

LHRS Calibration Update

Min Huang

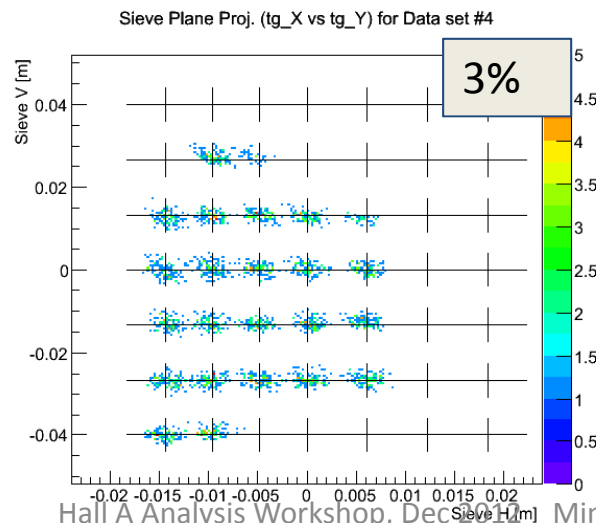
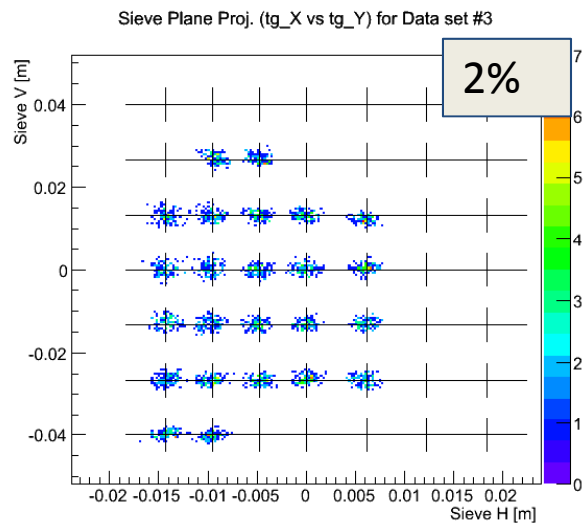
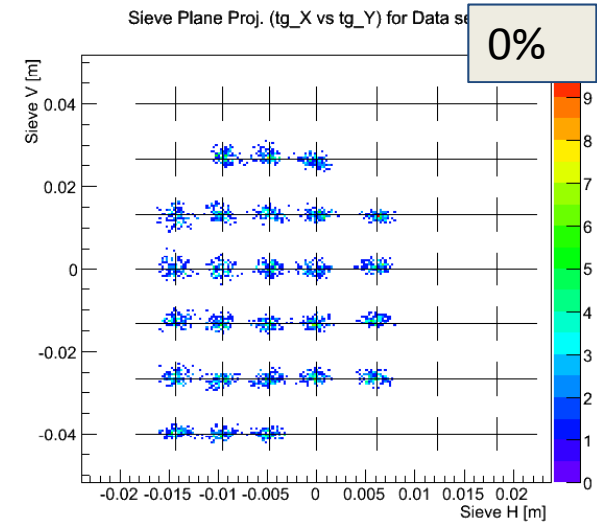
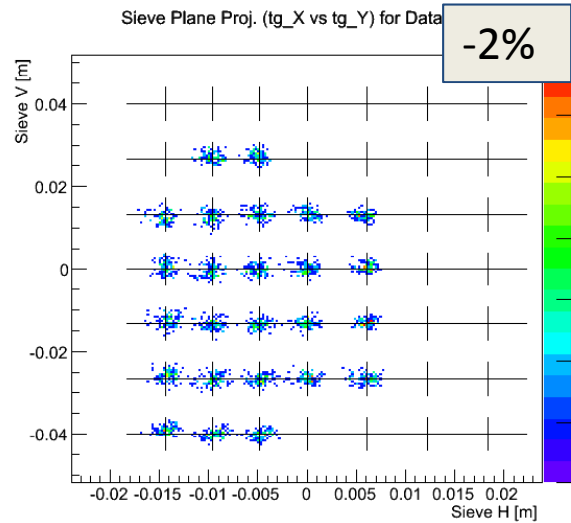
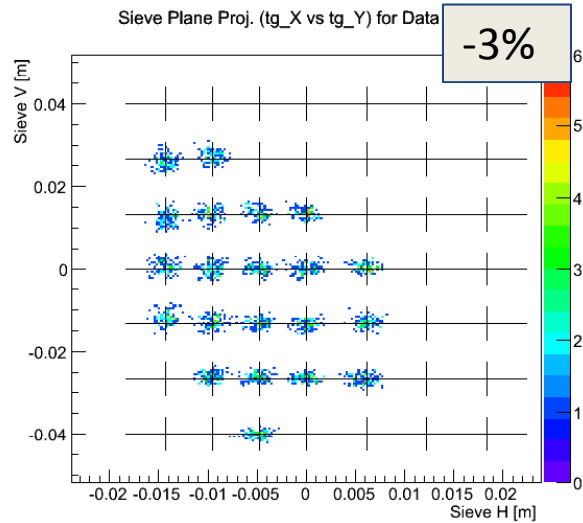
07/10/2013

- Used latest bpm package from Pengjia, slightly different from last time
- Added beam trip cut
- Runs before 3/5/2012 don't have Happex information, so not available to use this bpm method now
 - Runs on 3/4 with better beam positions

Straight-thru Optics

- Settings
 - Beam energy 2.253GeV
 - 0T target field at 6 deg, Gep target magnet config
 - Good septum
- Optics runs
 - Full delta scan on both arms (-3%, -2%, 0, 2%, 3%)
- Beam position $x \sim 4\text{mm}$

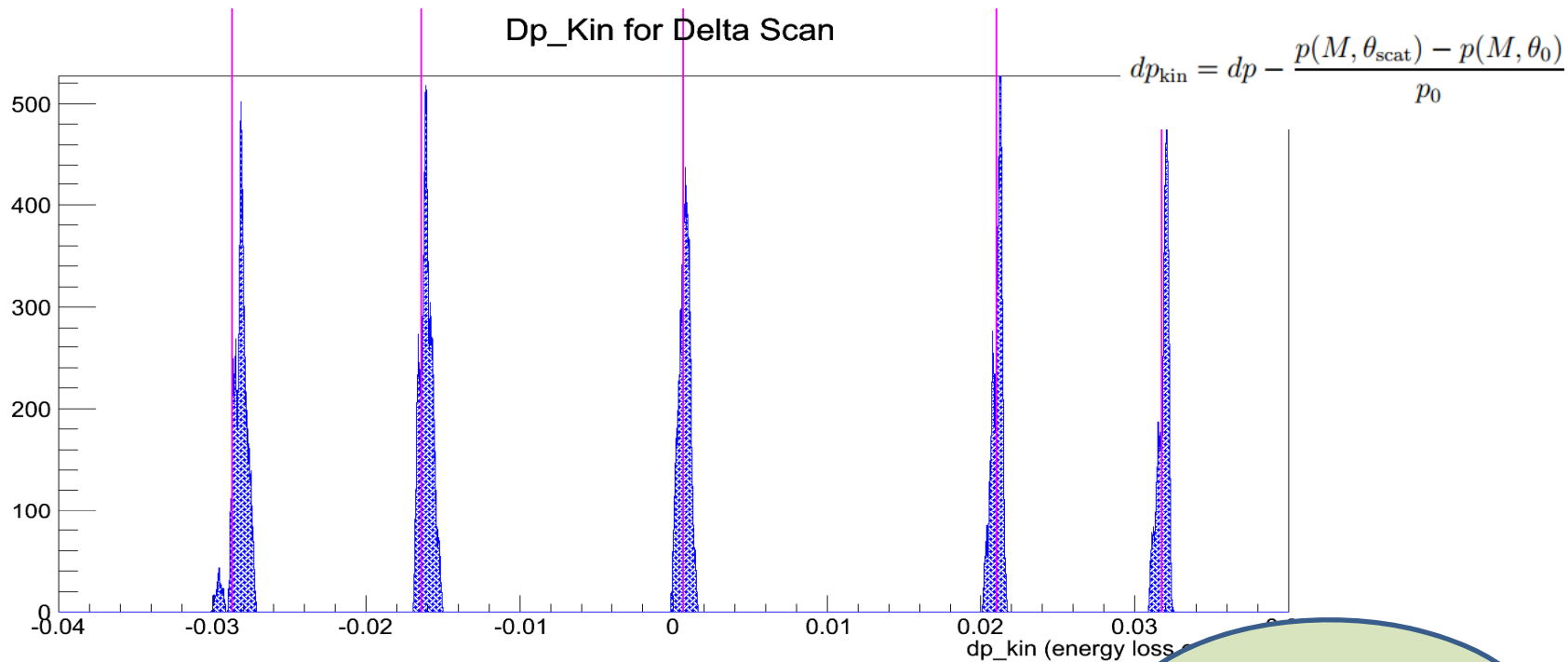
LHRS Angle (1st good septum)



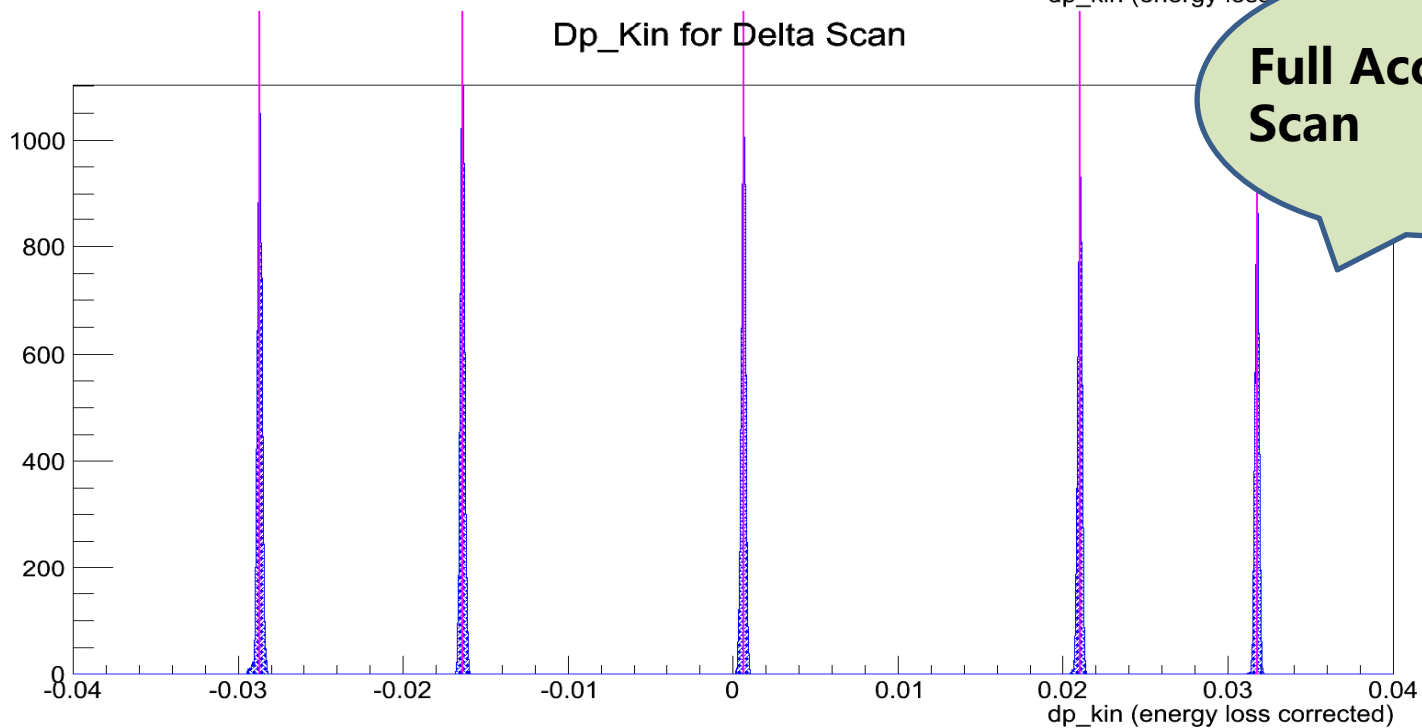
phi rms: 1.0 mr (1.3 mr)
theta rms: 1.5 mr (1.8 mr)

*different bpm version, both
with filters: now (last time)

Before



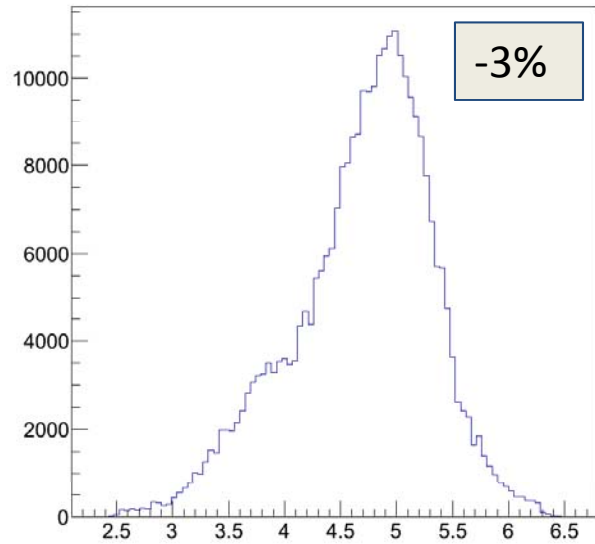
After



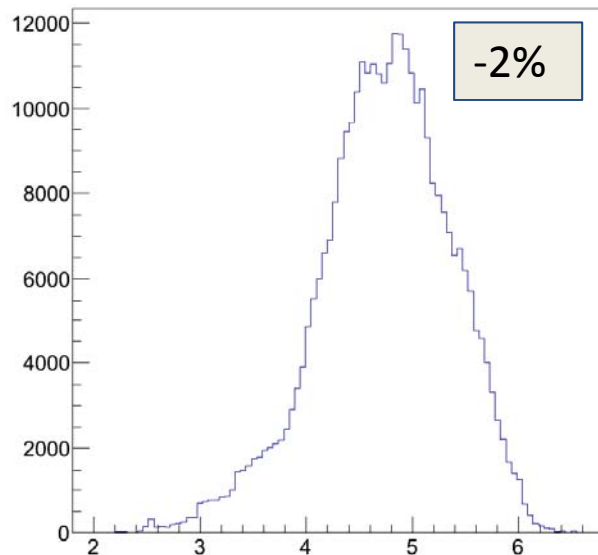
Full Acceptance
Scan

dp rms:
 1.3×10^{-4}

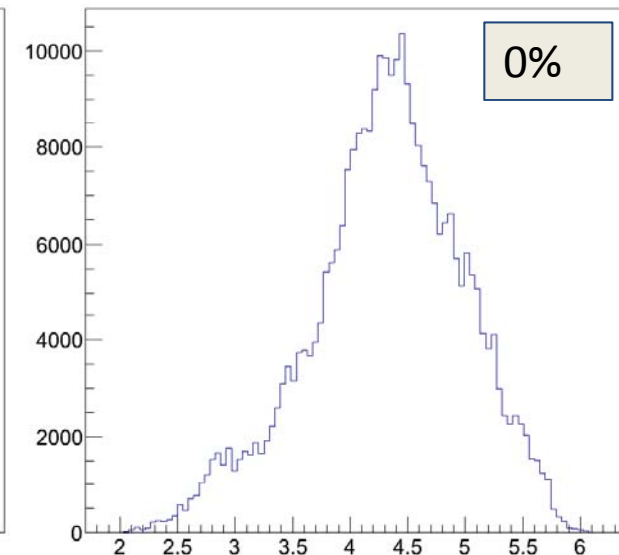
Lrb.tgt_0_x {Lrb.bpmavail>0.5}



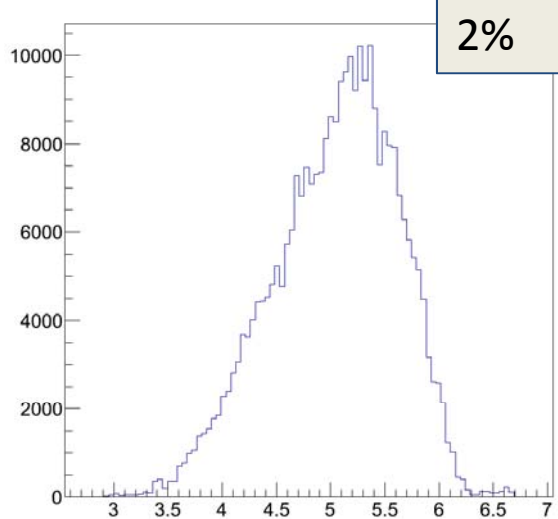
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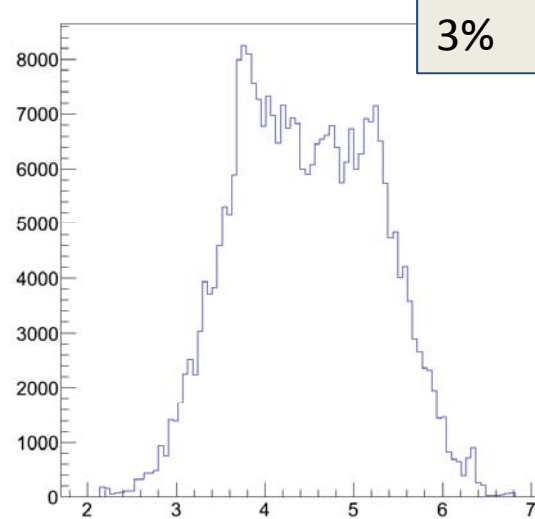
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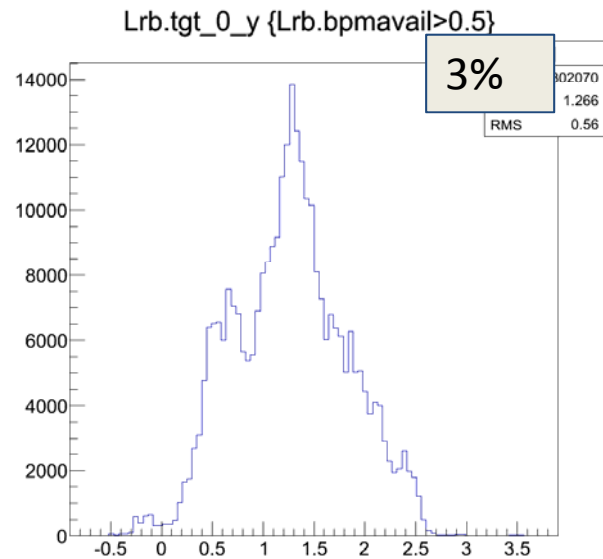
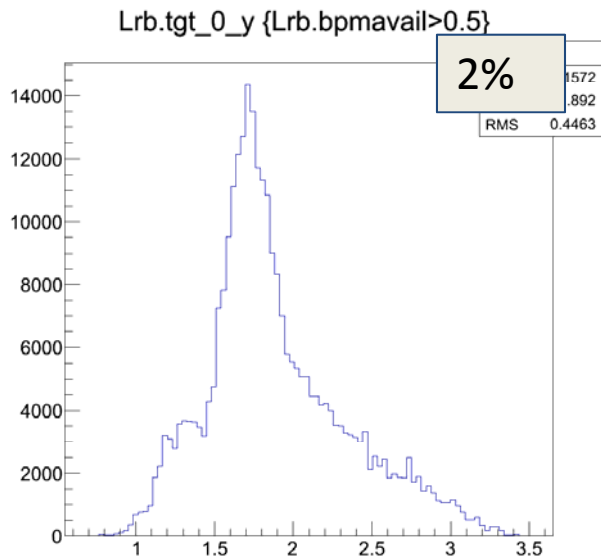
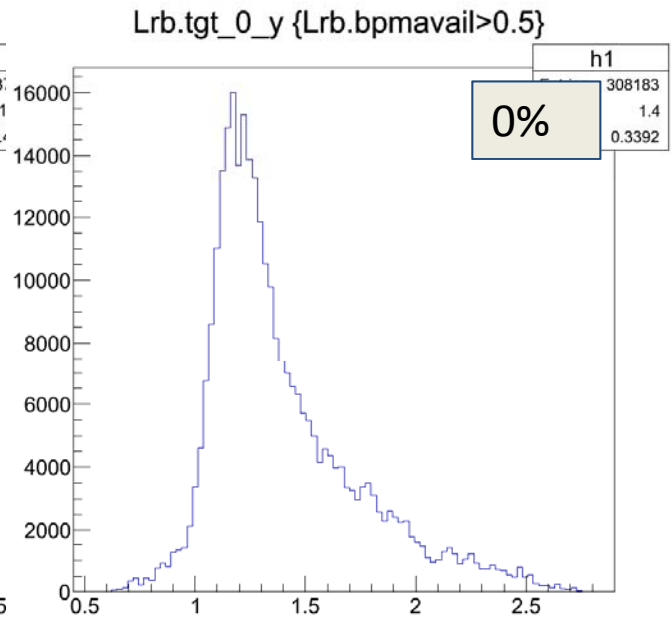
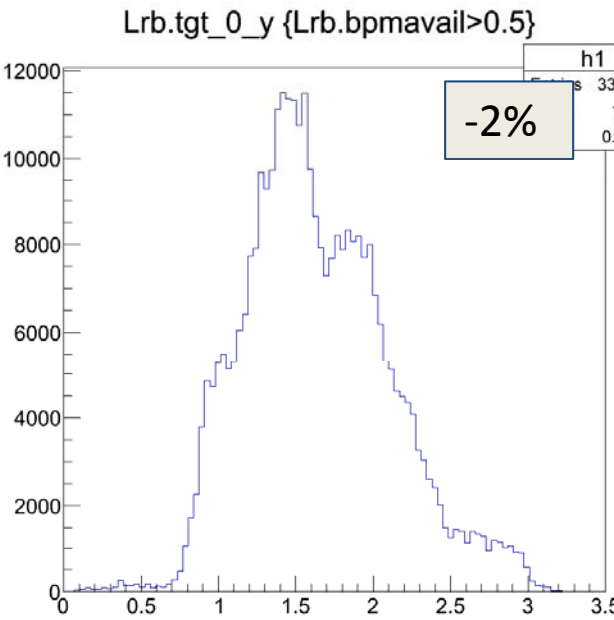
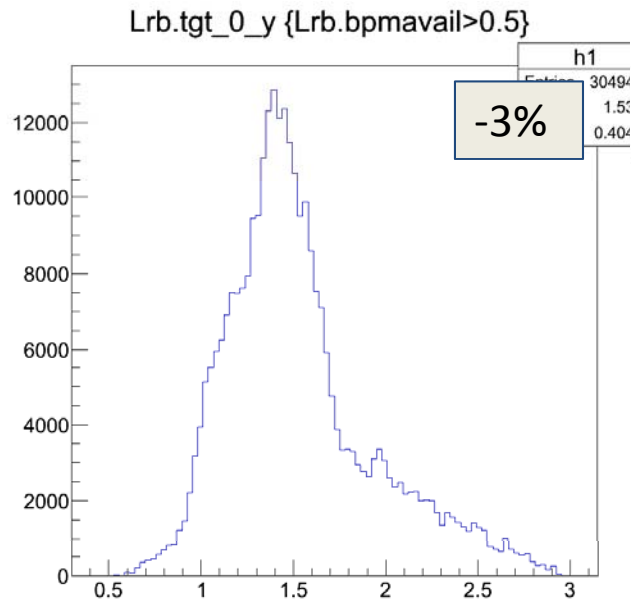
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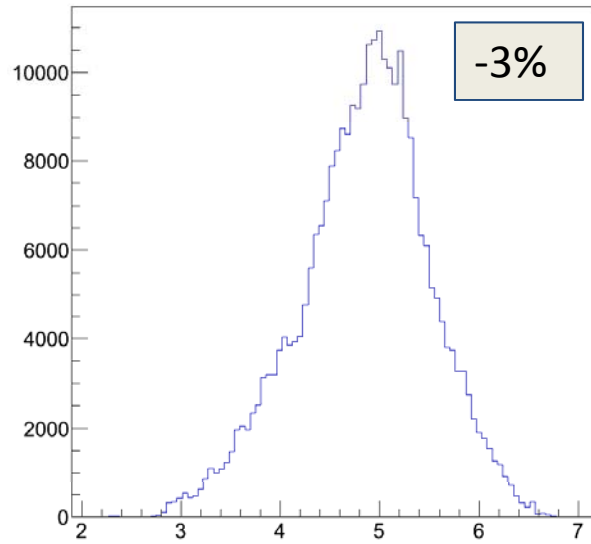


Runs used to
do the
calibration

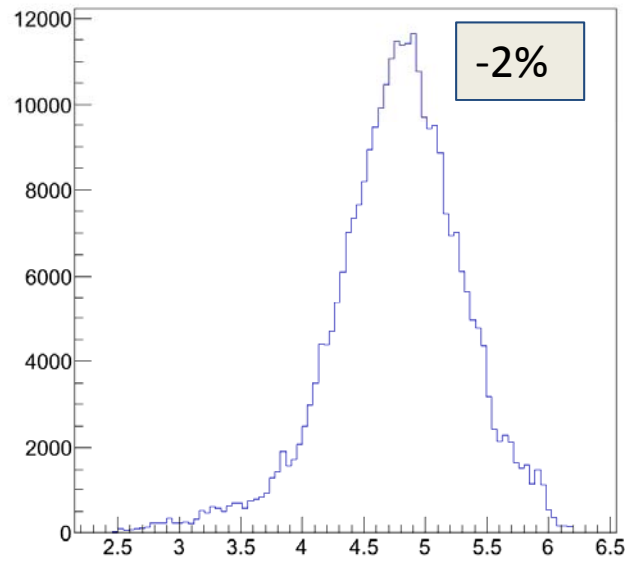


Runs used to
do the
calibration

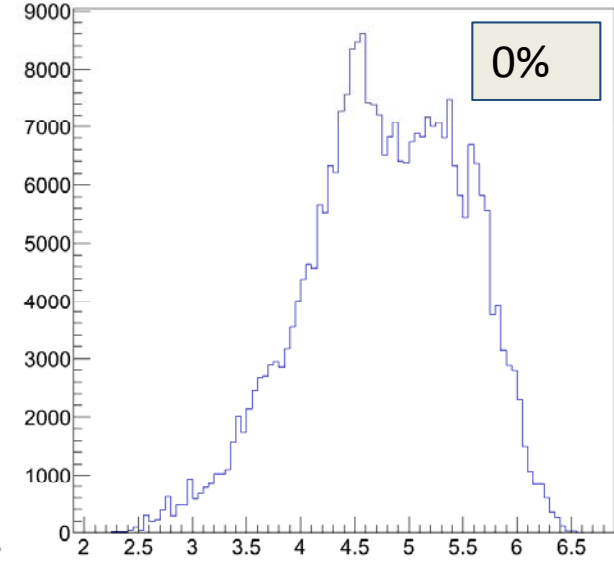
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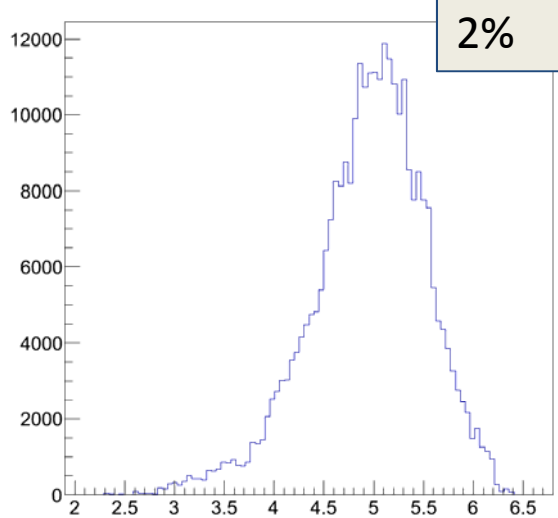
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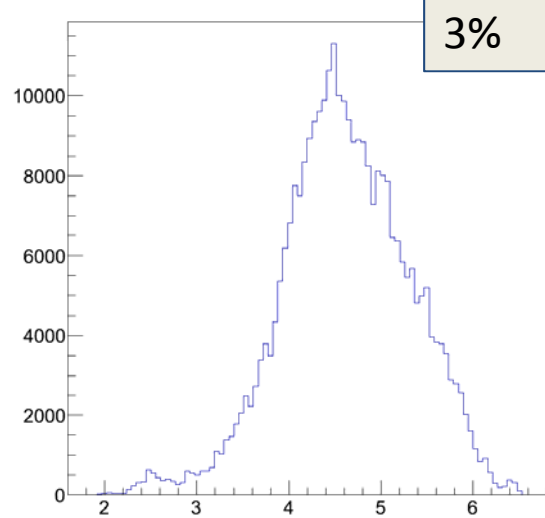
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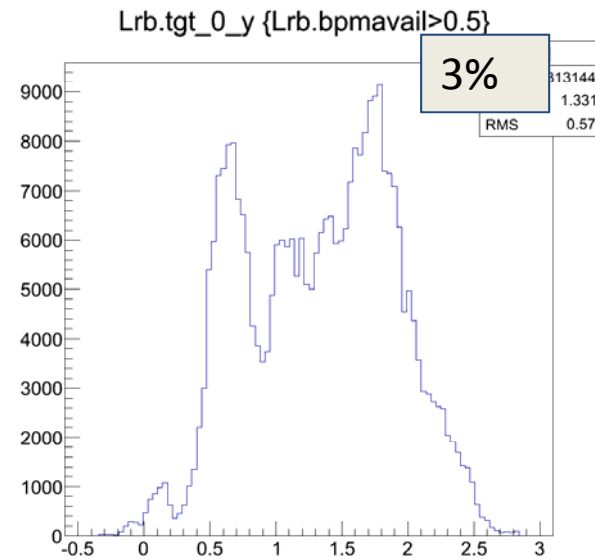
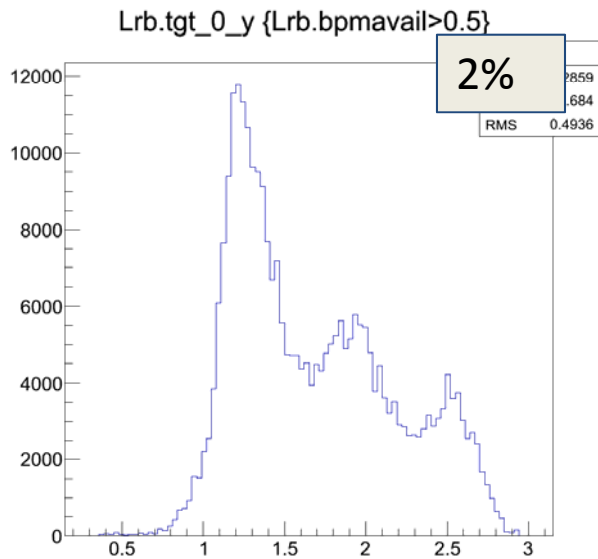
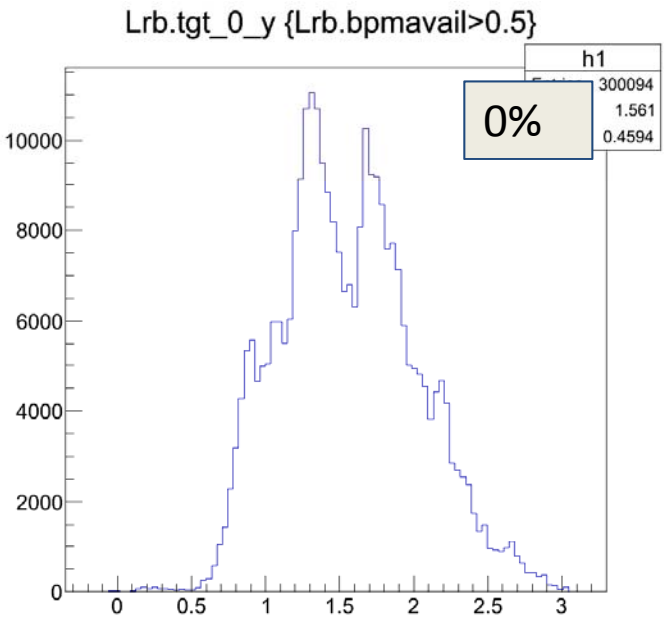
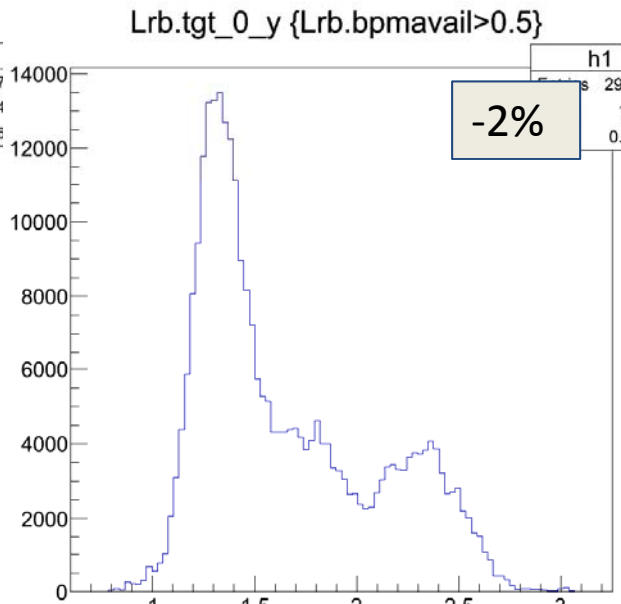
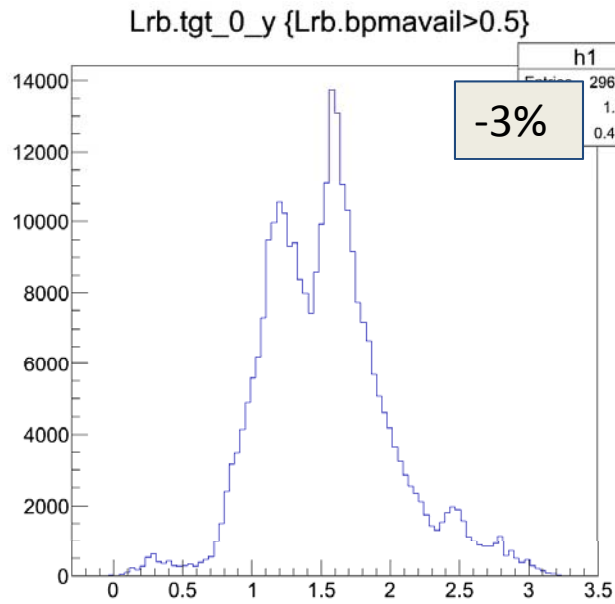
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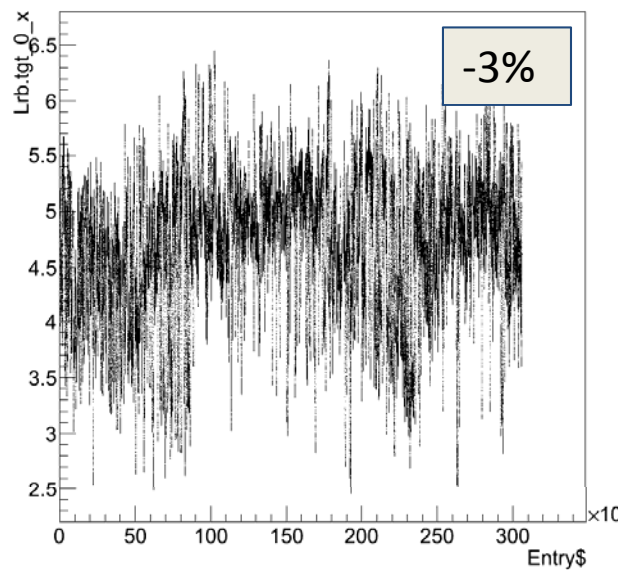


Runs NOT used
to do the
calibration

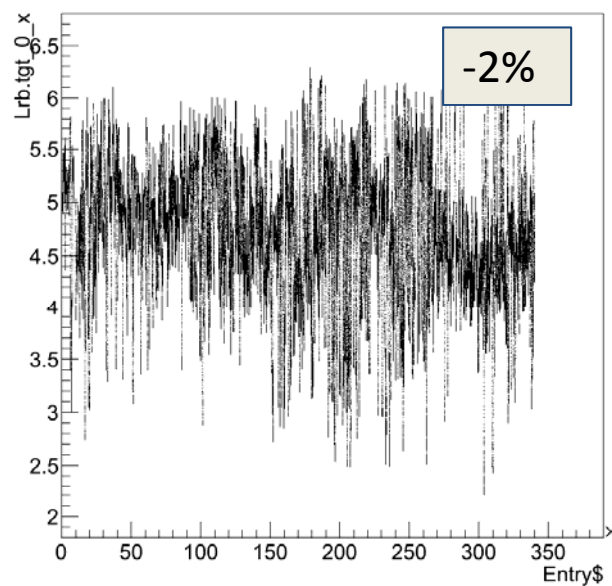


Runs NOT used
to do the
calibration

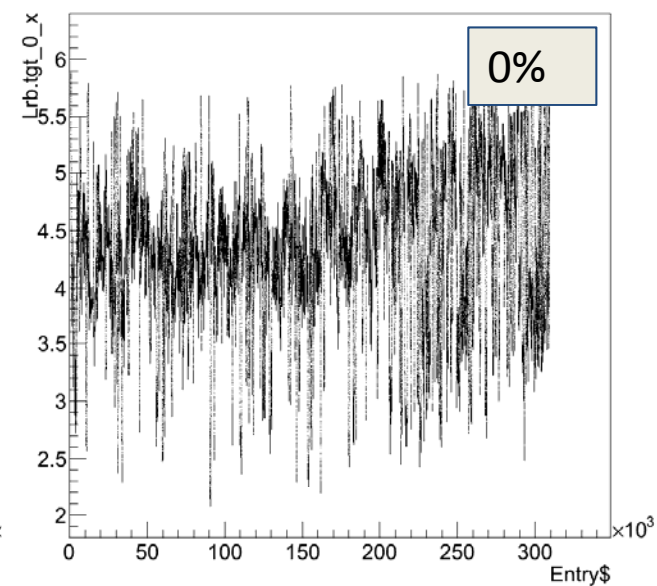
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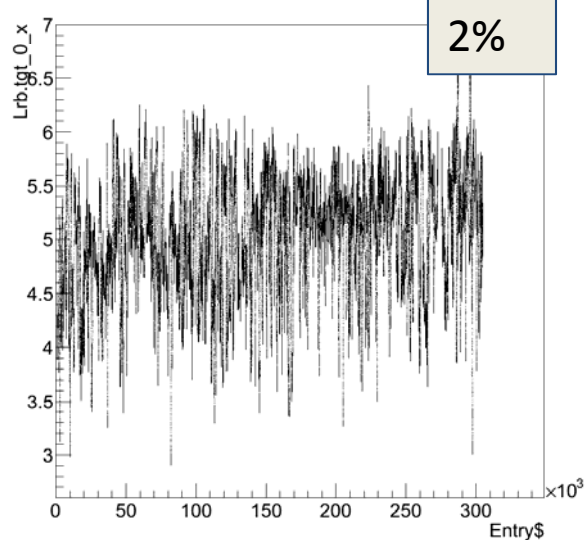
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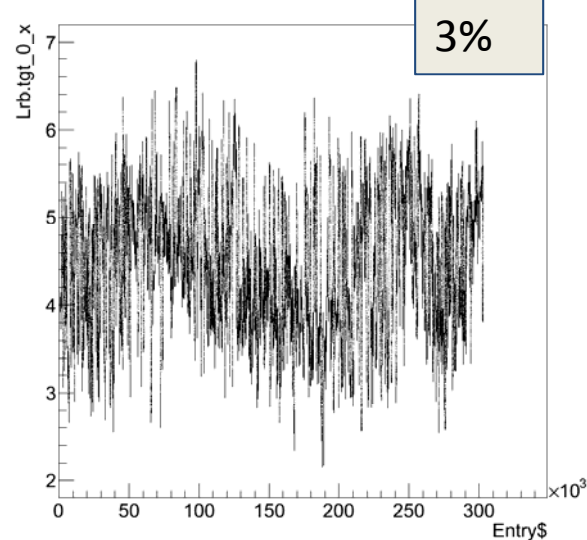
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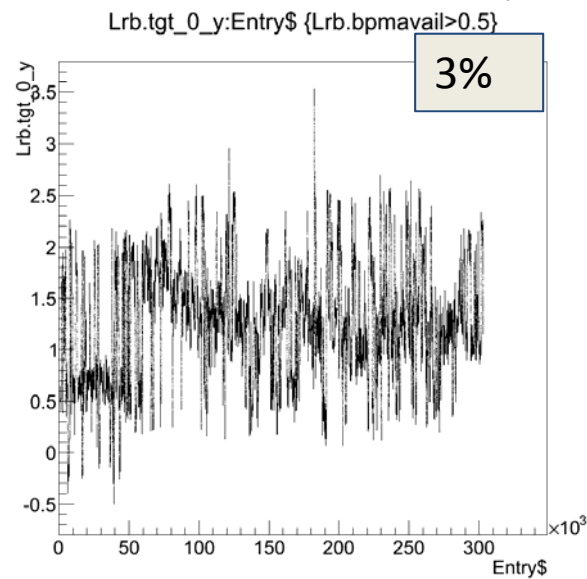
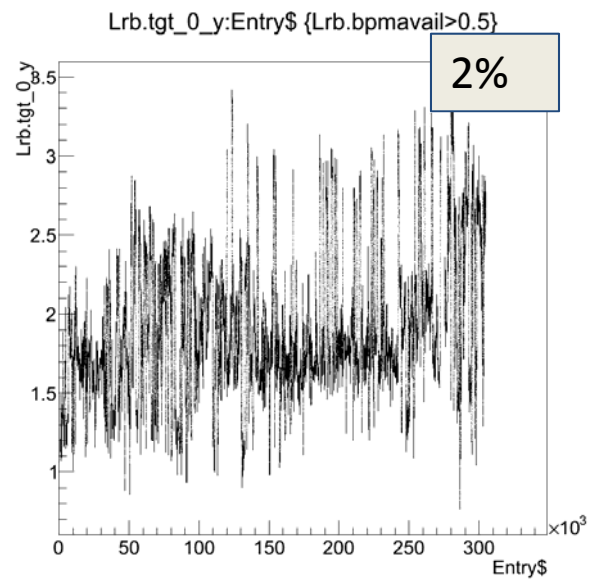
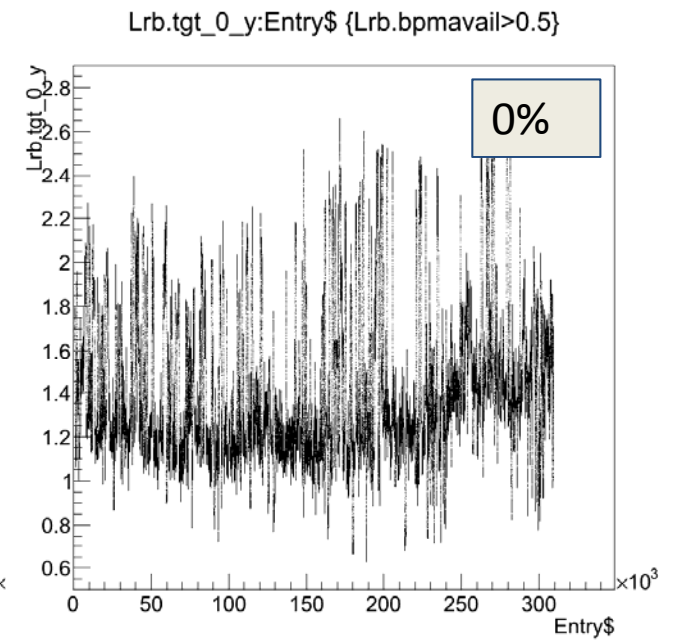
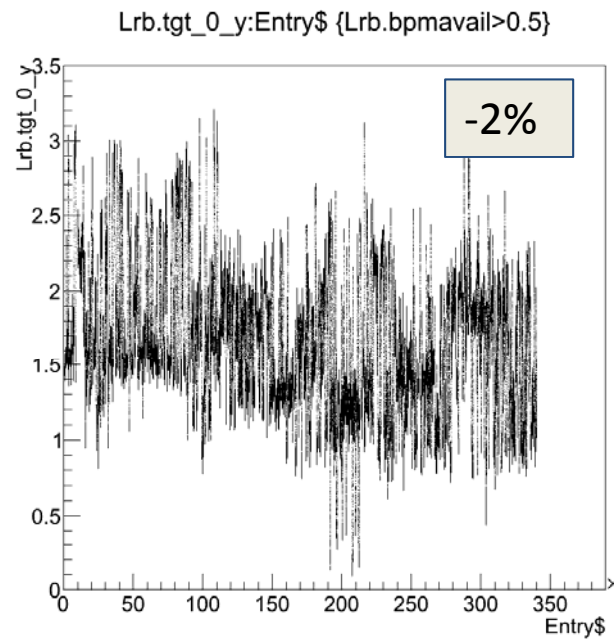
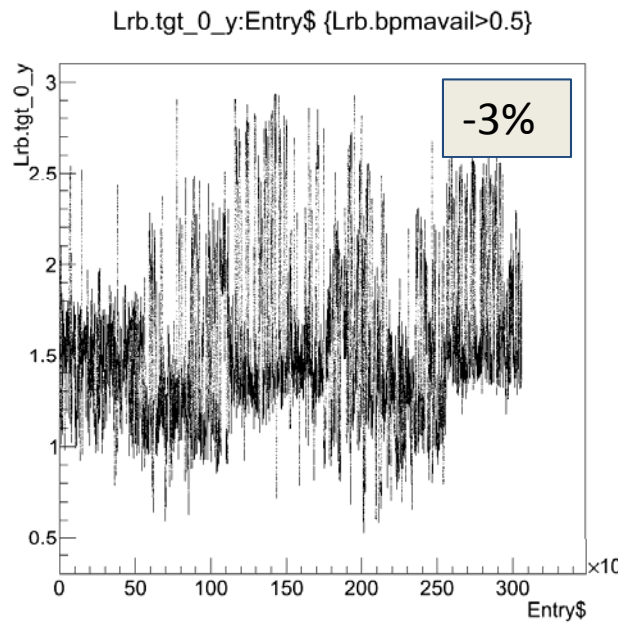
Lrb.tgt_0_x:Entry\$ {Lrb.bpmavail>0.5}



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Runs used to
do the
calibration



Runs used to
do the
calibration

Next

- Beam move cut/correction?
- Add beam x into reconstruction
- Update RHRS
- Revisit snake simulation matching
 - multi-peaks
- Any suggestion from this meeting?