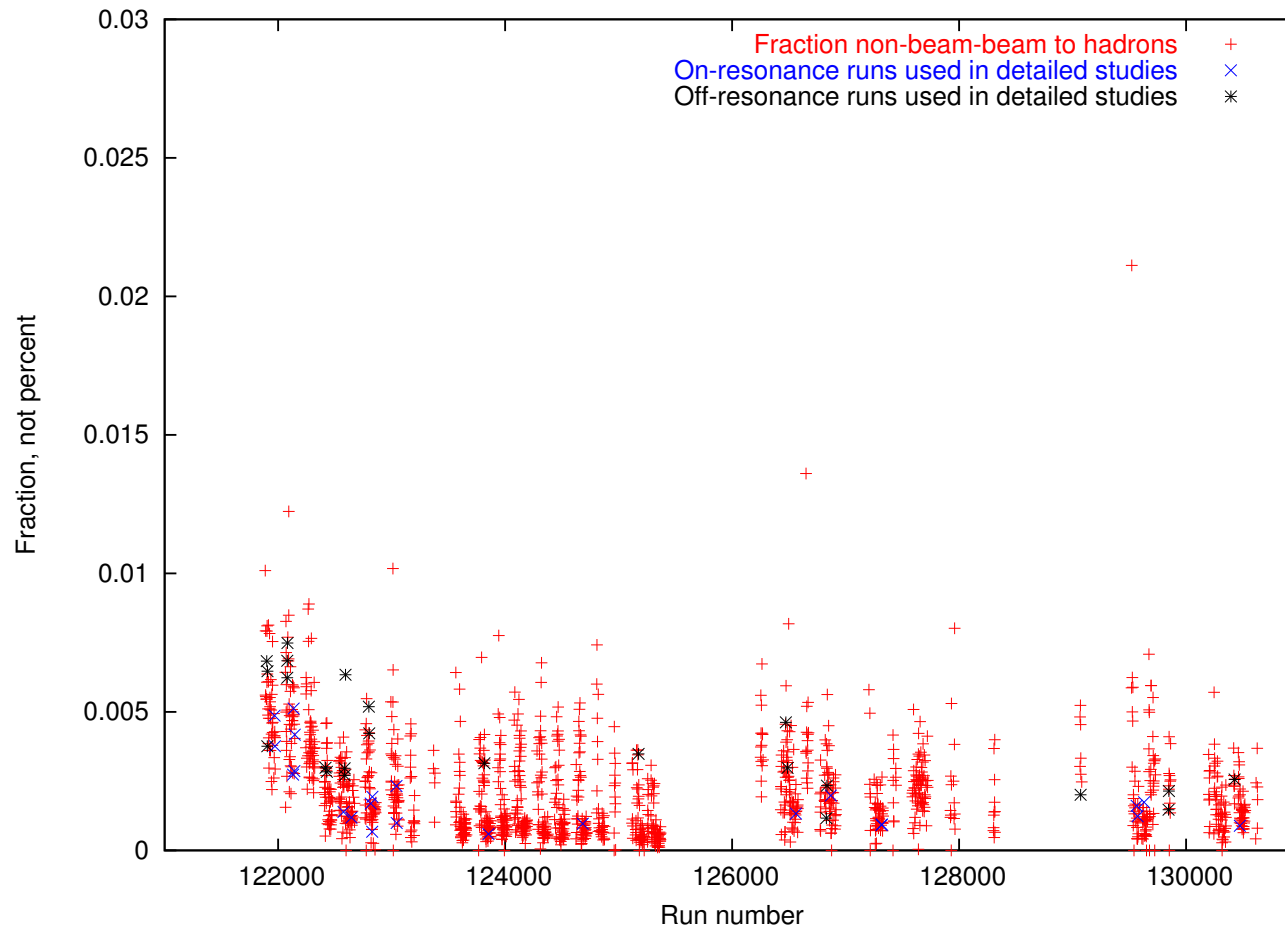


After cut: 6% of continuum is two-photon.  $1/s$  versus  $\log s$  correction is a  $\frac{1}{2}\%$  correction to continuum scale factor. Propagating this scale factor uncertainty after all cuts: 0.01%,

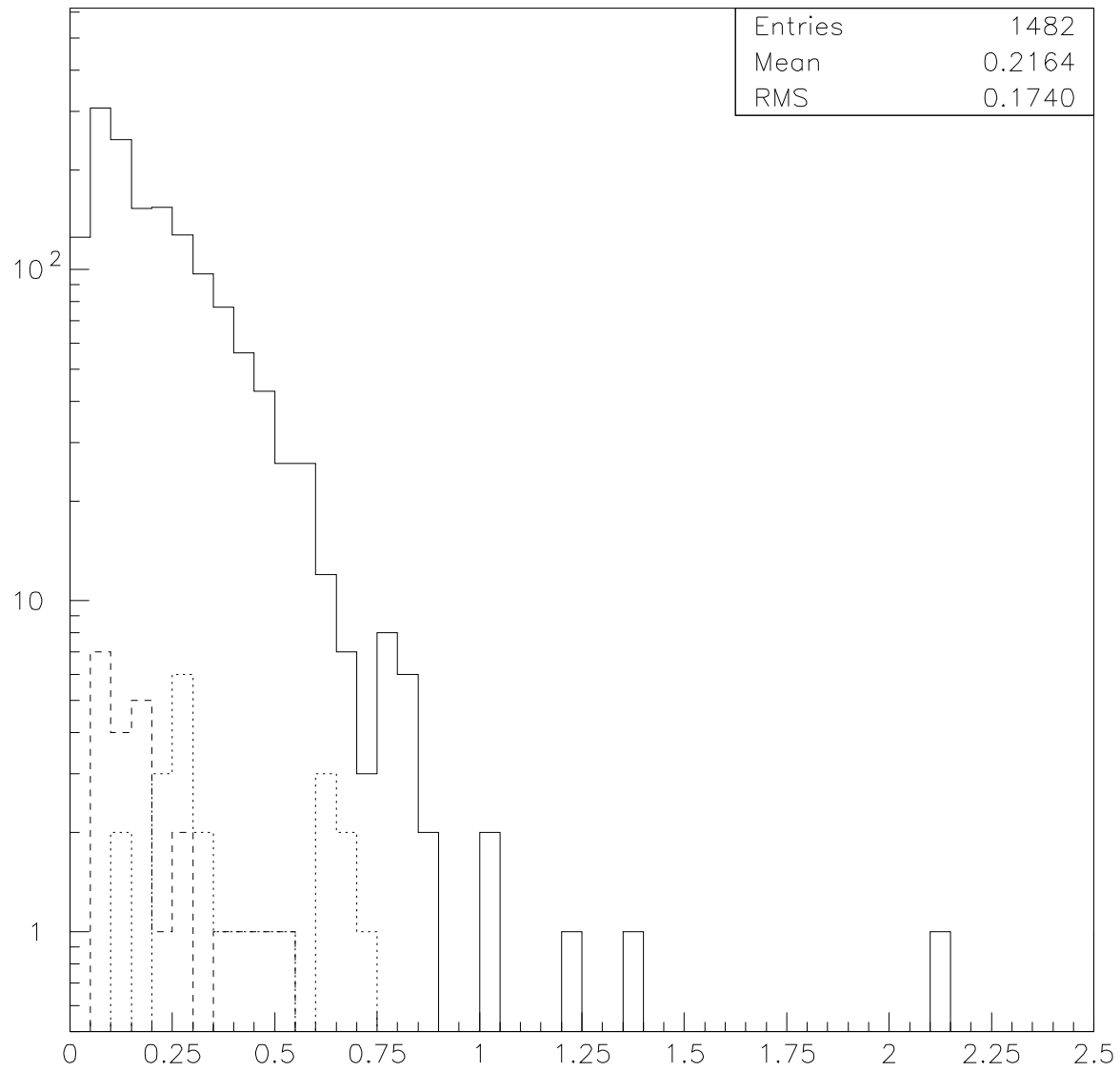
0.03%, 0.04% two-photon contamination in continuum-subtracted  $\Upsilon$  dataset.

In detailed studies, surviving non-beam-beam is -0.05%, -0.11%, -0.27%, but this is from a subsample of the data. What about all data?

BEFORE continuum subtraction (some of these runs are continuum):



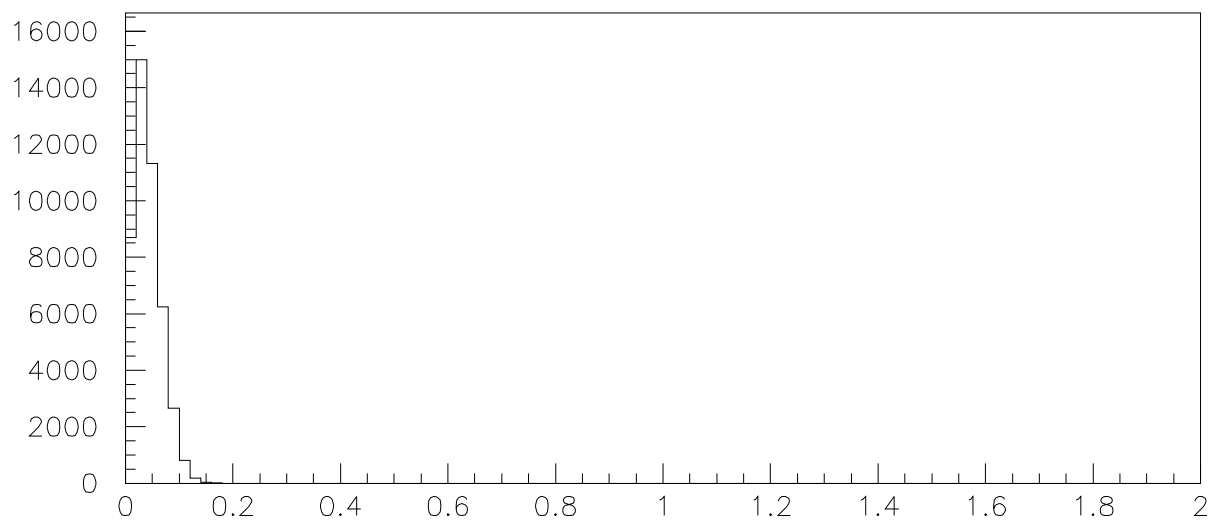
The same thing histogrammed:



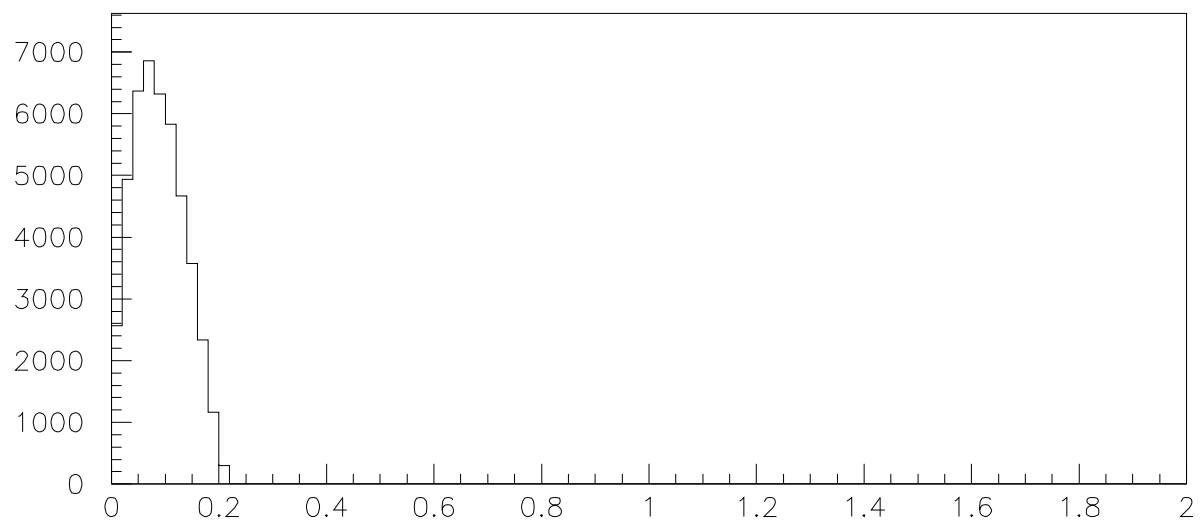
% non-beam-beam contamination (on- and off-res subsamples are dashed and dotted)

Biggest scan contamination: 1.0% (next is 0.8%...)

Add up ALL on-, off-resonance, do continuum subtraction, remaining non-beam-beam background is -0.0029 nb, -0.00068 nb, -0.0025 nb.

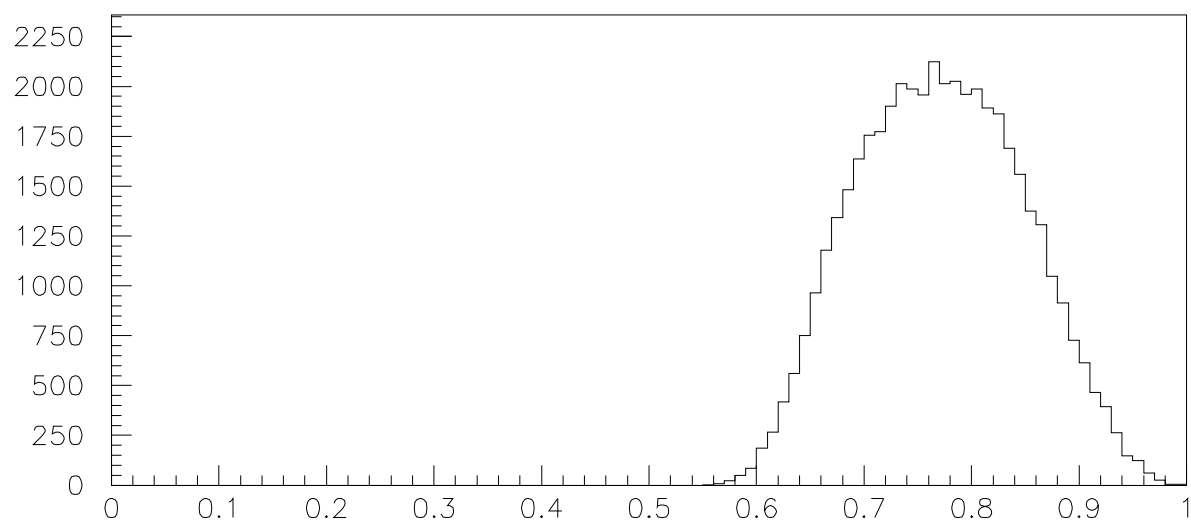


COM planarity

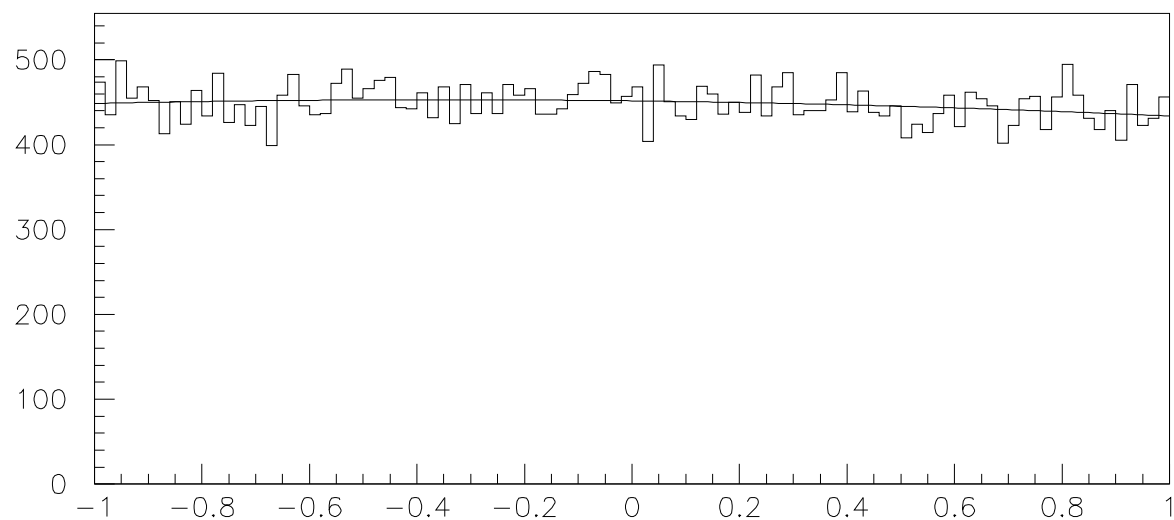


TMom planarity

(Generator-level planarity)



Thrust magnitude



Cos( $\theta$ ) of thrust axis

Hadronized thrust axis (generator level) is  $1 - 0.023(\pm 0.016) \cos^2 \theta$ : consistent with being flat. Looking for  $+0.32$ , violated by  $20\sigma$ .