

# **RAVE for ILC**

## **Status**

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# Status

- **First version of Rave ready**. Contains Kalman filter, adaptive filter, multivertex method, and "adaptive vertex reconstructor".
- **Marlin processor** ("glue code") **ready** but not yet tried out for more than one event.
- Very first version of **LCIO backend** for standalone "**vertigo**" framework **ready and tried out**.

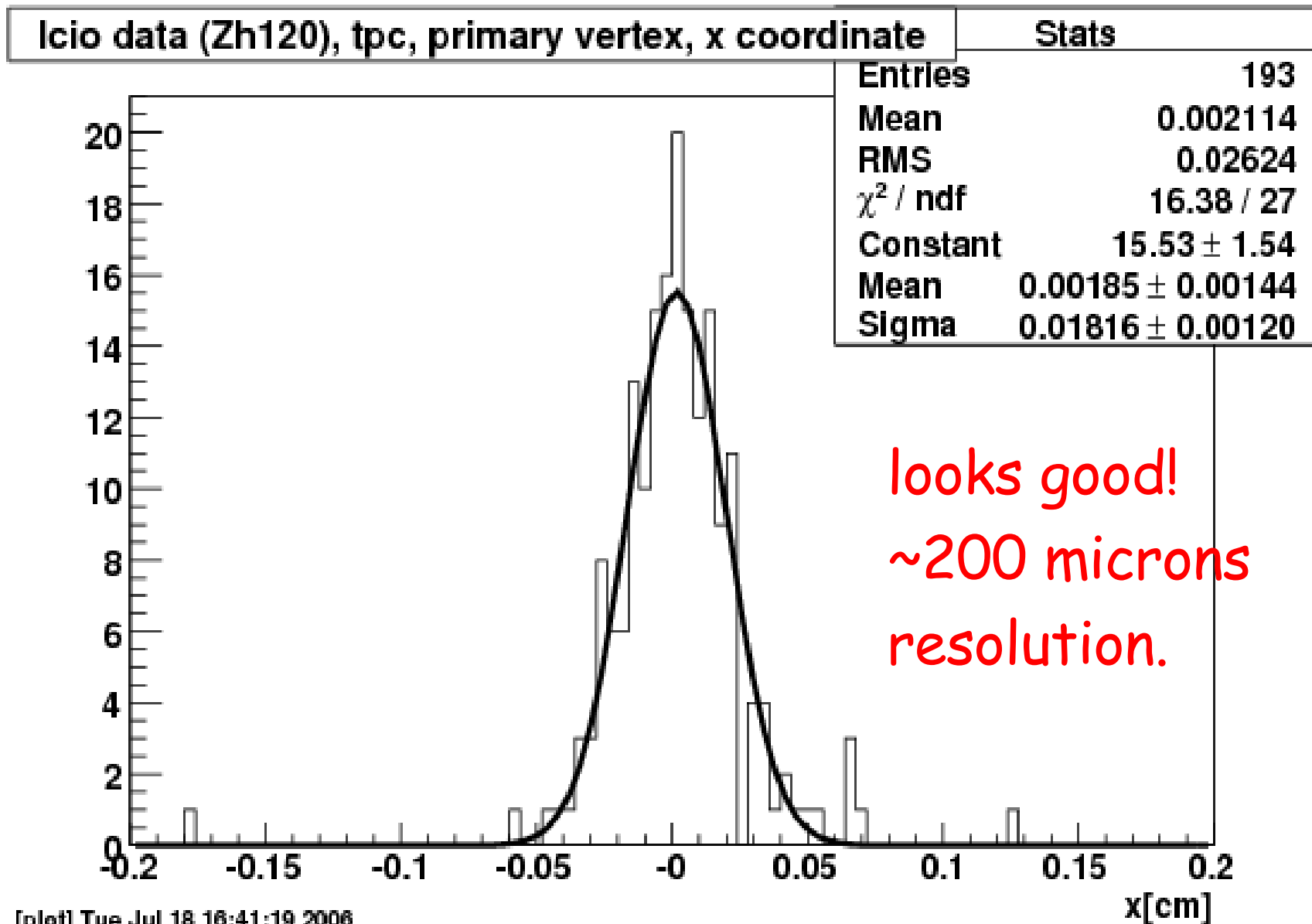
## First fits with LCIO data

Tried to **read 100 "Zh120" events** from Cambridge '06 DVD.

Events have track parameters but no covariance matrices.

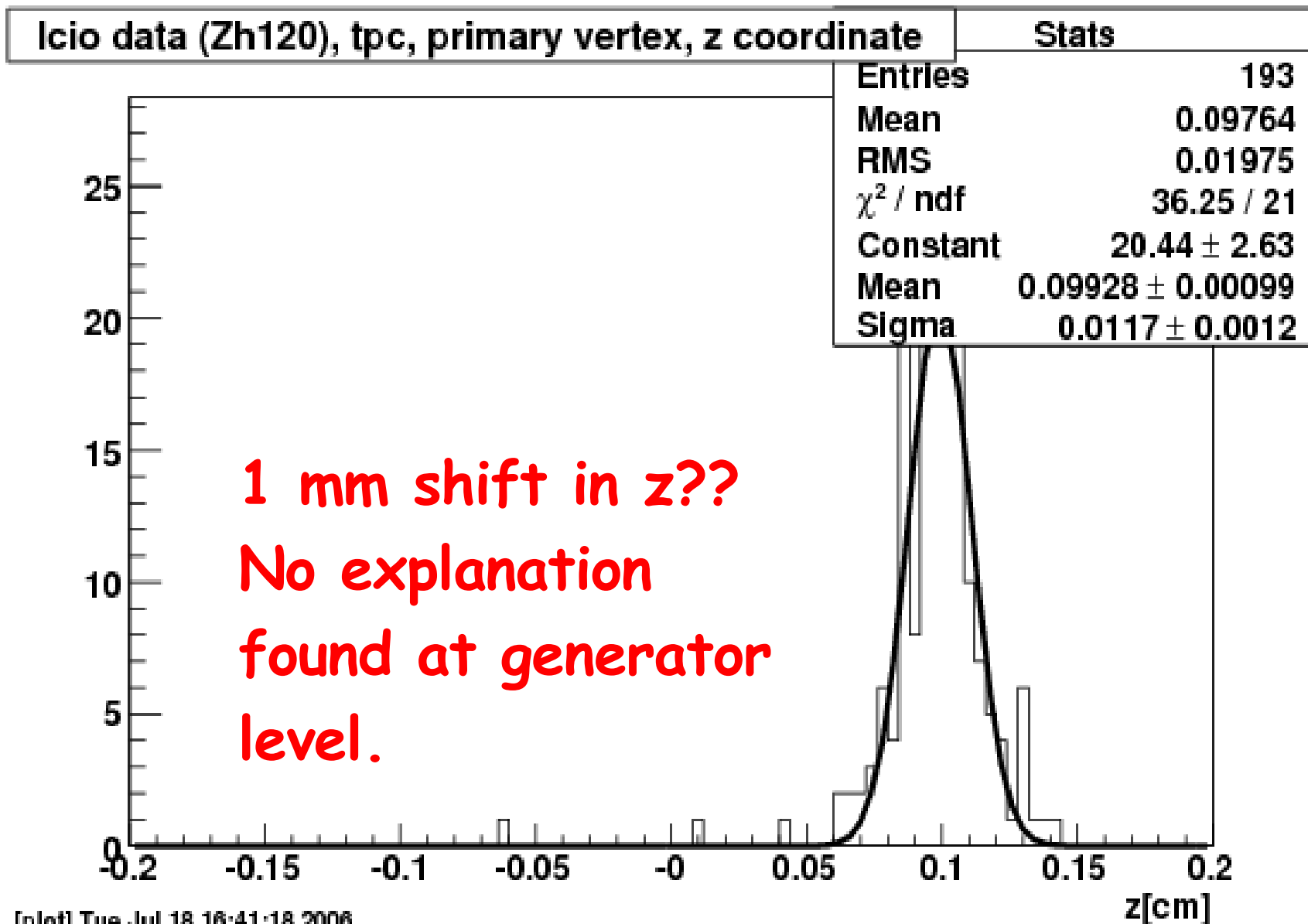
- **Wild hack in track finder** that writes out tracks plus **covariance matrices in old BRAHMS format.**
- Fitted "brahms tracks" to vertices, using the adaptive fitter method. Should find and fit primary vertex, irrespective of background / secondary vertices .....
- No Monte Carlo information in LCIO file, except for "generator level" MCParticle class.

# x coordinate of primary vertices, tpc tracks



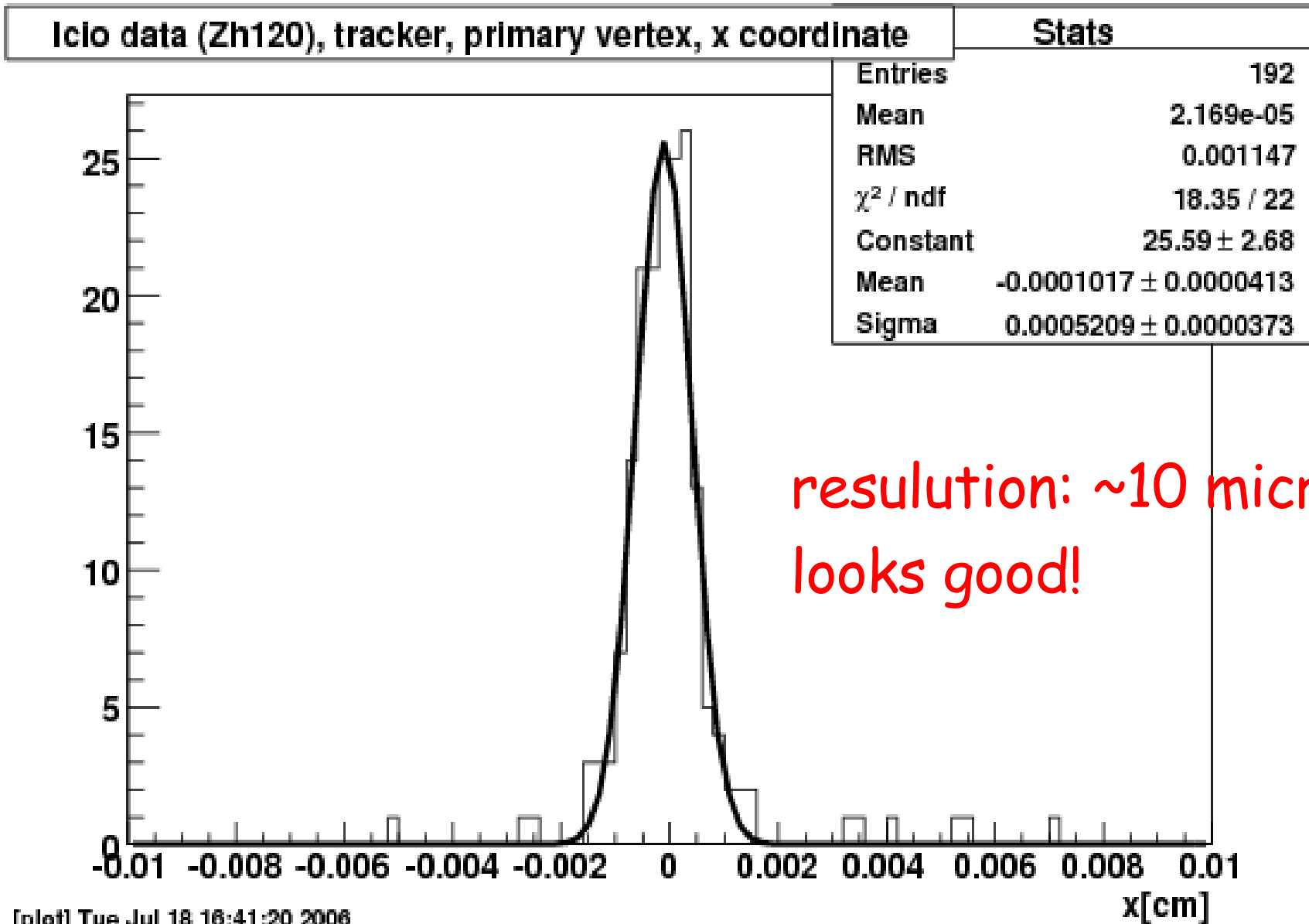
[plot] Tue Jul 18 16:41:19 2006

# z coordinate of primary vertices, tpc tracks

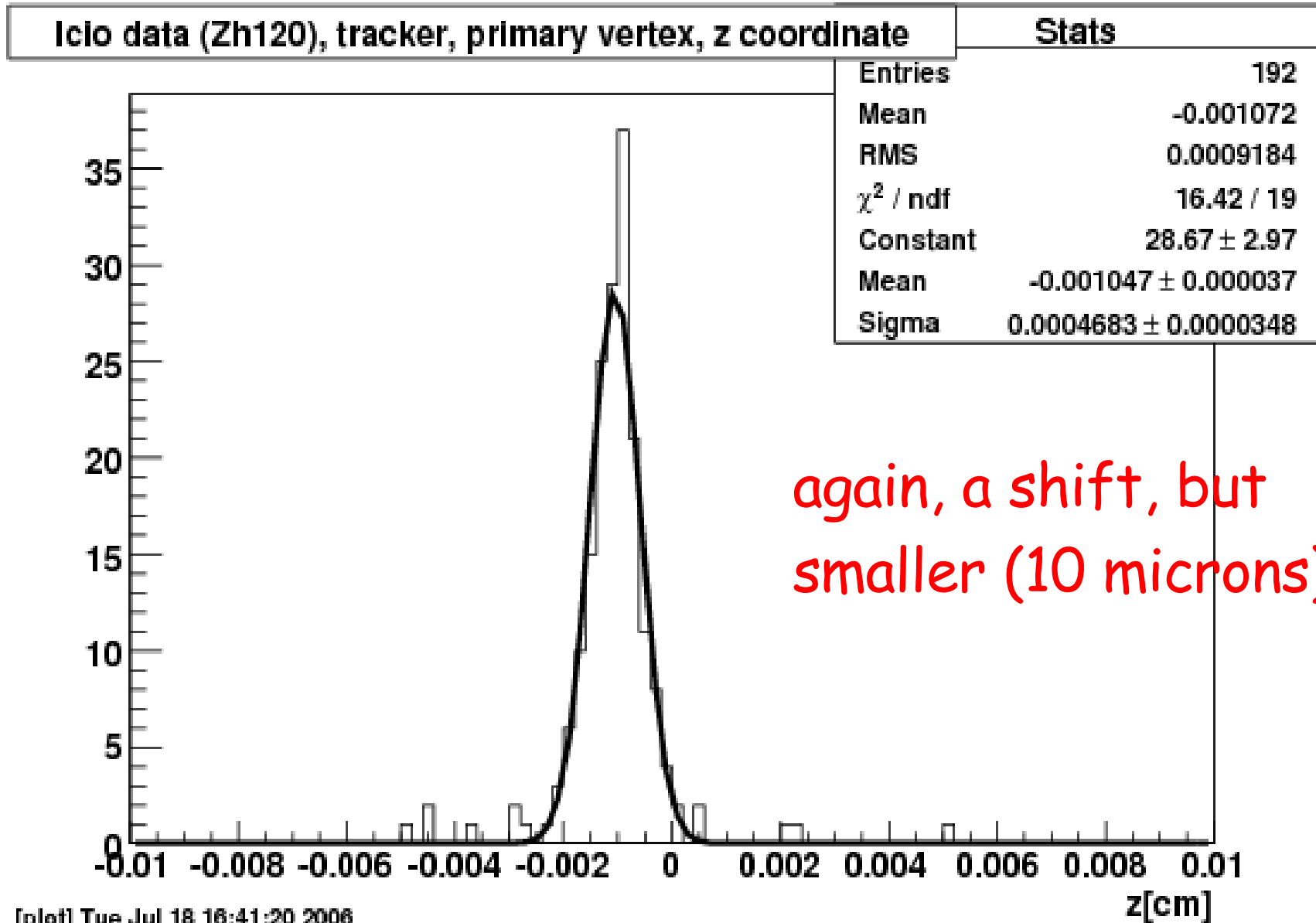


[plot] Tue Jul 18 16:41:18 2006

# x coordinate of primary vertices, tracker tracks

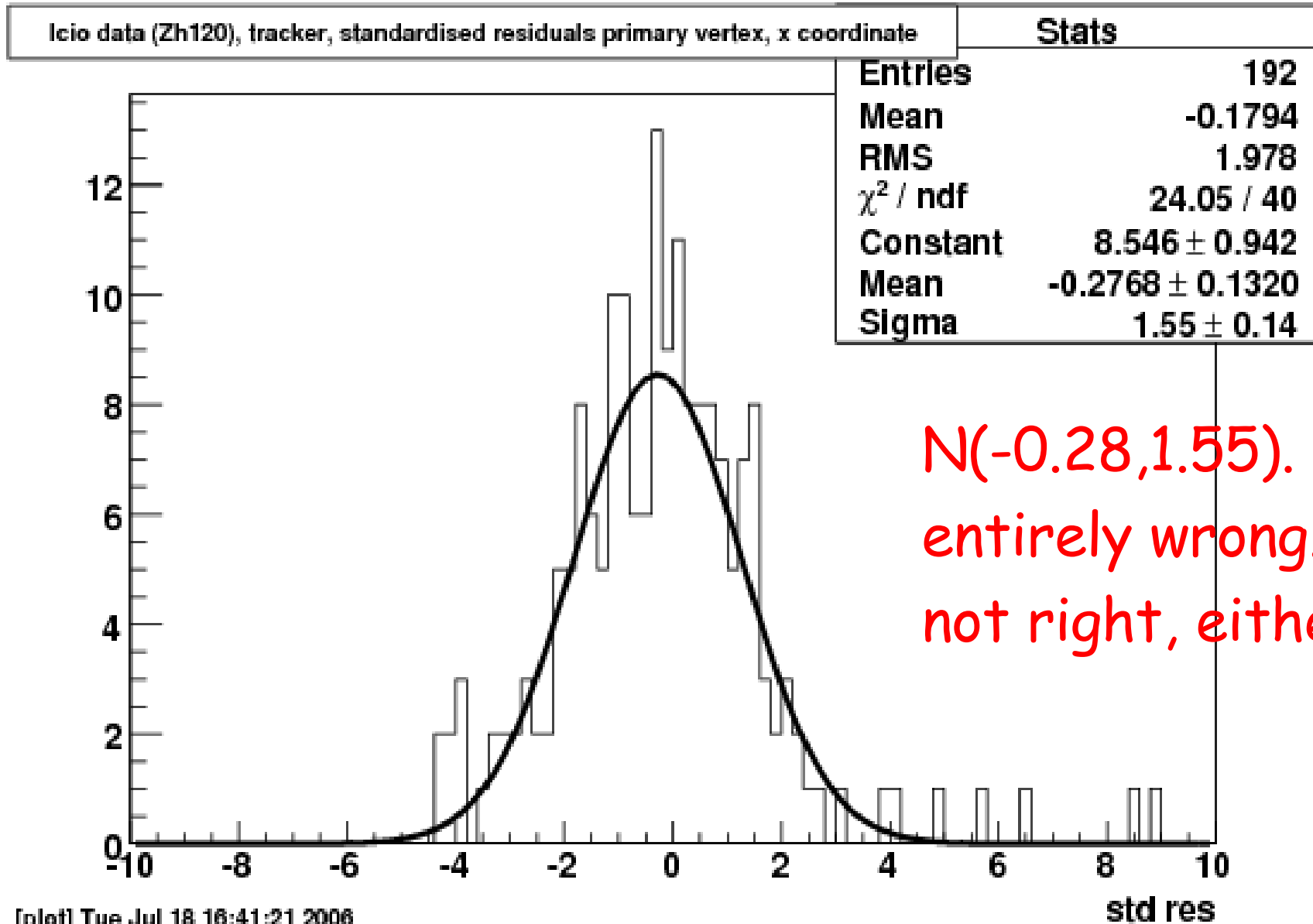


# z coordinate of primary vertices, tracker tracks



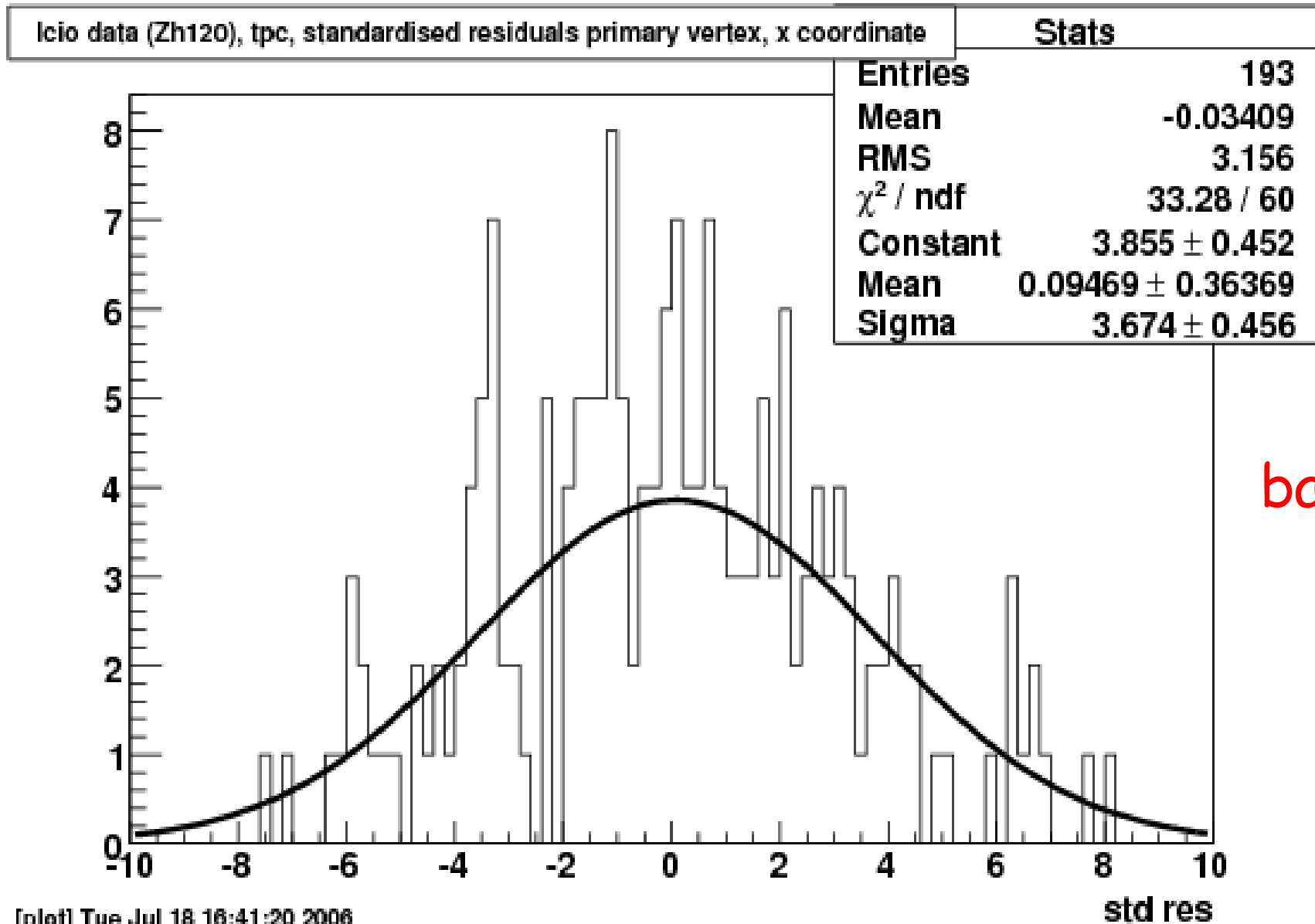
[plot] Tue Jul 18 16:41:20 2006

# standardised residuals (“pulls”), in x, tracker tracks





# std. residuals, x coord, tpc tracks



[plot] Tue Jul 18 16:41:20 2006

# Lobbying for ...

Our wishes for the future are:

- Introduction of covariance matrices in LCIO tracks.
- Introduction of MonteCarlo information (at the reconstruction level, not at the generator level) in LCIO file: simulated tracks, simulated vertices.

In the future we want to:

- Start analysing reconstructed tracks (necessary step for assessing quality of vertex reconstruction)
- Understand where the shifts come from.