

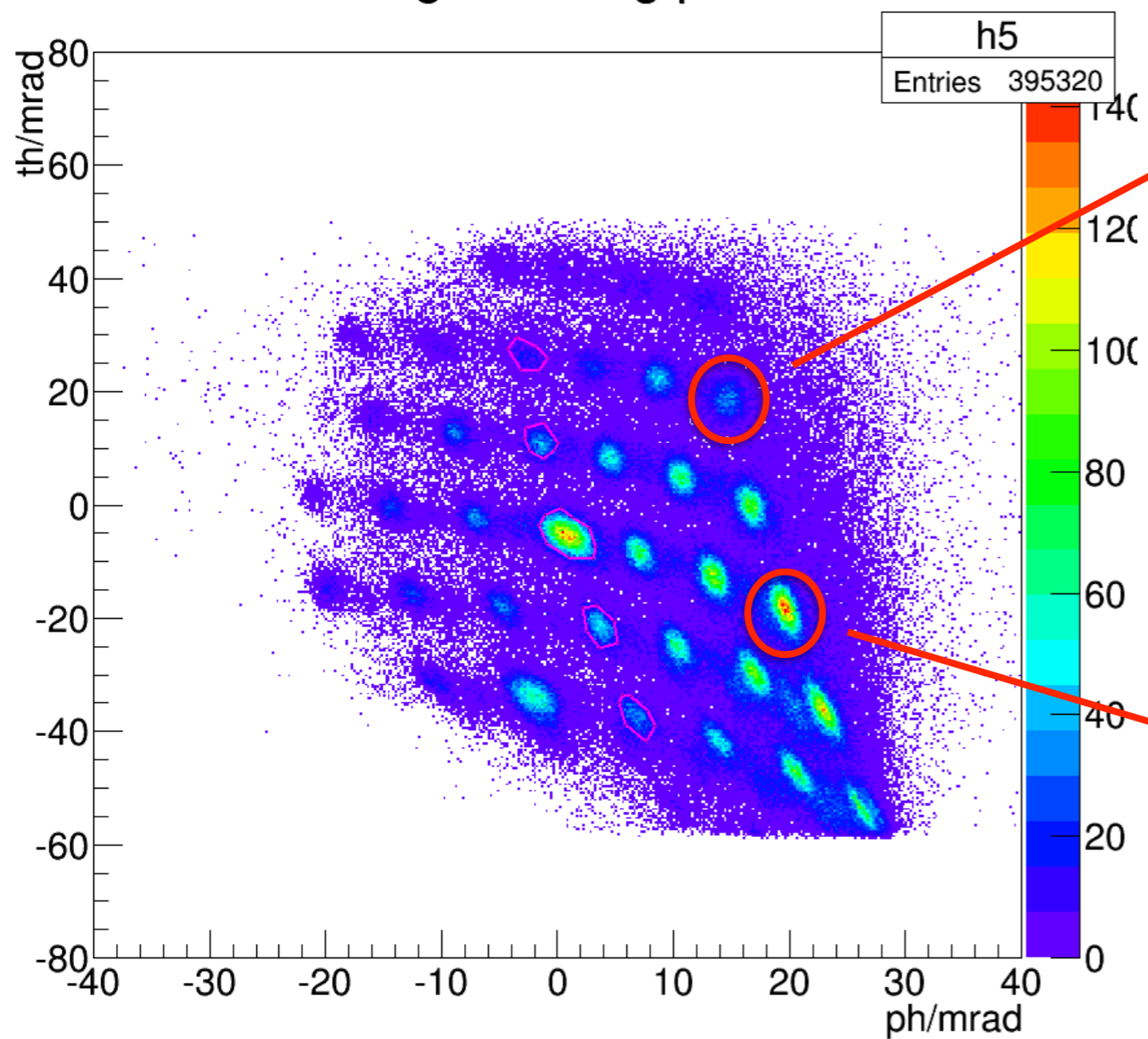
Optics Status Update

Chao Gu

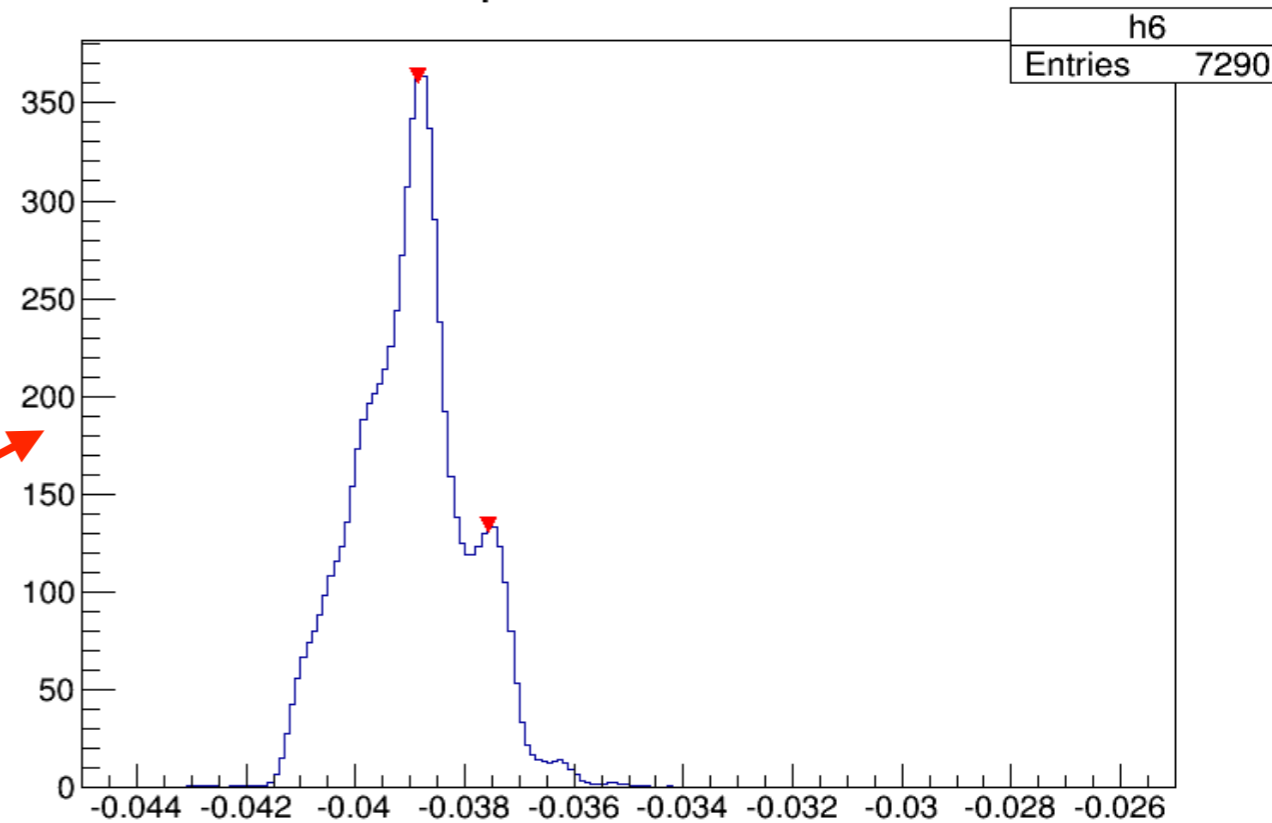
Calibration

- Test the g2psum package on right arm for the optics part (ray tracing and HRS transport functions)
- Start with 1.706 GeV, 2.5 T setting:
 - Beam energy 1.706GeV
 - 2.5T Target Field at 90deg
 - Septum coil turns is 40-00-16
- Optics data:
 - Full delta scan on right arm (-3%, 2%, 0%, 2%, 3%)
 - LHe is not fully drained in $dp=-3\%$ setting

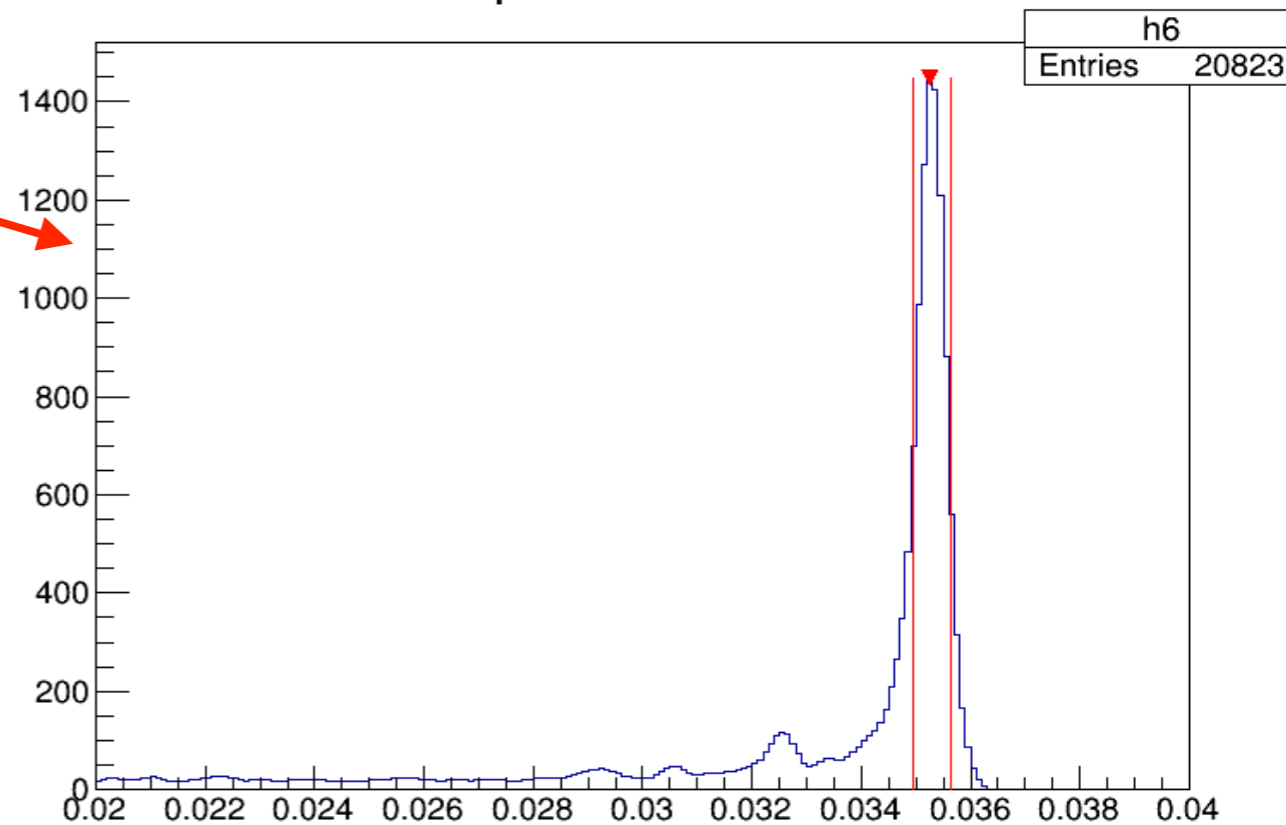
Tg th vs. Tg ph



dp in col 7 row 6



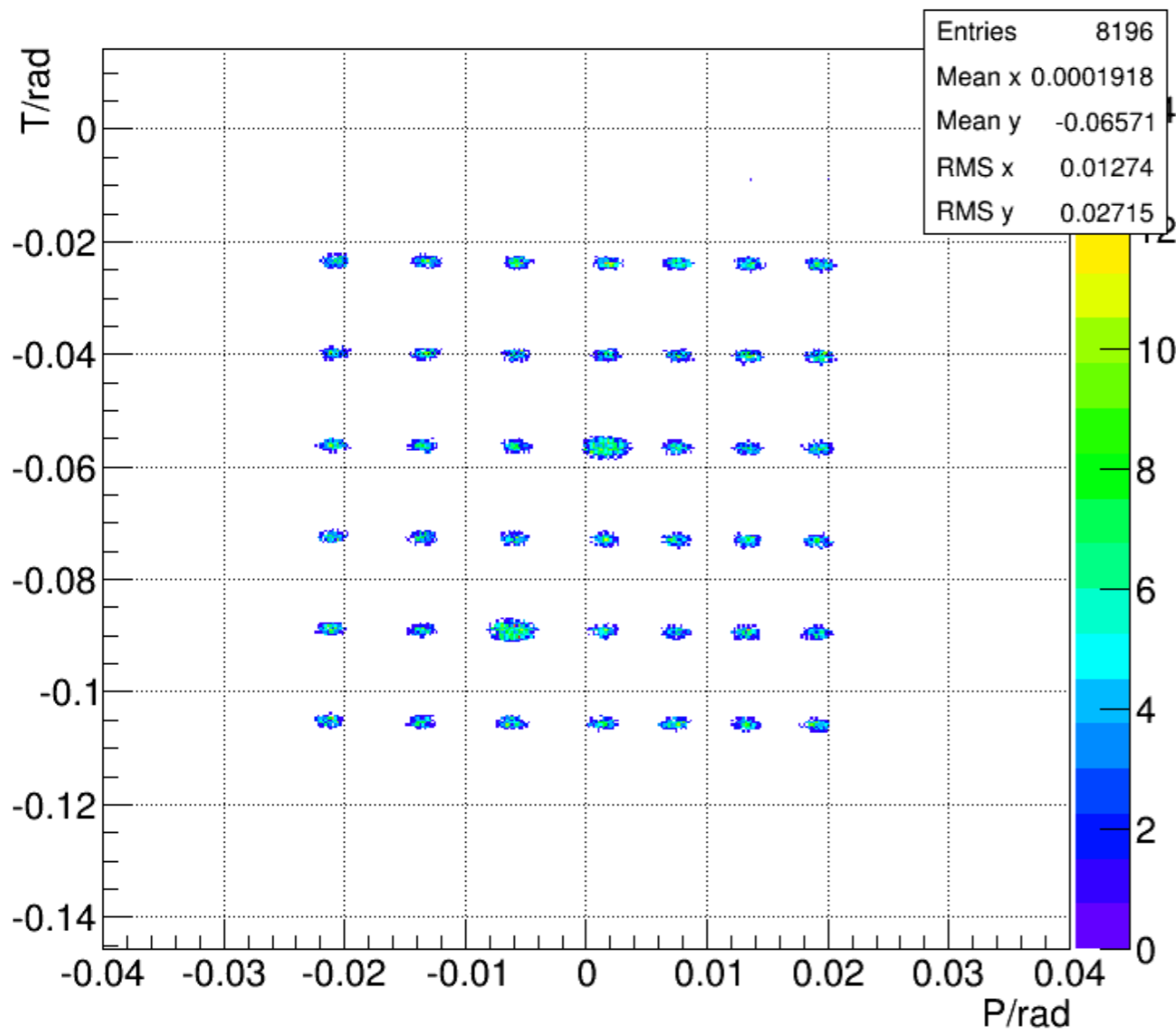
dp in col 4 row 4



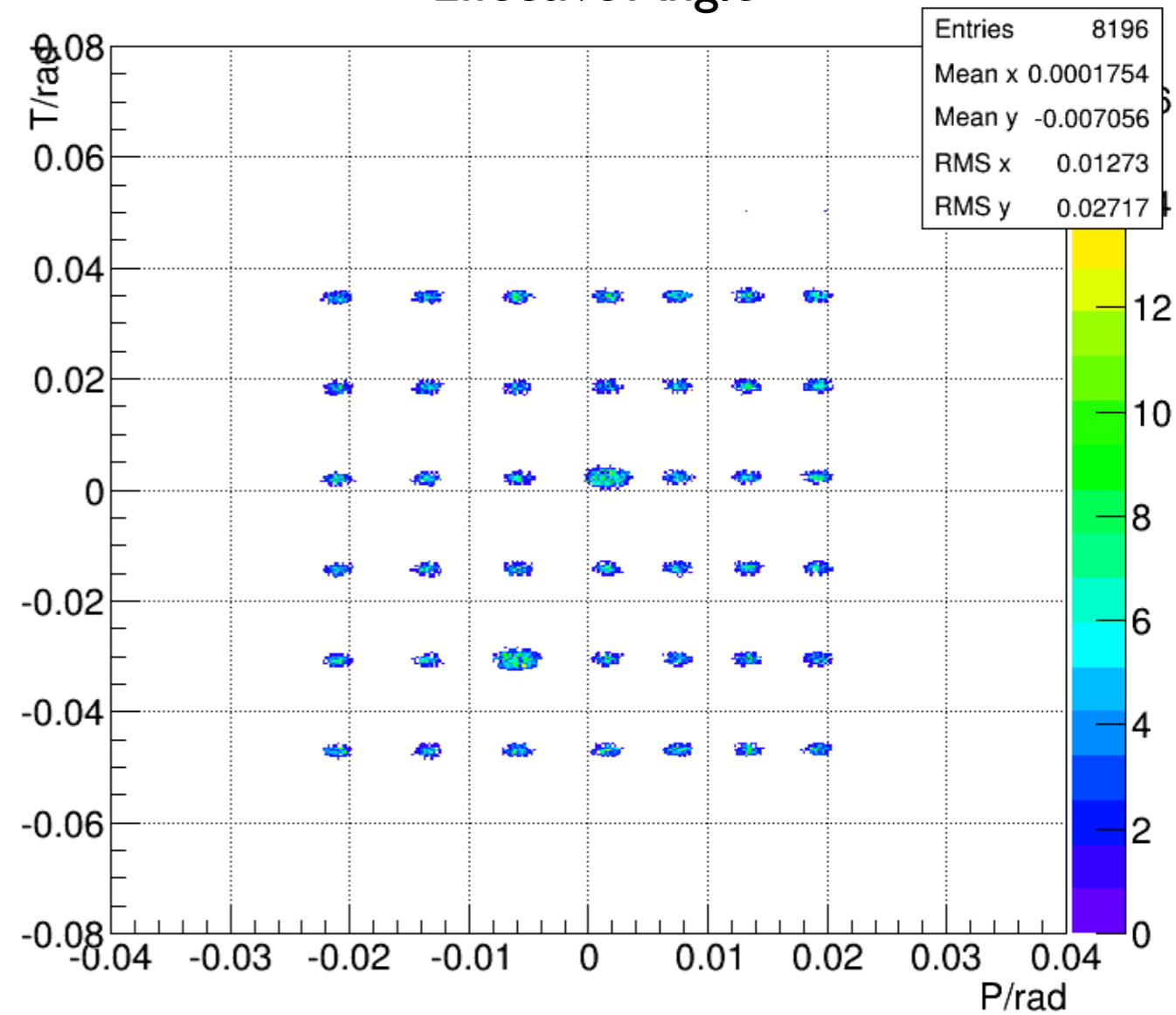
Calibration

- Simulation result to show the effect of the field
 - Assuming point beam, set to the average value of BPM readout

Init TP T vs P



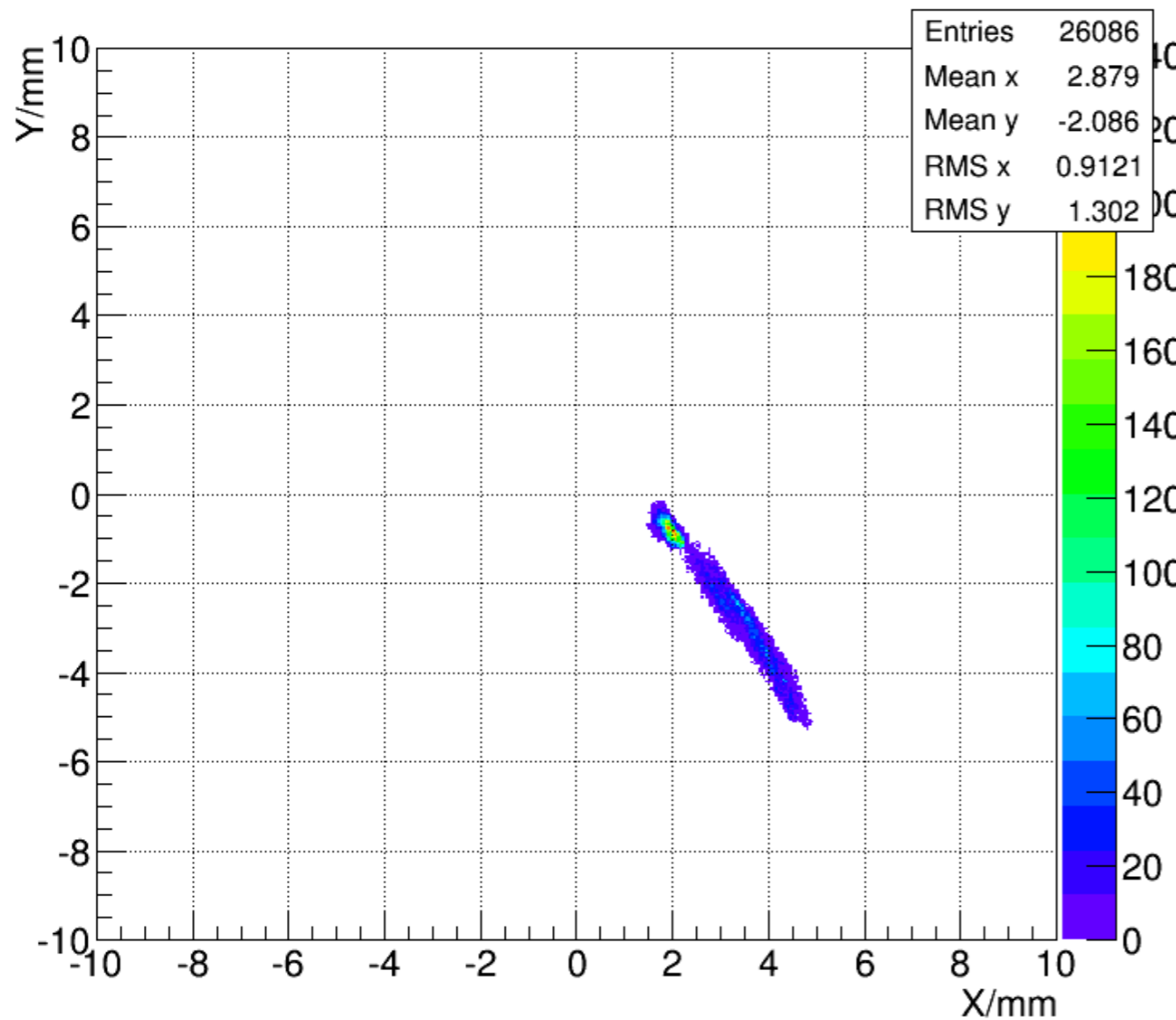
Effective Angle



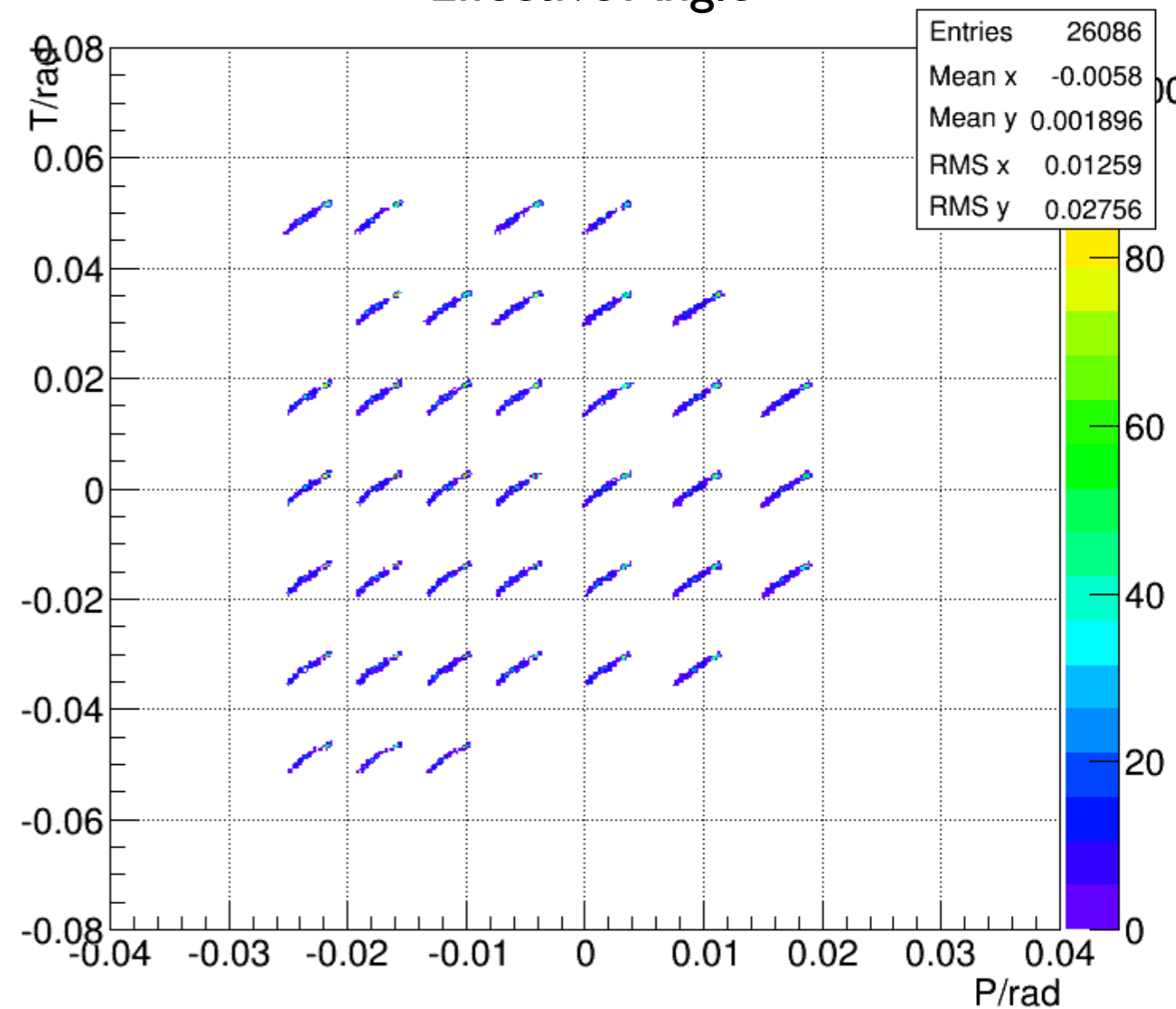
Calibration

- Use an event by event simulation to calculate the effective theta and phi angle
- Use this as the reference to do the fitting

BPM Y vs X

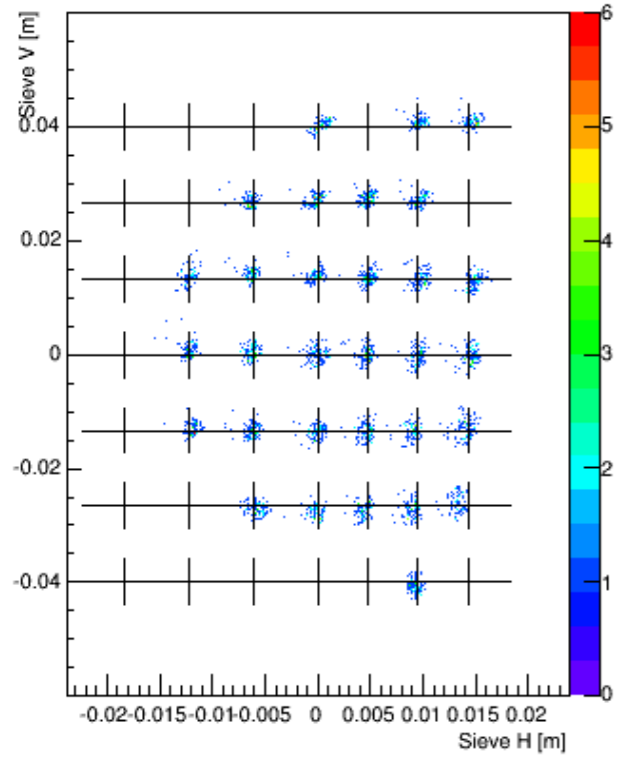


Effective Angle

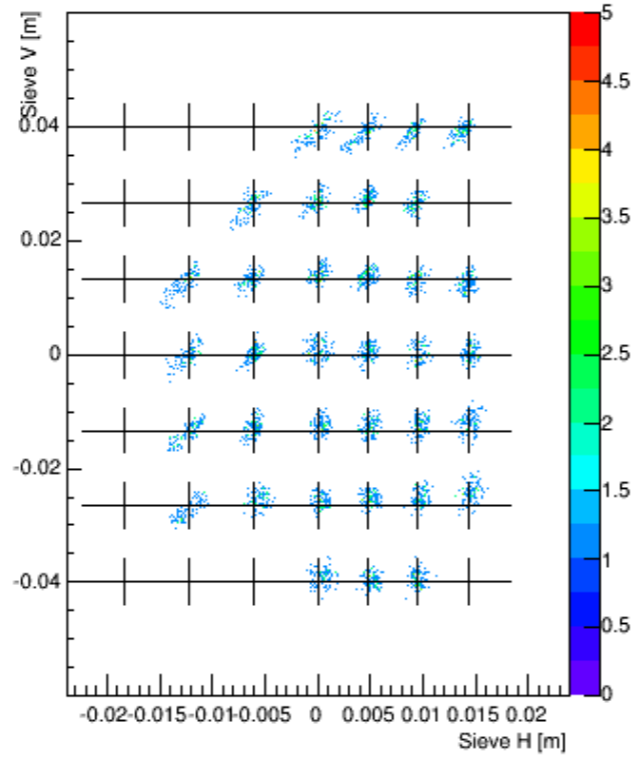


Calibration

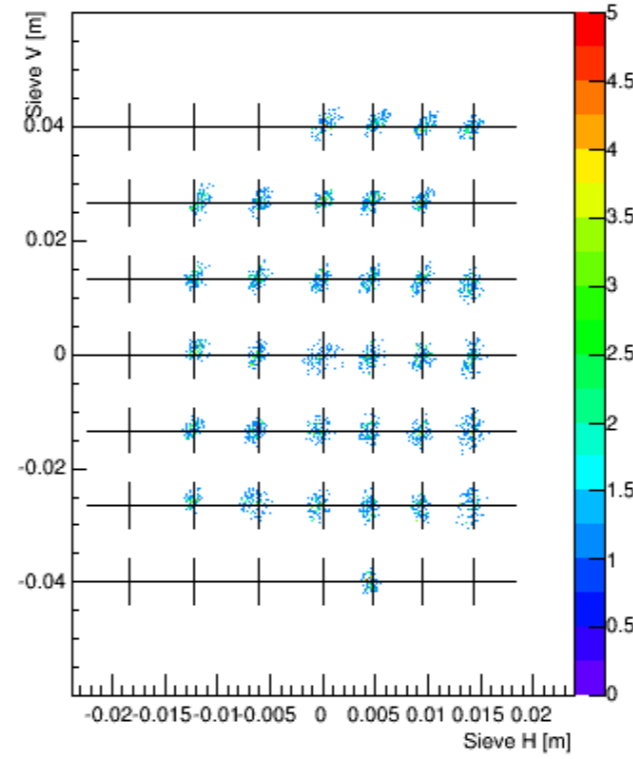
-3%



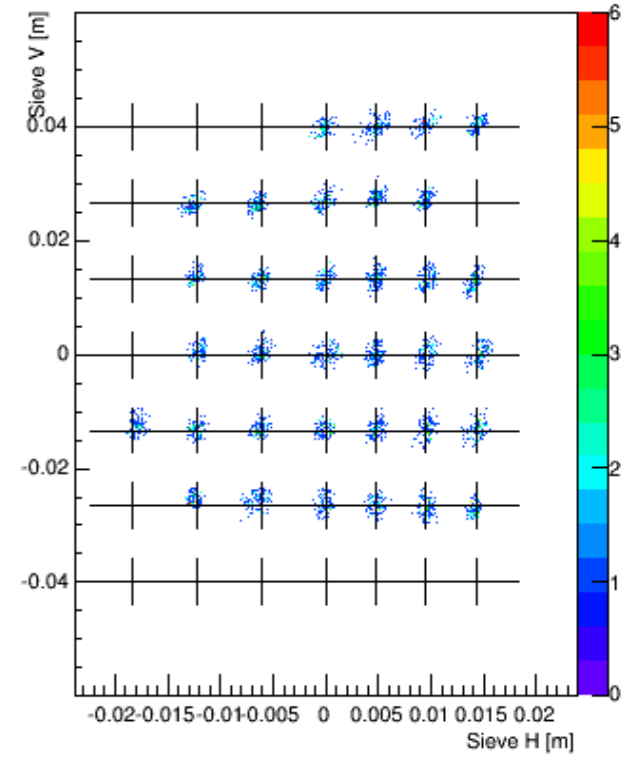
-2%



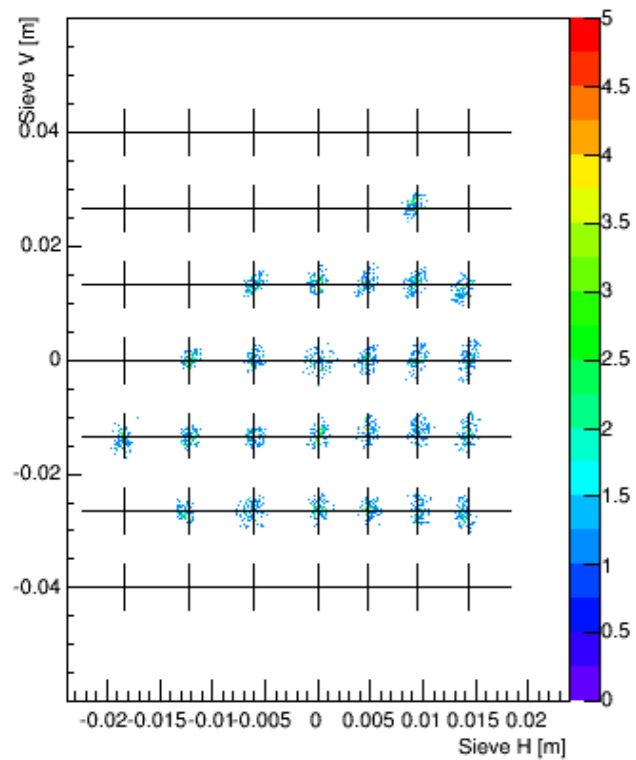
0%



2%



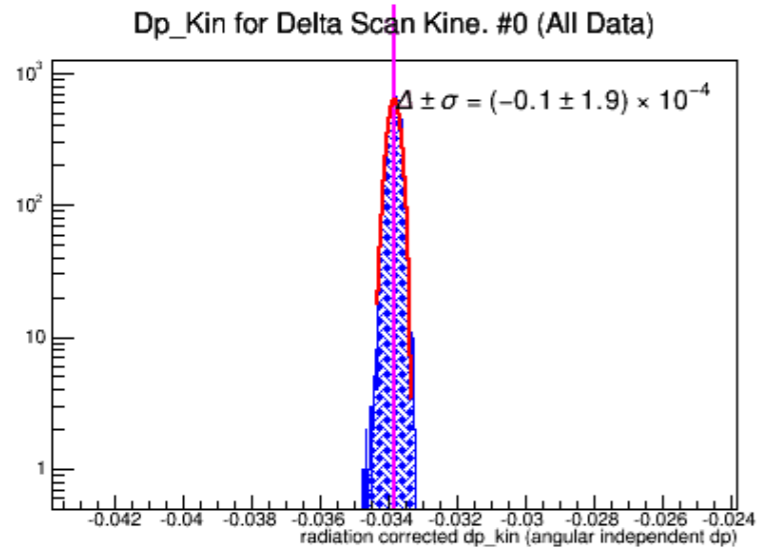
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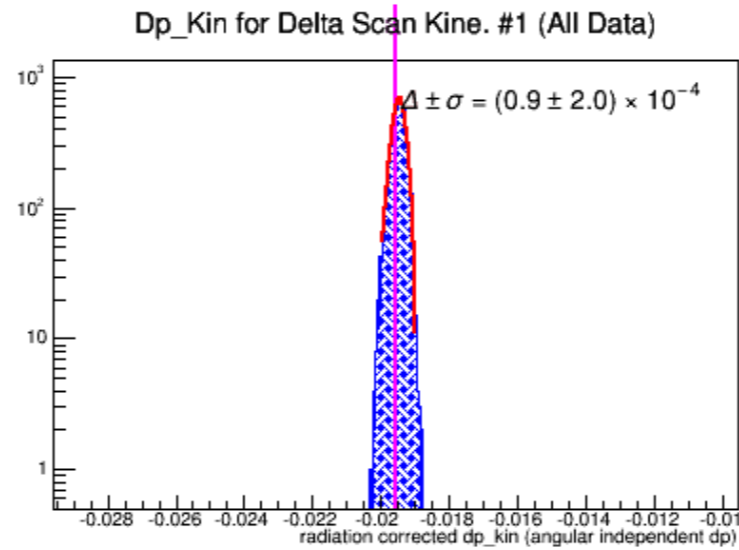
RHRS (1.706GeV, 2.5T)

Calibration

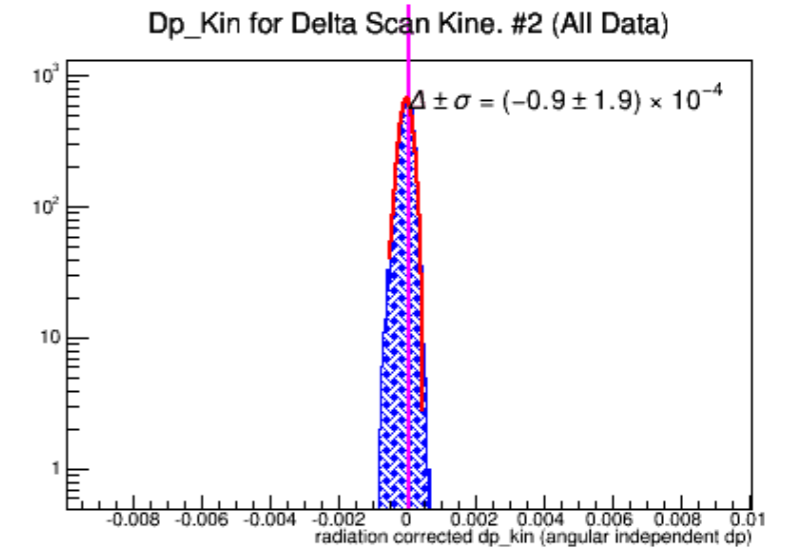
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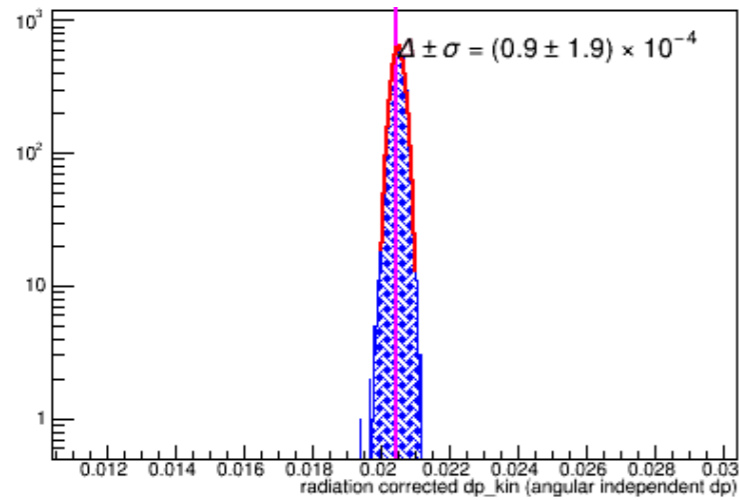
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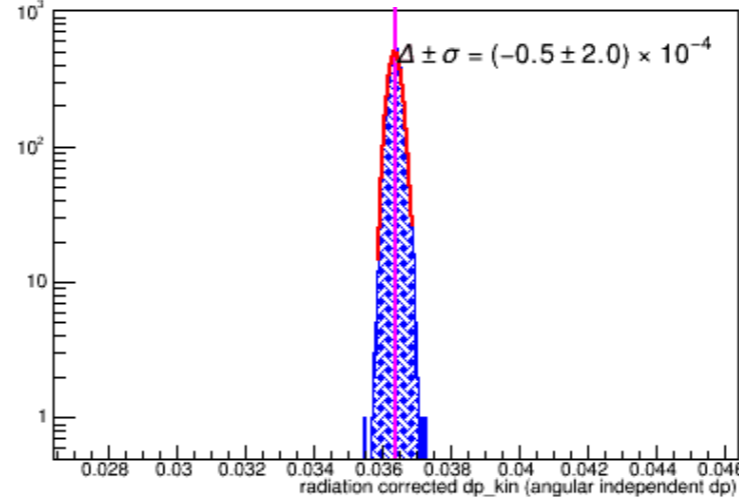
0%



2%



3%



RHRS (1.706GeV, 2.5T)

Todo

- Go on with (1.157GeV, 2.5T) and other septum settings
- Suggestions from this meeting