

Optics Calibration Update

Min Huang

3/26/2014

Optics Status

- LHRS Optics Status:

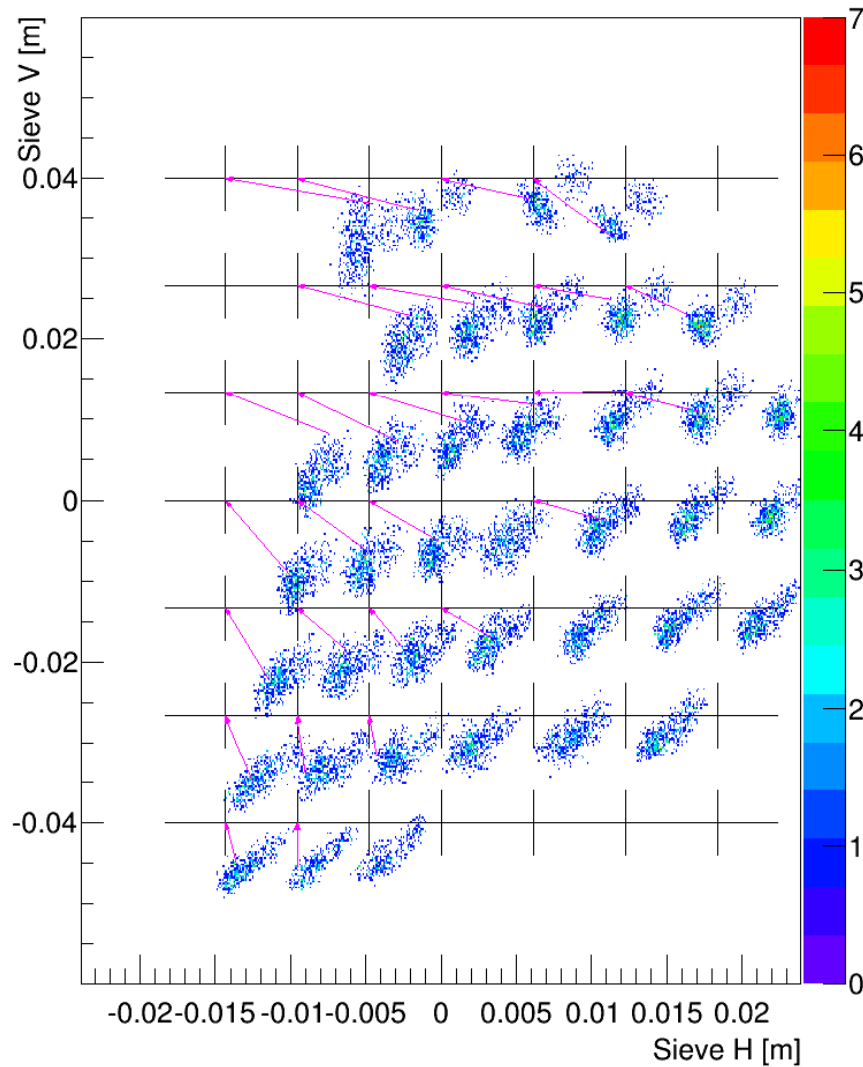
Beam Energy (GeV)	Field (T)	Field Angle (deg)	Septum	Backup
2.253	0.0	90	484816	Straight through
2.253	0.0	6	484816	Straight through
2.253	5.0	0	400016	Straight through
2.253	2.5	90	484816	
2.253	2.5	90	483216	
→ 1.706	2.5	90	400016	
1.158	2.5	90	400016	
2.253	5.0	90	400016	No full dp scan

Optics with Target Field

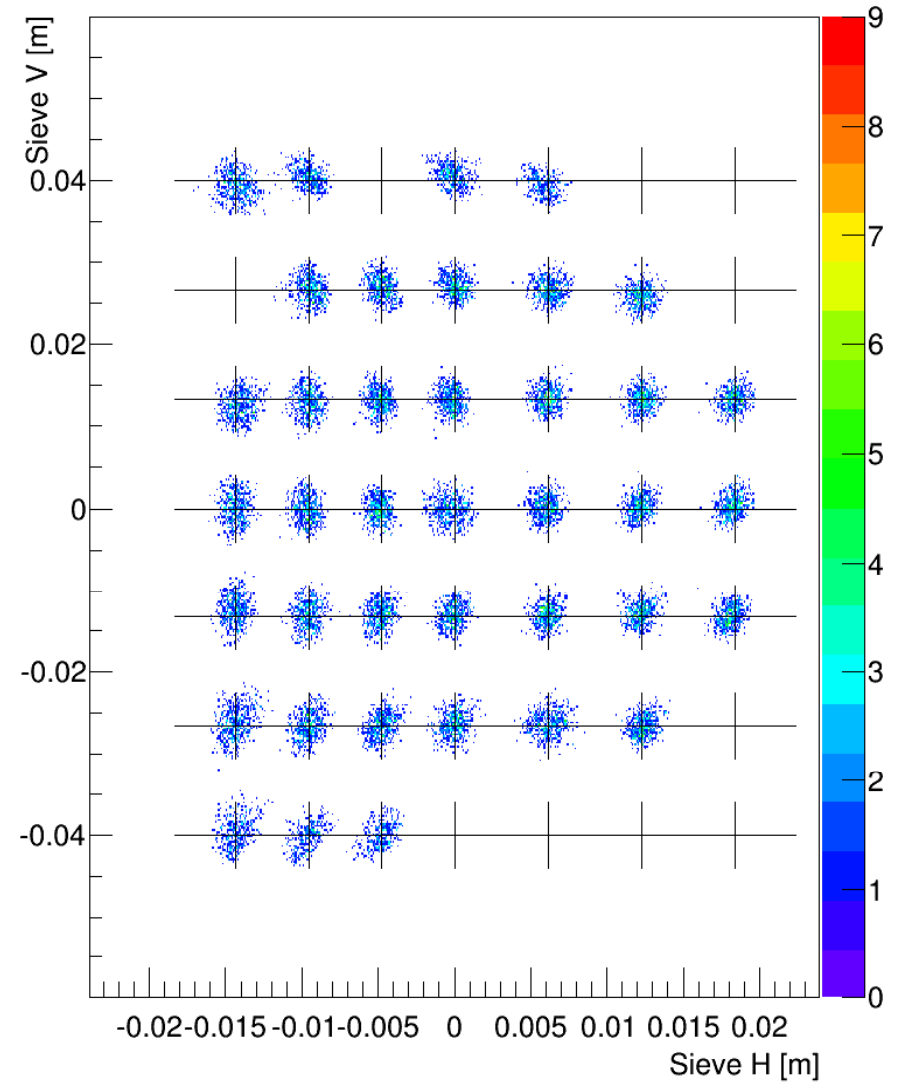
- Settings
 - Beam energy 1.706GeV
 - 2.5T target field at 90 deg configuration
 - Bad septum 40-00-16
- Optics runs
 - Full delta scan on LHRS (-3%, -1%, 0, 1%, 3%)

Angle Calibration

Before (with straight through matrix)

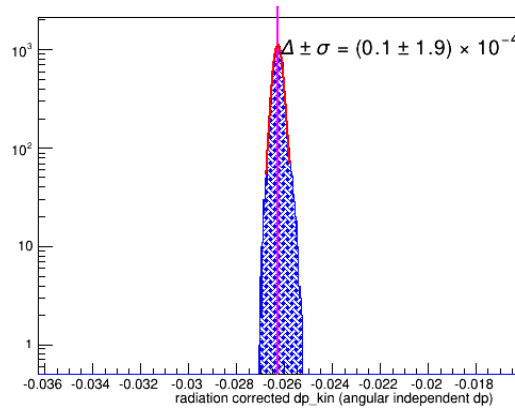


After

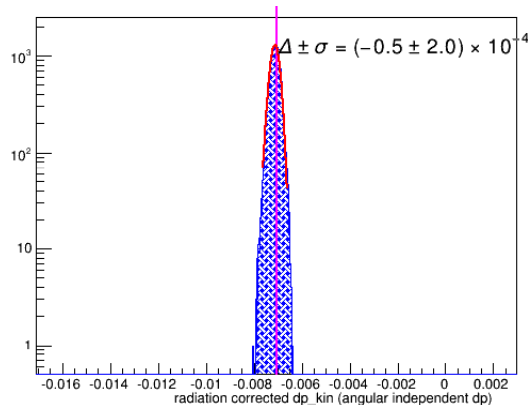


Momentum Calibration

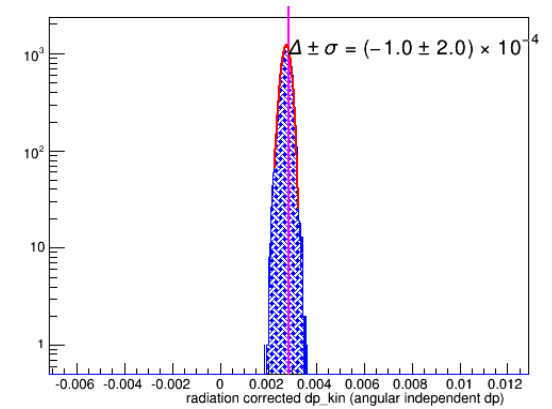
-3%



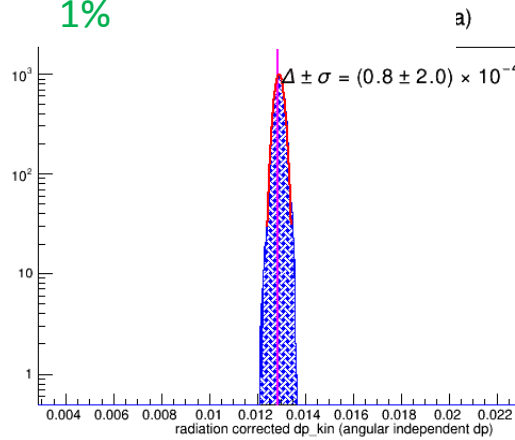
-1%



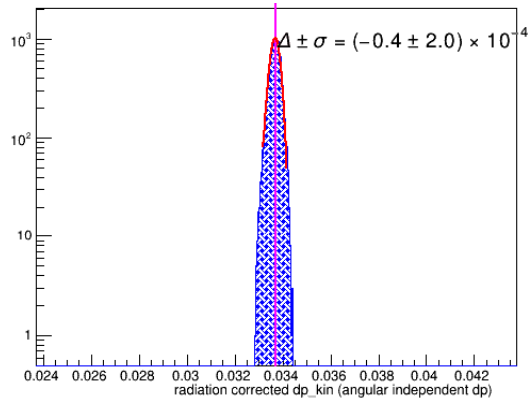
0%



1%



3%



Next

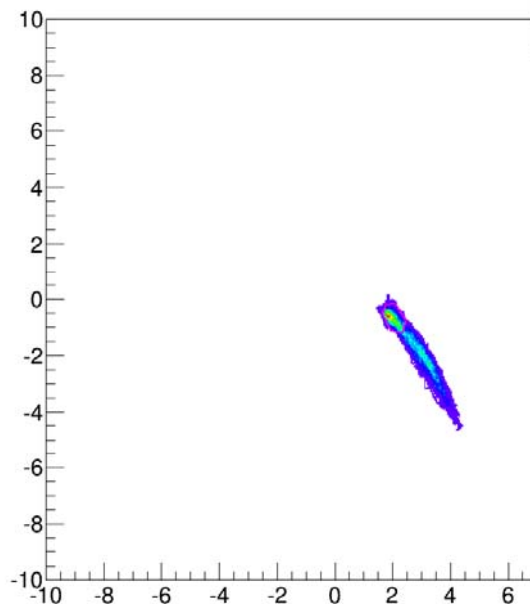
- Beam position scan
 - 6mm on X axis
 - 6mm on Y axis
 - 6mm on square vertex (diagonal)
- Work on rest of the settings

Beam Energy (GeV)	Field (T)	Field Angle (deg)	Septum	Backup
2.253	0.0	90	484816	Straight through
2.253	0.0	6	484816	Straight through
2.253	5.0	0	400016	Straight through
2.253	2.5	90	484816	
2.253	2.5	90	483216	
1.706	2.5	90	400016	
1.158	2.5	90	400016	
2.253	5.0	90	400016	No full dp scan

Backup

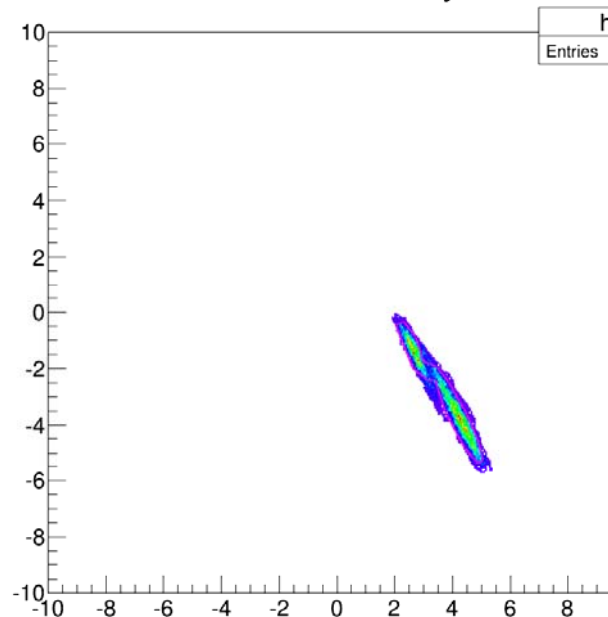
-3%

BPM x vs. BPM y



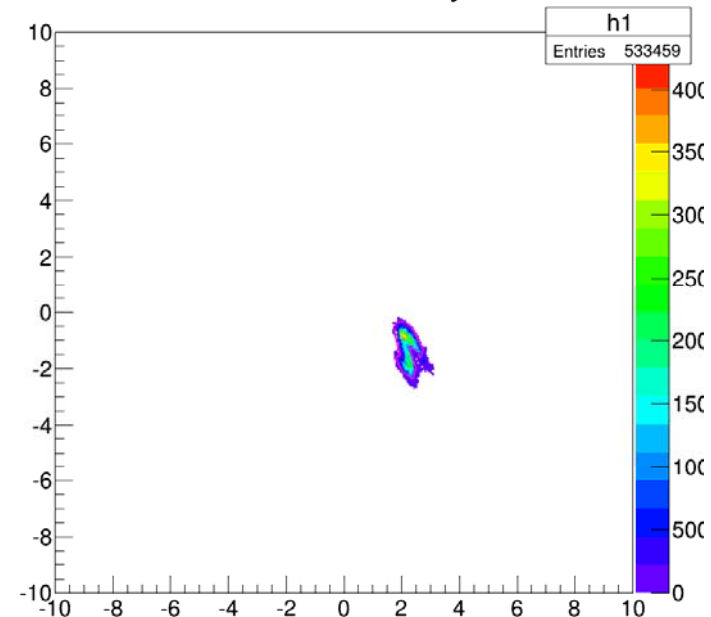
-1%

BPM x vs. BPM y



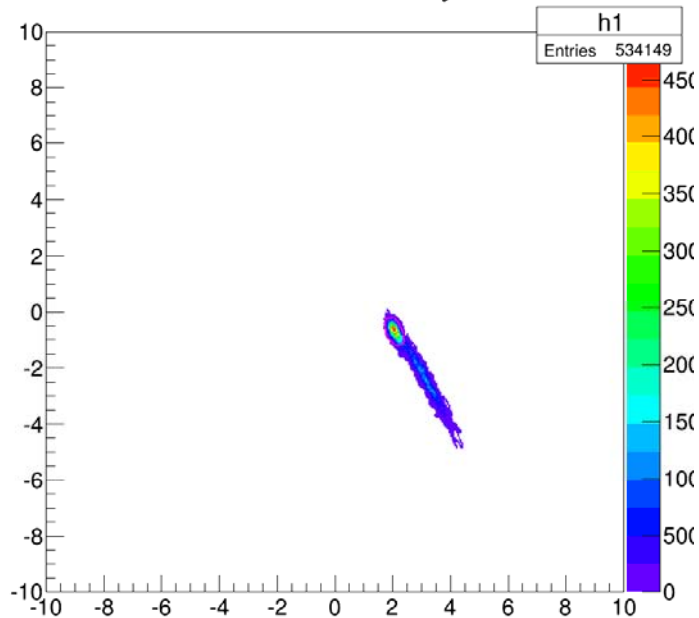
0%

BPM x vs. BPM y



1%

BPM x vs. BPM y



3%

BPM x vs. BPM y

