

# Target Alignment in Hall A

Luke Myers

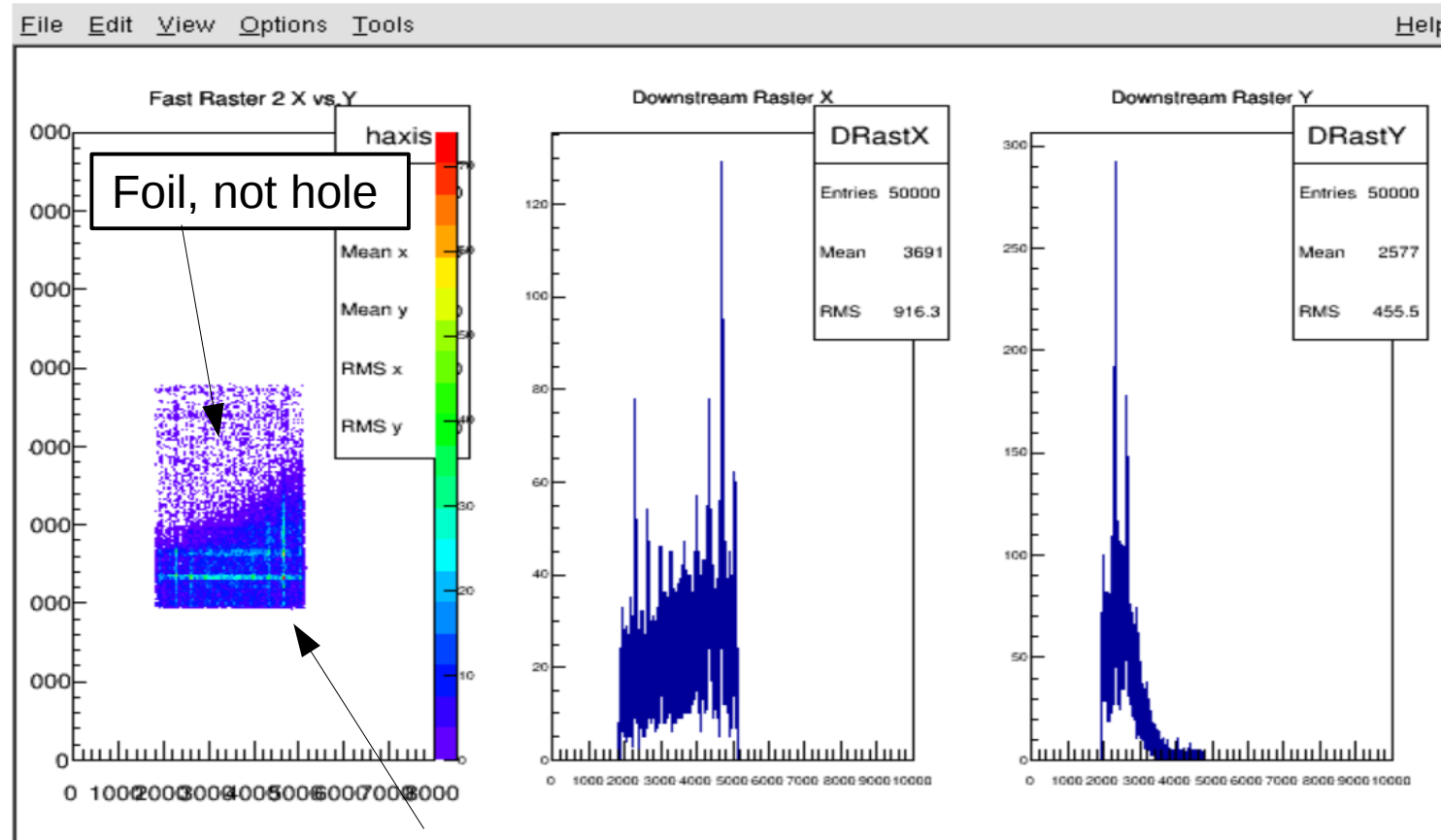
Hall A Meeting

April 28, 2015

# Beam centering with C-hole on 3/14

Beam at +2 vertically in bmps

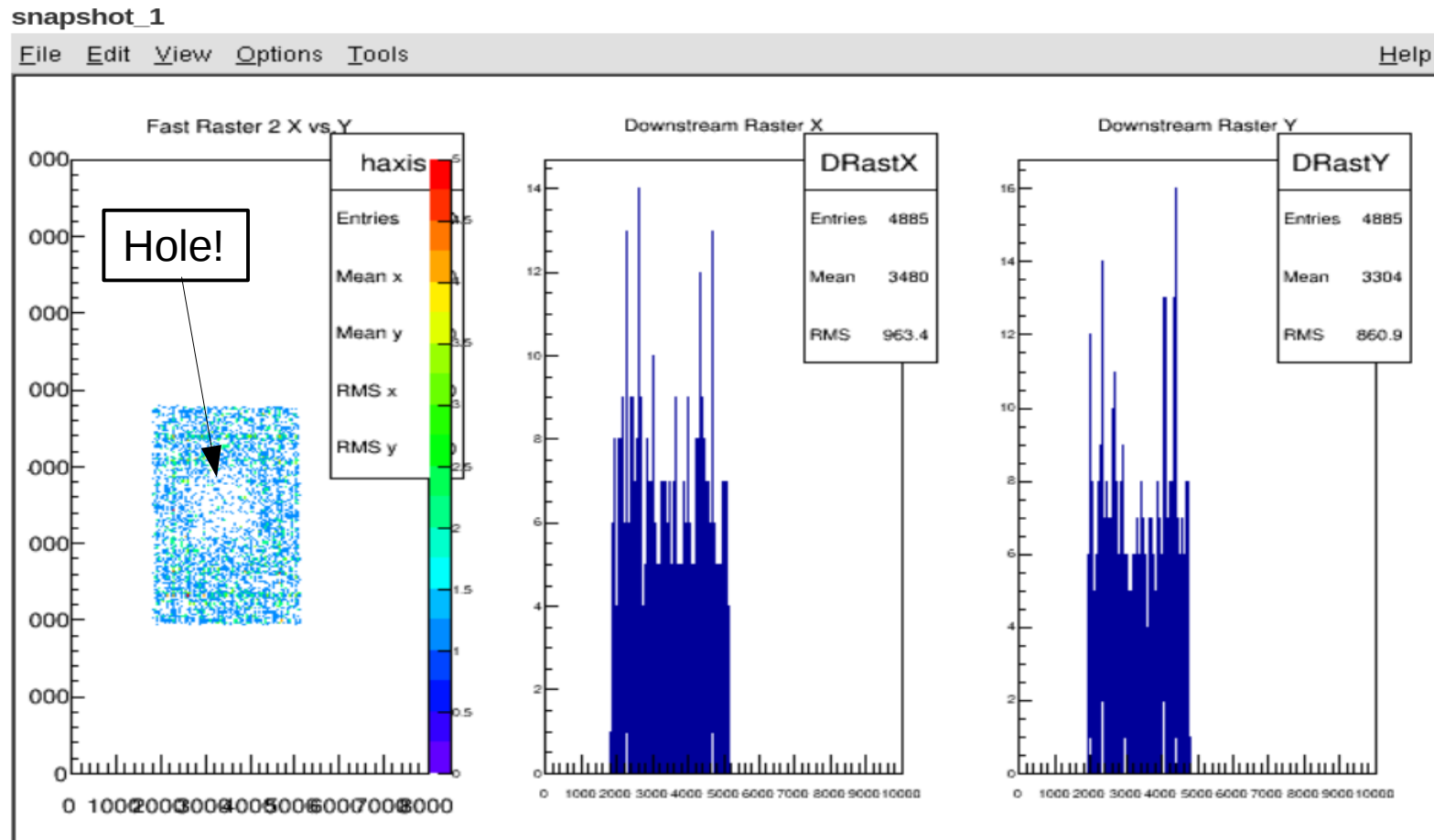
snapshot\_1



Frame

# Beam centering with C-hole on 3/14

Now centered!  
Target lowered by 6.5 mm

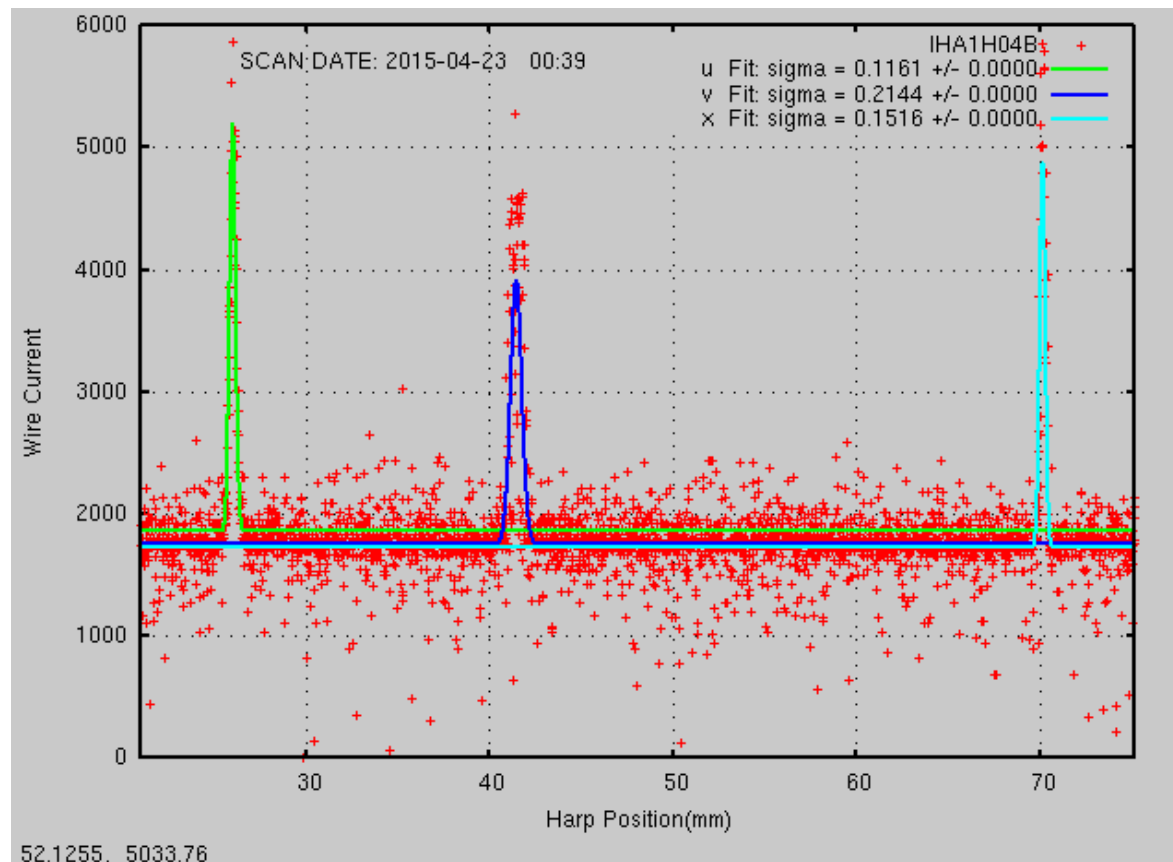


# Possible Origin of Offset

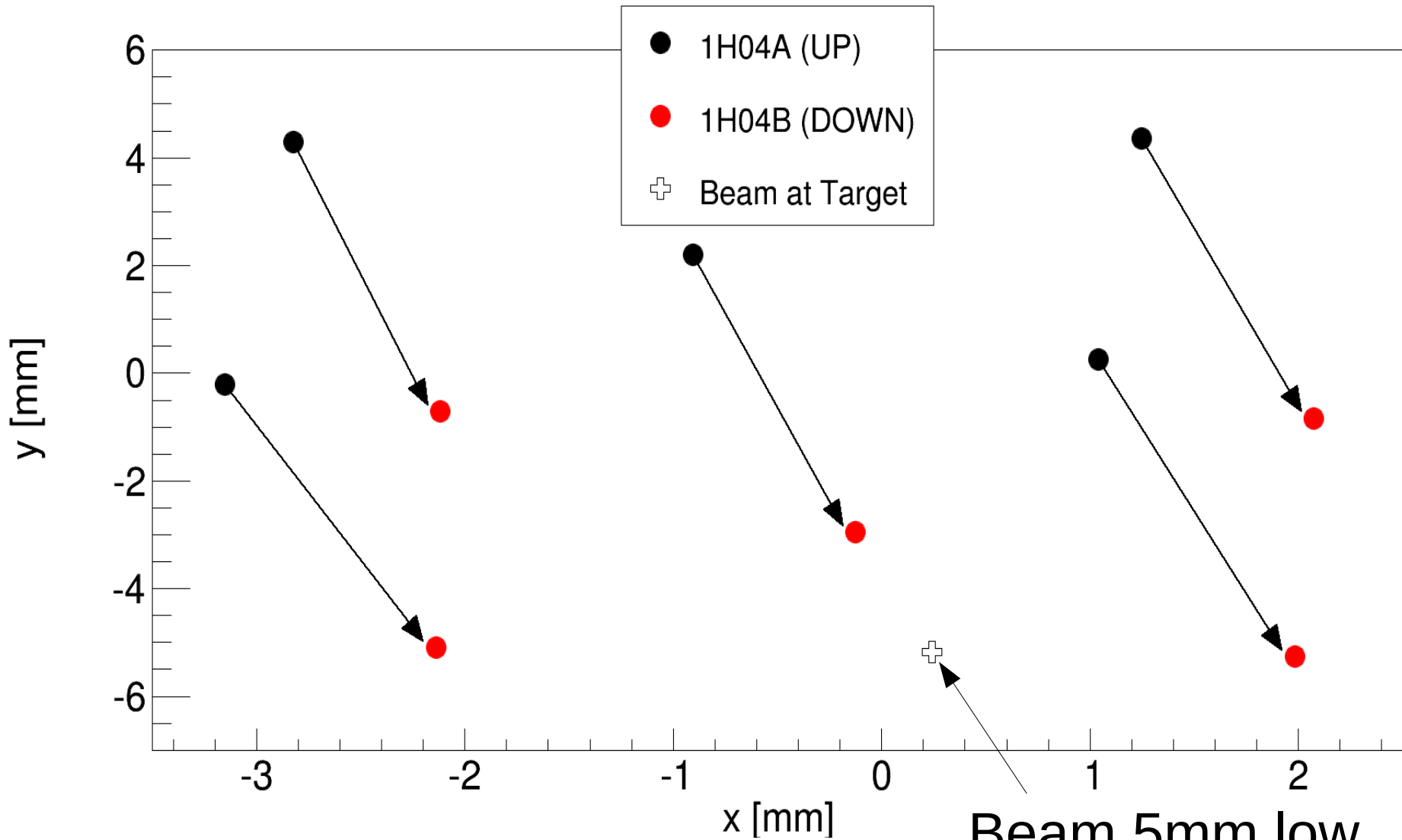
- Target misaligned
  - Two surveys agree that target is centered
- Hall and Accelerator coordinates misaligned
- Cryo cooling moves target
  - Seems unlikely to account for 6mm
- We don't know where the beam is going
  - w/o Harps, this is possible

# Harp Scans from 4/24

- Harps finally working
  - Bulls-eye scans, i.e.  $(0,0)$  and  $(\pm 2, \pm 2)$
  - Absolute calibration of beam position

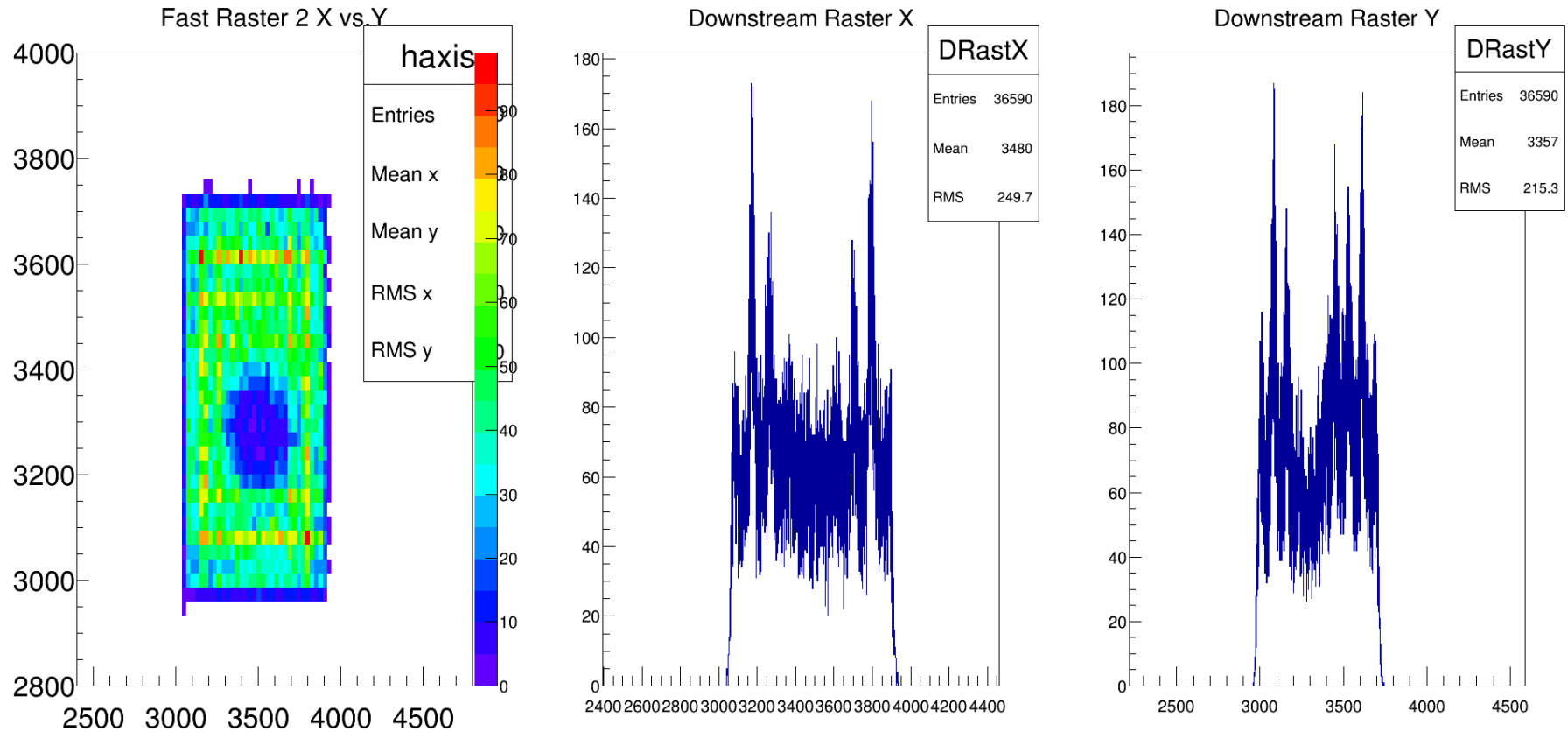


# Harp Scans from 4/24



Beam 5mm low  
But so is target!

# C-hole Target with Raster On

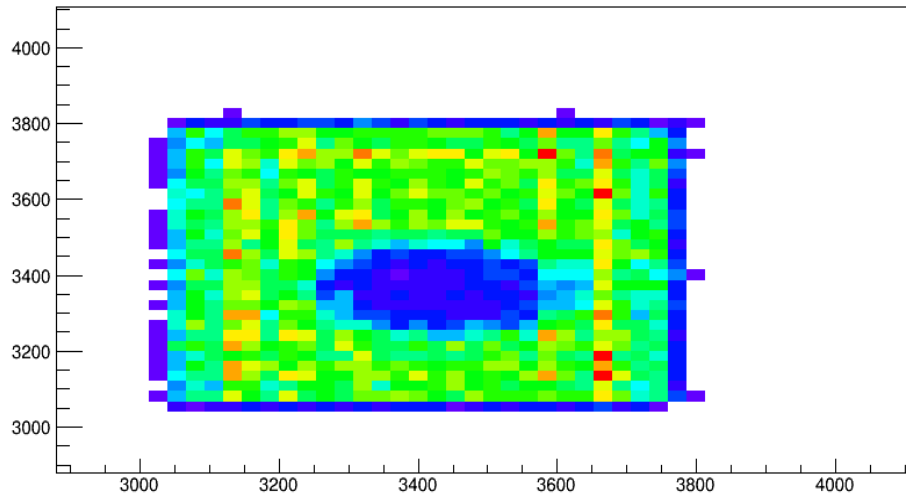


- Beam is centered on the target!
- **Beam and target positions agree!!**

# Effect of Cool Down (last night)

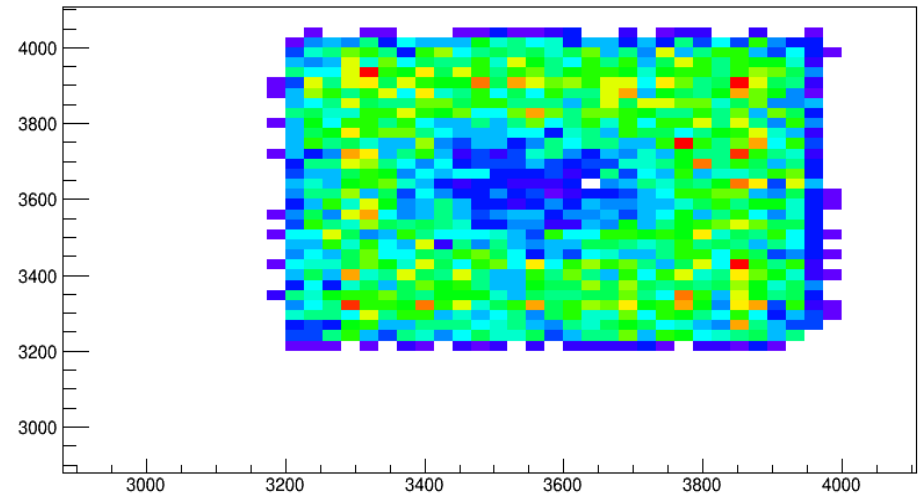
## Before

Fast Raster 1 X vs Y (current)

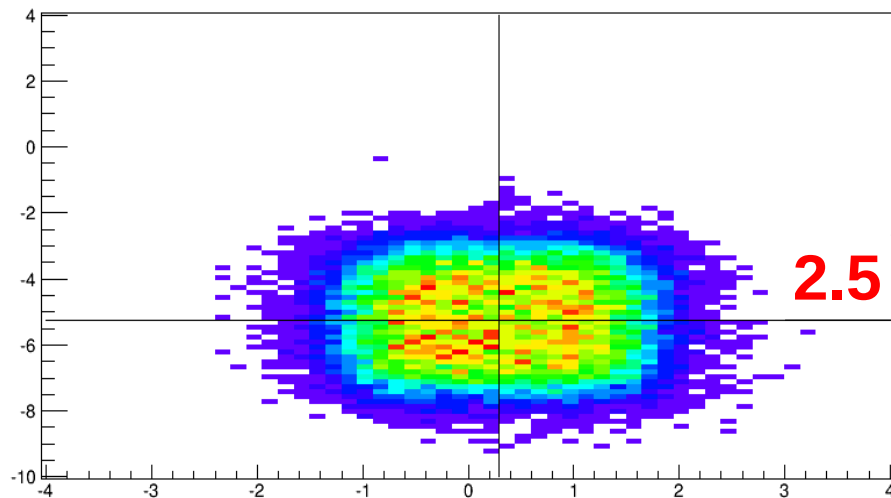


## After

Fast Raster 1 X vs Y (current)

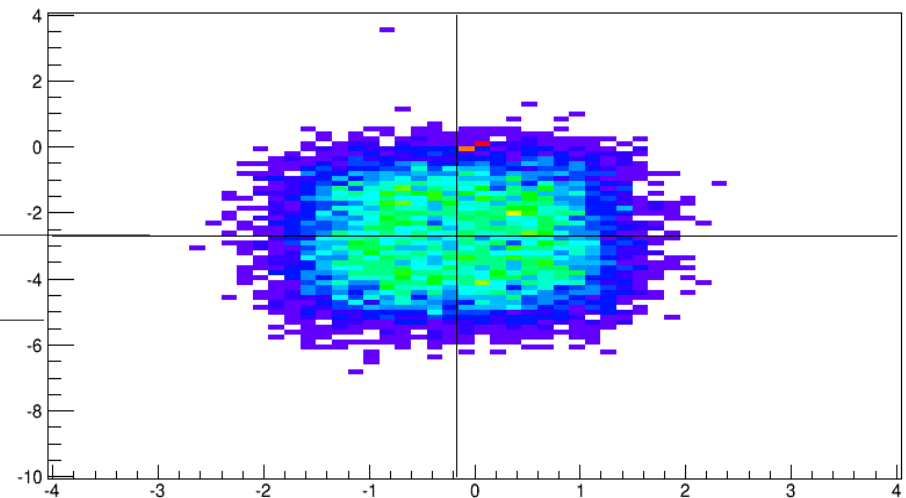


beam at target y vs x



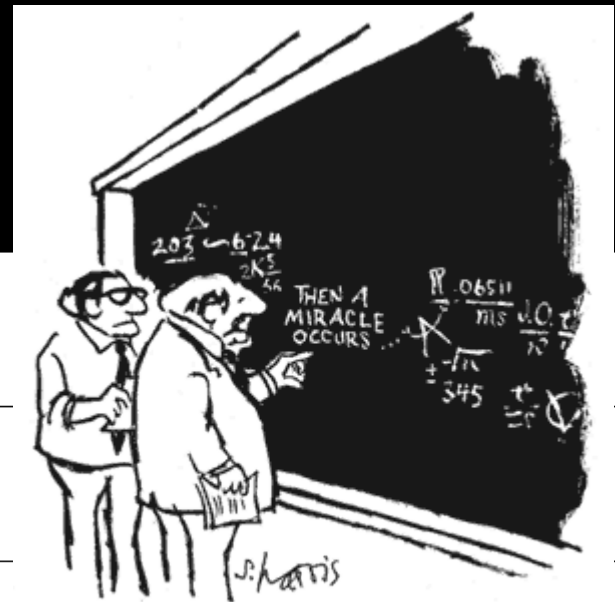
2.5 mm

beam at target y vs x





SUN	MON	TUES	WED	THUR	FRI	SAT
Mar 15 <b>Offset</b>	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21
Mar 22	Mar 23	Mar 24	Mar 25	Mar 26	Mar 27	Mar 28
Mar 29	<h1 style="color: yellow;">“The Event”</h1>					Apr 04
Apr 05						Apr 11
Apr 12						
Apr 19	Apr 20	Apr 21	Apr 22	Apr 23		
Apr 26	Apr 27	Apr 28 <b>Agree</b>				



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

# Summary

- Absolute beam position, agrees w/ target
- Some movement during cool down
- Offset in March likely from multiple factors
- spot++ BPM calibration is complete
- More
  - Quad center the beam (Yves ATLis)
  - EPICS BPM calibration

# BPM from March (using April calibrations)

