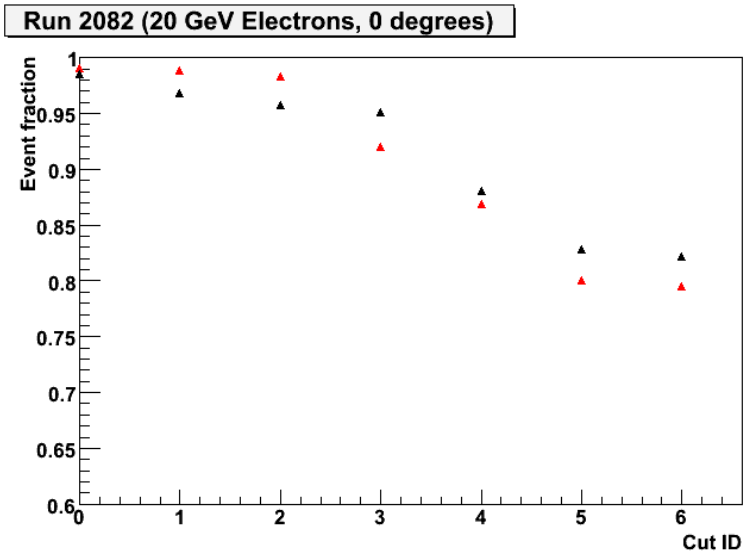
Definition of the cuts

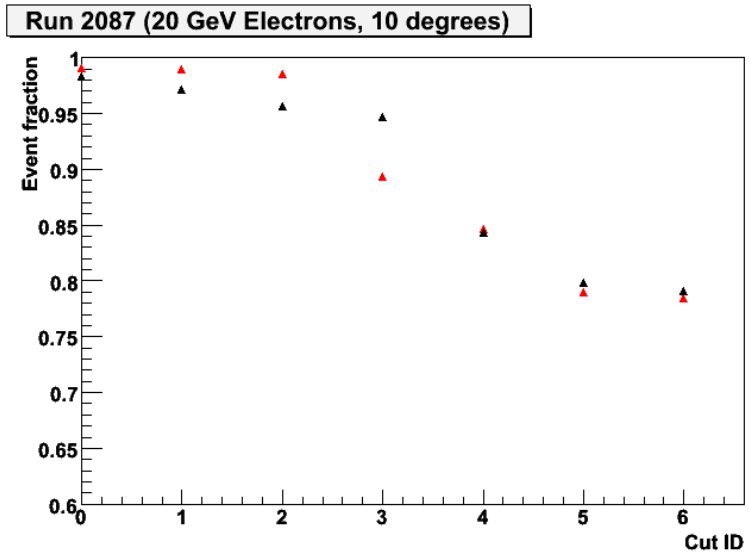
- Essentially the same as the ones Alex presented in the last meeting.
  - Where "essentially" means: no pre-cut, no cut on `McEnergy`, `CalTrackAngle`, `AcdTotalEnergy` and `CalTotRLn`

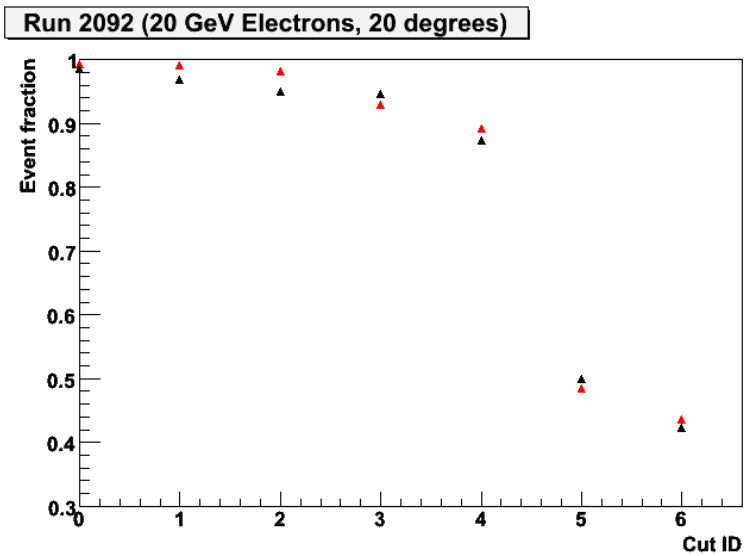
1. `CalCfpEnergy > 10000`
2. `CalTransRms < 35`
3. `CalTrkXtalRmsE < 30`
4. `CalXtalRatio < 0.25`
5. `CalLRmsAsym < 0.04`
6. `Tkr1ToTTrAve > 1.6`
7. `Tkr1CoreHC > 5`

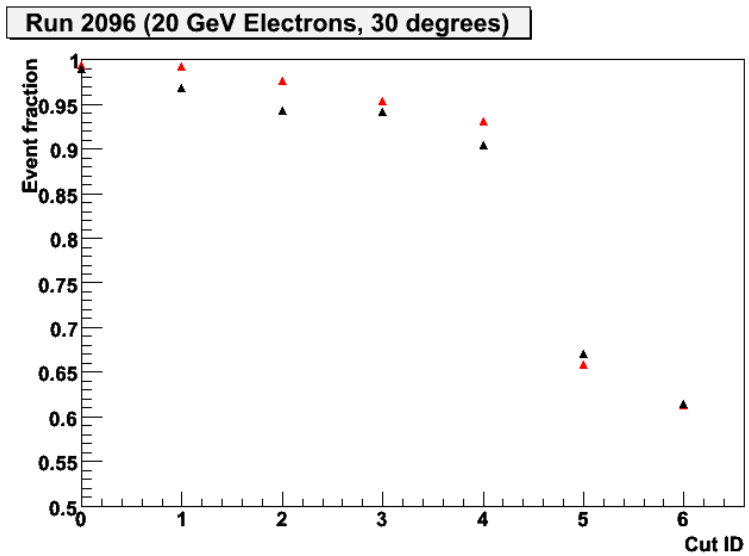
The idea would be to see how the fraction of the events passing the cuts scales as the cuts themselves are progressively applied.
In the following slides: Data in BLACK, MC in RED

20 GeV electrons

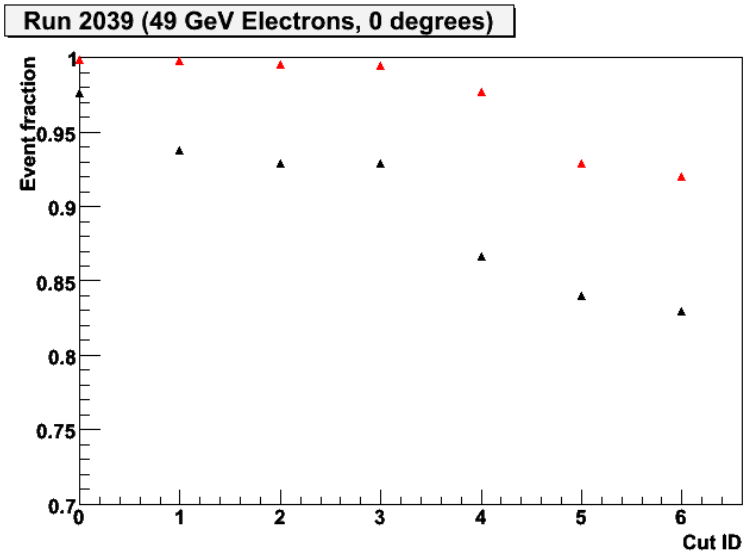


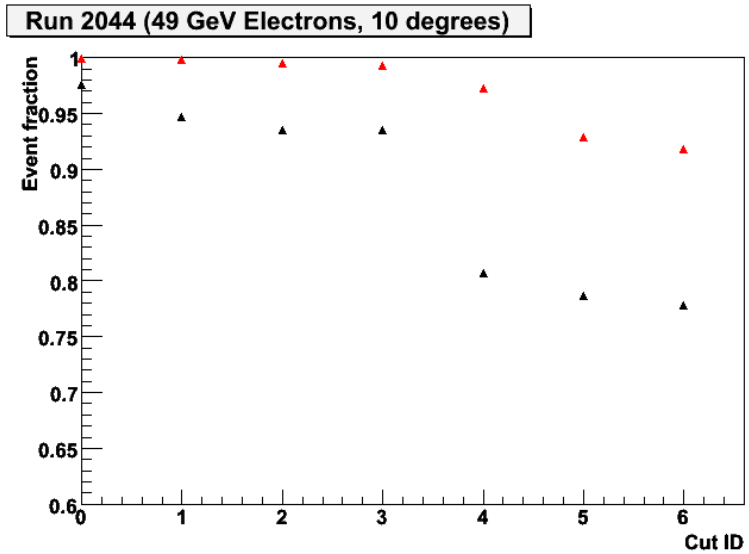


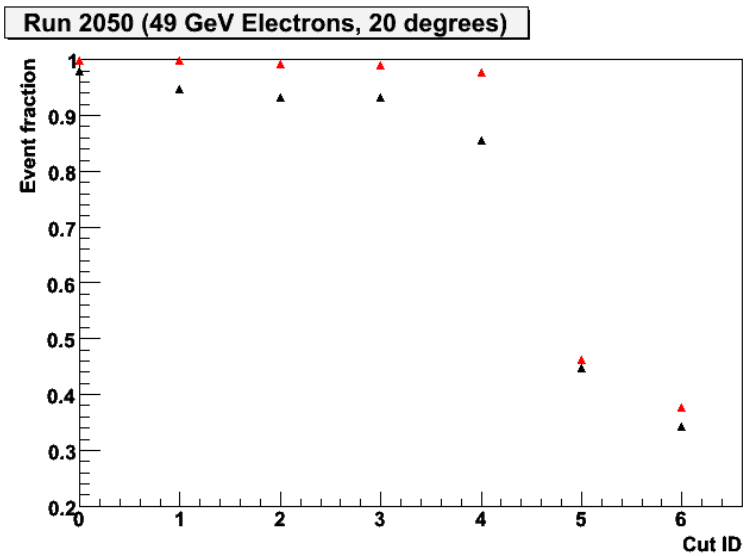


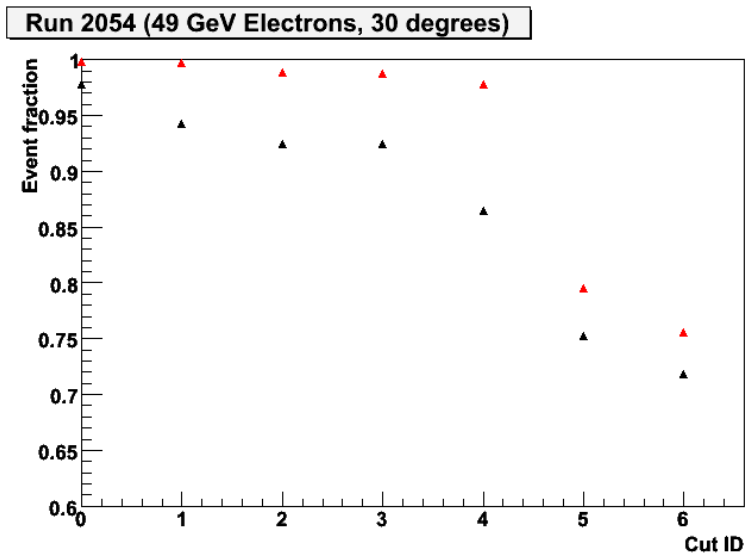


50 GeV electrons

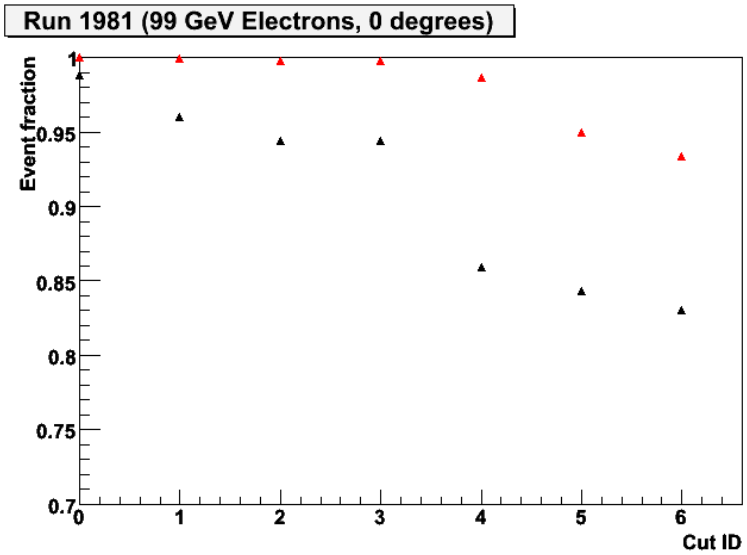


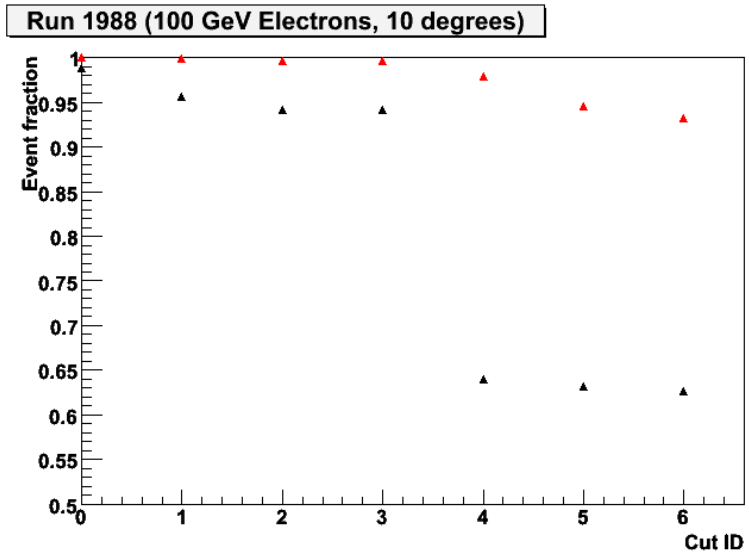


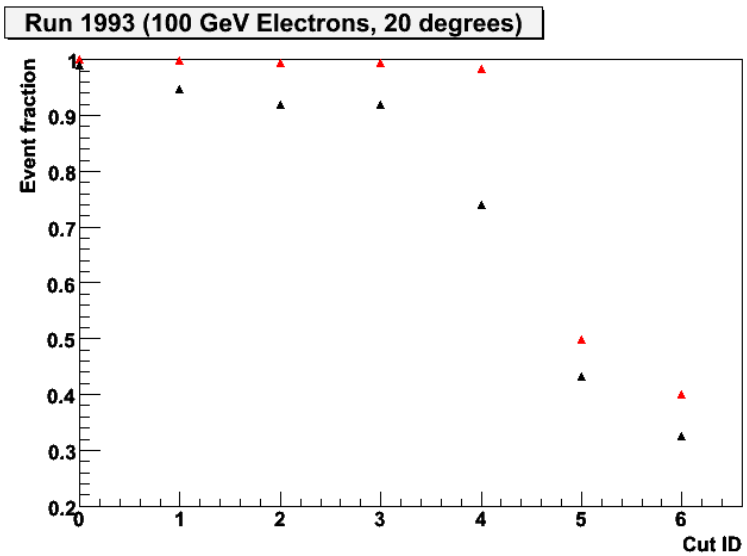


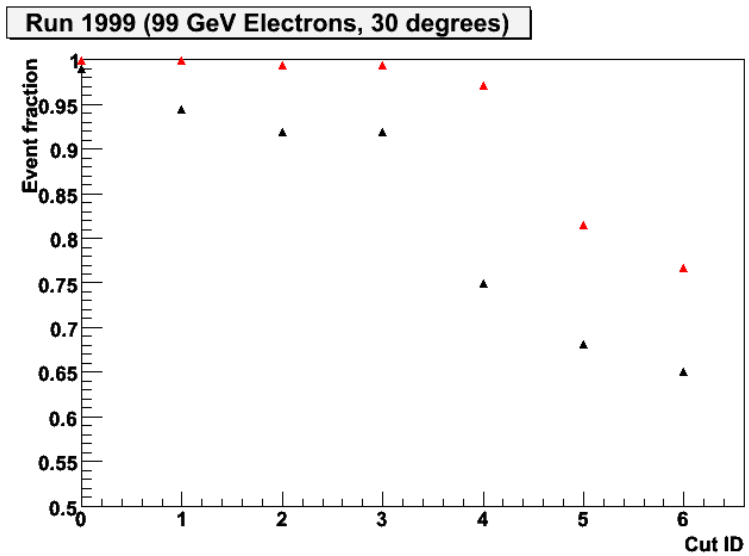


100 GeV electrons

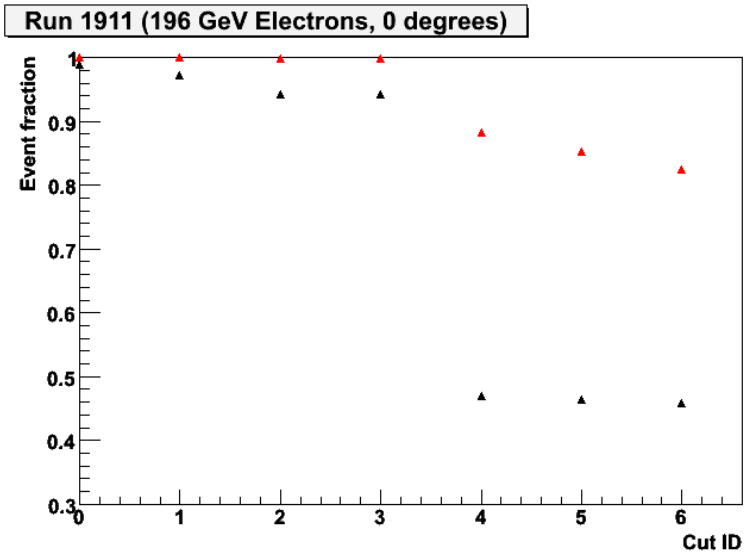


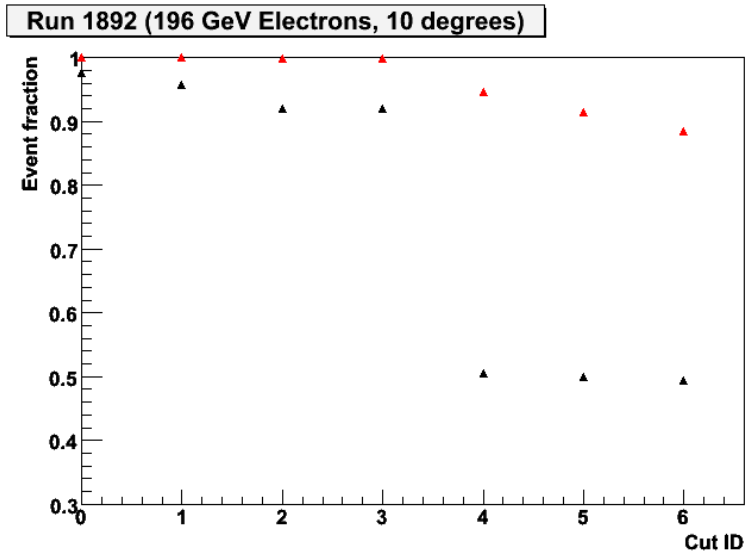


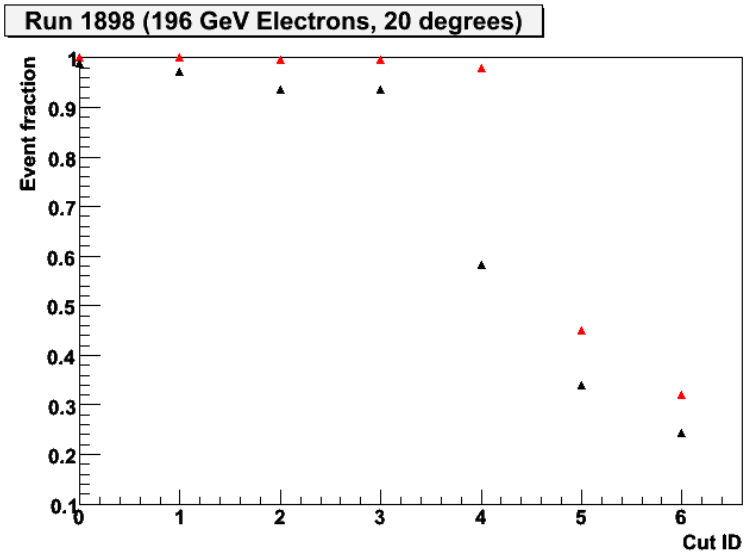


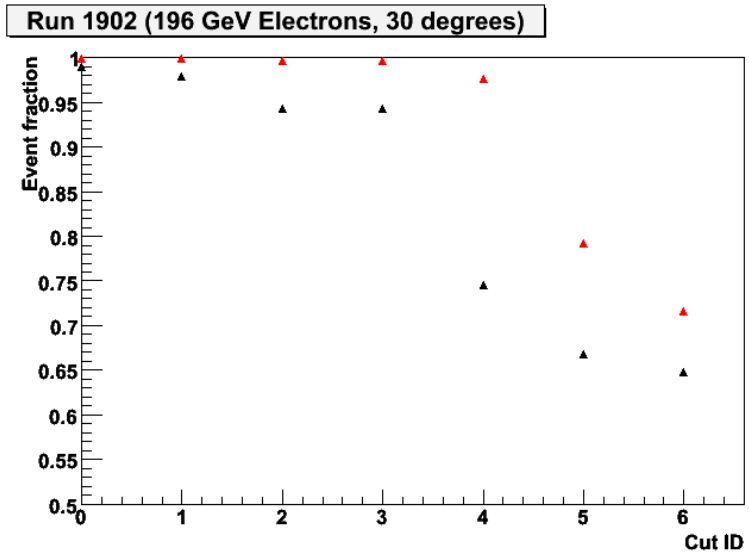


200 GeV electrons

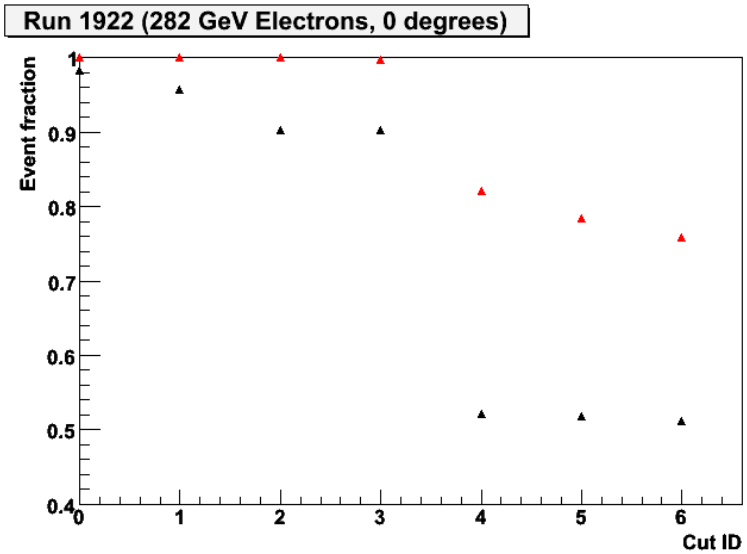


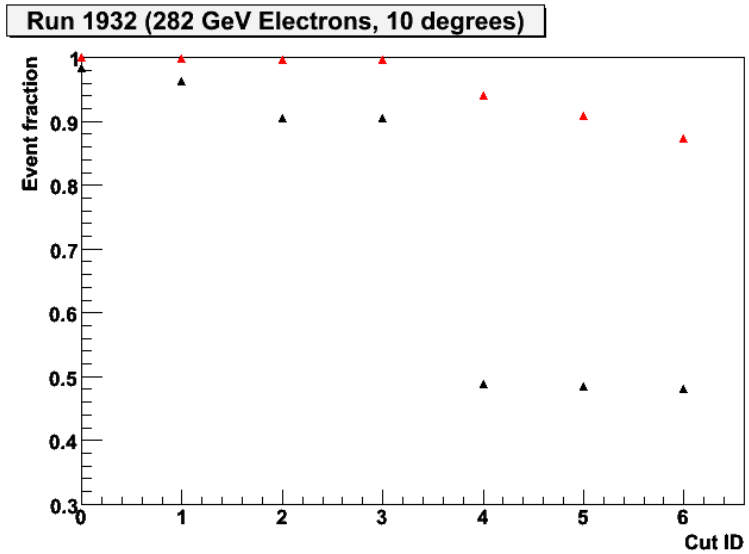


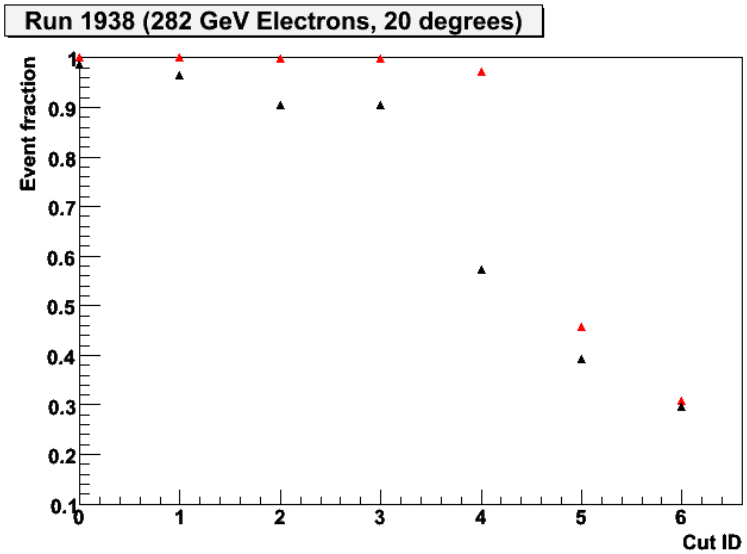


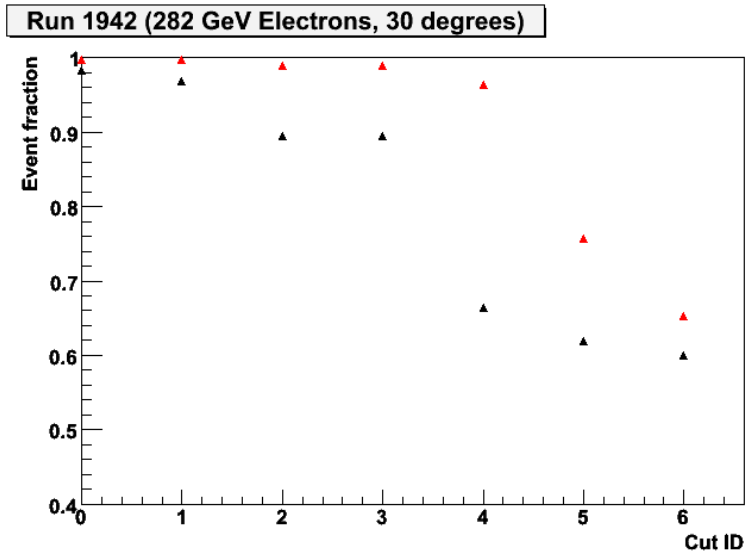


280 GeV electrons



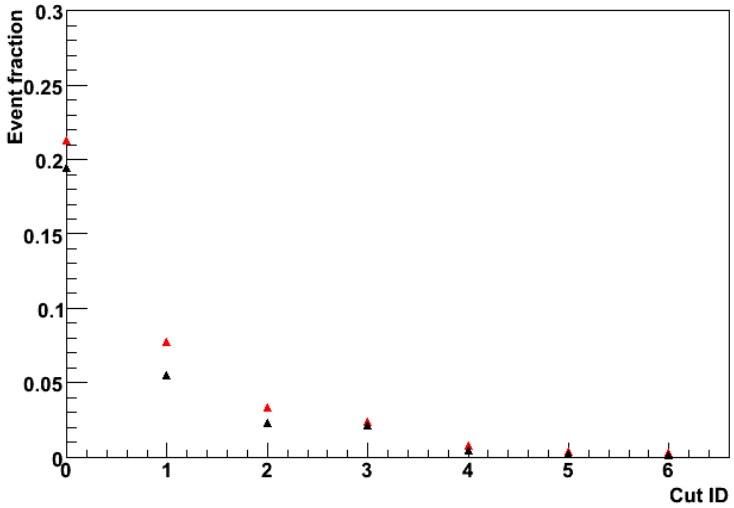




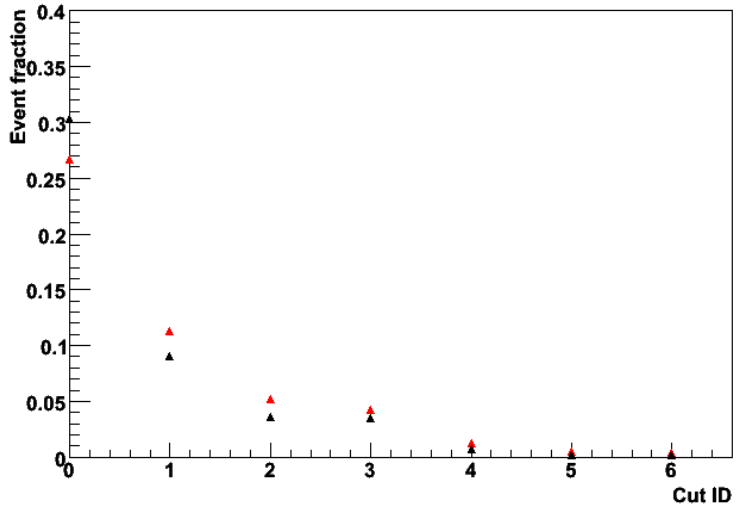


Protons

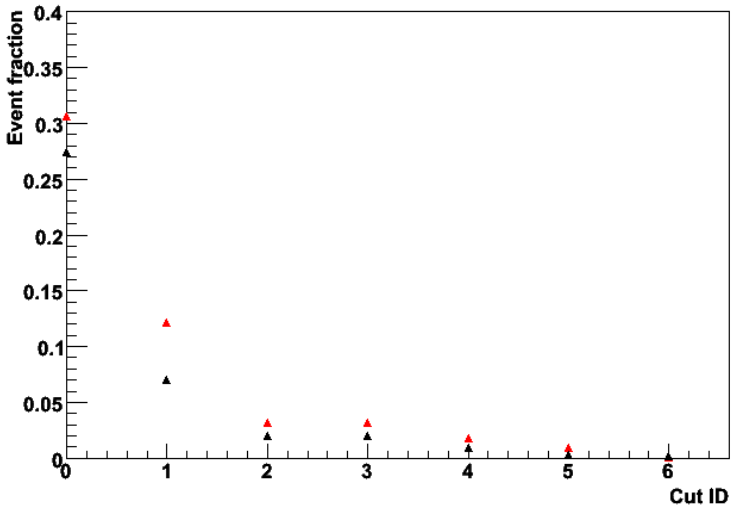
Run 2363 (100 GeV Protons, 0 degrees)



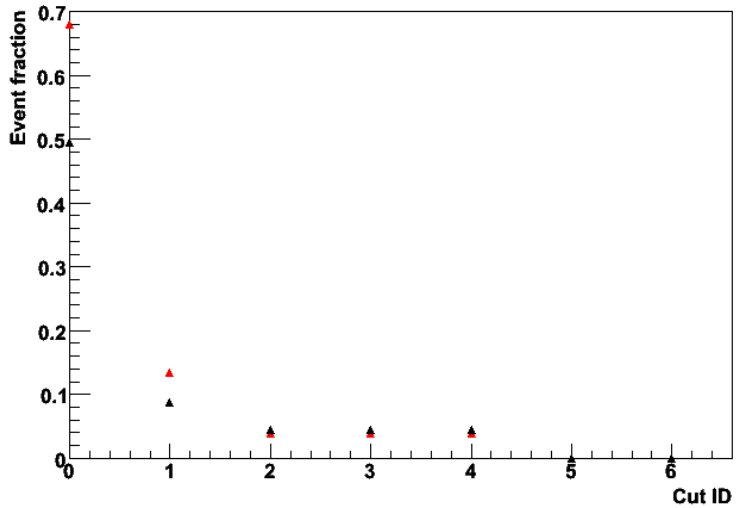
Run 1755 (150 GeV Protons, 0 degrees)



Run 2364 (100 GeV Protons, 45 degrees)



Run 2365 (100 GeV Protons, 90 degrees)



(Tentative) conclusions

- There are significant differences (up to a factor of two).
  - For electrons: worst at high energy, strong dependence on the incidence angle.
  - For protons: don't get confused by the y scale on the plot; after cut 6 there's typically a factor of two difference—can be in both directions, depending on energy/angle—and that affects the knowledge of the residual contamination.
- The next step is to try and scale the cuts according to the known discrepancies and see how much better the agreement is.