Strangeness Reconstruction with ITTF

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ITTF Review - BNL
24 September 2002

Introduction

New code (Gene just told you)

What we did

Results: a chronology

Future plans

What we did

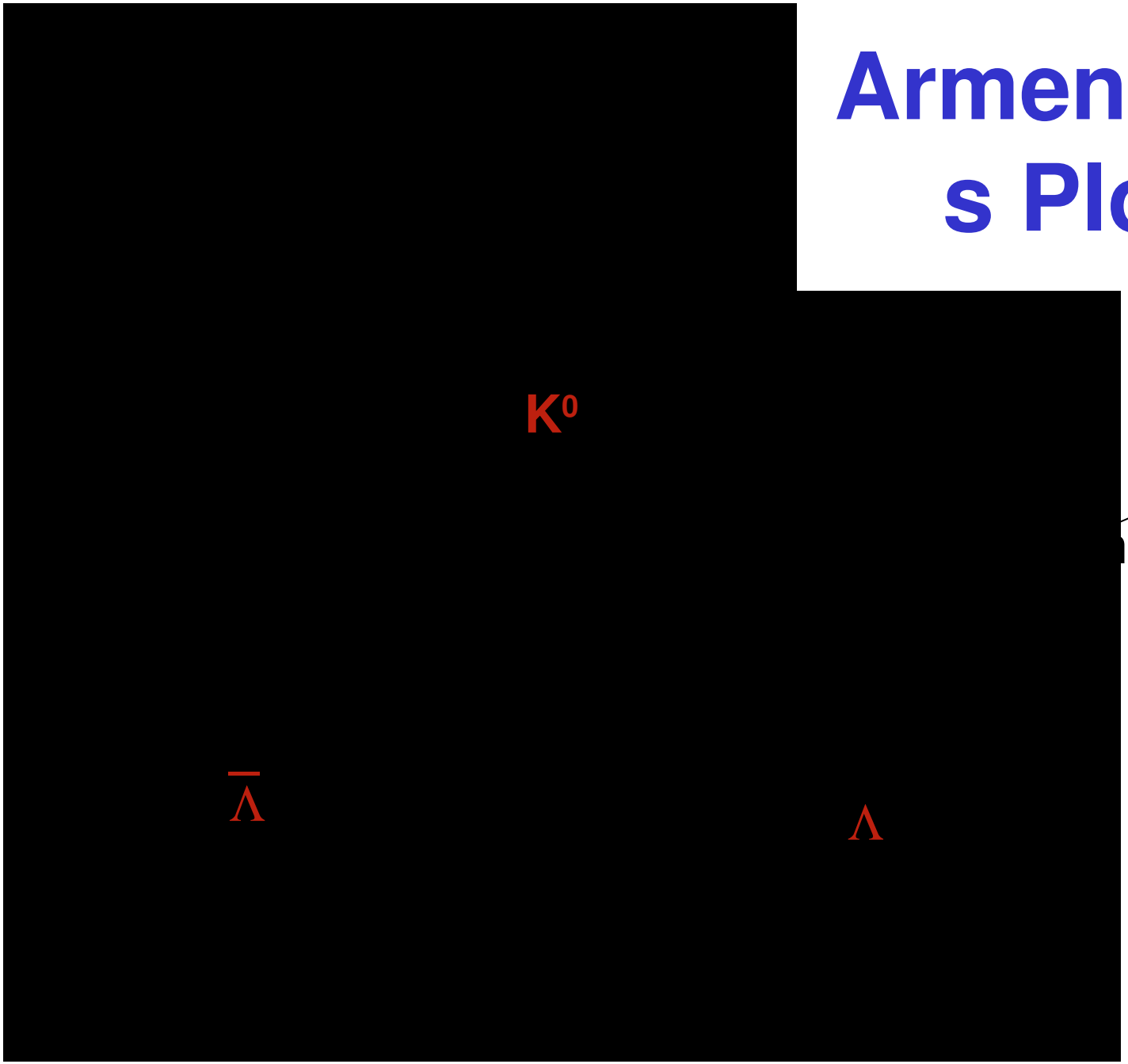
- ITTF tracking run and tracks added to StEvent
- I ran 2 jobs
  - New V0 finder looking only at ITTF tracks
  - New V0 finder looking only at orginal
  - Otherwise I'd get 4x as many V0s
- Separately run analysis
- All this is for real central data

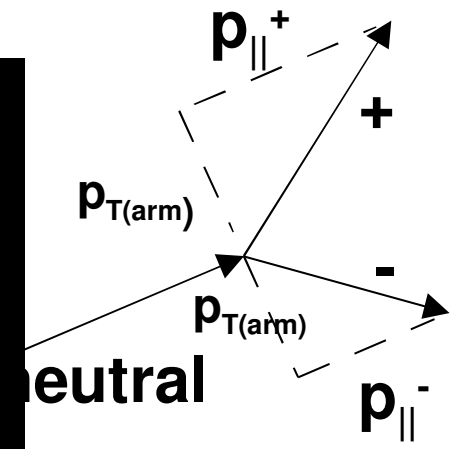
Why only real central data?

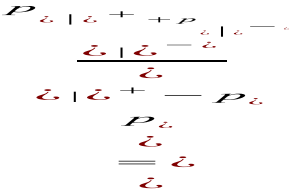
Real central data production worked

1. hijing data had SVT, this is extra complication because tracks with SVT points have different set of cuts
2. We have no experience with SVT V0s (yet) so conclusions would be difficult
3. Also ran over embedding output to get increased Lambda sample but ran out of time looking at that

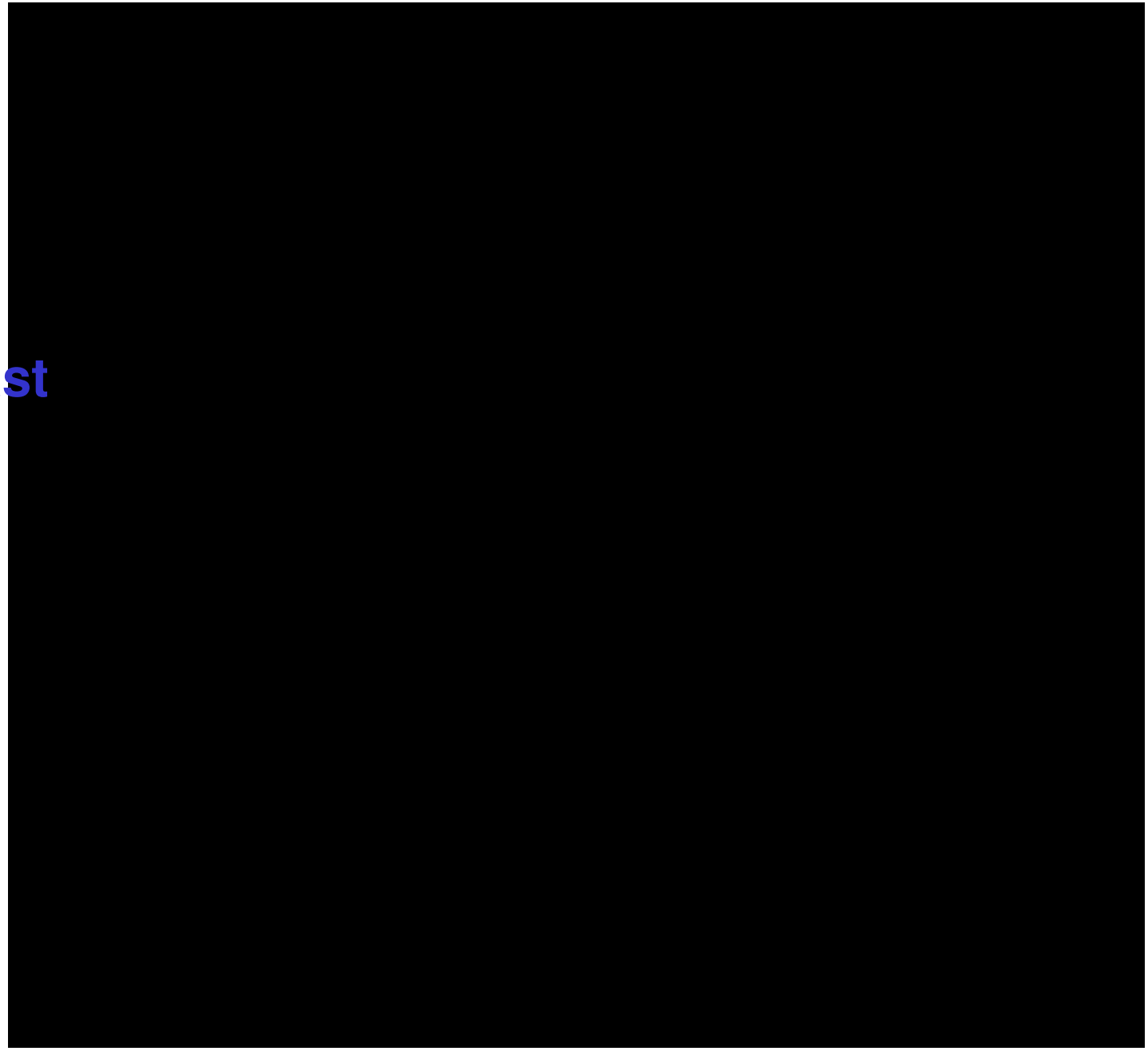
Armentero s Plot



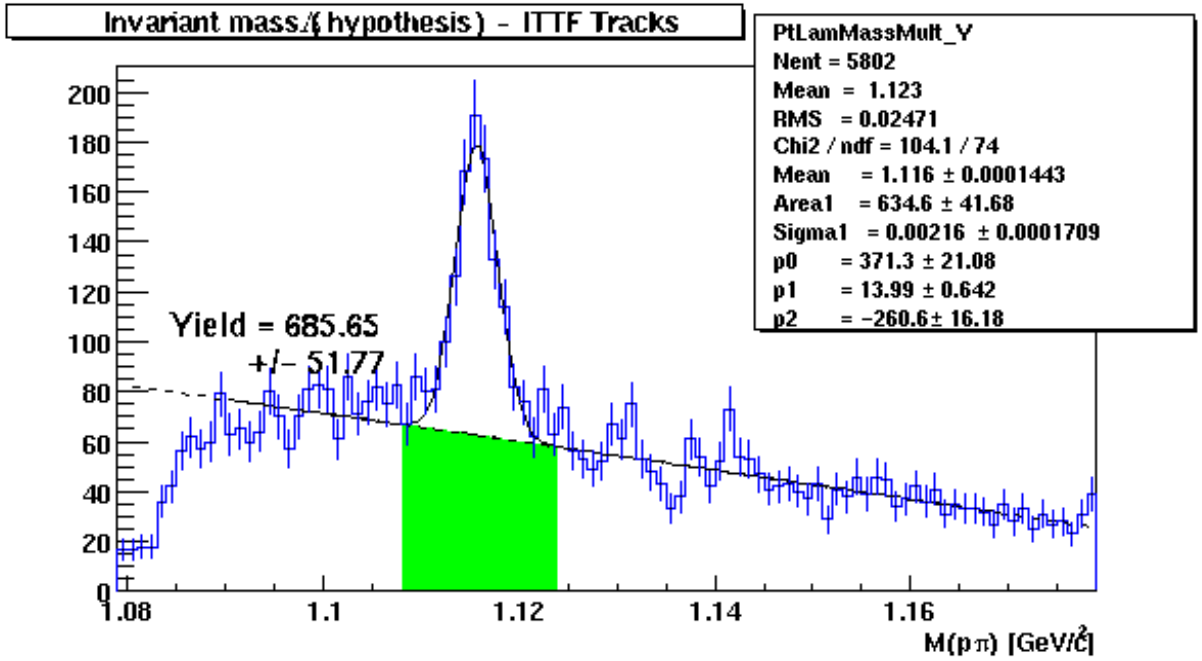


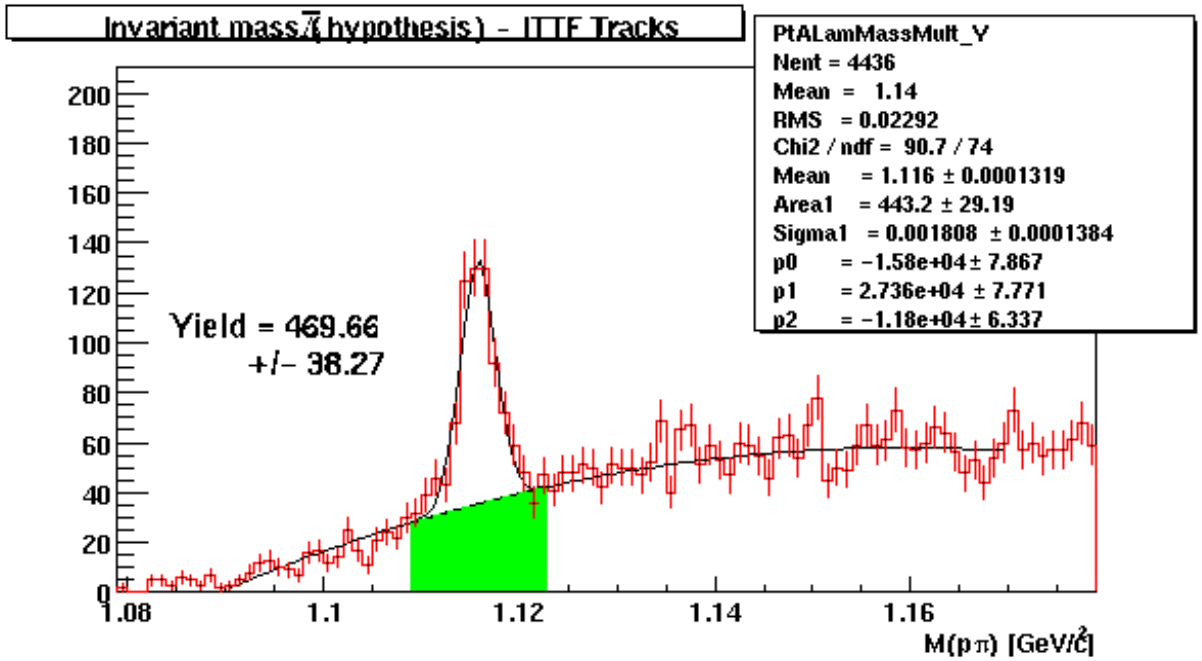


ITTF as of last week



ITTF Last week

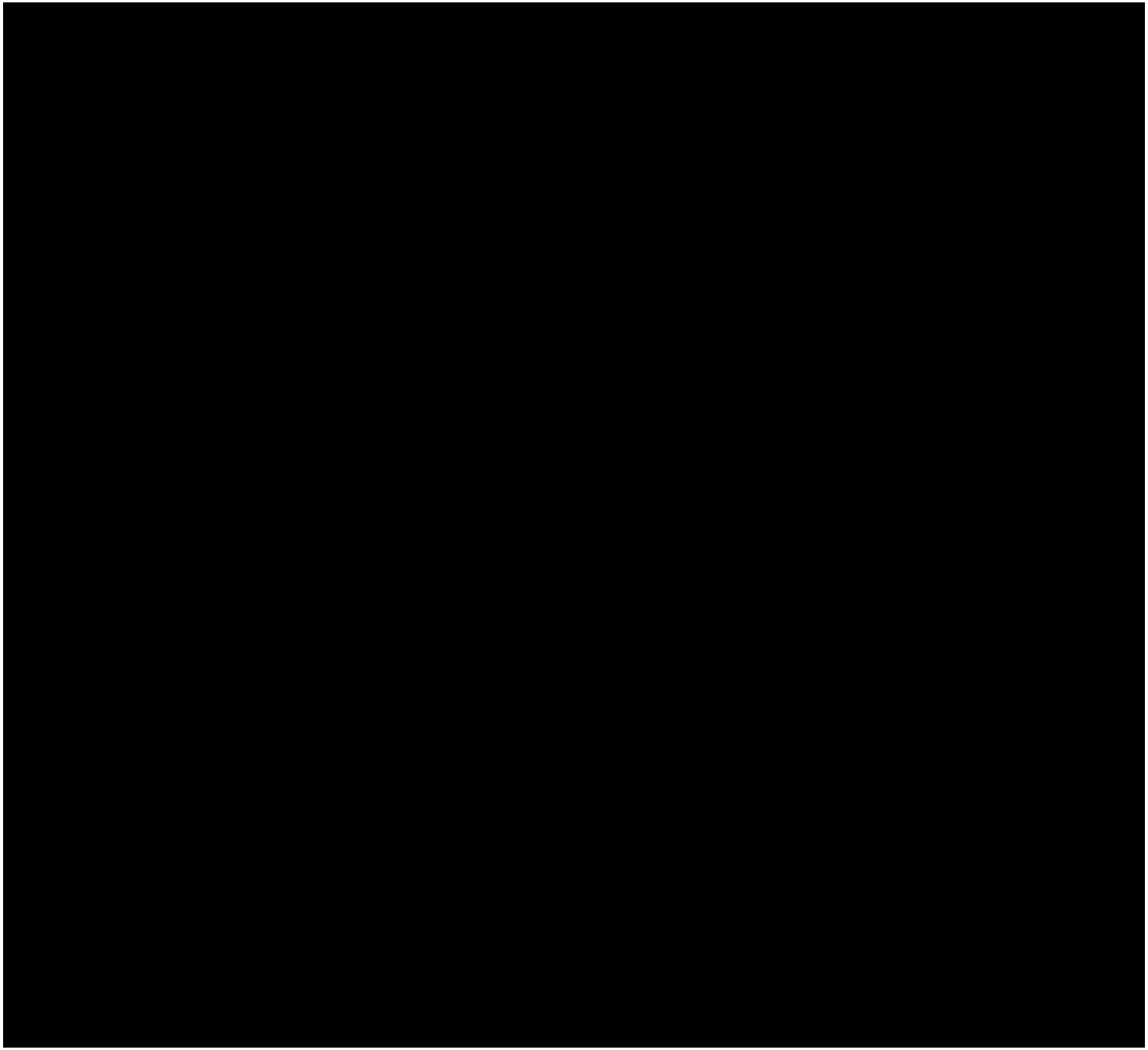




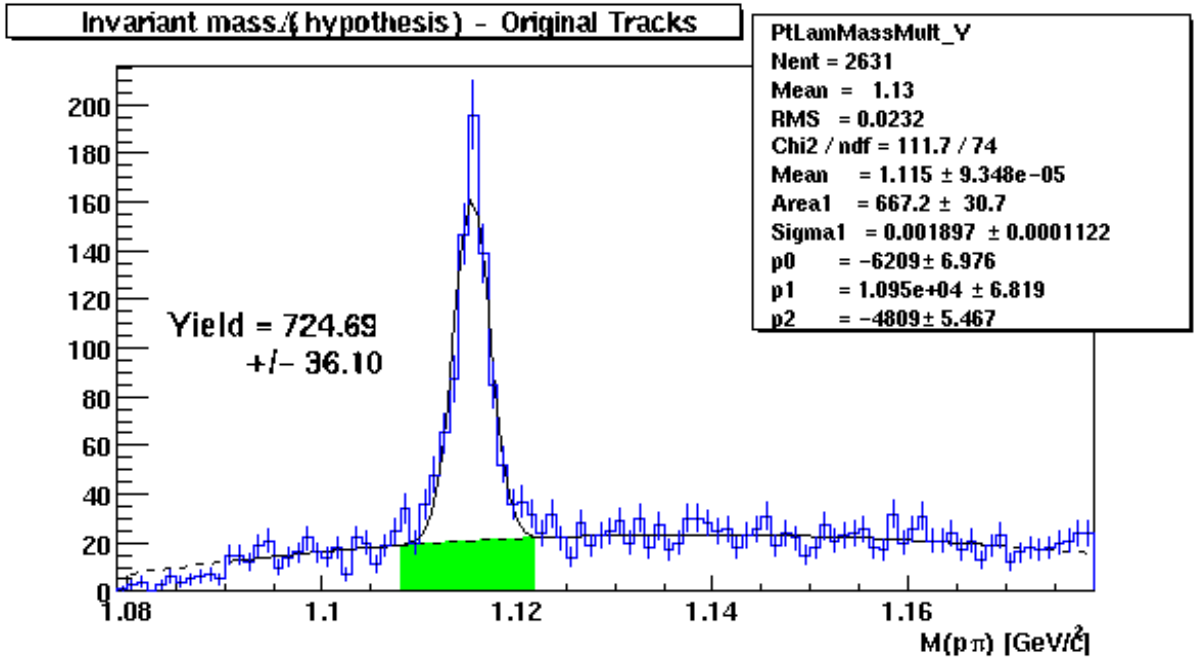
Ratio =0.69

24 September 2002

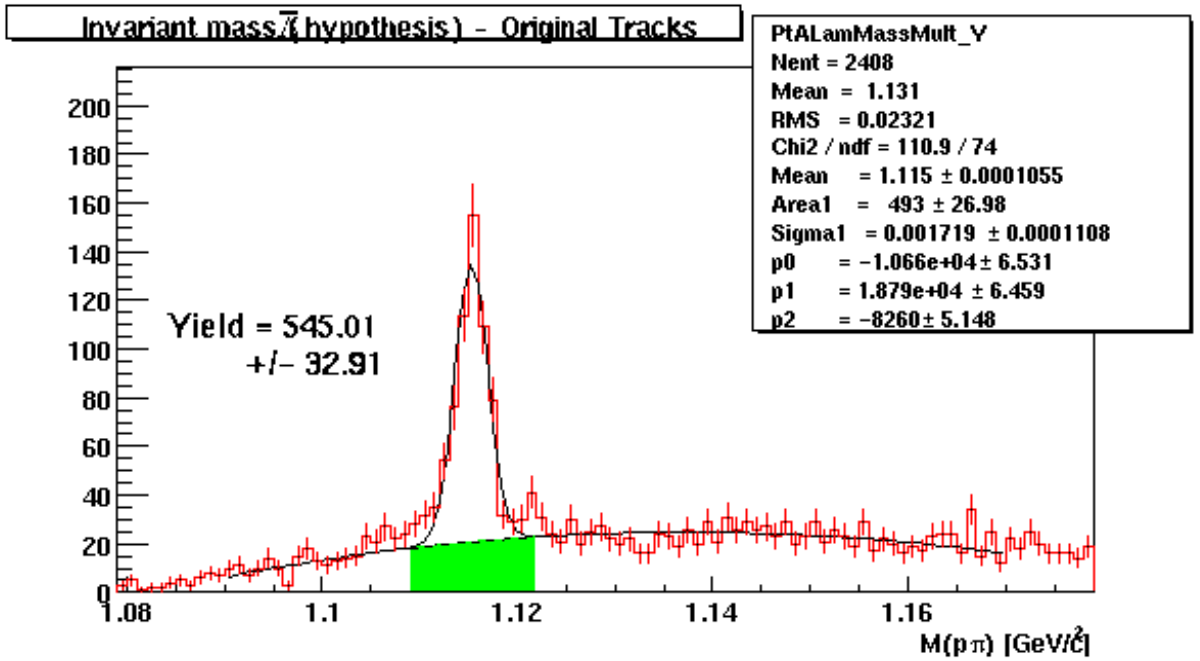
Original tracks Not due to V0 Finder…



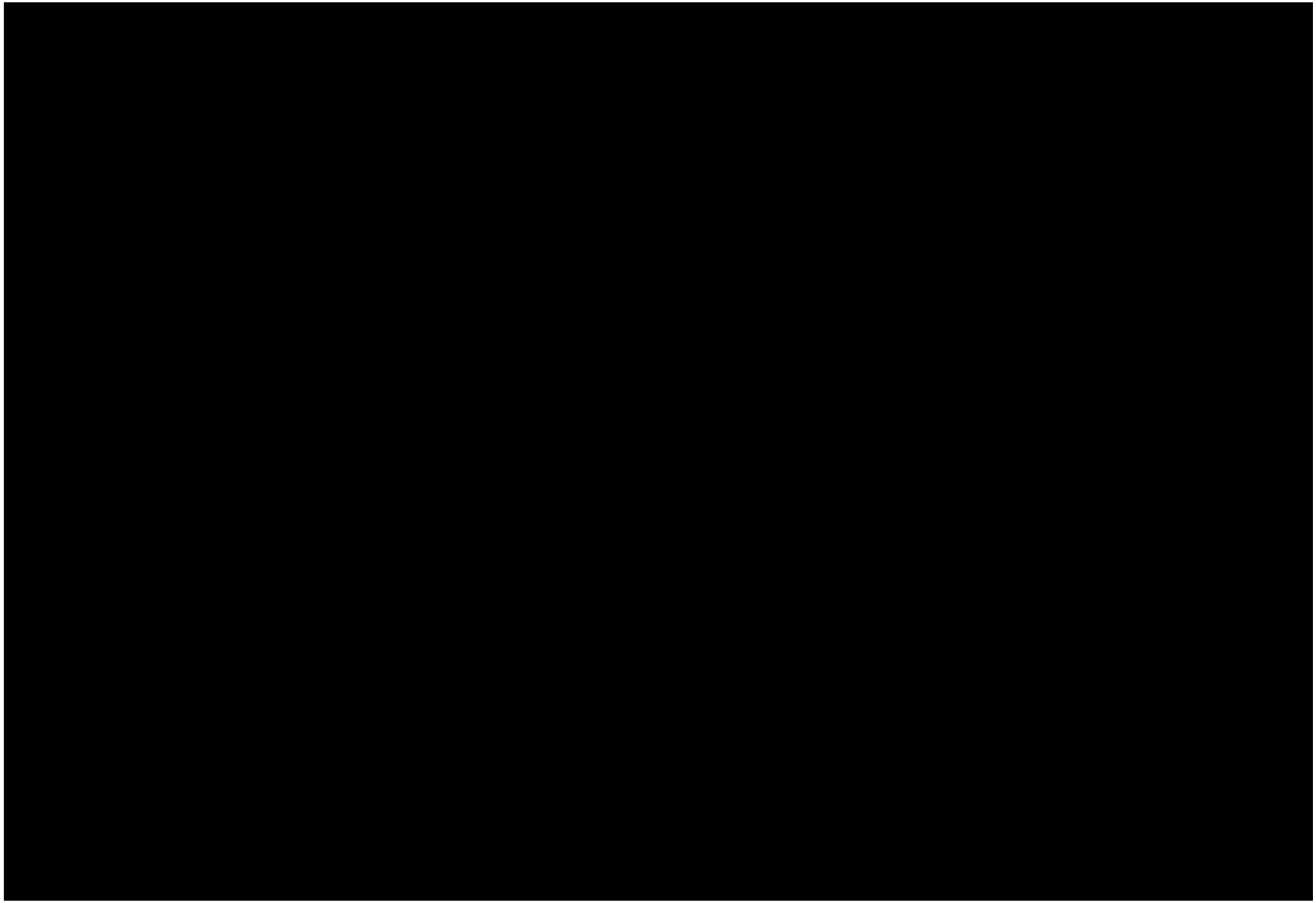
Original tracks



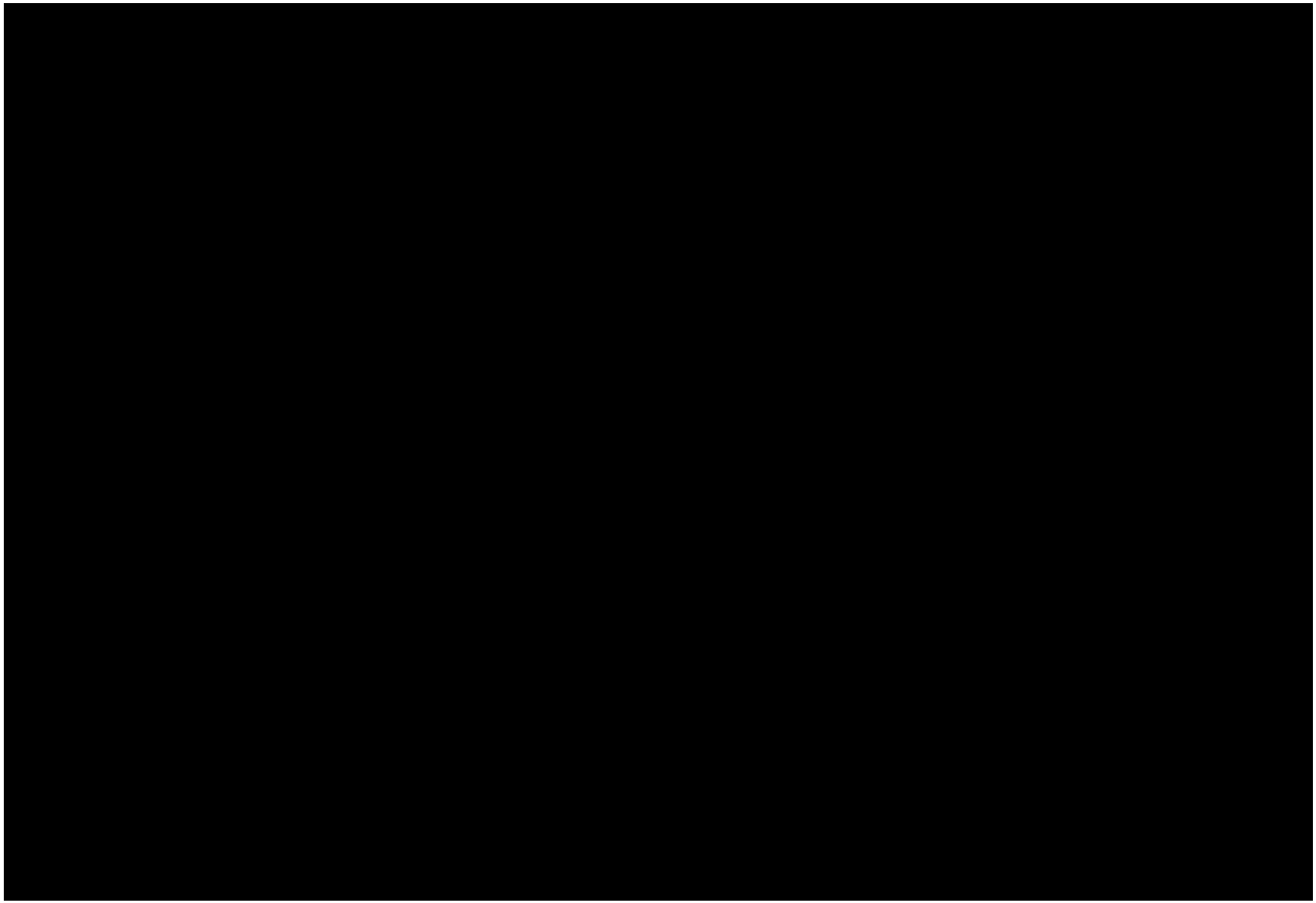
Ratio = 0.75



24 September 2002



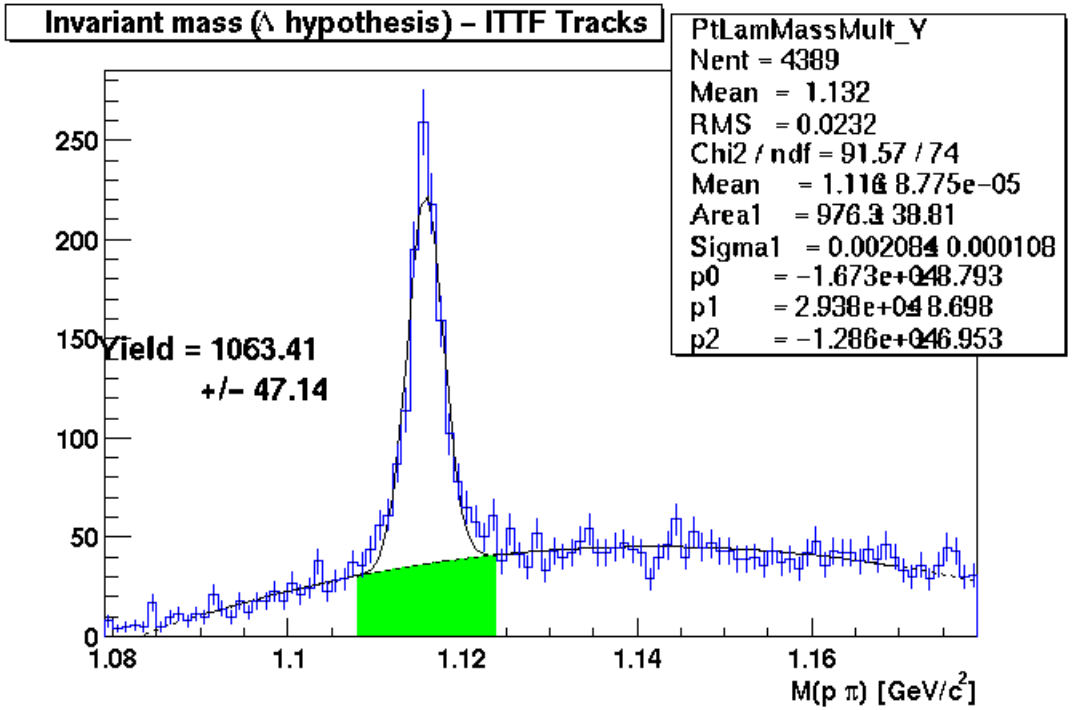
ITTF this weekend

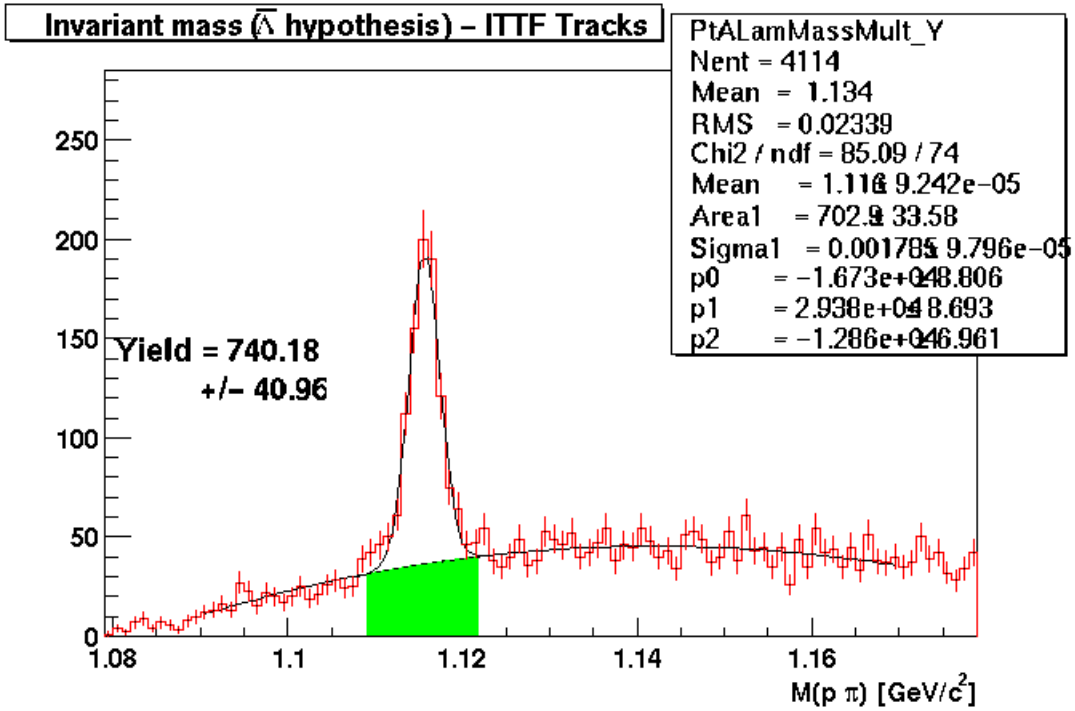


Original tracks – this weekend (same of course)

ITTF latest – Forward field

Ratio = 0.70





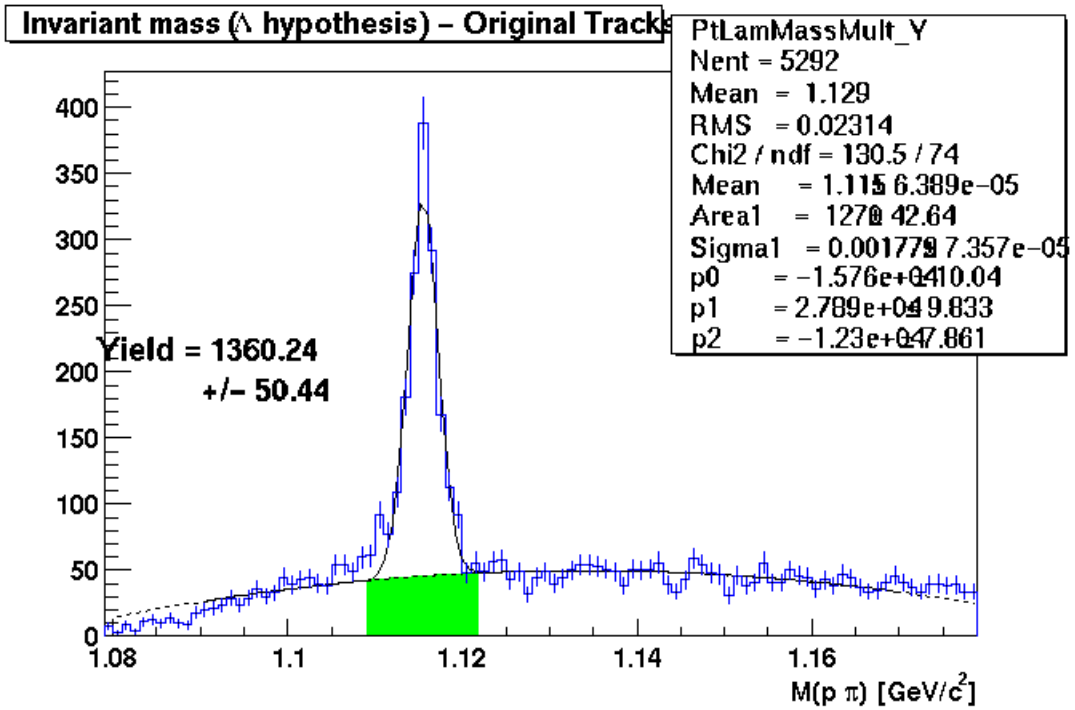
24 September 2002

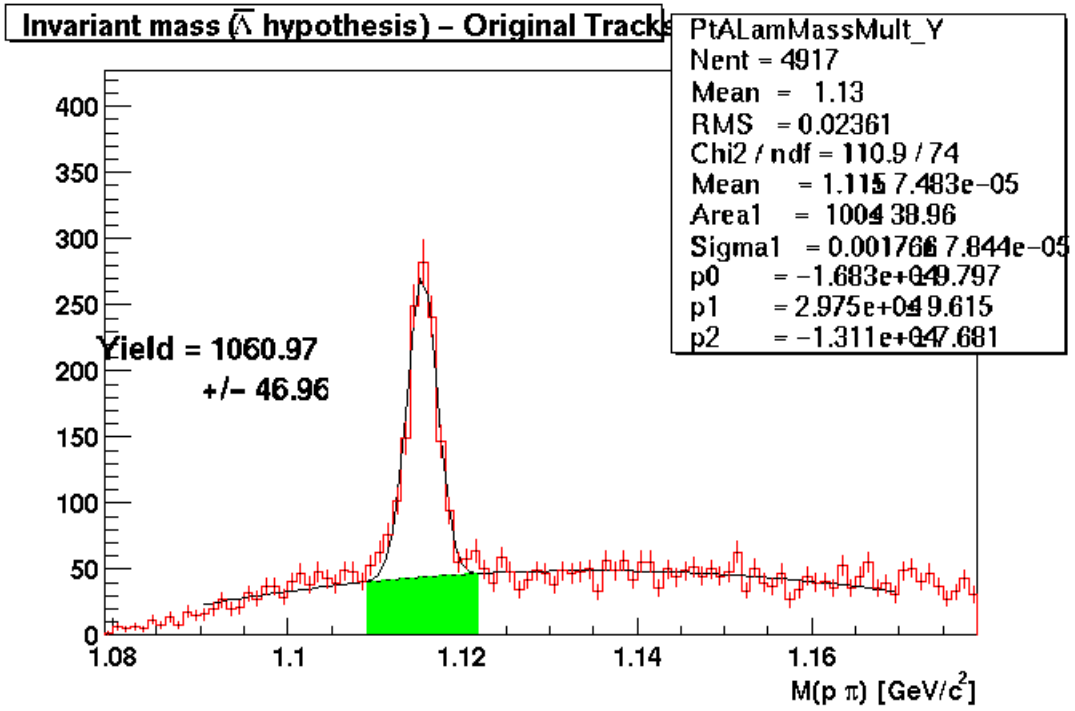
Original tracks latest Forward field

Ratio = 0.78 (previously 0.75)

Yield comparsion
Lam. O: 1360 I:1063
Lbar. O:1061 I:740

i.e.
22% reduction for Lam, 30% reduction for Lbar



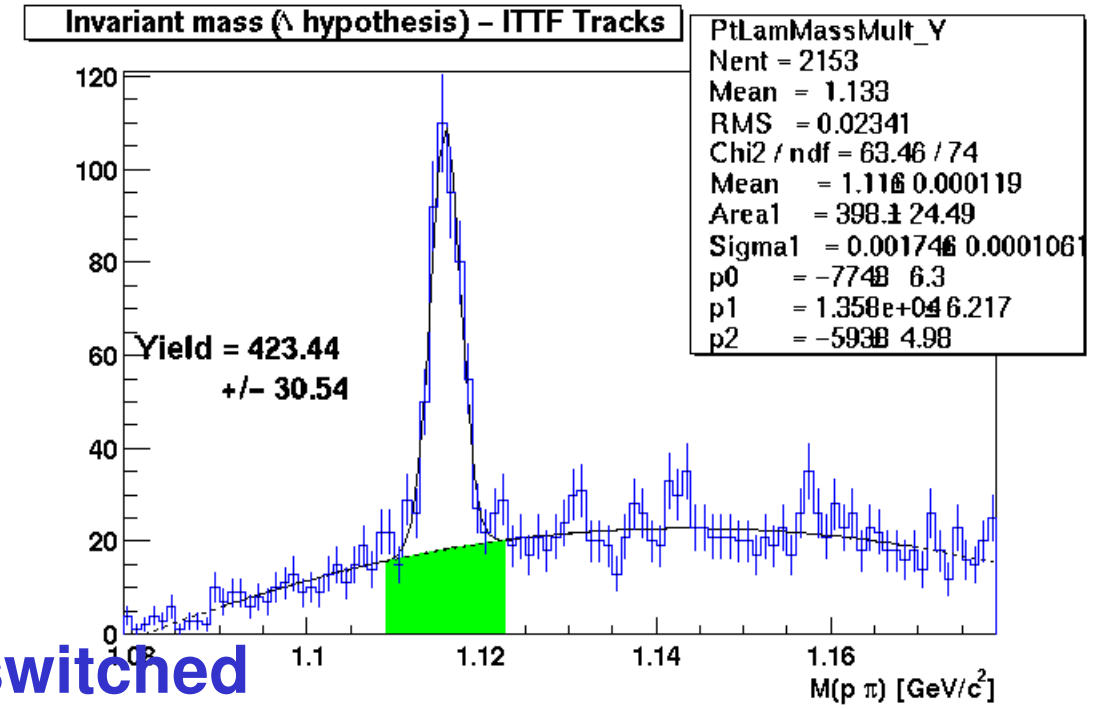


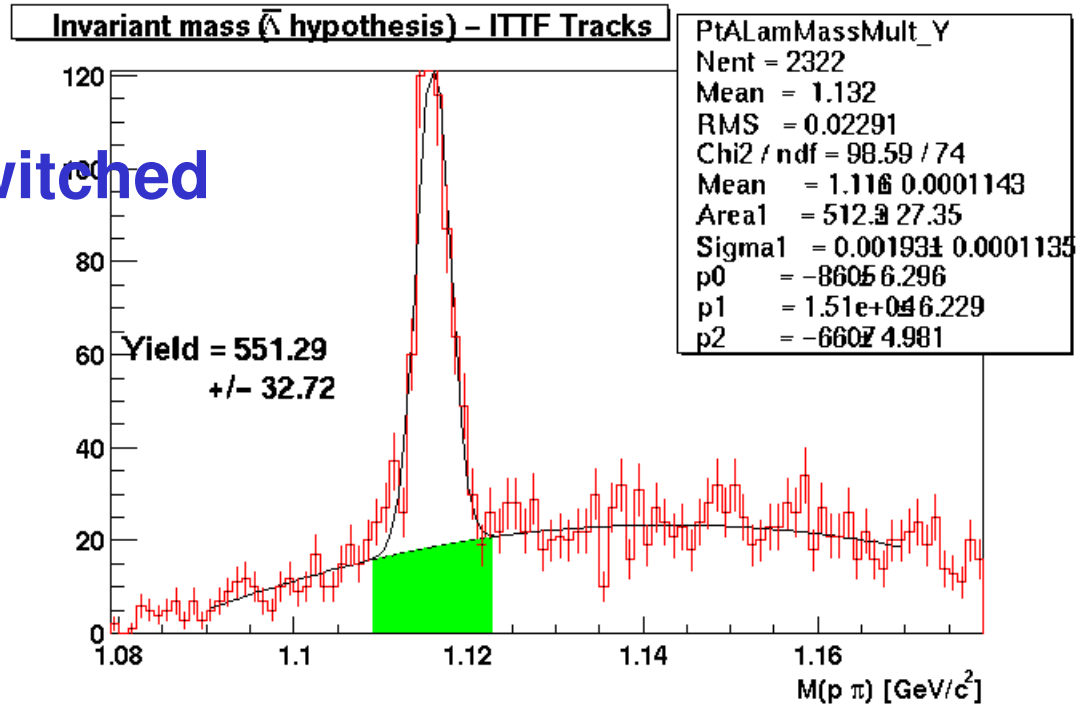
ITTF latest
Reverse field

Ratio = 1.3 !!!

Charge signs are switched

Lambda and
anti-Lambda get switched

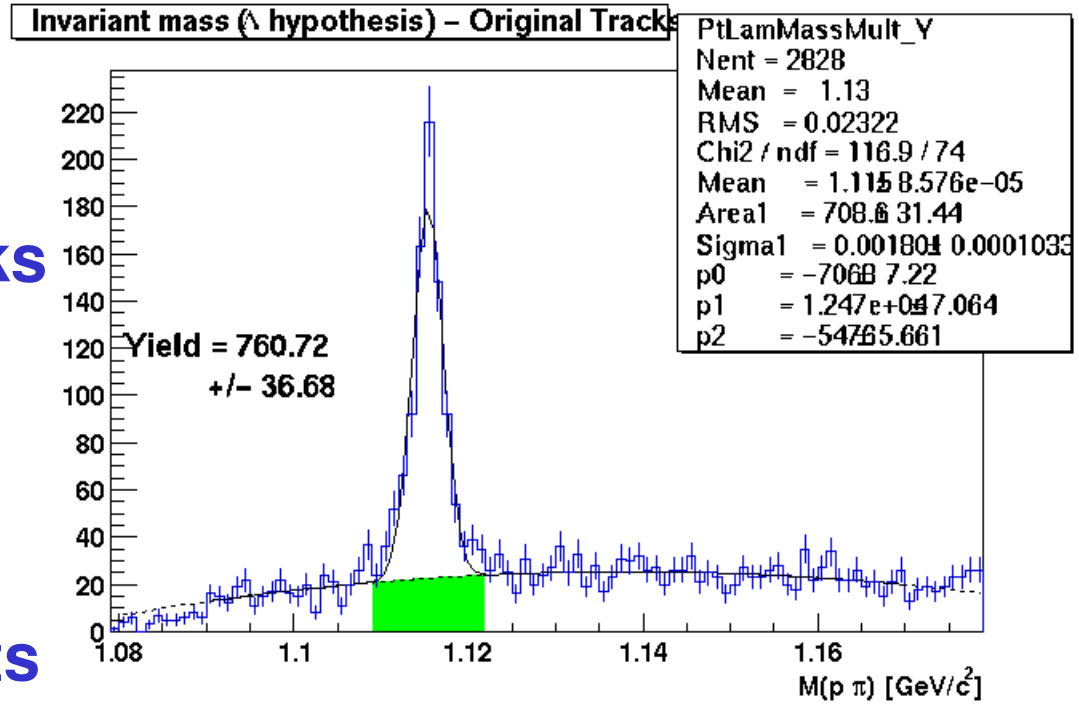


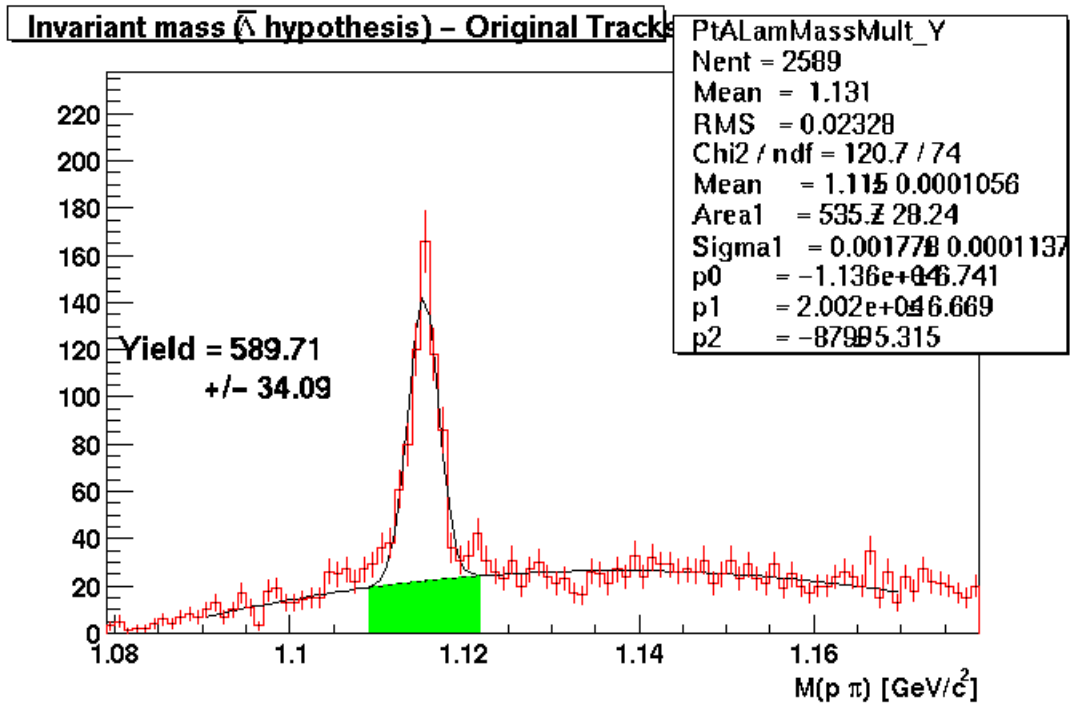


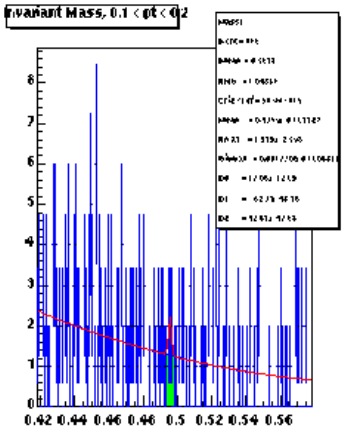
Latest original tracks

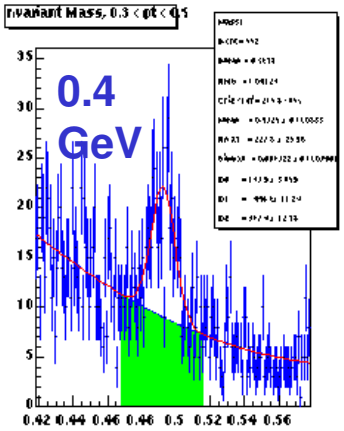
Reverse field
Ratio = 0.78

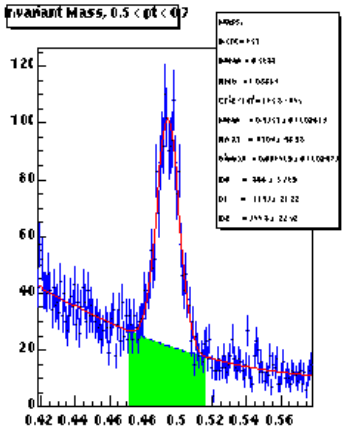
(Just to show you its Not the V0 finder)

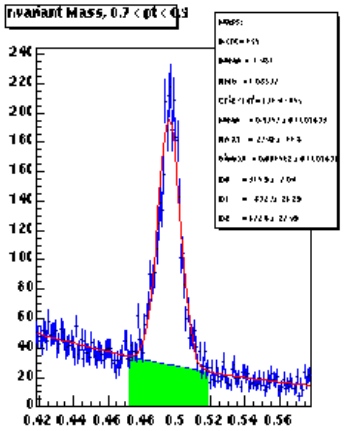


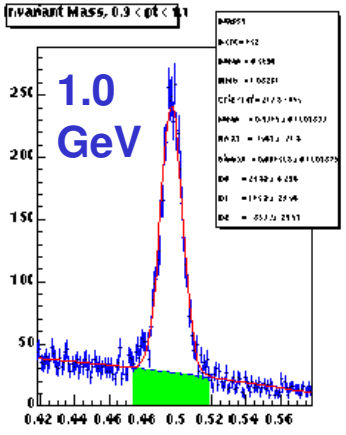


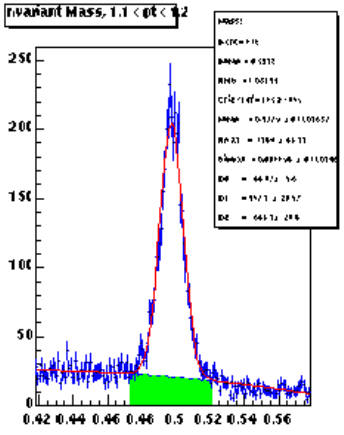


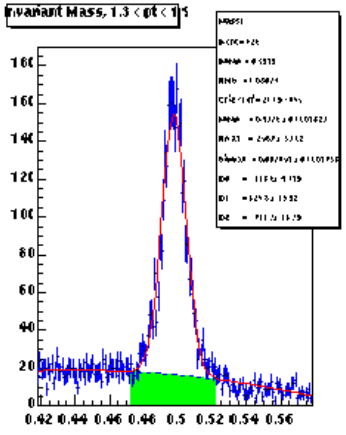


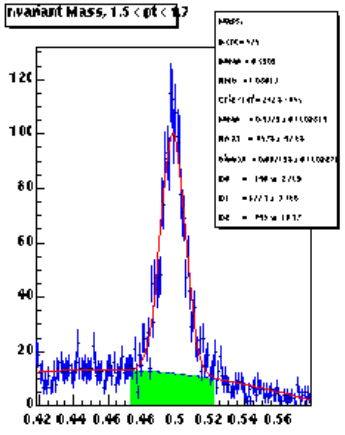


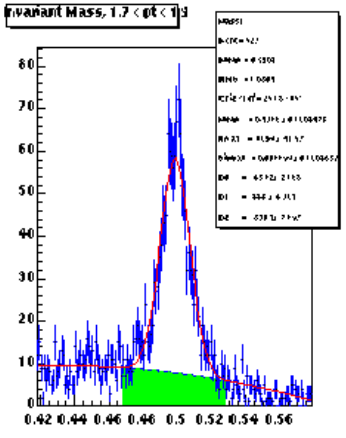


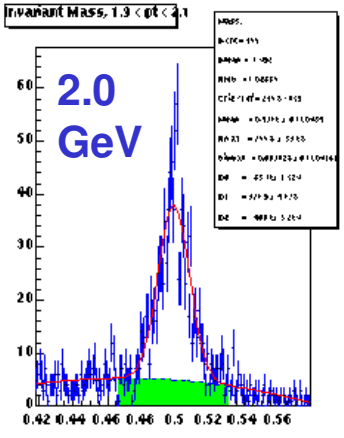




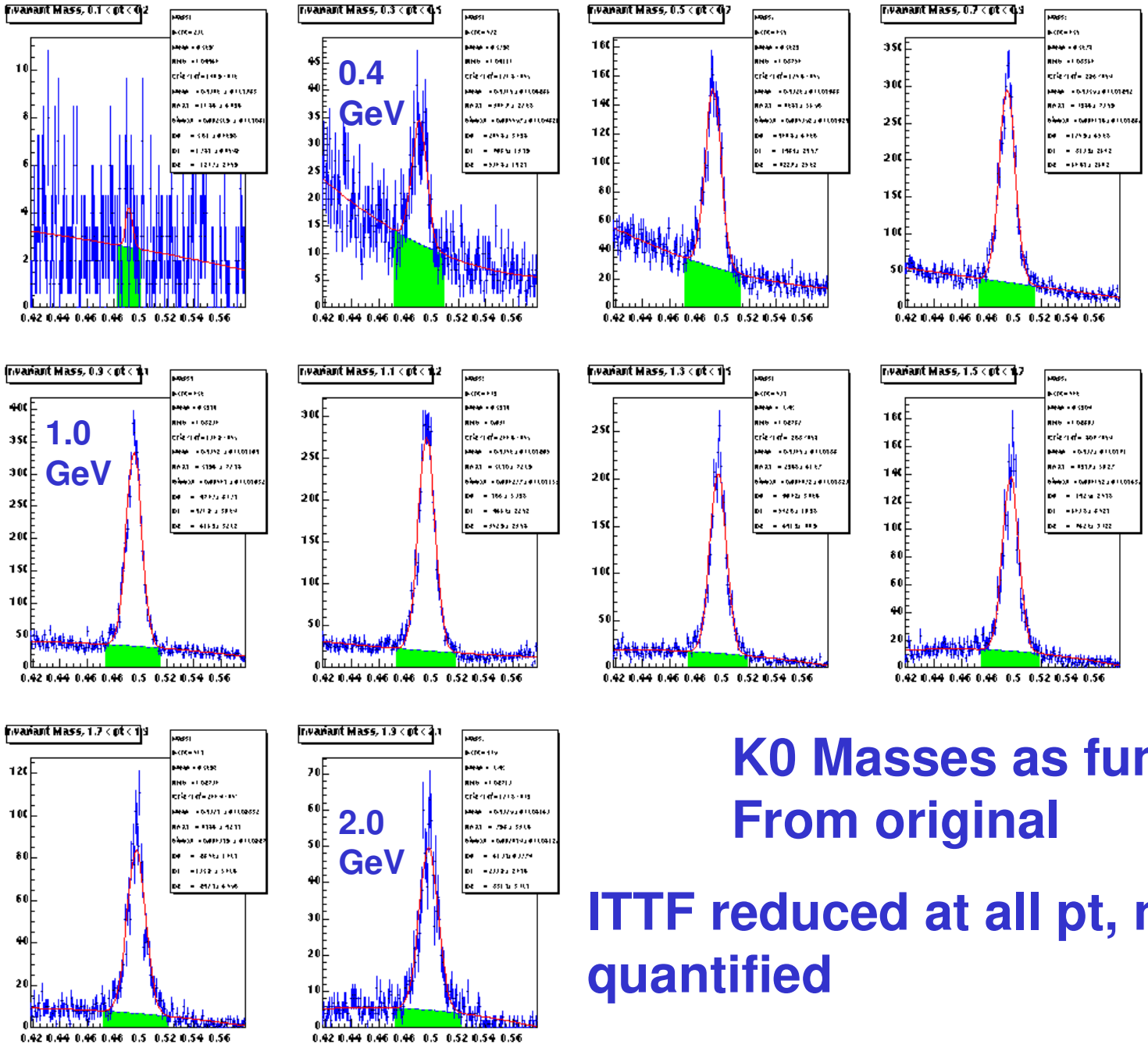








K0 Masses as function of pt From ITTF



K0 Masses as function of pt From original

ITTF reduced at all pt, needs to be quantified

Future plans - testing

- **Check change in efficiency from simulation**
  - Can actually do full analysis for central data and compare results (K0 would be better than Lambda though)
- **Try to track down reasons for efficiency loss**
  - All comparisons use same cuts, may have to optimize cuts separately for each
- **Other particles Xi, kink kaons**
  - Xi is similar, kink daughters are short tracks in outer TPC

Longer term

- V0 finder could use Kalman extrapolation and look for overlap of cones and not a fixed distance of closest approach
  - Requires very good knowledge of errors of course
  - Should be driven by physics for spectra reproducibility of cut quantity distributions in MC is important. For HBT, flow etc. efficiency and putiry important.

Conclusion

I think we can use this