

Optics Status Update

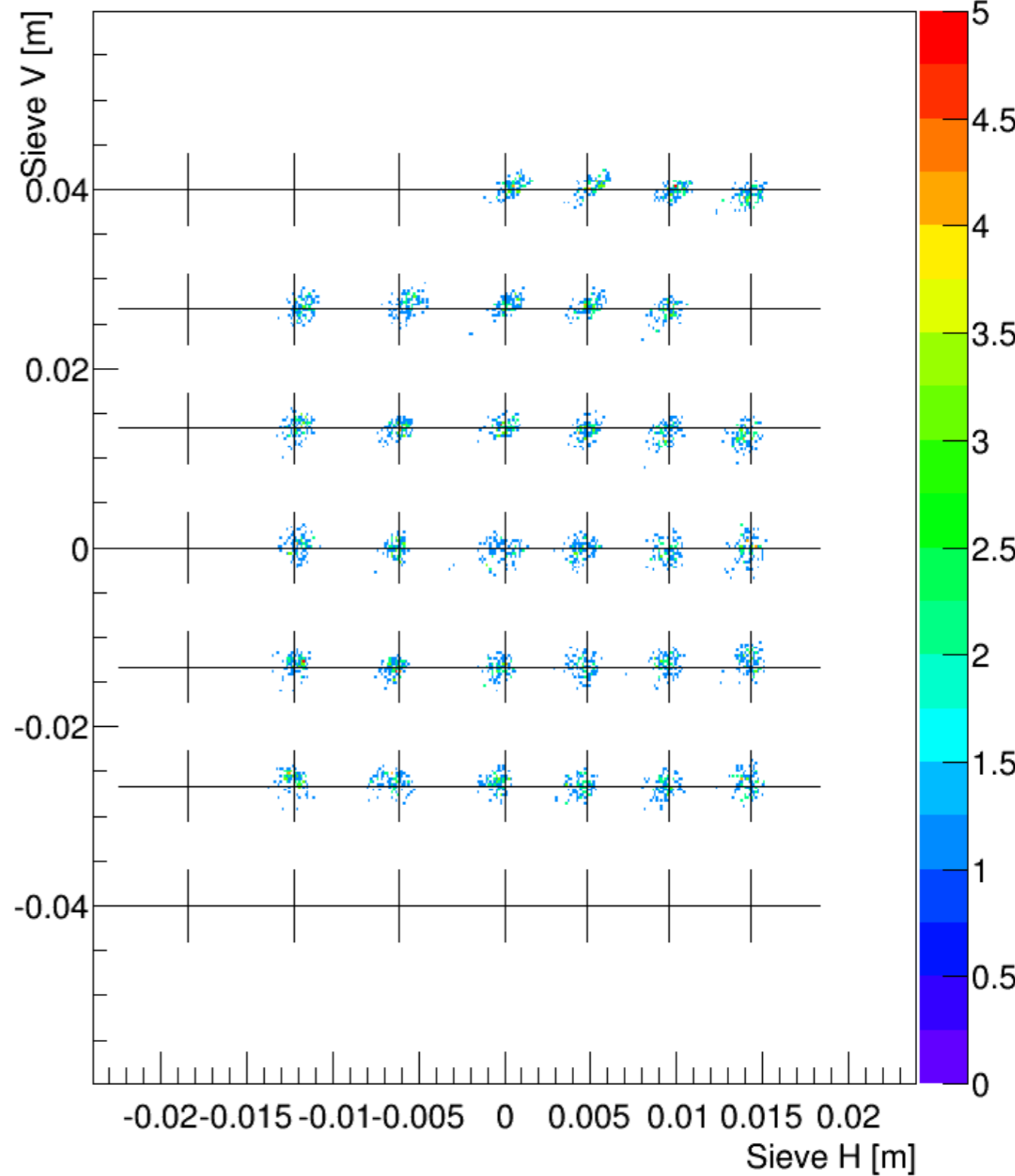
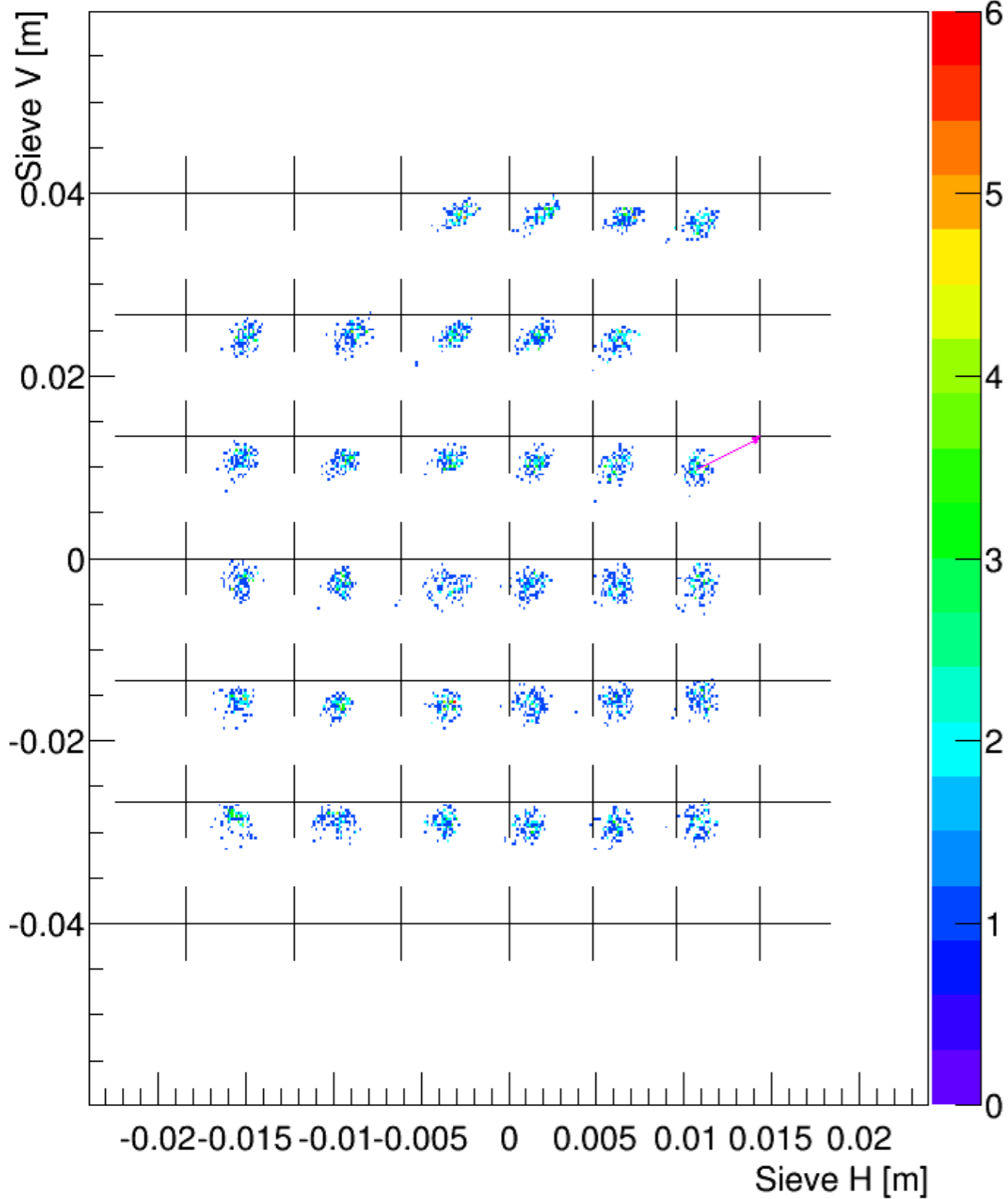
Chao Gu

Optics Status Update

- RHRS Optics summary
 - No target field
 - With target field: 4 different settings
 - Longitudinal: $dp=0\%$
 - Use the 1.706GeV matrix with a 0th order correction (constant)
 - 5.0T transverse settings: $dp=0\%$ and $dp=2\%$
 - Use the 1.706GeV matrix with a 1st order correction
- Use Longitudinal setting as an example

I.706GeV Matrix

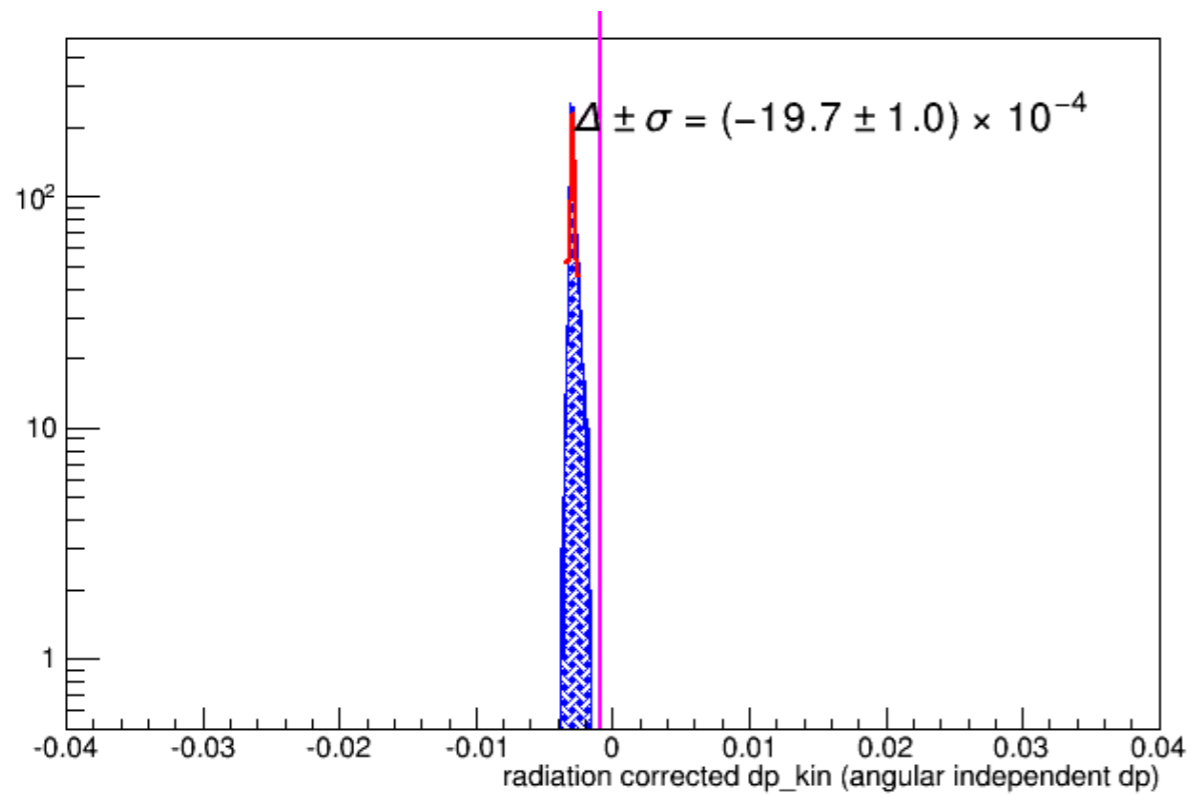
I.706GeV Matrix with 0th Order Correction



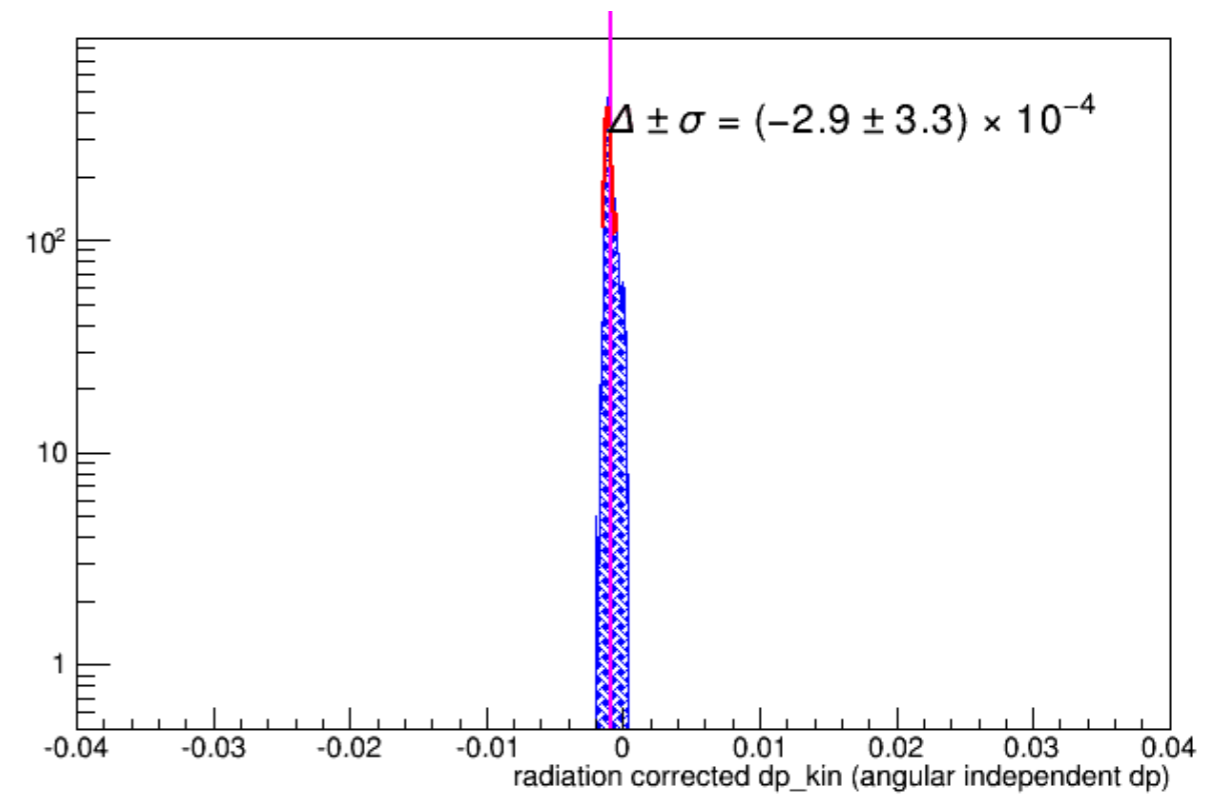
RHRS (2.254GeV, 5.0T, 0deg)

Calibration

1.706GeV Matrix



1.706GeV Matrix with 0th Order Correction



Optics Status Update

- The performance summary: the table shows a summary of the RMS values of each kinematic variables:

E (GeV)	Field	δ [dp]	θ [out-of-plane angle]	φ [in-plane angle]
2.253	5.0T, 0deg	3.9×10^{-4}	1.6 mrad	0.8 mrad
2.253	5.0T, 90deg	3.5×10^{-4}	1.8 mrad	0.9 mrad

- There is no optics runs for 3.3GeV, 5.0T transverse setting:
 - No data taken with sieve slit in
 - Need to think of another way to check (suggestions?)

TODO

- Optics tech note
- Additional note: Summarize the last target field measurement and estimate the uncertainty

Optics Status Update

- The performance summary of LHRS: the table shows a summary of the RMS values of each kinematic variables after calibration

E (GeV)	Septum	Field	δ [dp]	θ [out-of-plane angle]	φ [in-plane angle]
2.253	484816	2.5T	1.5×10^{-4}	1.6 mrad	0.7 mrad
2.253	483216	2.5T	1.8×10^{-4}	1.6 mrad	0.8 mrad
1.706	400016	2.5T	2.0×10^{-4}	2.1 mrad	1.1 mrad
1.158	400016	2.5T	1.8×10^{-4}	1.5 mrad	0.7 mrad
2.253	484816	5.0T, 0deg	1.8×10^{-4}	1.5 mrad	0.8 mrad