

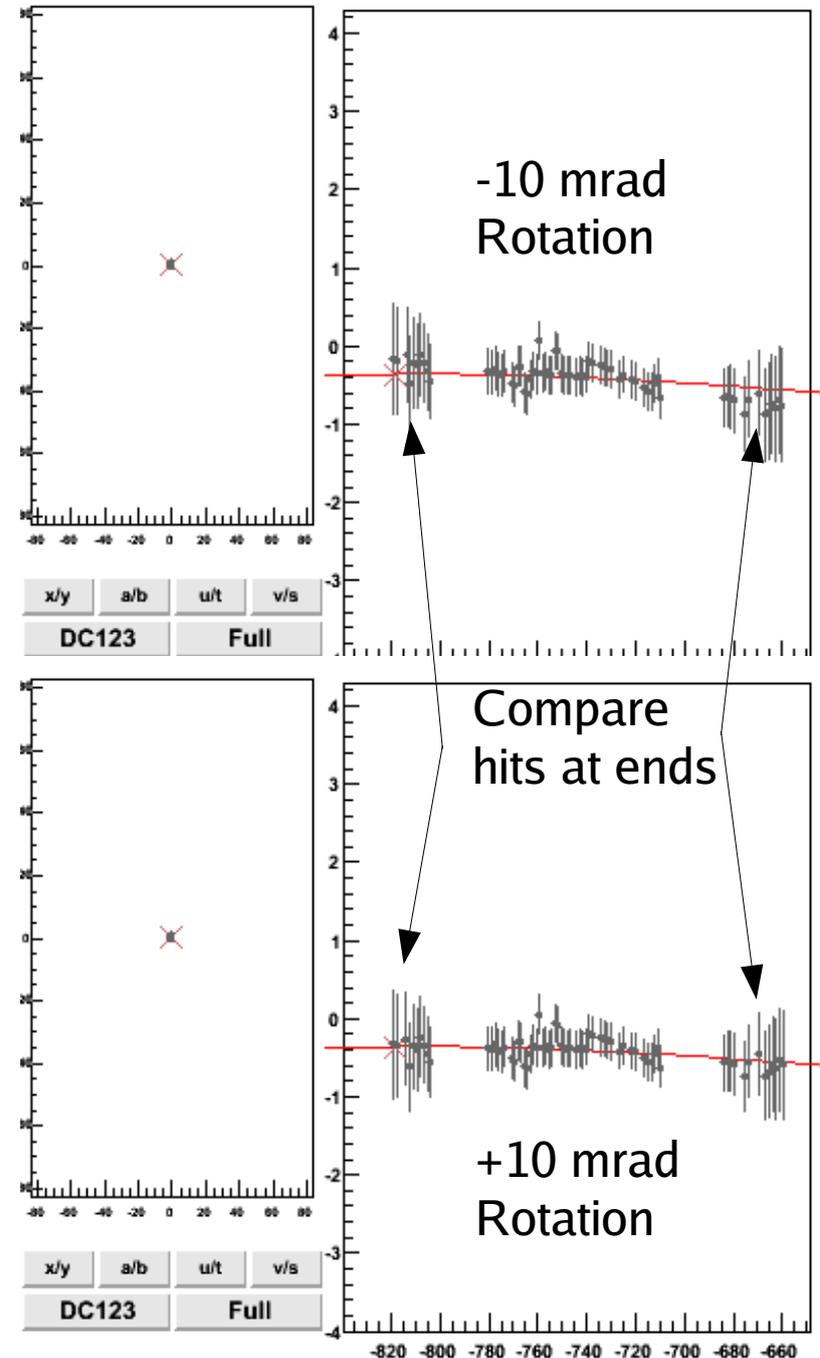
# Bx/Bz Rotation Study

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# Last Week...

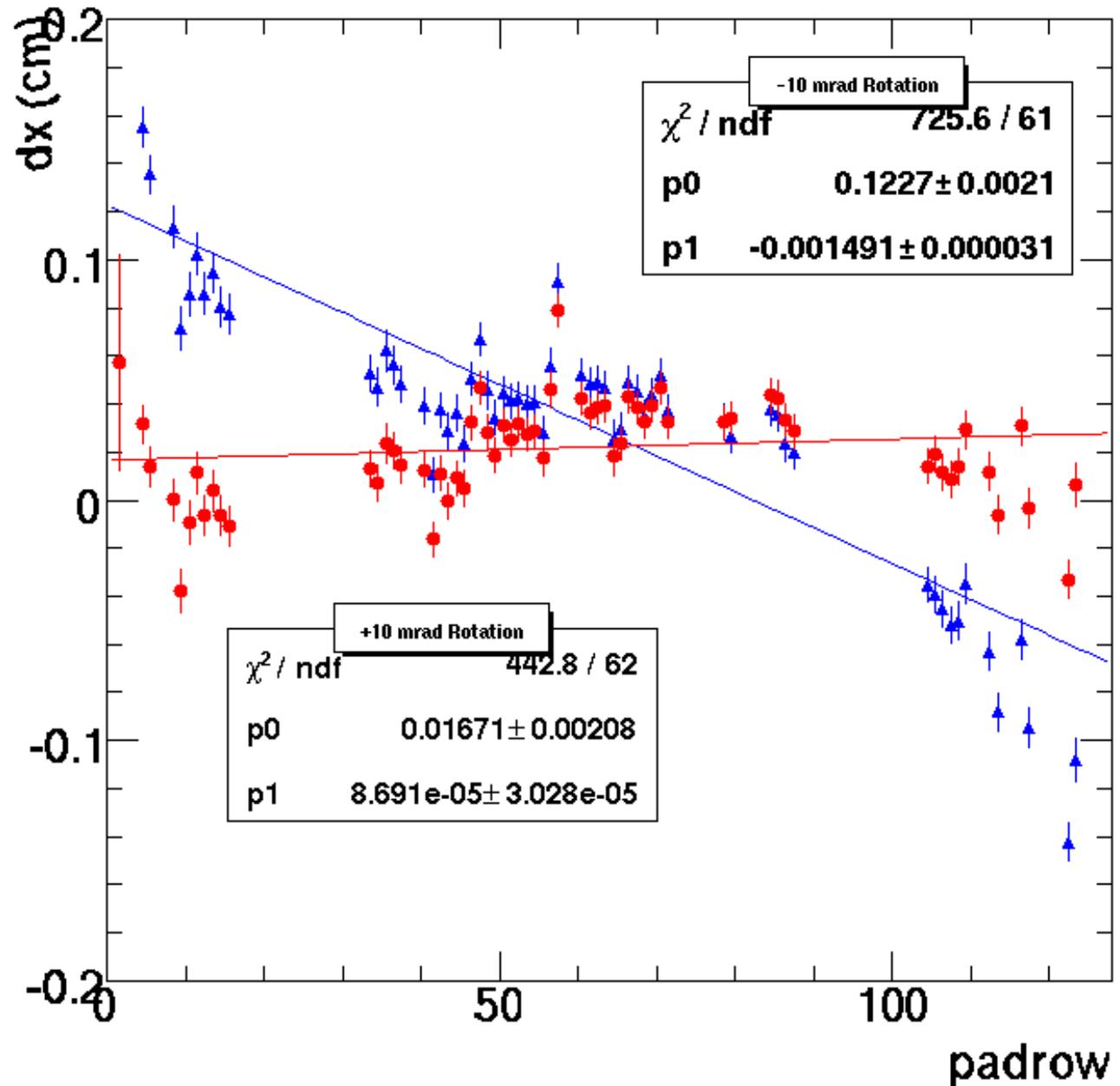
- While discussing the TPC distortions (see Andre's talk from last week), we decided to see what, if any, effect a rotation of the B-field components about the y-axis would have on the reconstruction.
- A quick look by Andre seemed to indicate that track fits were happier with a rotation of  $\sim 10$  mrad.



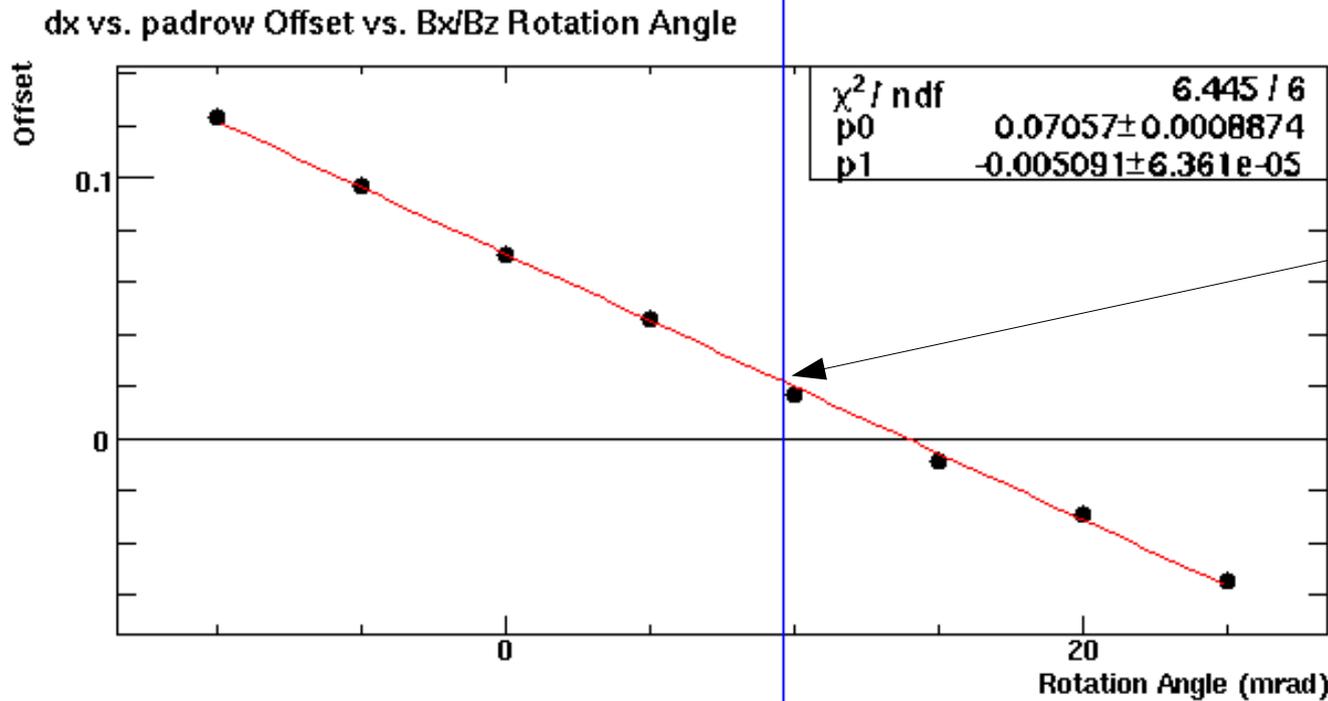
# This Week...

## xTPC - xTPCFit vs. padrow, -10 mrad

- It was decided to study this further, so I looked at track fit residuals (target out, vertex constrained to Scint position) as a function of rotation angle.
- To parameterize the effect of the rotation, I fit dx vs. padrow to a straight line.

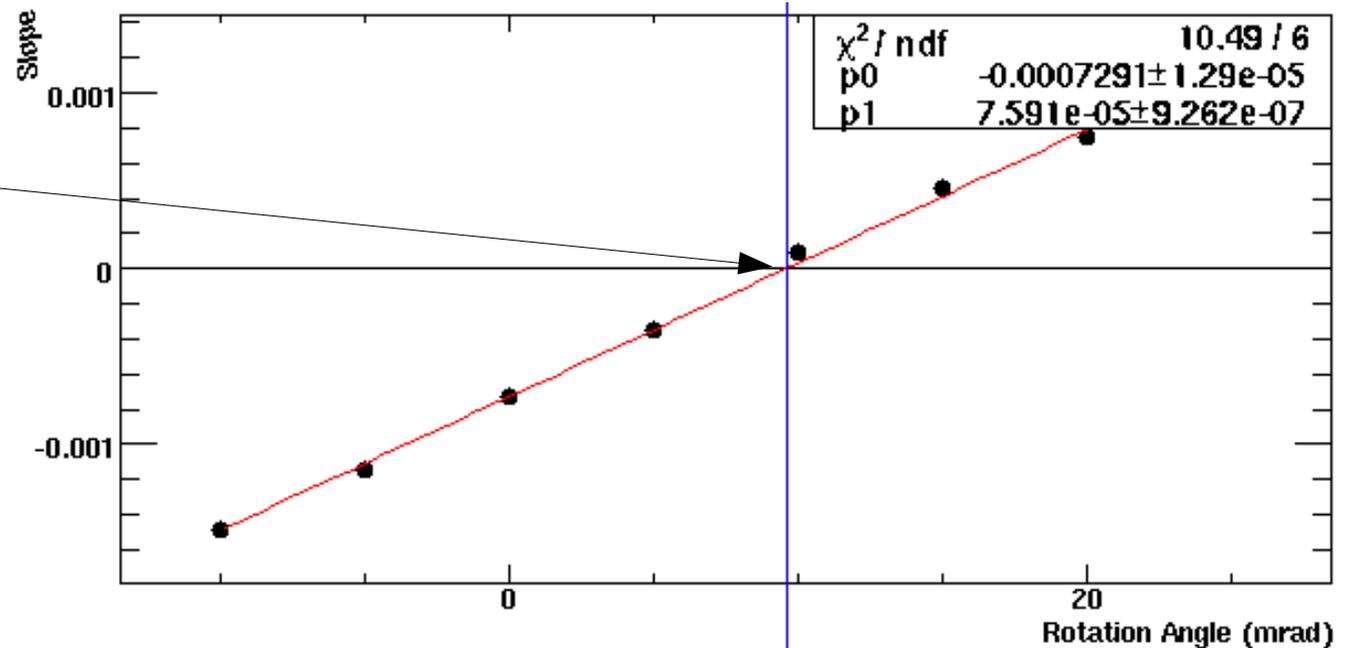


# Slope and Offset vs. Rotation Angle



Induced x-offset is  $< 0.02$  cm. We will ignore this for this round.

Data wants a +9.6 mrad rotation.



# What About dx vs. x?

Unfortunately the rotation of the B-field about the y-axis does not help us with the problem of the correlation between dx vs. x:

- slopes are about the same for -10 and +10 mrad rotations
- +10 mrad rotation does make the correlation band a bit tighter, but only along the dx axis.

