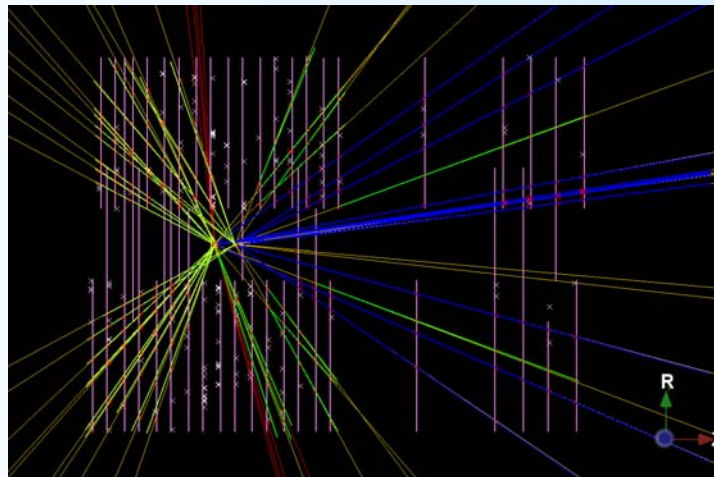


Track Fitting in DC'06

E. Rodrigues, NIKHEF



A collection of plots

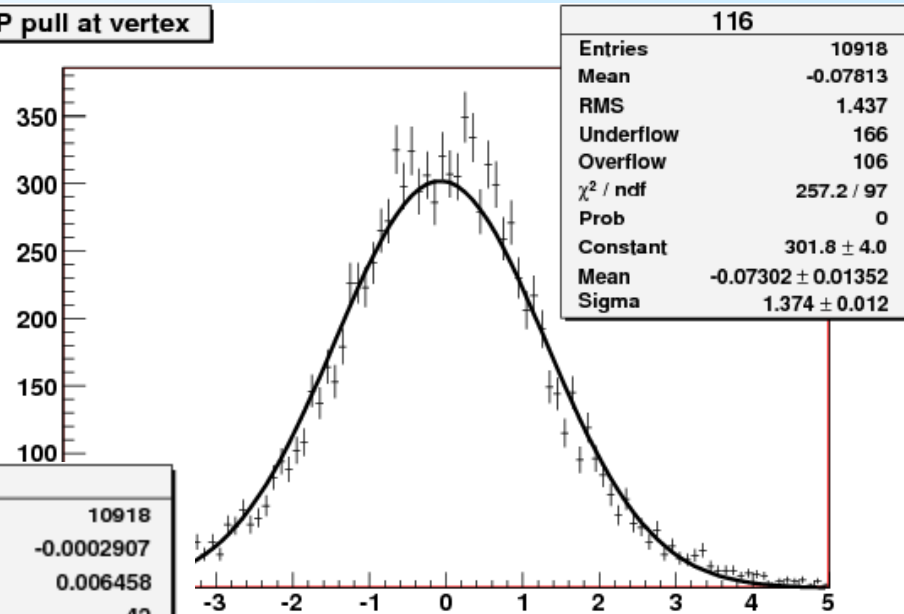
Random comments

- ❖ Many and regular reports at T-Rec meetings
- ❖ A lot of detail in there
- ❖ Focus here on some performance plots not really shown previously
- ❖ Performance for ideal pattern recognition
- ❖ And reconstructed long tracks

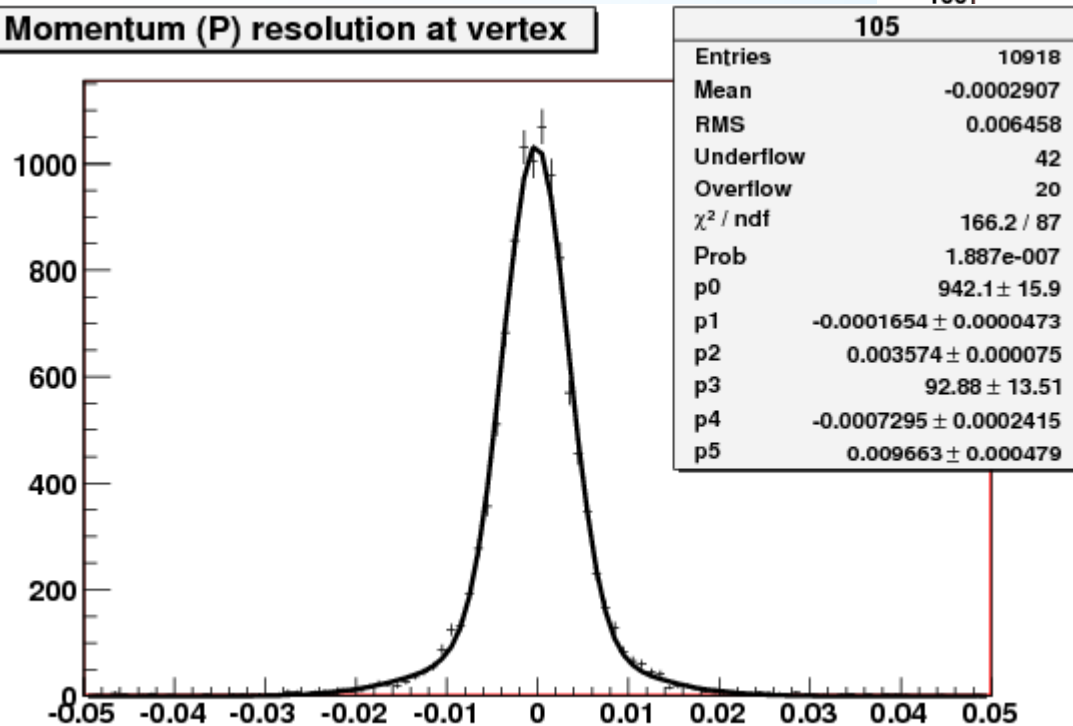
Status

- ❖ DC'06 fitting does a bi-directional fit
- ❖ All fitting options are defined in the Tr/TrackSys package
- ❖ Code / performance is now rather stable
- ❖ Does not mean there is no room for improvement!

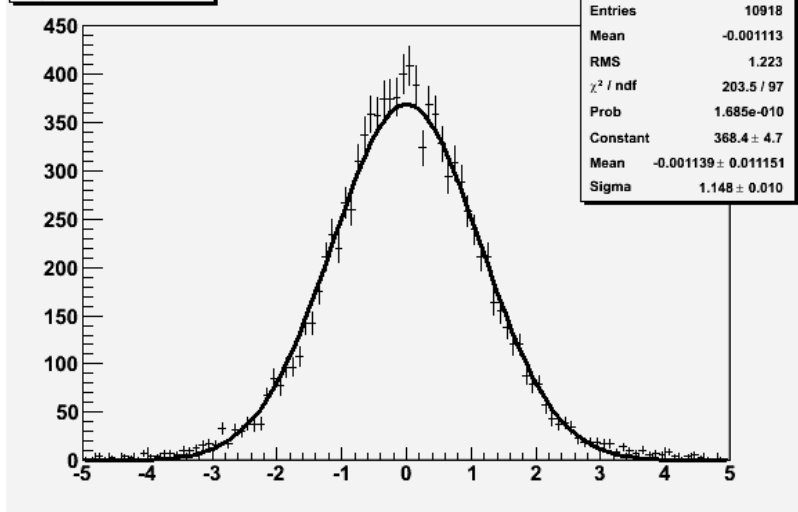
P pull at vertex



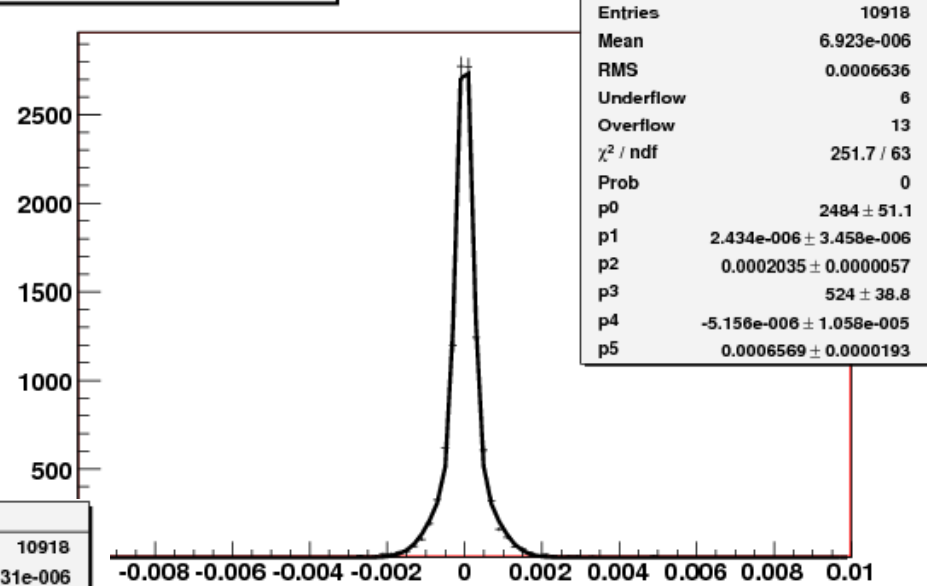
Momentum (P) resolution at vertex



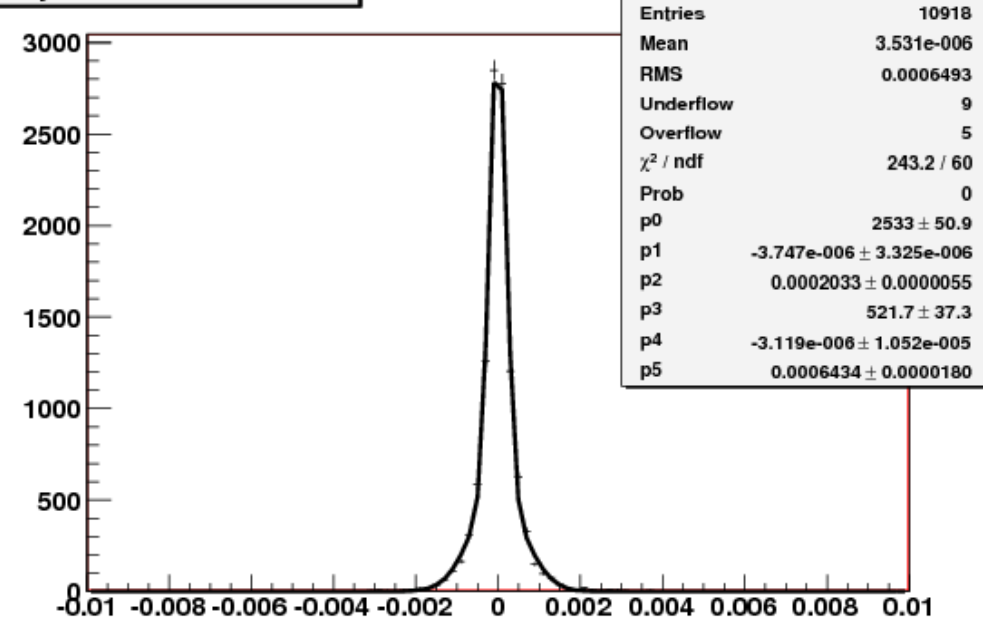
Ty pull at vertex



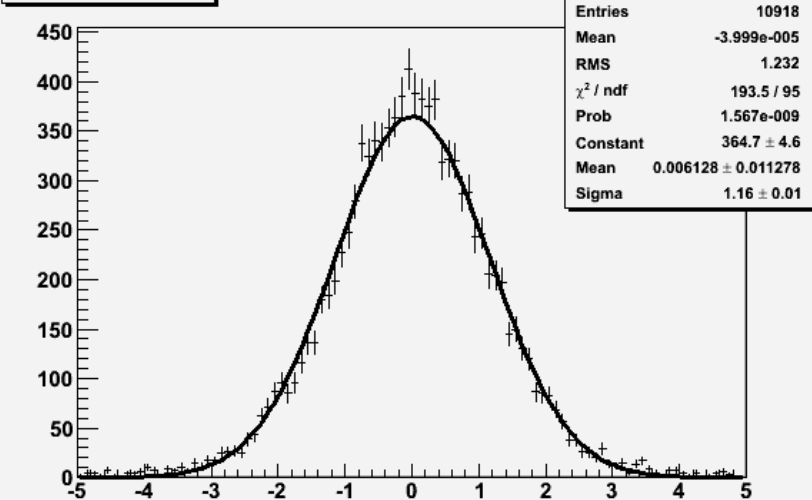
Tx resolution at vertex

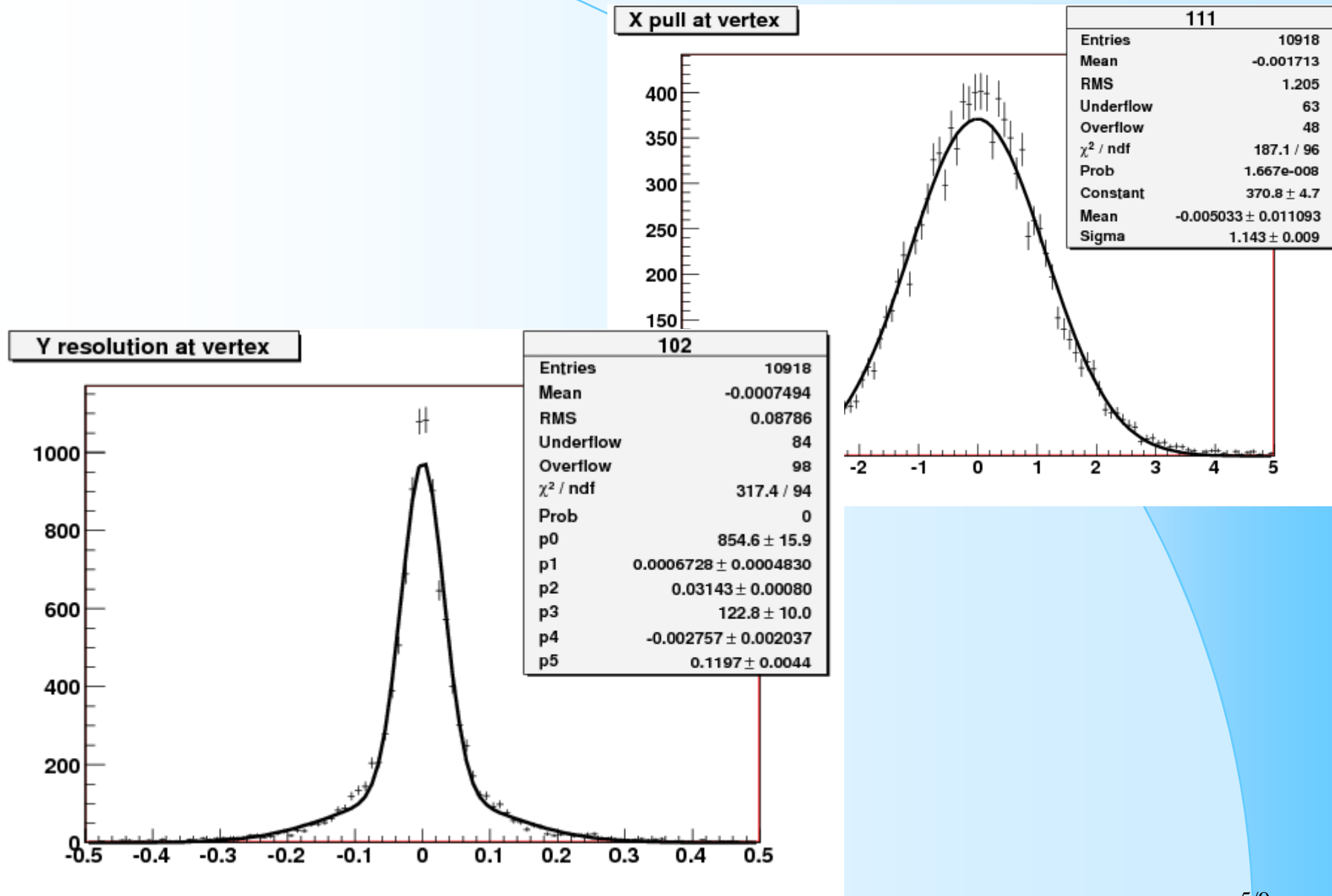


Ty resolution at vertex

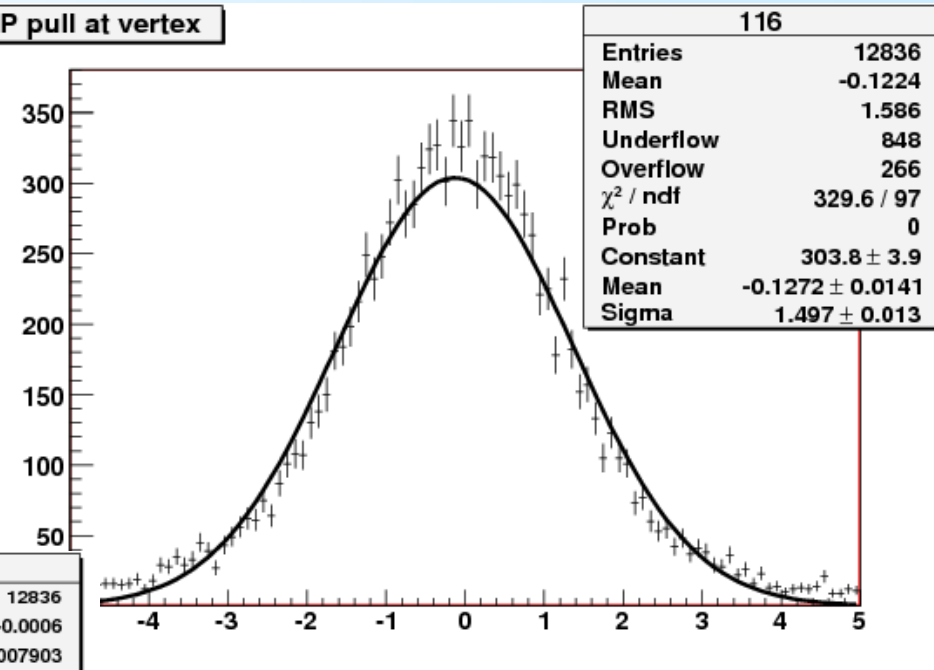


Tx pull at vertex

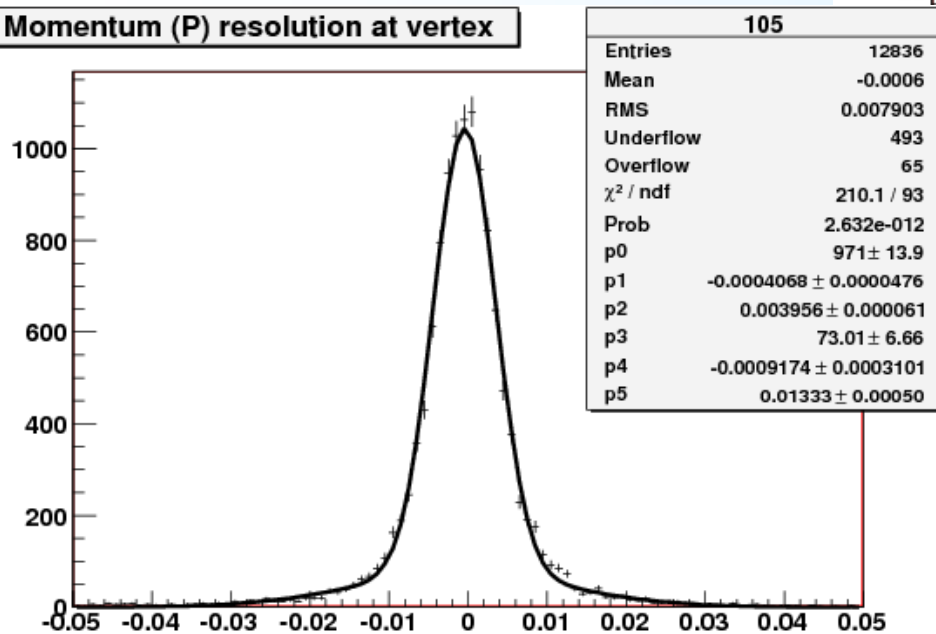




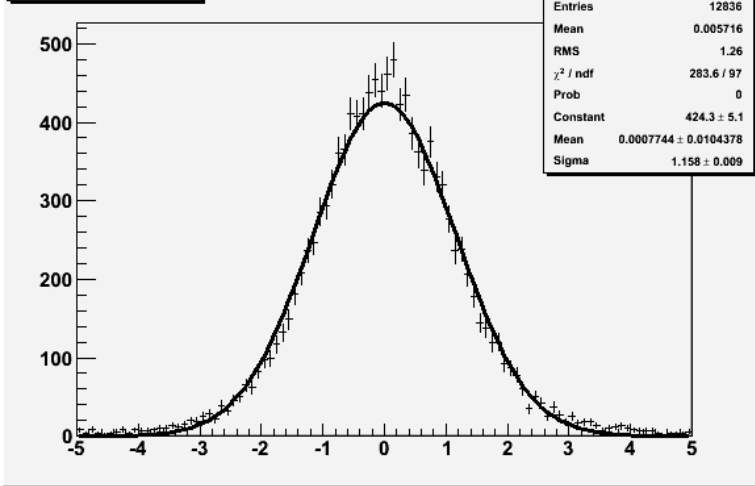
P pull at vertex



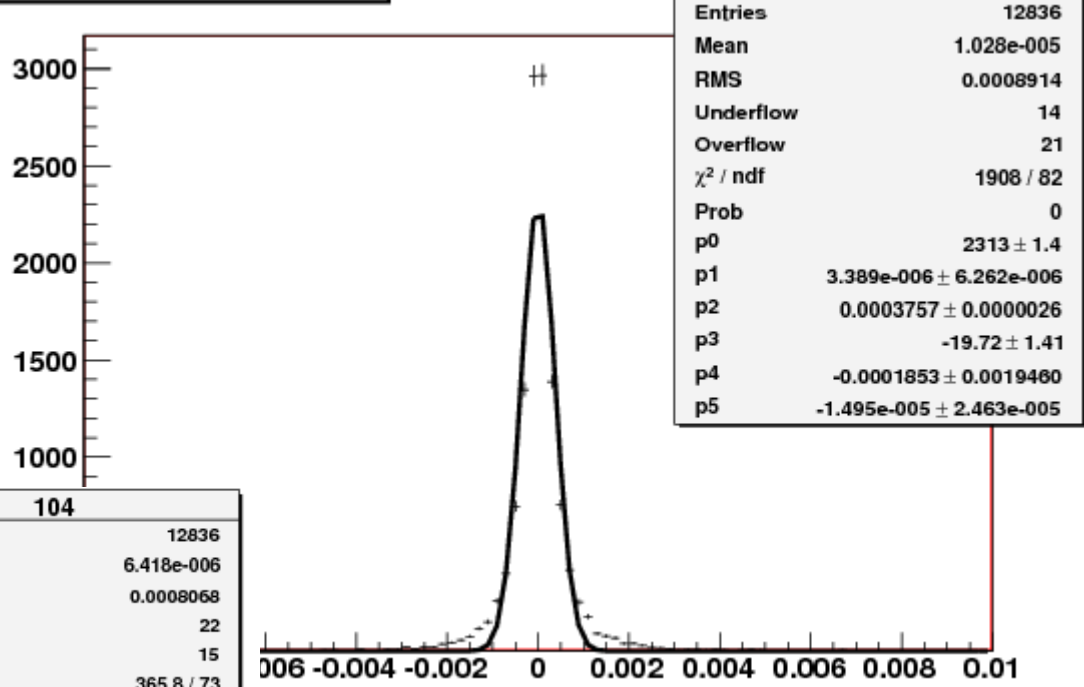
Momentum (P) resolution at vertex



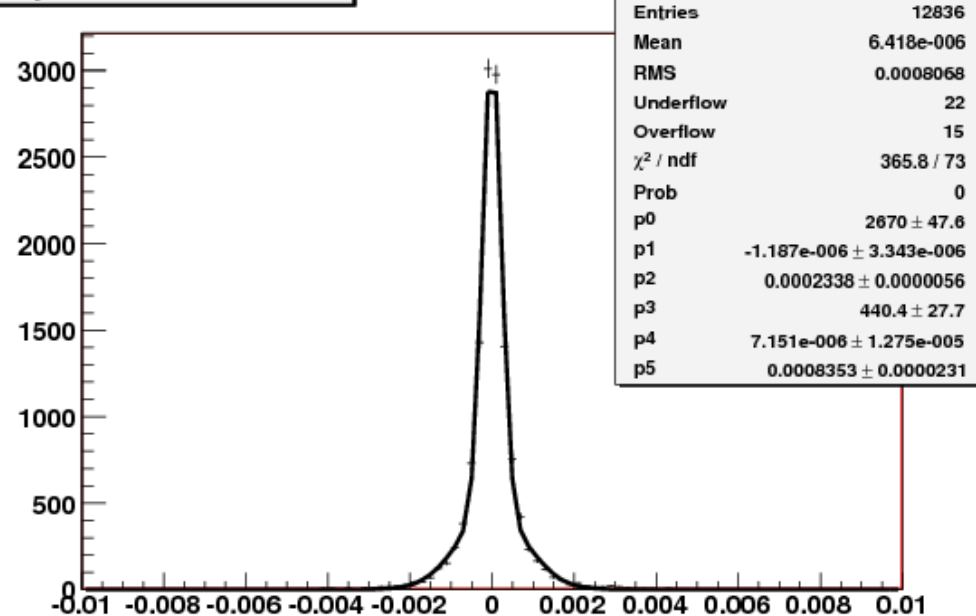
Ty pull at vertex



Tx resolution at vertex

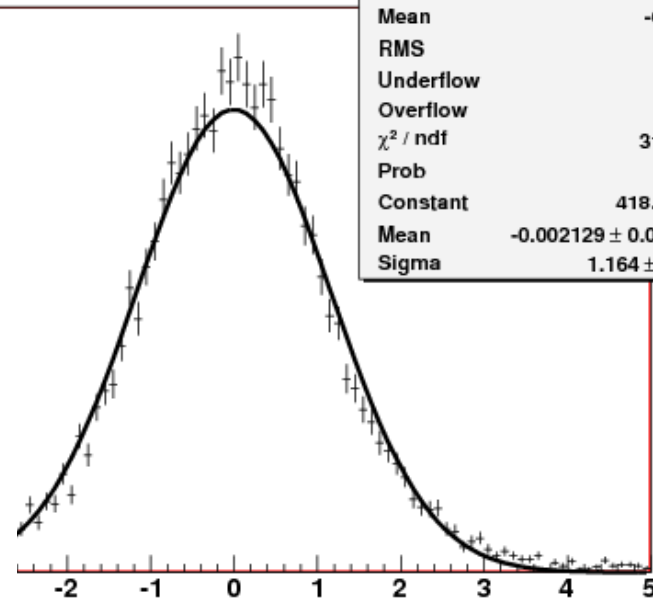


Ty resolution at vertex



X pull at vertex

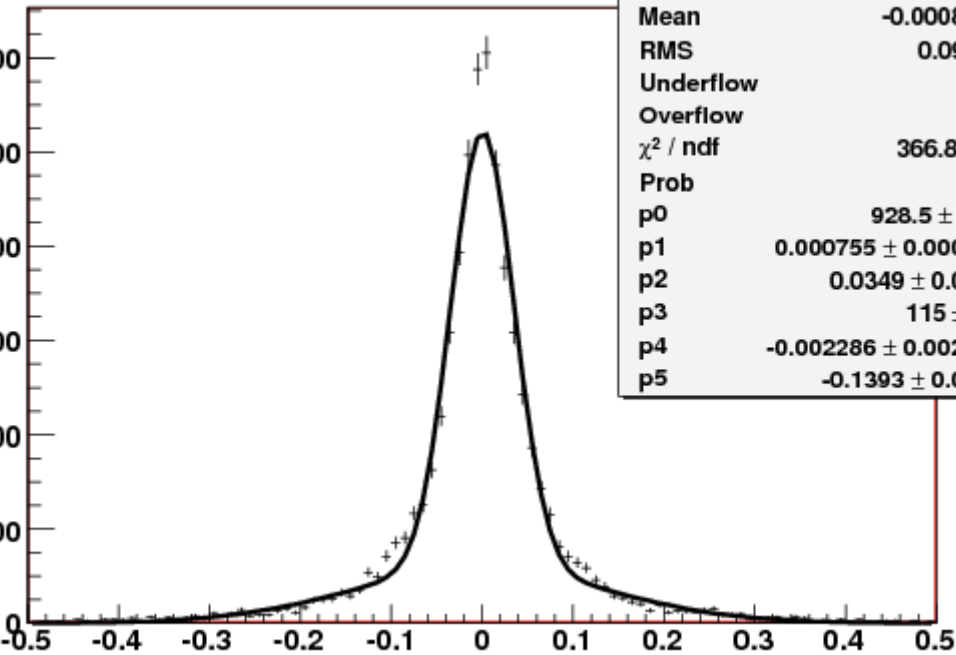
500
400
300
200



111	
Entries	12836
Mean	-0.0052
RMS	1.274
Underflow	191
Overflow	132
χ^2 / ndf	312 / 97
Prob	0
Constant	418.1 ± 5.1
Mean	-0.002129 ± 0.010548
Sigma	1.164 ± 0.009

Y resolution at vertex

1200
1000
800
600
400
200
0



102	
Entries	12836
Mean	-0.0008134
RMS	0.09372
Underflow	153
Overflow	180
χ^2 / ndf	366.8 / 94
Prob	0
p0	928.5 ± 15.8
p1	0.000755 ± 0.000478
p2	0.0349 ± 0.0008
p3	115 ± 8.0
p4	-0.002286 ± 0.002263
p5	-0.1393 ± 0.0045

- **Resolutions and pulls:**
core $\delta p / p \sim 4.0$ per mille, p-pull ~ 1.5
slopes and positions pulls typically ~ 1.15
- **Still bit worse compared to ideal pattern recognition**
- **To be fully understood ...**
- **Difference most likely due to wrong hits**
- **Many detailed studies have to be done in DC'06 ...**
Looking forward to more DC'06 data ...!