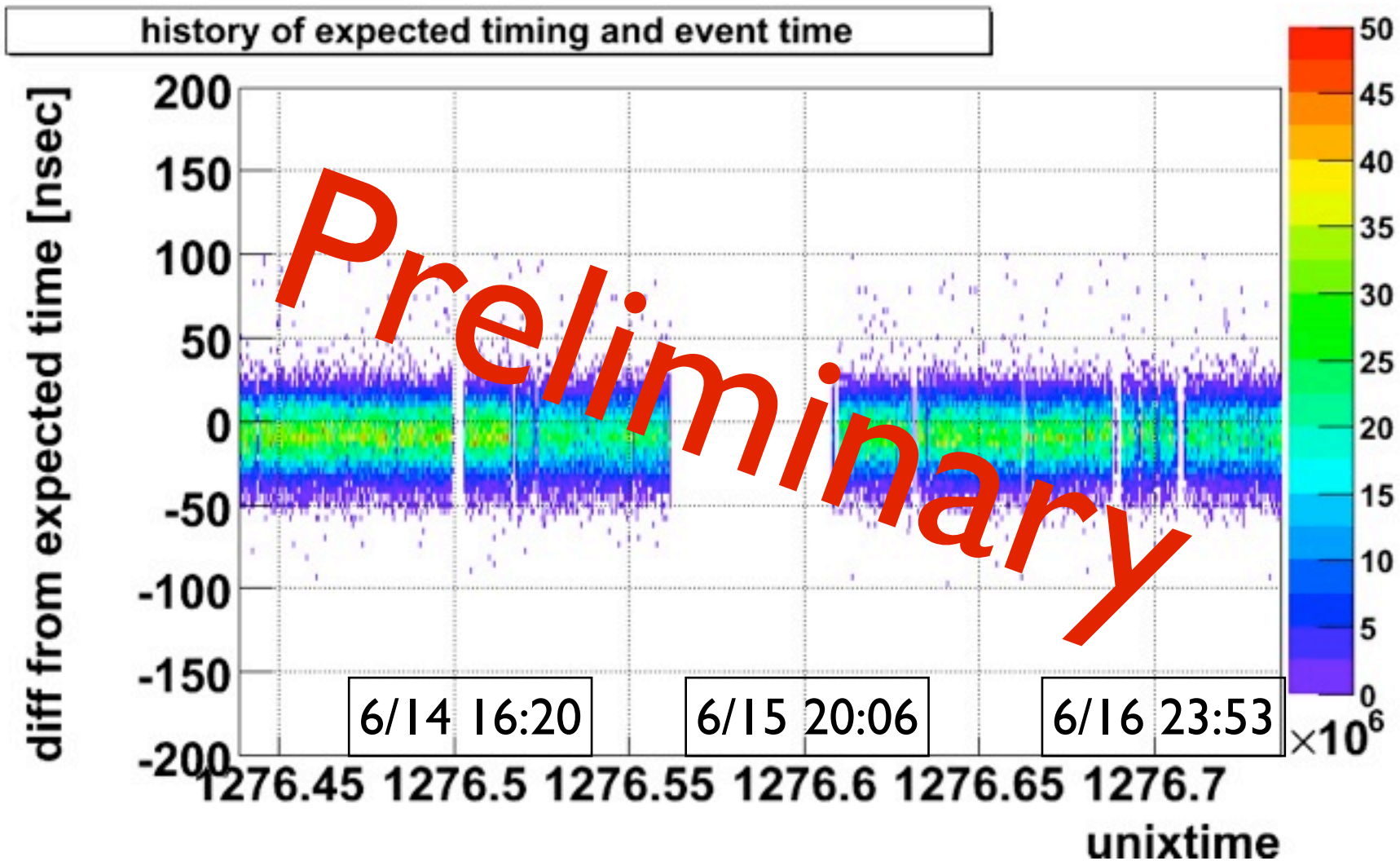


→you can see the six bunch structure clearly.

protons@CT05 vs neutrino events



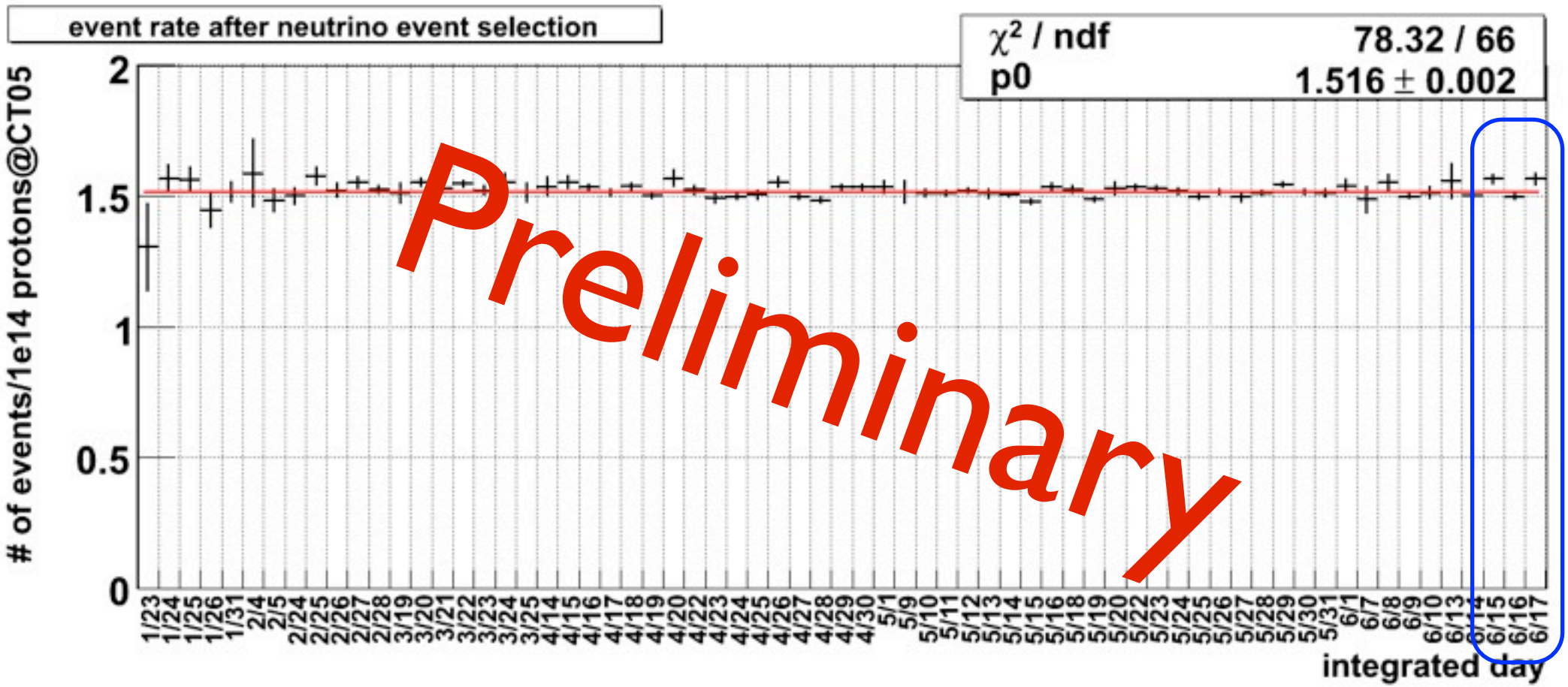
History of diff. of observed timing from expectation.



Neutrino event rate

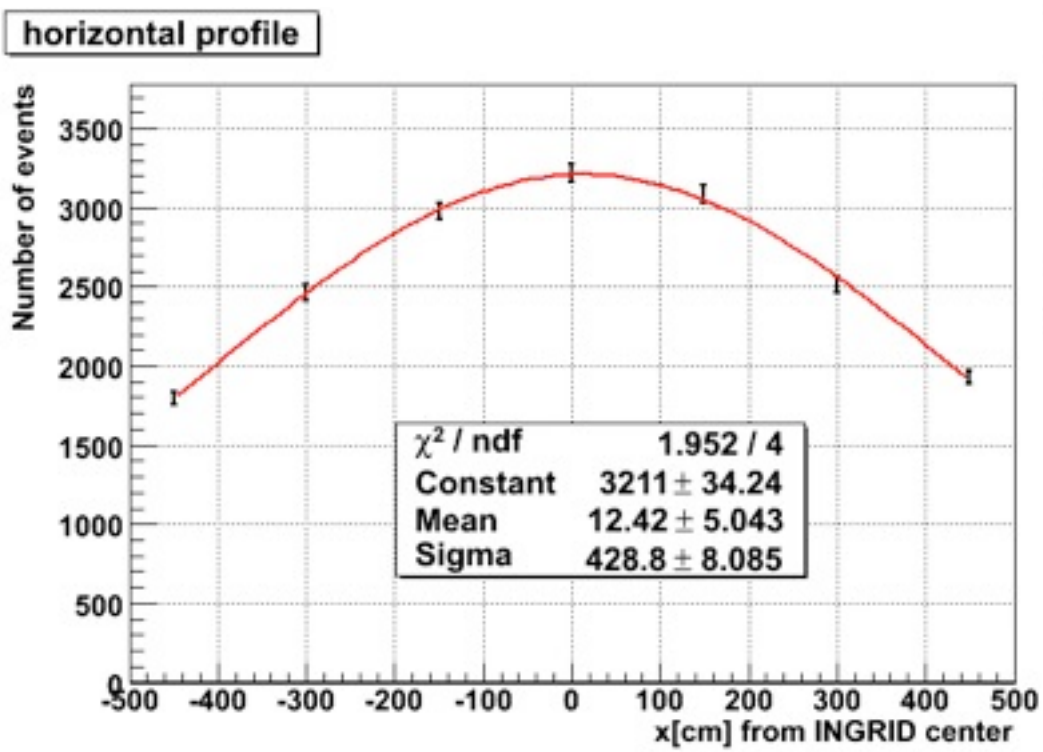
red dash line shows mean

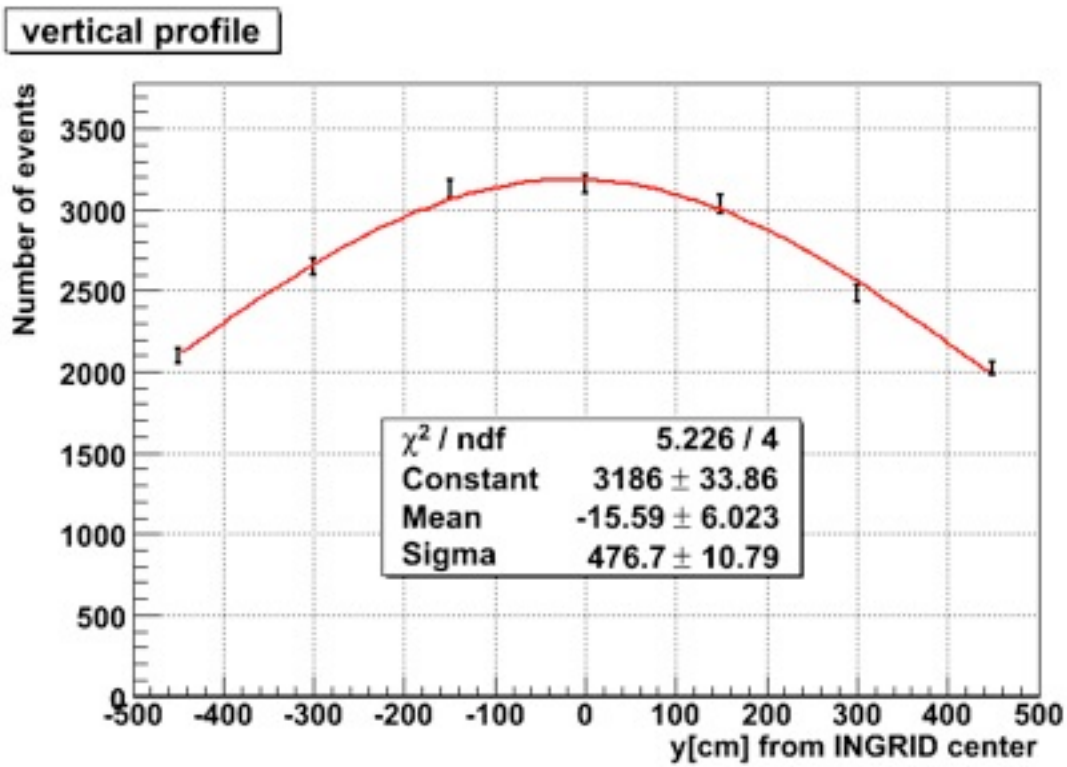
new add : 6/15's, 6/16's, 6/17's



Event rate is as usual

Beam Profile





center: 12.4 ± 5.0cm
(to south)
Sigma: 429 ± 8 cm

center: -15.6 ± 6.0cm
(on axis = -1.9cm)
Sigma: 476 ± 11 cm

(1 mrad beam shift at INGRID = 28 cm)

Summary of quick analysis

- INGRID is working well.
- Beam status is good at quick analysis level.
  - Event rate w/ all modules is as usual.