Optics Status Update

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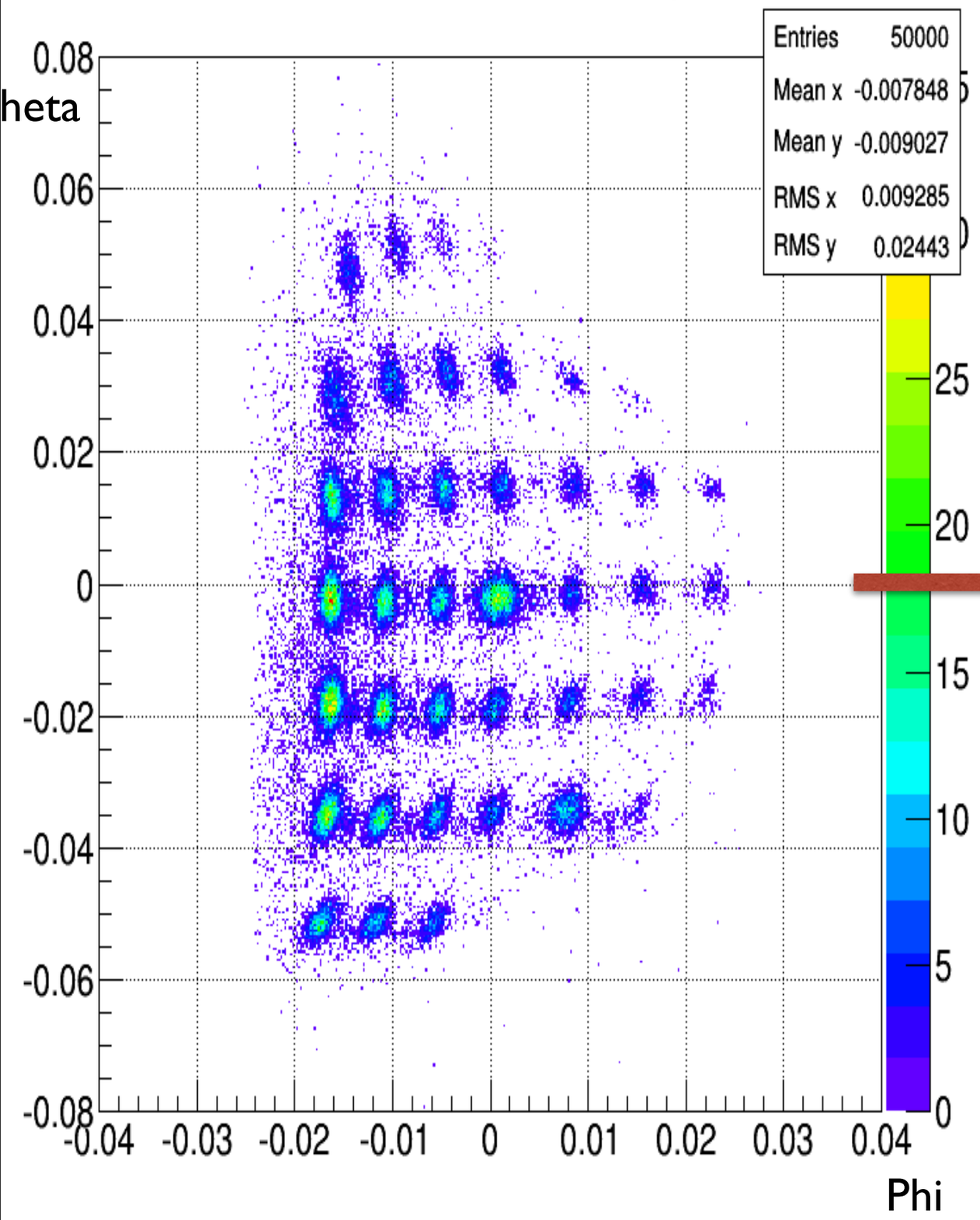
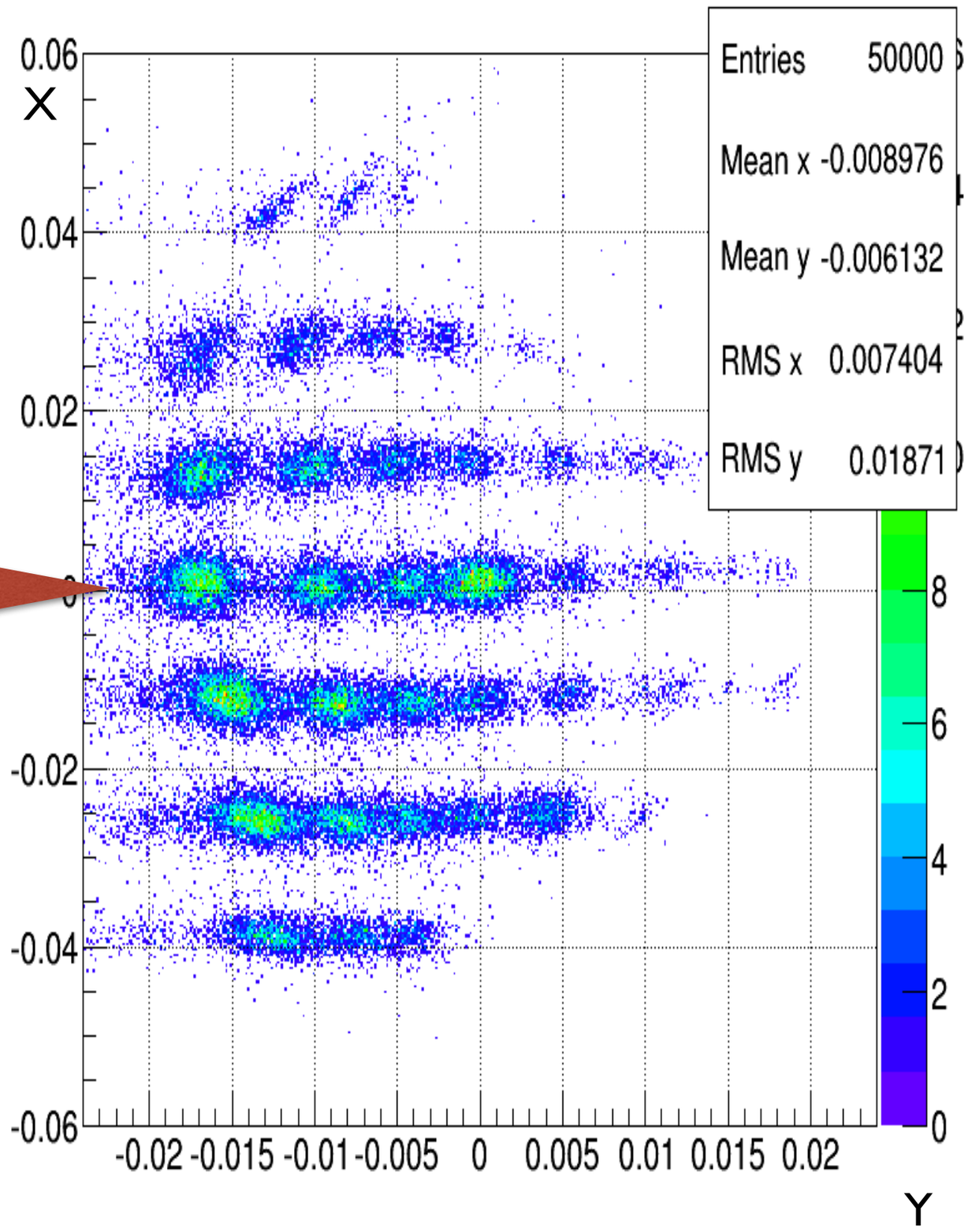
Optics Status

- With target field
- Start with the "best" setting:
  - Beam energy 2.253GeV
  - Target field 2.5T
  - 48-48-16 Septum magnet
  - dp = 0%

Matrix reconstruct to Target Plane

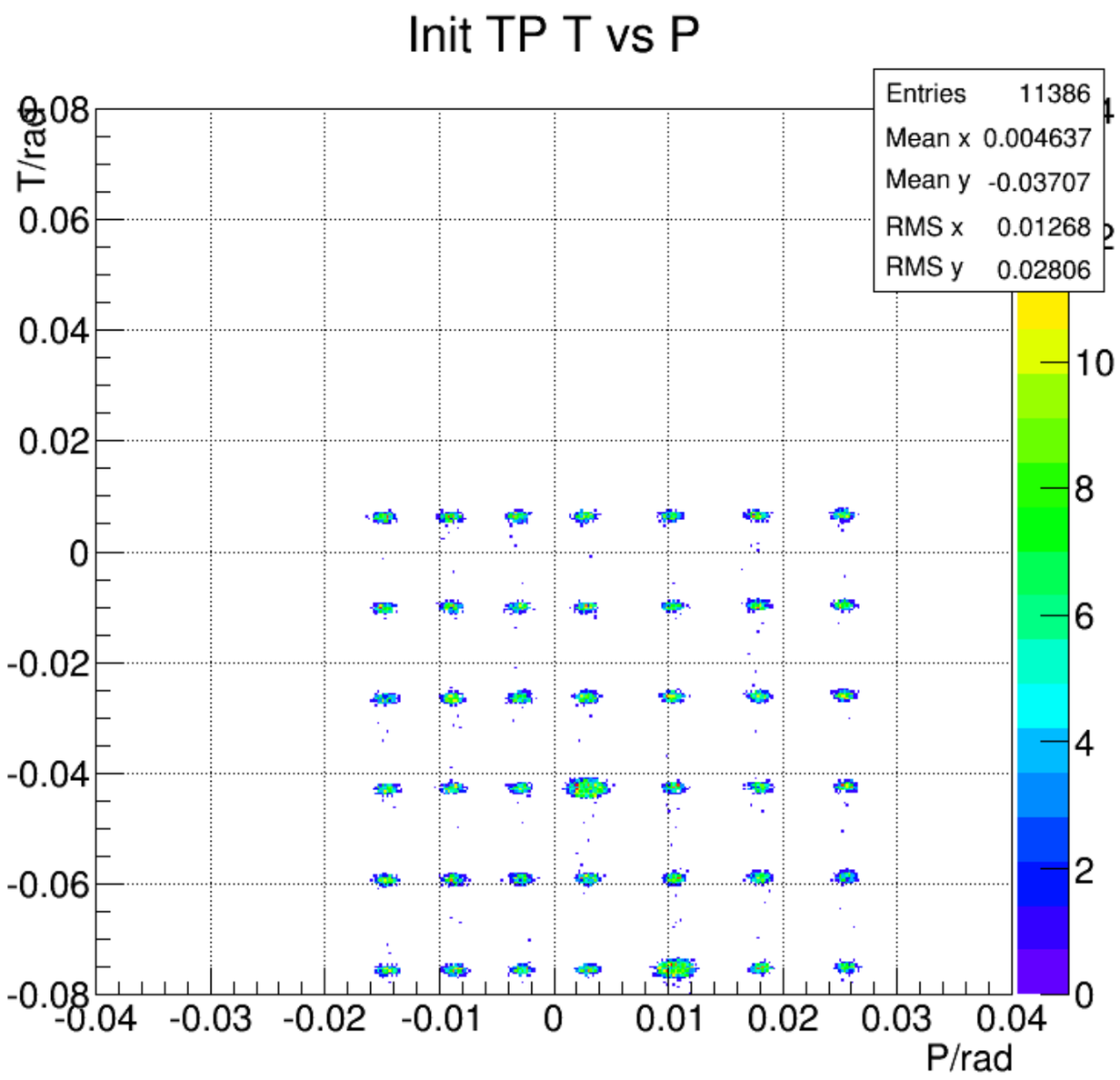


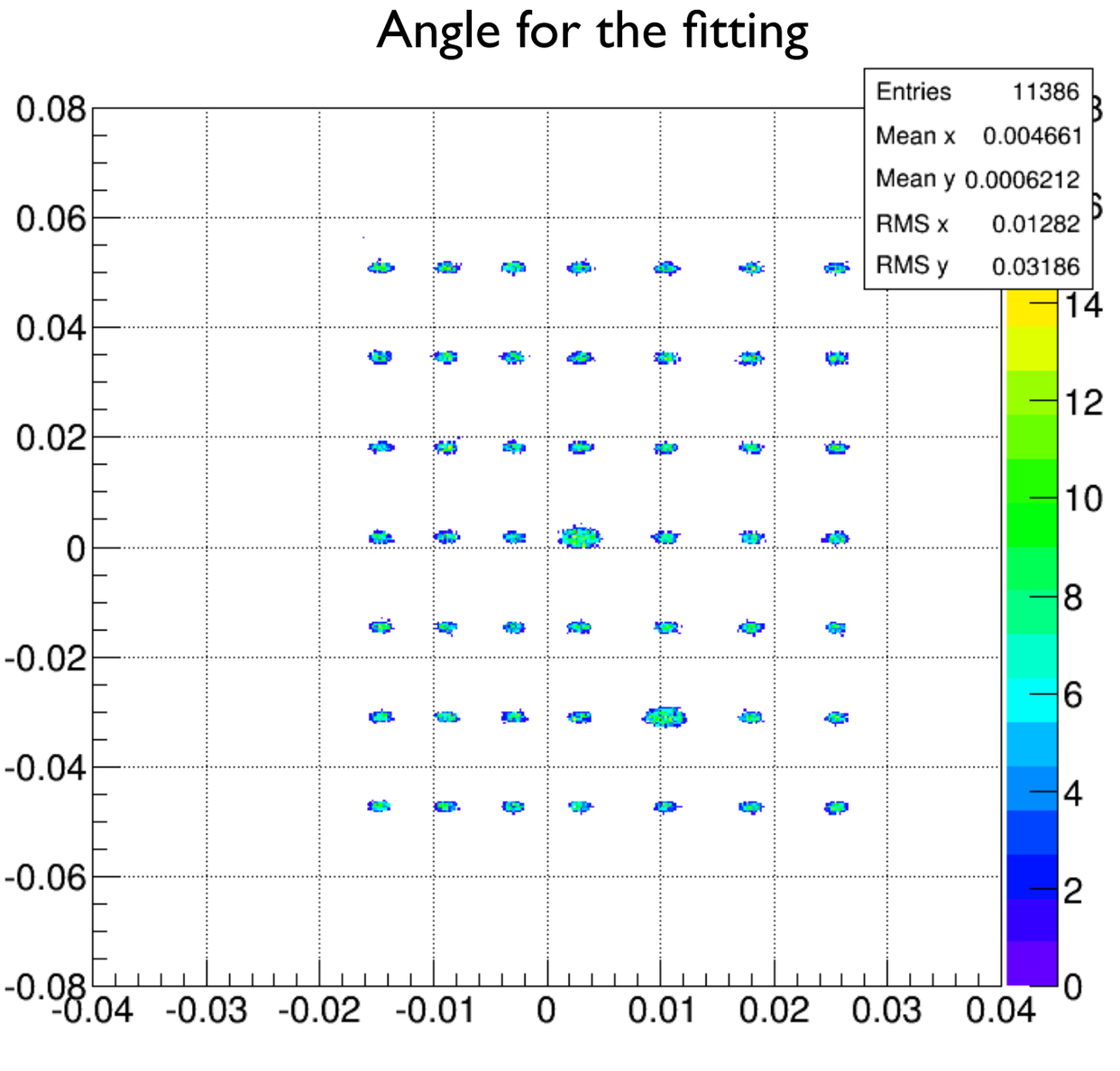
Project to Sieve Slit



Calibration

- Run simulation to decide the theta and phi used in the fitting
  - Assuming point beam, set to the average value of BPM readout

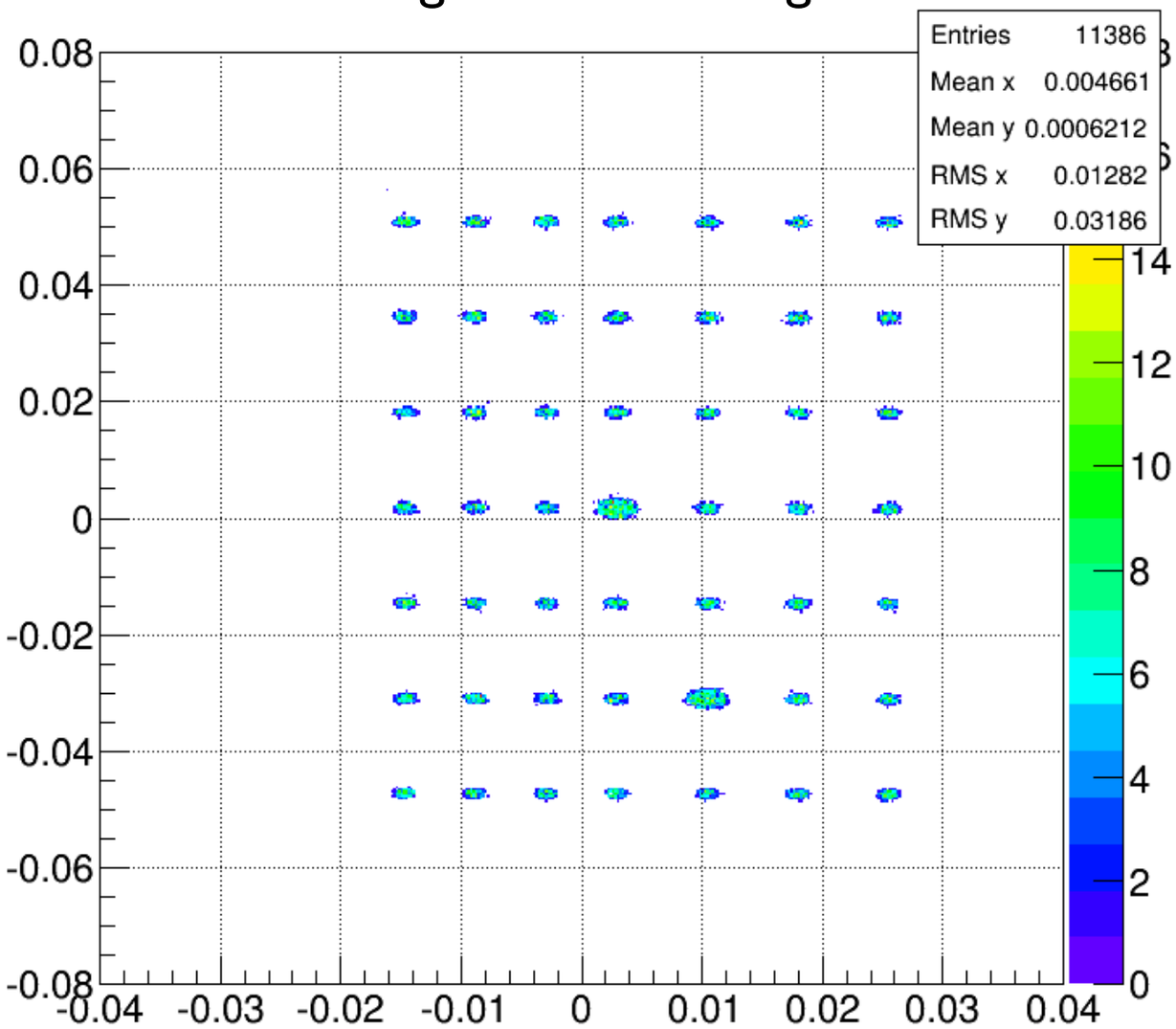




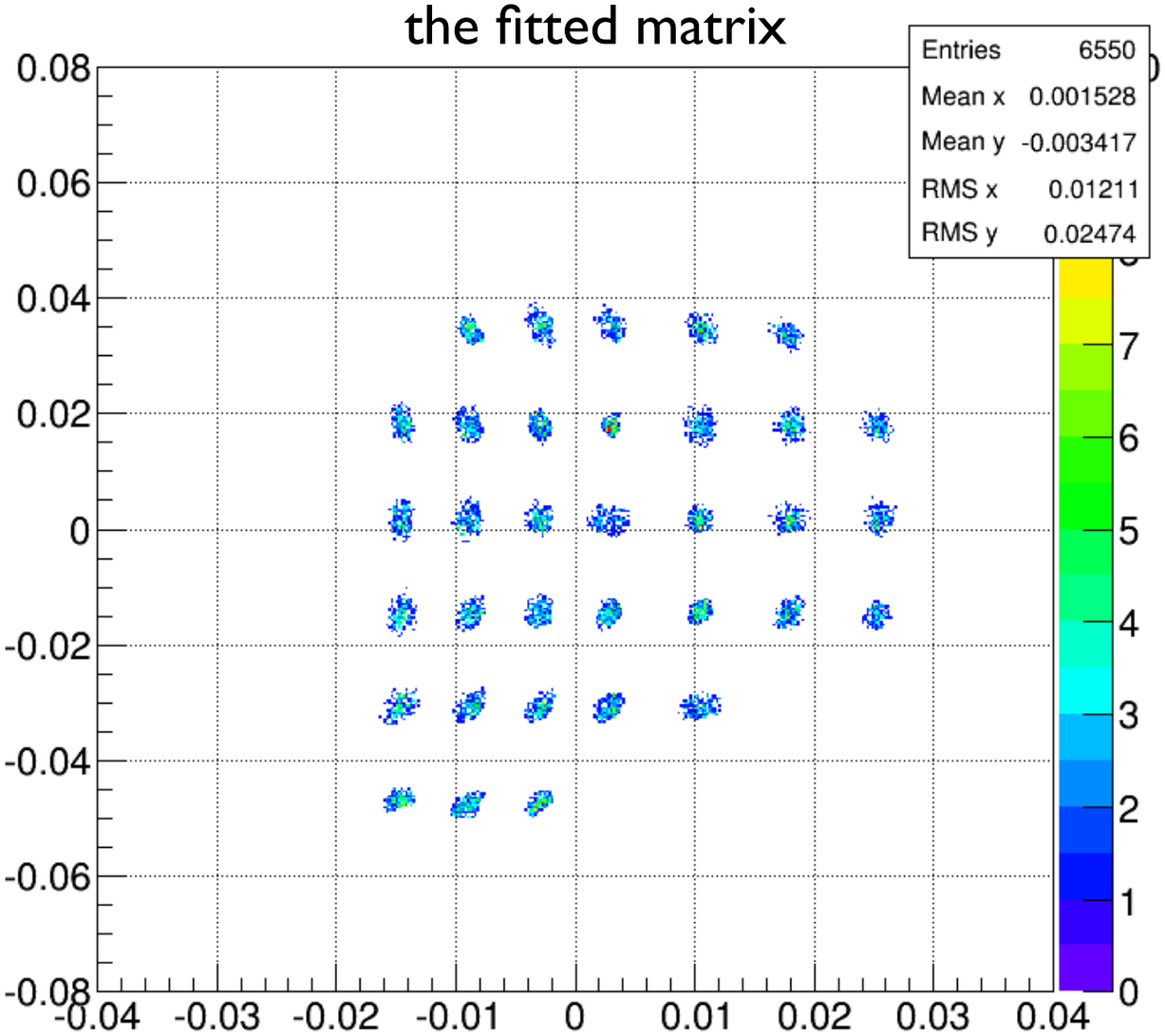
Calibration

- Original calibration package has been modified to use these value

Angle for the fitting



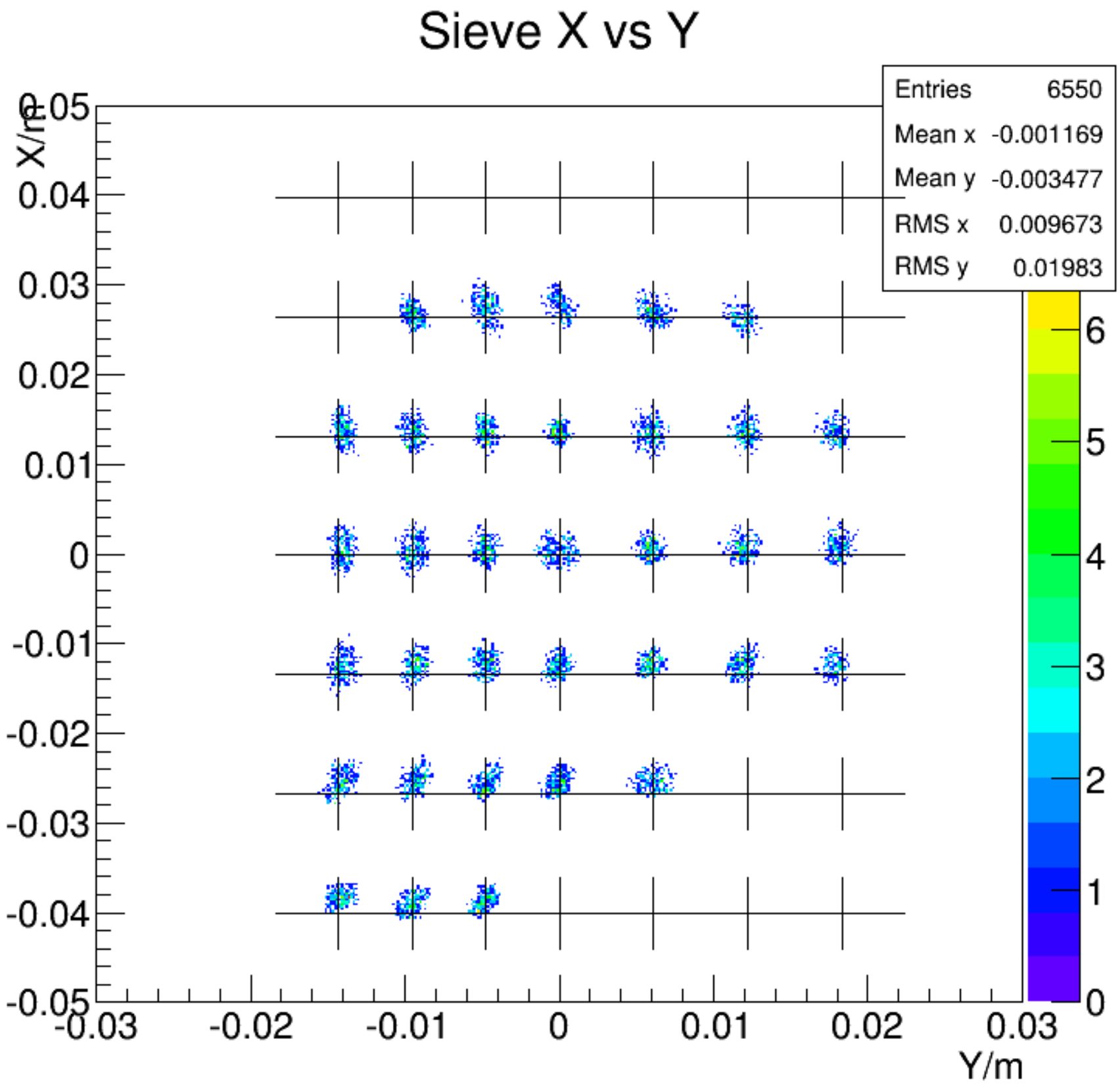
Angle calculated from the fitted matrix



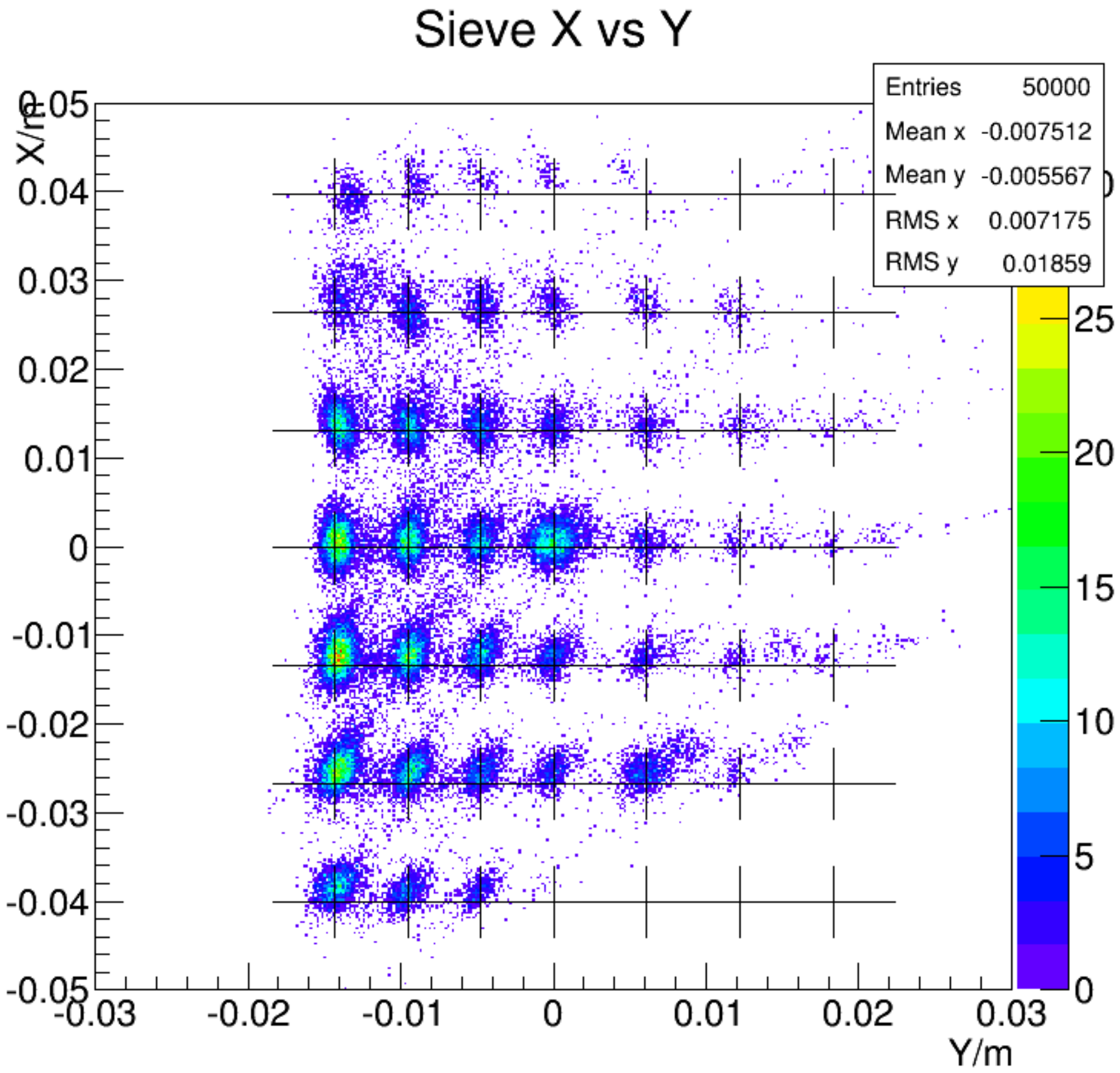
Calibration

- Reconstructed sieve pattern is decided by:
  - The beam position
  - The reconstructed angle
- Two improvement:
  - Since the target y calibration is not very good, directly use BPM readout as beam position input
  - Change the angle reconstruction matrix from the straight through version to the calibrated version

Calibration



Calibration



Optics Status

- TODO:
  - We took more beam position scan data with target field, use similar method could also calibrate y matrix