

Optics Status Update

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Status Update

- Right Arm:
 - Applying the updated optics procedure to RHRS:
 - Add the horizontal beam position scan runs when fitting the database
 - Use the vertical beam position scan runs to make a correction to dp
 - No interesting thing, so just applied the procedure to all settings of RHRS

-3%

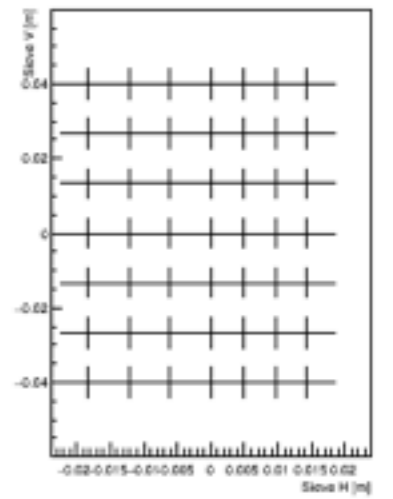
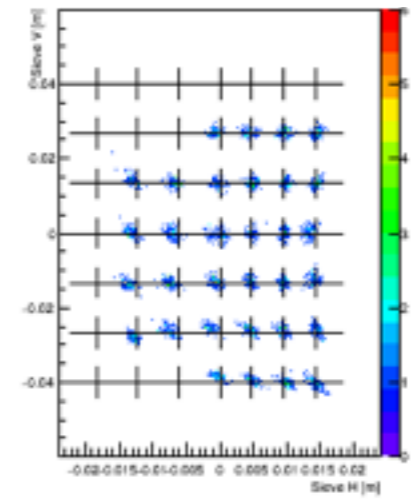
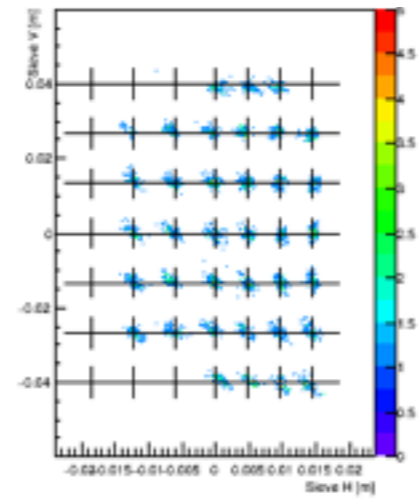
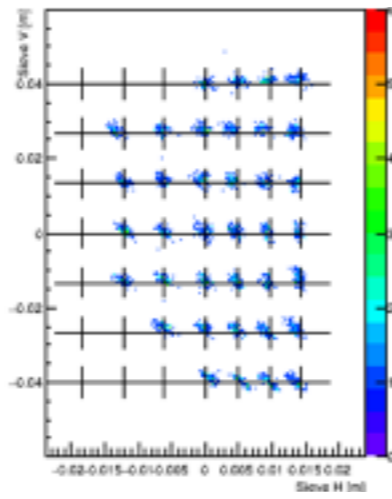
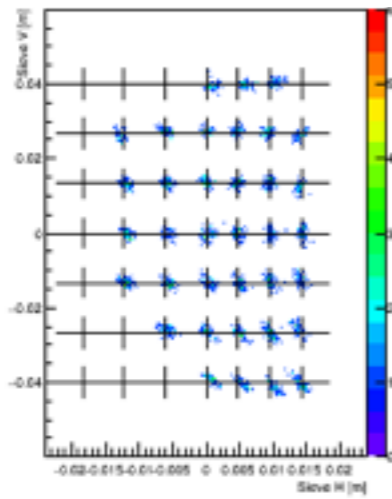
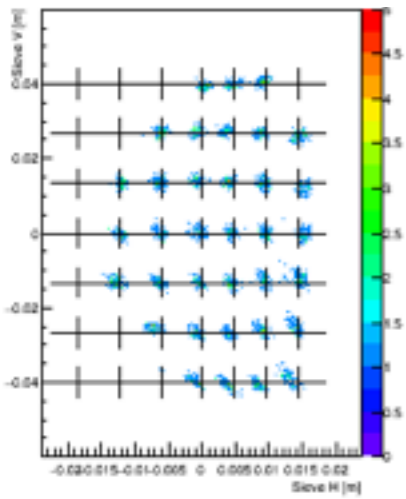
-2%

0%

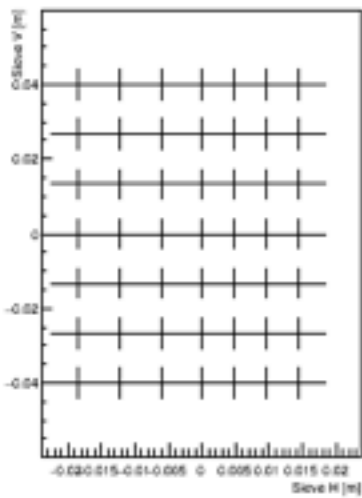
2%

3%

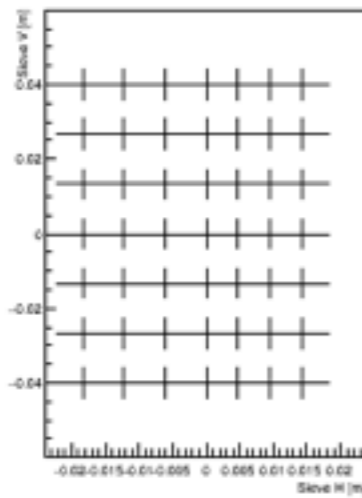
Sieve Plane Proj. (q_x vs q_y) for Kine #5



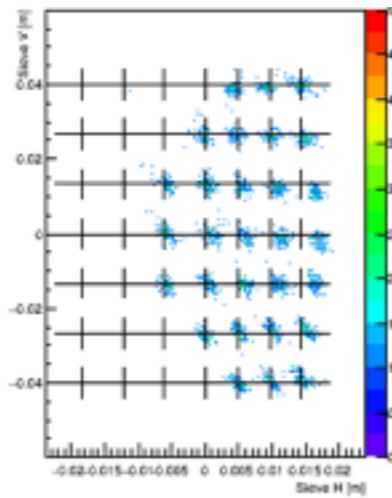
Sieve Plane Proj. (q_x vs q_y) for Kine #6



Sieve Plane Proj. (q_x vs q_y) for Kine #7

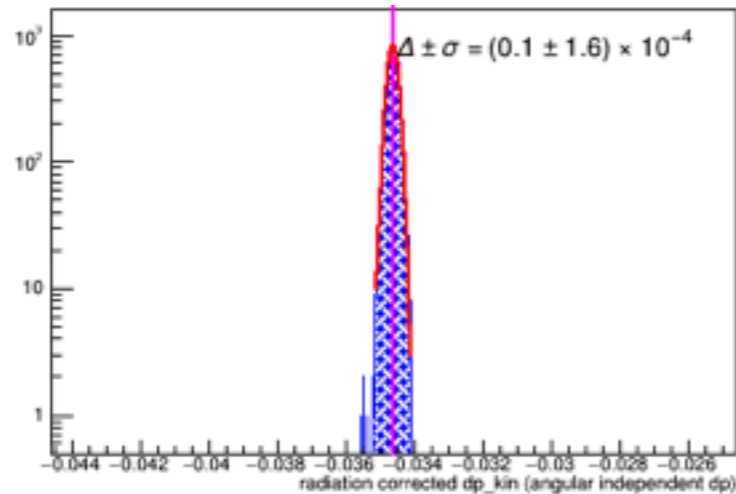


beam x at +4

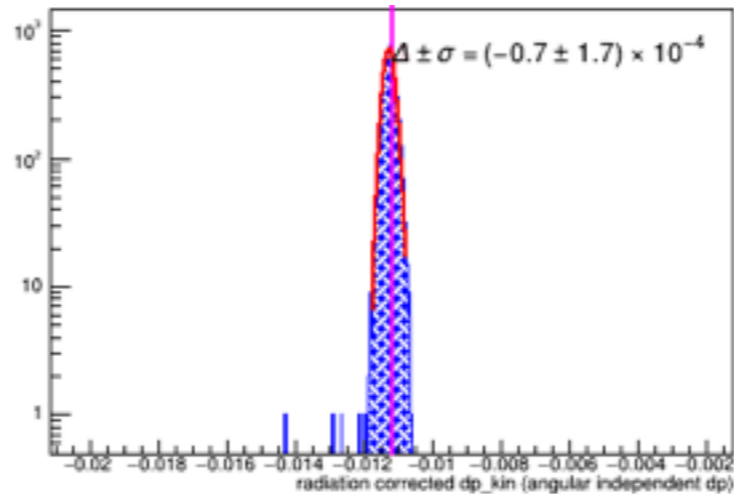


After Calibration

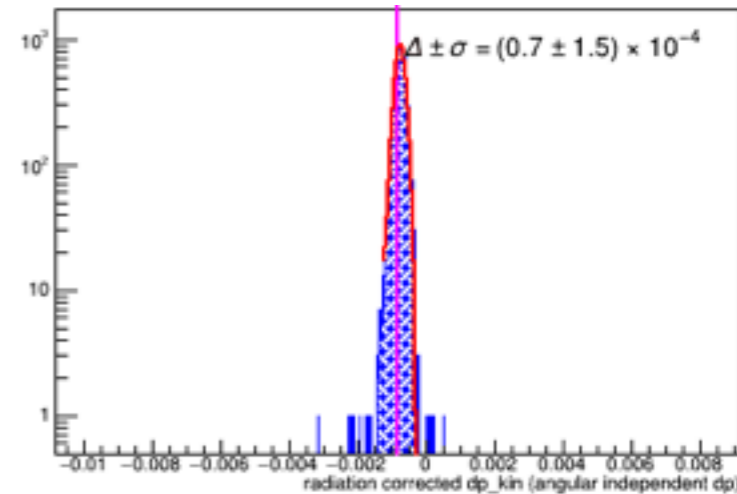
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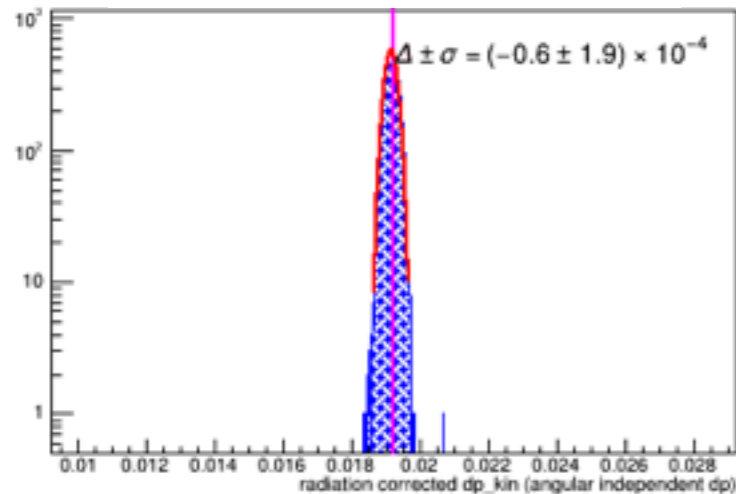
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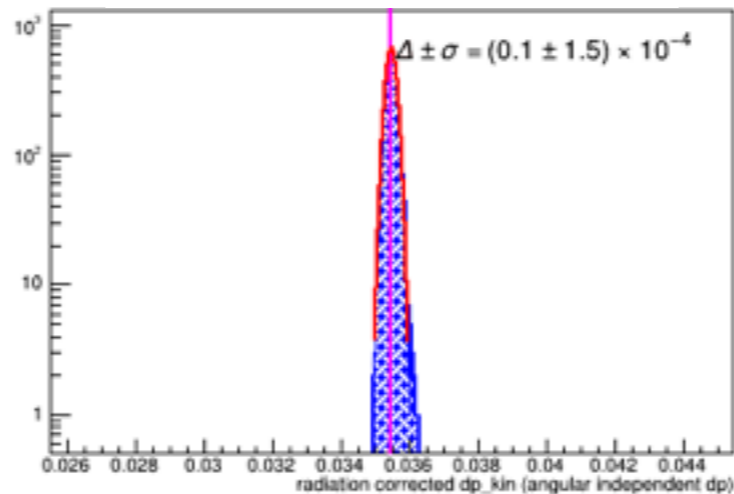
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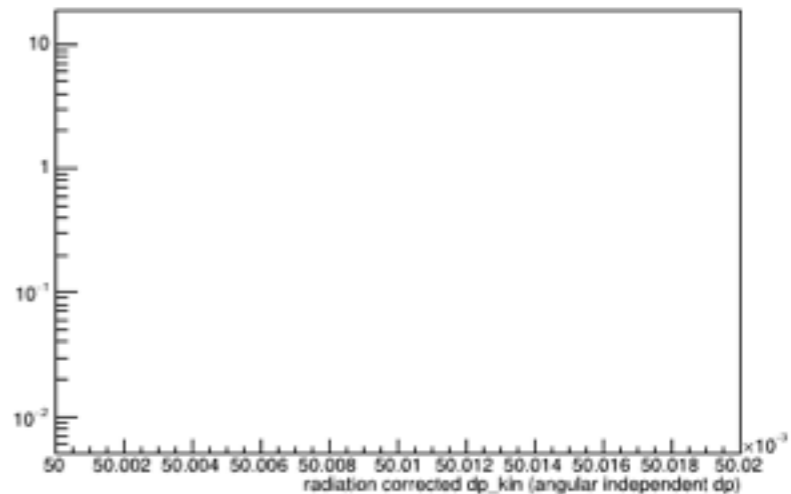
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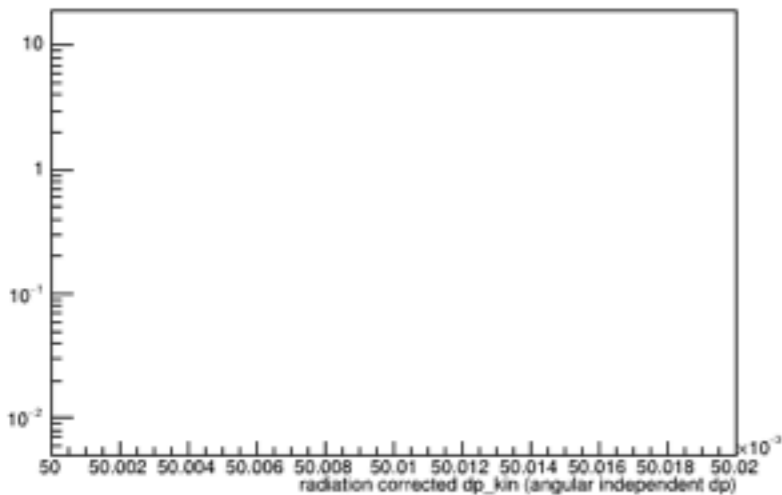
3%



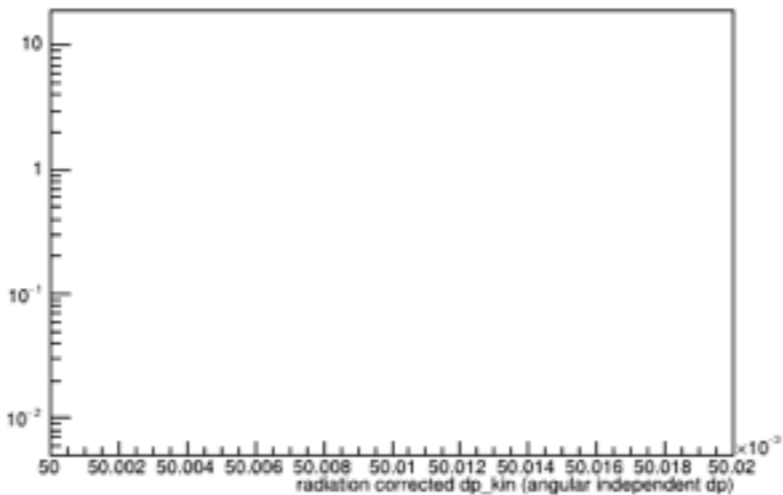
Dp_Kin for Delta Scan Kine. #5 (All Data)



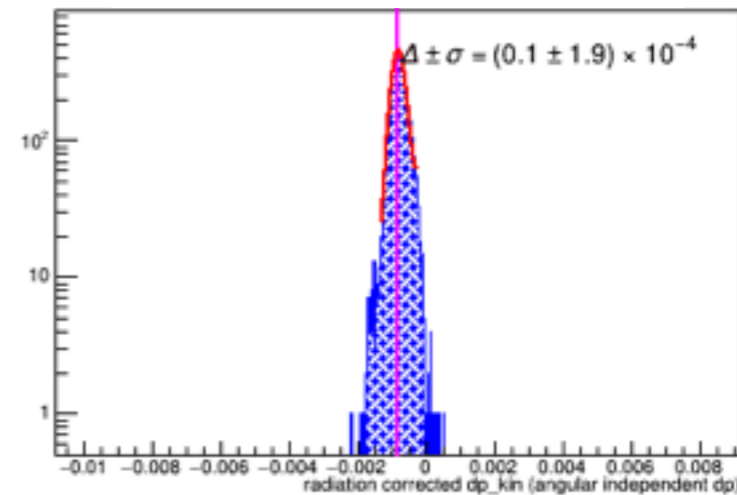
Dp_Kin for Delta Scan Kine. #6 (All Data)



Dp_Kin for Delta Scan Kine. #7 (All Data)



beam x at +4



After Calibration

RMS after Calibration

Left Arm

| E / GeV | Field | | Septa | RMS δ | RMS θ | RMS φ |
|---------|-------|-------|--------|----------------------|--------------|---------------|
| 2.254 | 2.5T | Trans | 484816 | 2.0×10^{-4} | 1.7 mrad | 1.7 mrad |
| 2.254 | 2.5T | Trans | 403216 | 3.0×10^{-4} | 3.2 mrad | 1.9 mrad |
| 1.706 | 2.5T | Trans | 400016 | 2.4×10^{-4} | 2.4 mrad | 1.5 mrad |
| 1.158 | 2.5T | Trans | 400016 | 3.2×10^{-4} | 3.1 mrad | 1.3 mrad |
| 2.254 | 5.0T | Long | 400016 | 2.2×10^{-4} | 1.6 mrad | 1.2 mrad |

Right Arm

| E / GeV | Field | | Septa | RMS δ | RMS θ | RMS φ |
|---------|-------|-------|--------|----------------------|--------------|---------------|
| 2.254 | 2.5T | Trans | 484816 | 1.8×10^{-4} | 1.6 mrad | 1.2 mrad |
| 2.254 | 2.5T | Trans | 403216 | 2.5×10^{-4} | 2.2 mrad | 1.8 mrad |
| 1.706 | 2.5T | Trans | 400016 | 2.3×10^{-4} | 2.7 mrad | 1.7 mrad |
| 1.158 | 2.5T | Trans | 400016 | 3.4×10^{-4} | 1.9 mrad | 1.5 mrad |

Optics Status Update

- All the plots could be found in the wiki: https://hallaweb.jlab.org/wiki/index.php/G2p_optics
- Update the optics technical note with right arm information.