

Pilot blade data analysis per ROC study

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Tracker DPG meeting



Reminder

On 2016-12-04 a lot of things happened

Global Run 286517: WBC scan

[Link to the plots](#)

Global Run 286519: Fine timing scan

[Link to the plots](#)

Global Run 286520: 18 ns for BmO

[Link to the plots](#)

Data analyzed and presented at the offline meeting

[Link to the slides](#)

Global Runs

Global Run 286519: Fine timing scan

„Fine timing” plots per ROC

https://tvami.web.cern.ch/tvami/projects/PilotBlade/Runs286519_FEVT/PerROCStudy/

Global Run 286520: 18 ns for BmO

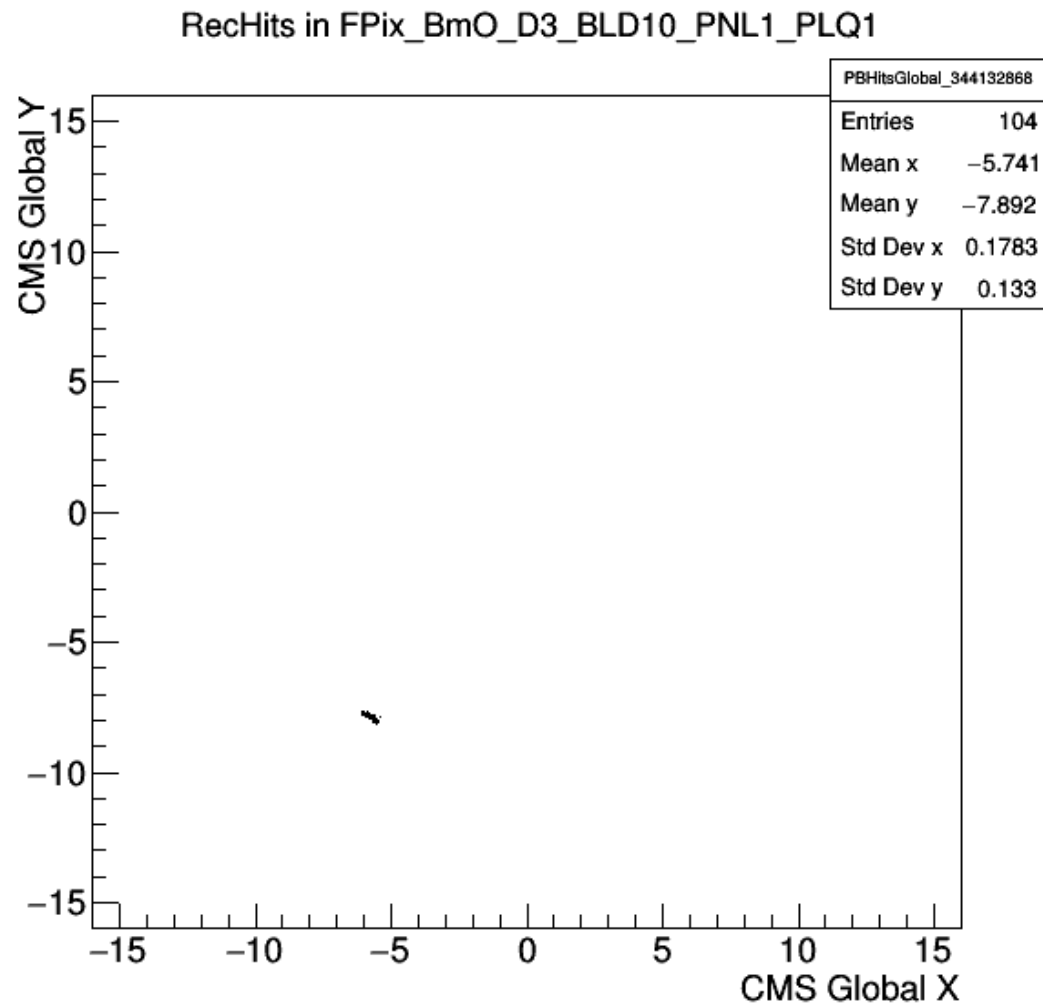
„Residual” and „Position vs Residuals” plots per ROC

https://tvami.web.cern.ch/tvami/projects/PilotBlade/Runs286520_FEVT/PerROCStudy/

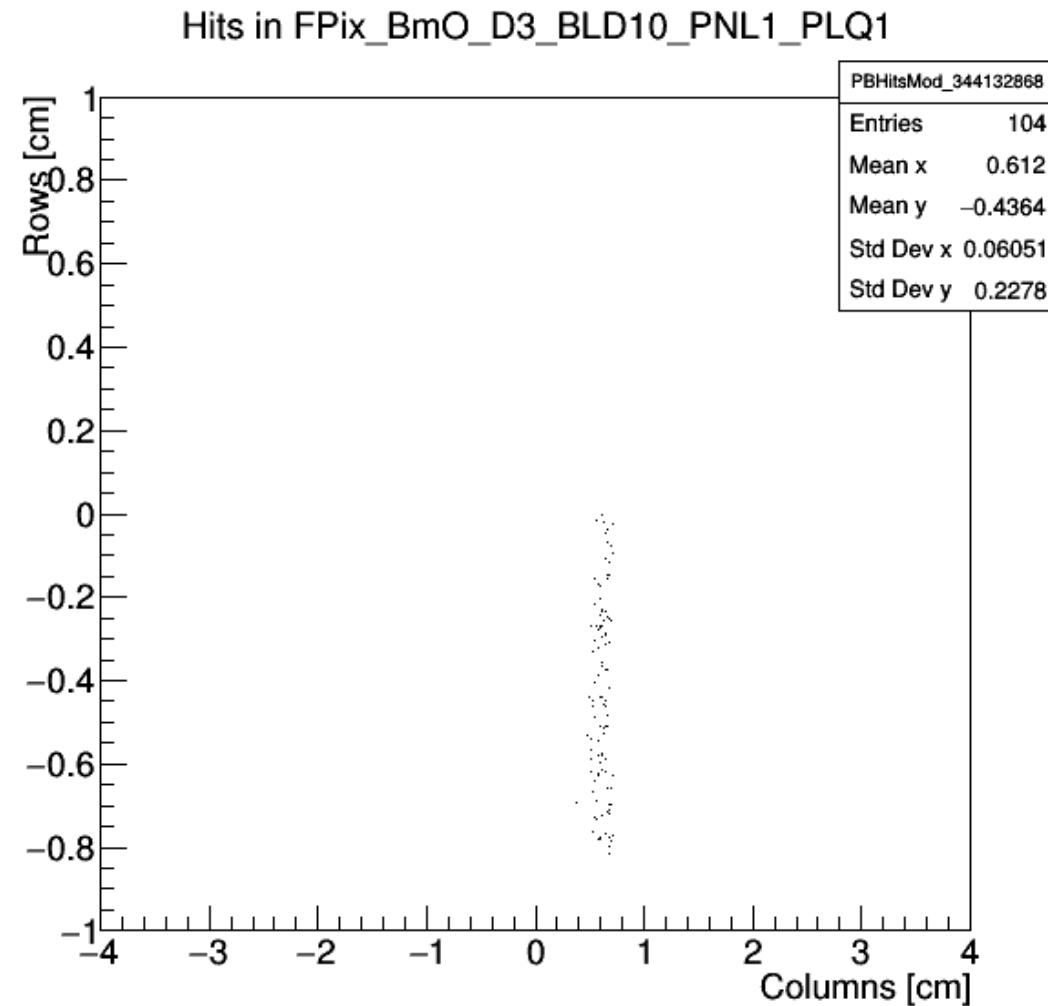
Position of the ROC

FPix_BmO_D3_BLD10_PNL1_ROC(a)

Global Position



Local Position



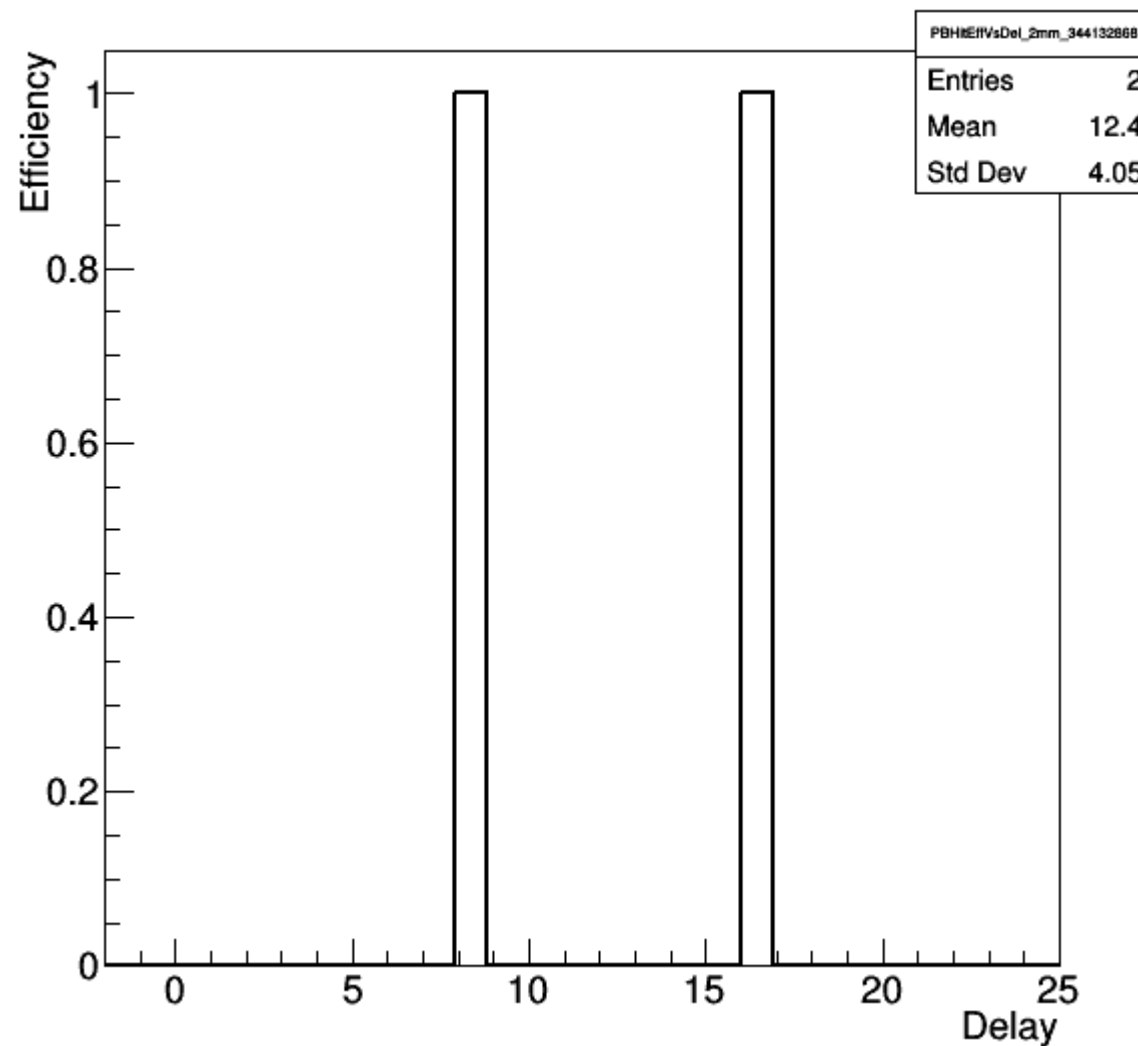
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD10_PNL1_ROC(a)

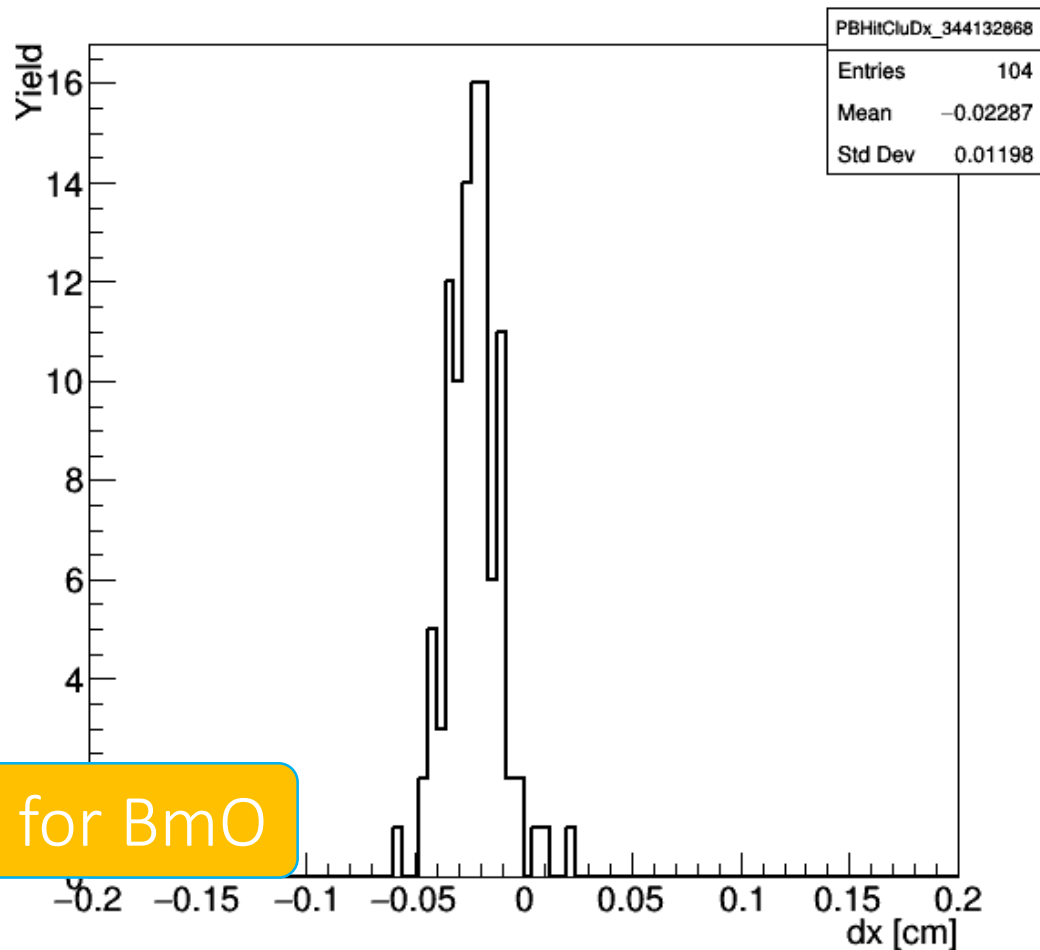
RecHit efficiency vs Delay in FPix_BmO_D3_BLD10_PNL1_PLQ1



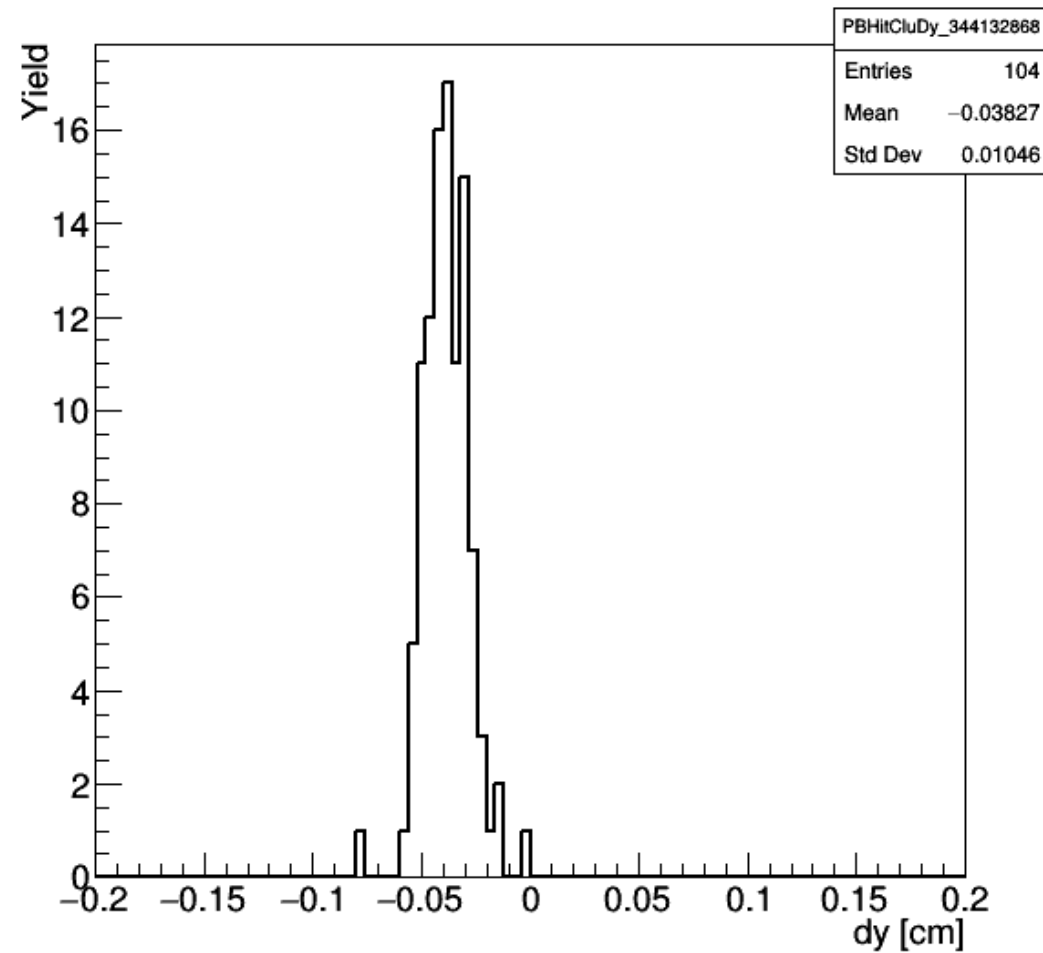
Residuals (Zoomed)

FPix_BmO_D3_BLD10_PNL1_ROC(a)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



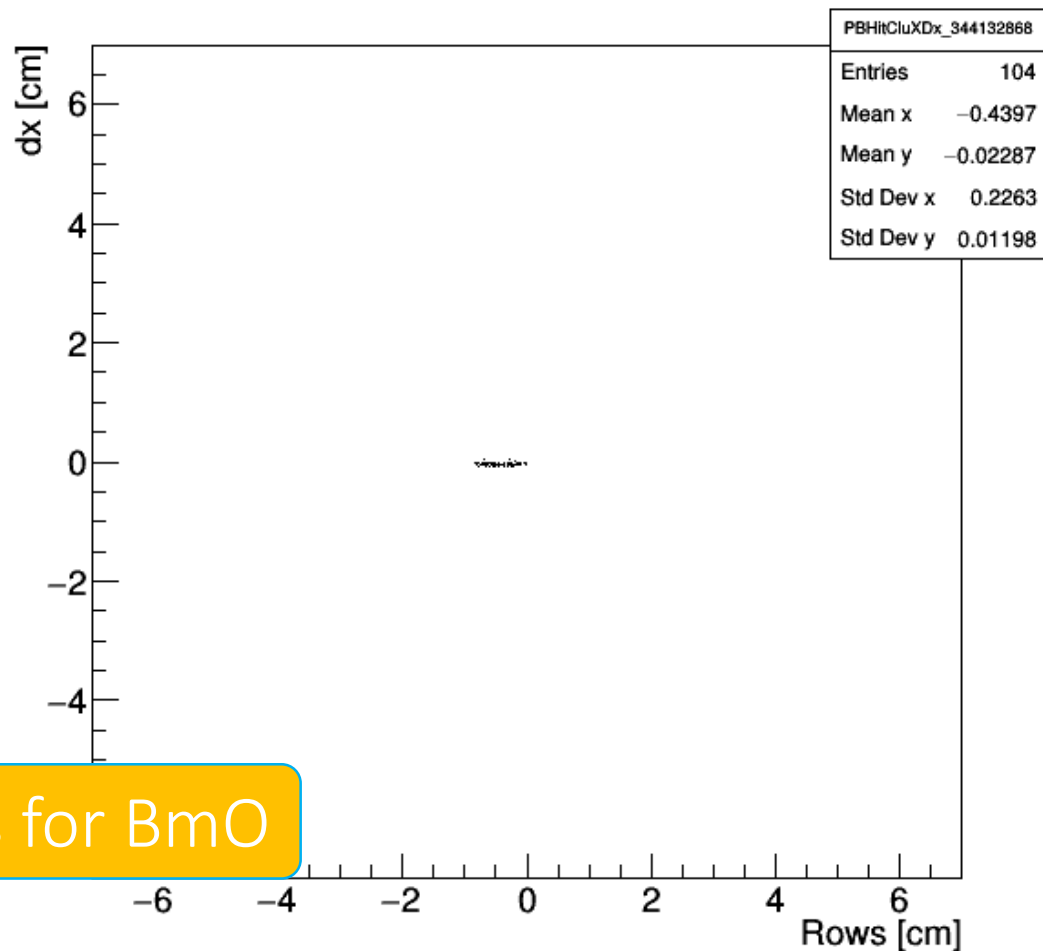
Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



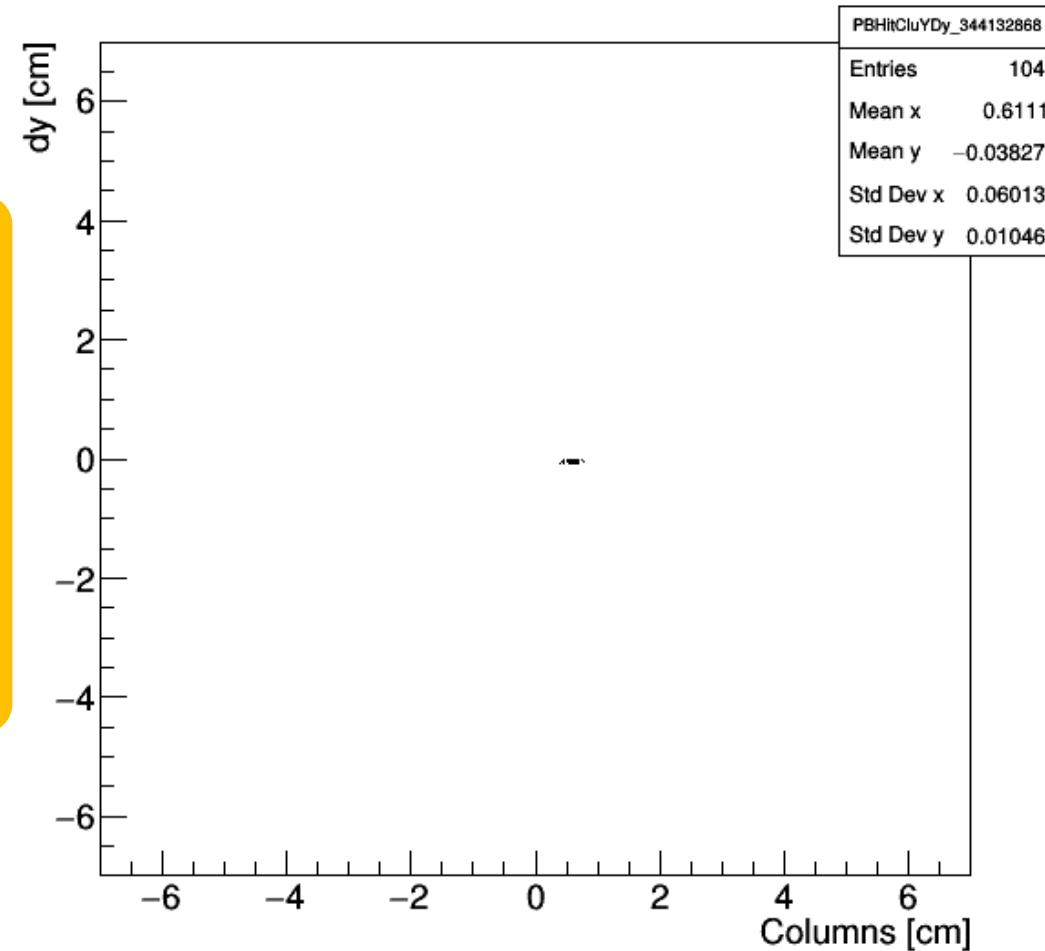
Position vs Residuals

FPix_BmO_D3_BLD10_PNL1_ROC(a)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD10_PNL1_PLQ1



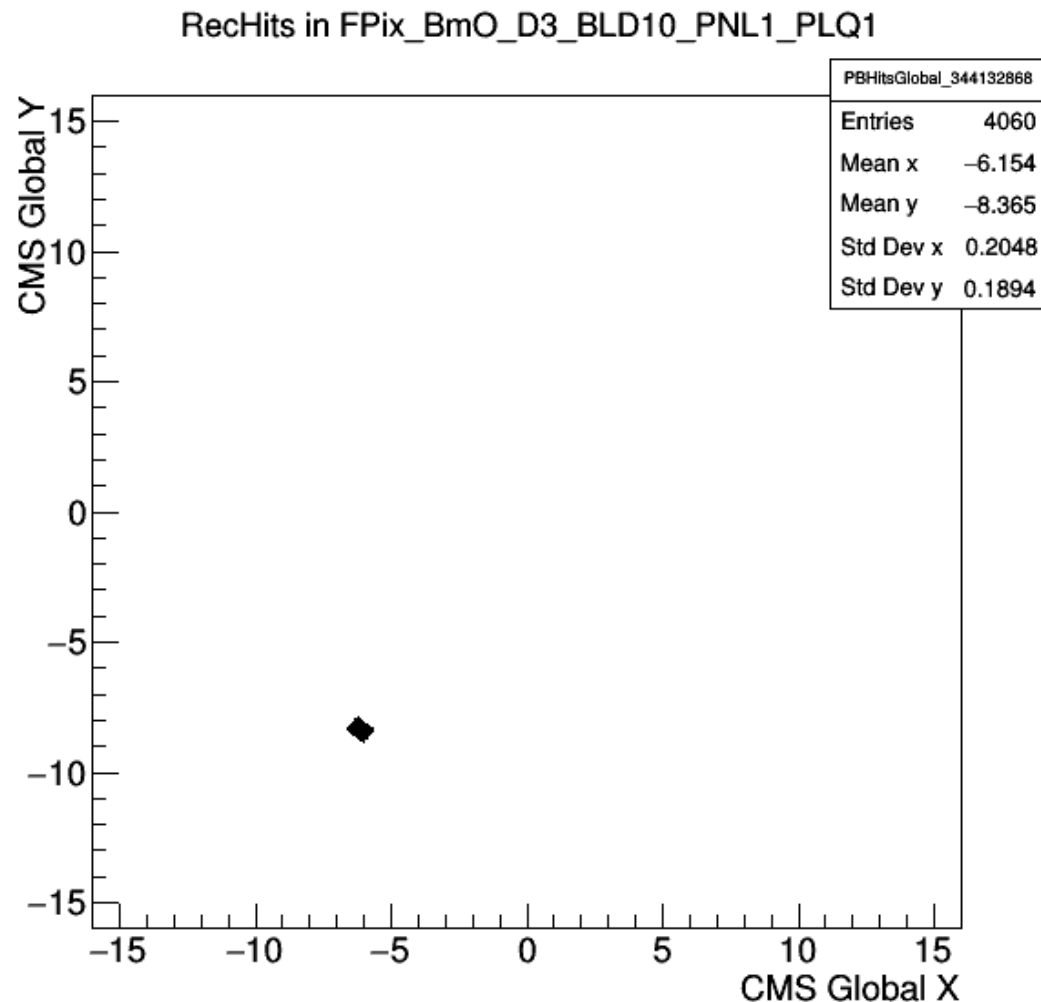
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD10_PNL1_PLQ1



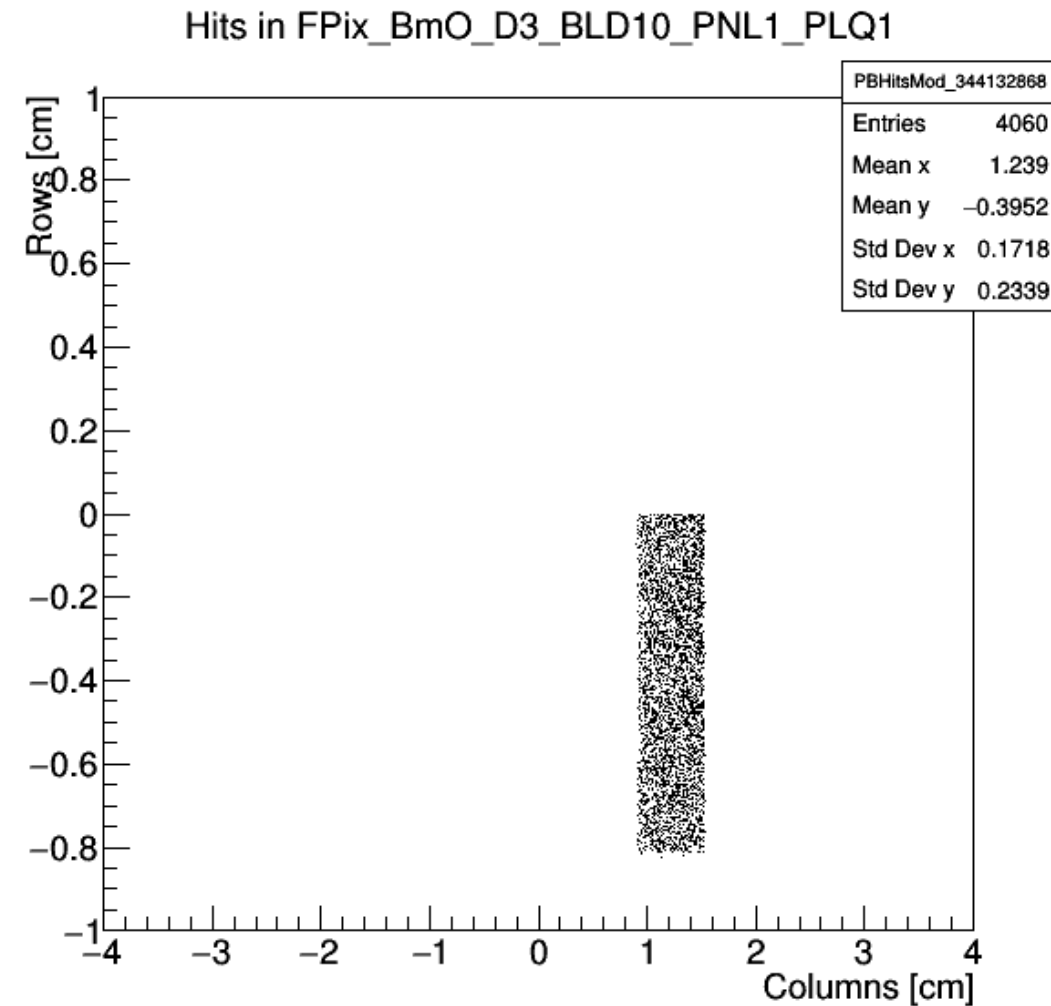
Position of the ROC

FPix_BmO_D3_BLD10_PNL1_ROC(b)

Global Position



Local Position



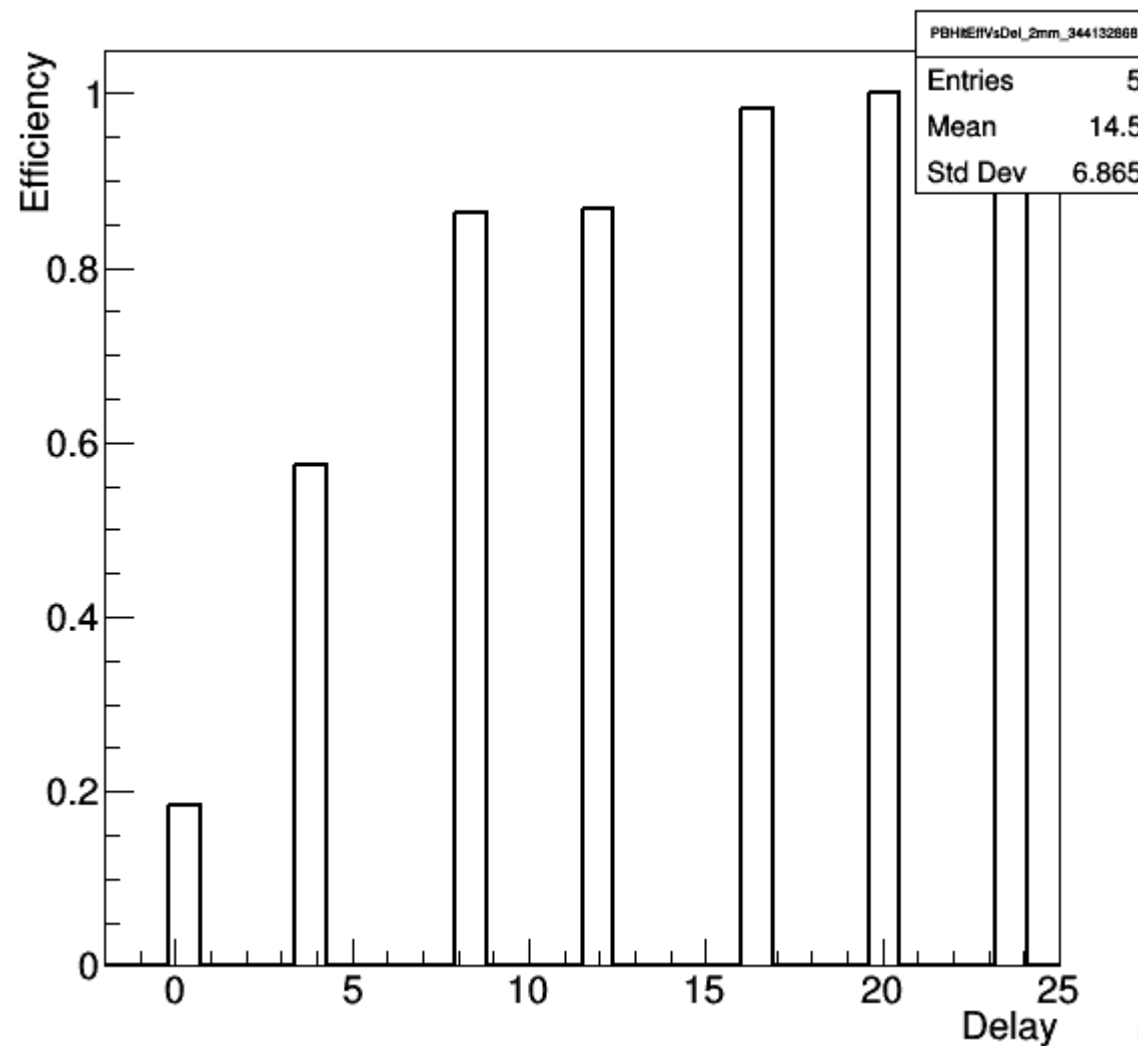
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD10_PNL1_ROC(b)

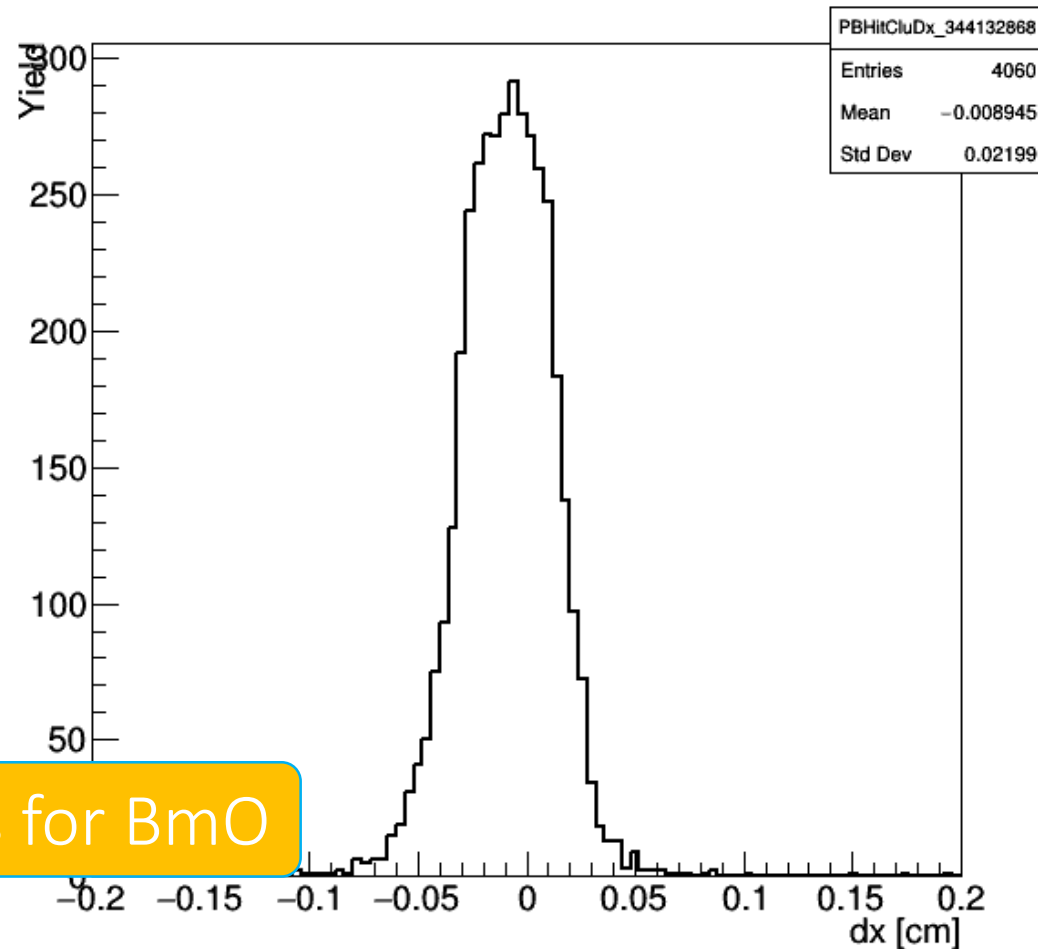
RecHit efficiency vs Delay in FPix_BmO_D3_BLD10_PNL1_PLQ1



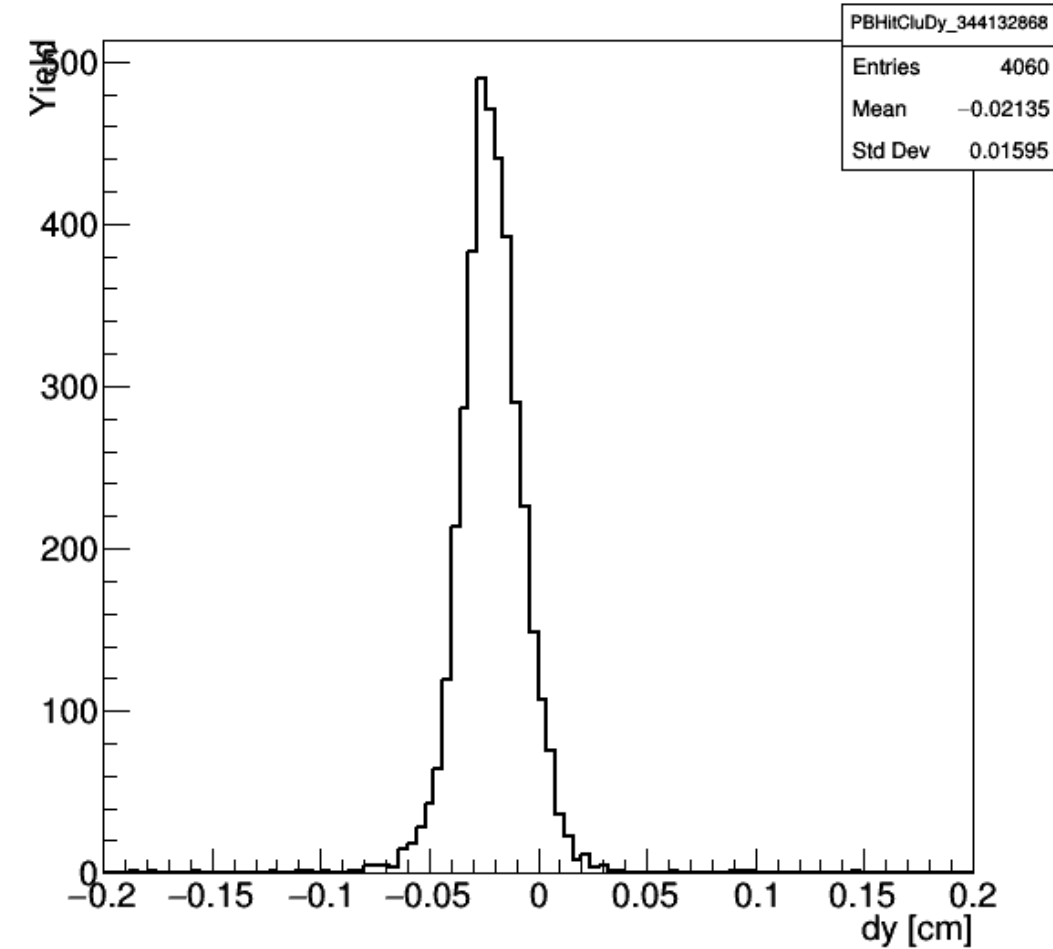
Residuals (Zoomed)

FPix_BmO_D3_BLD10_PNL1_ROC(b)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



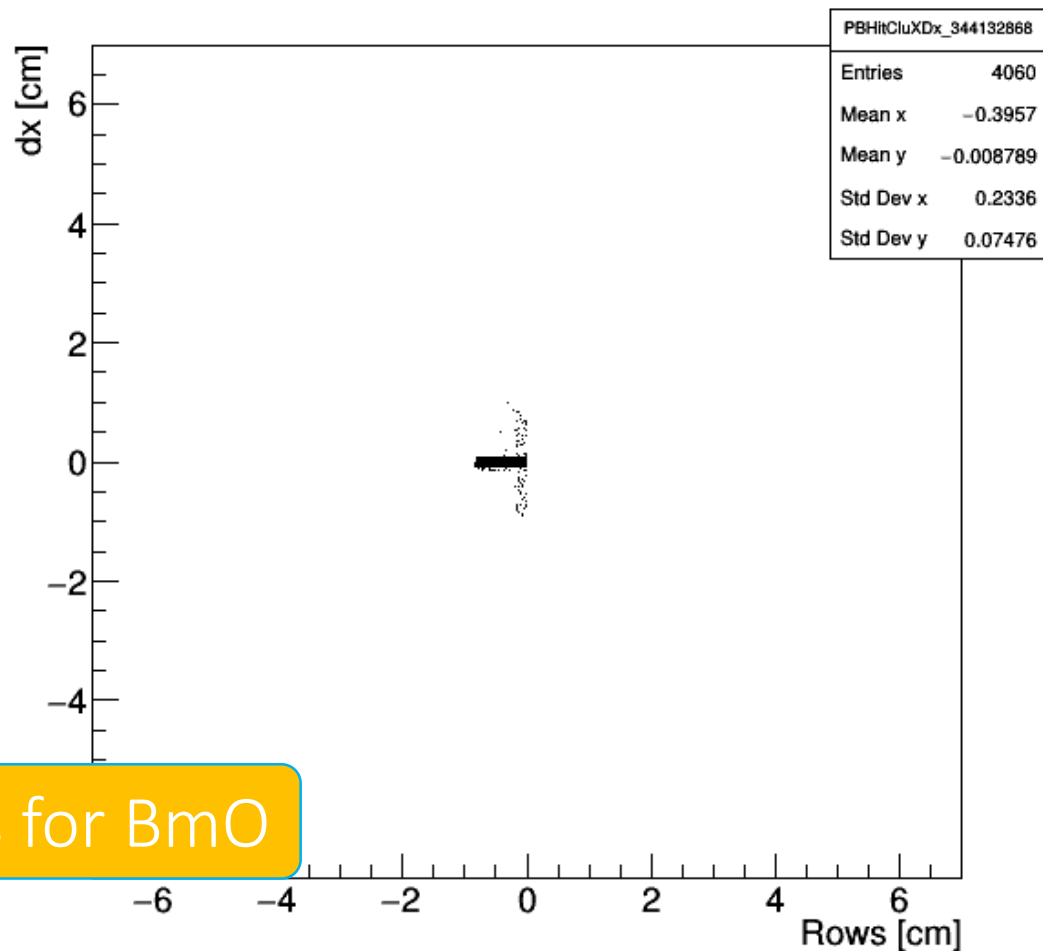
Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



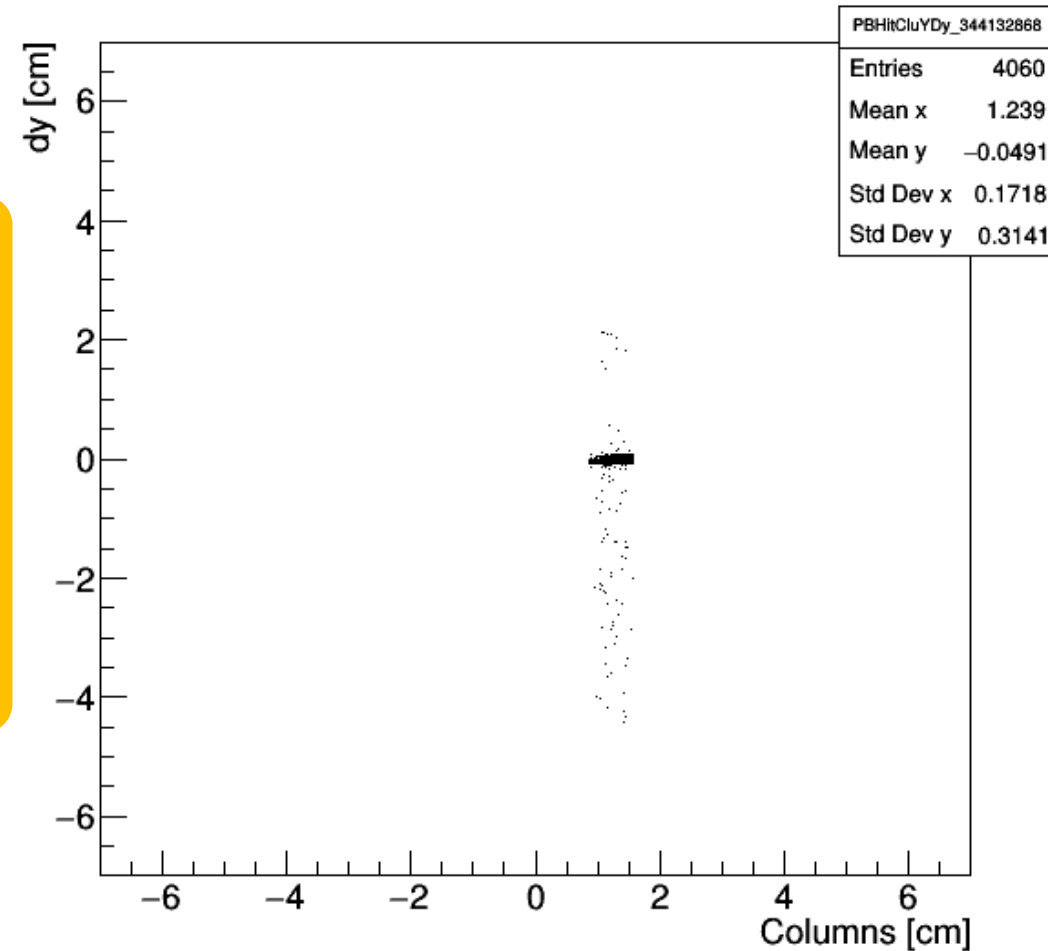
Position vs Residuals

FPix_BmO_D3_BLD10_PNL1_ROC(b)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD10_PNL1_PLQ1



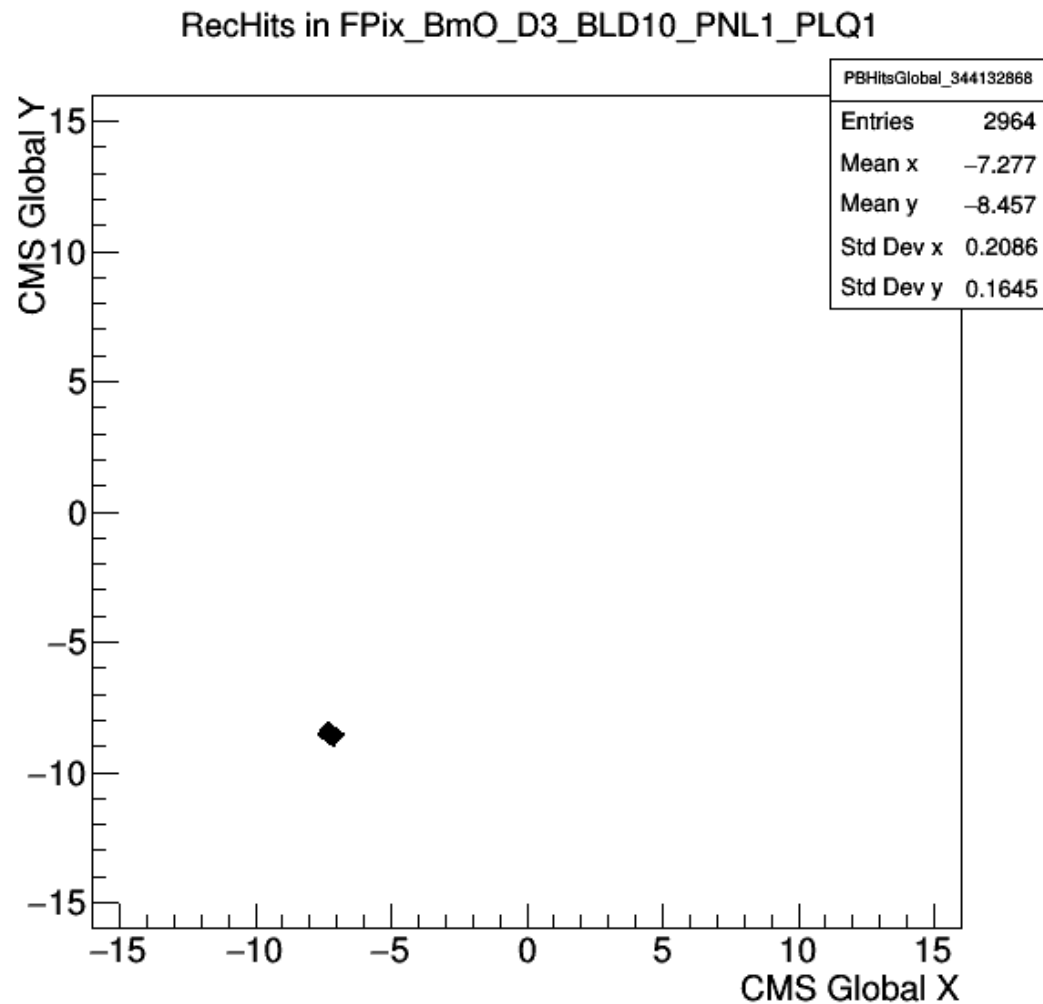
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD10_PNL1_PLQ1



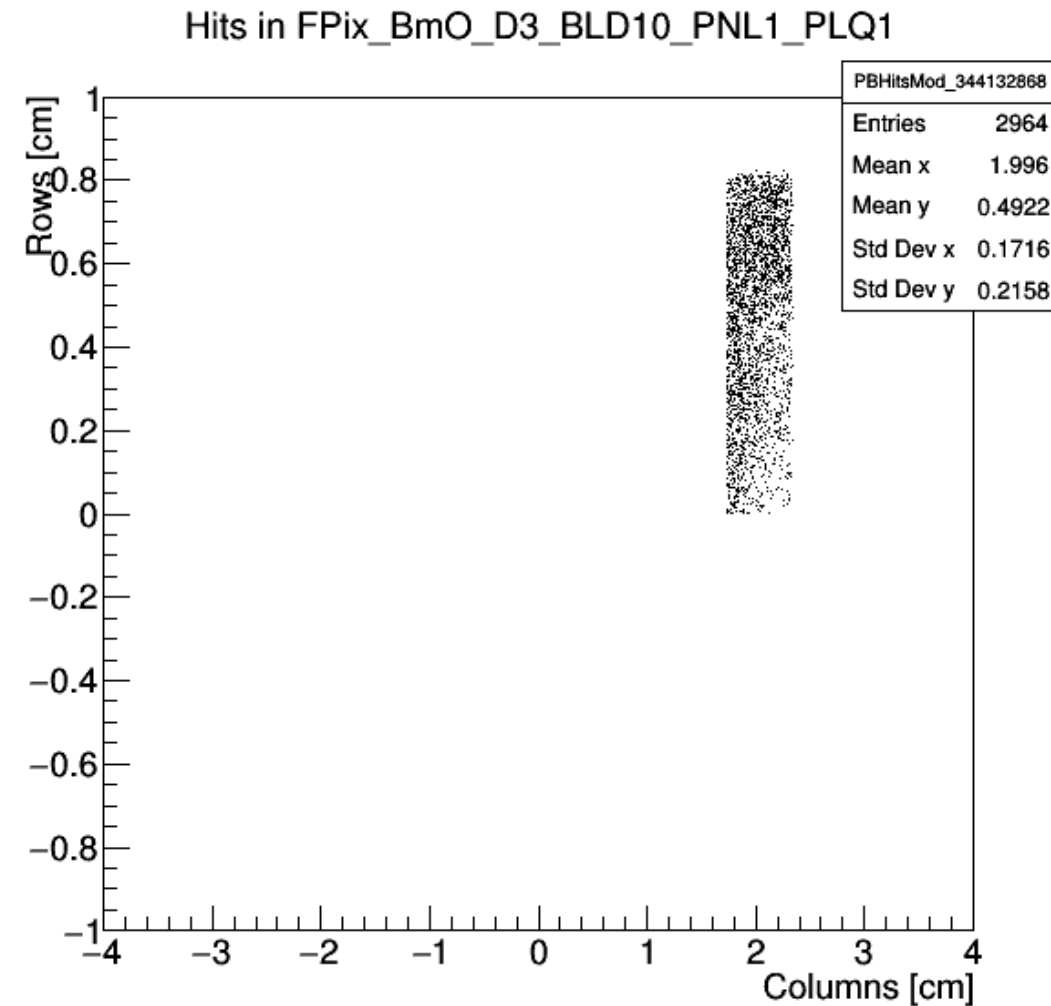
Position of the ROC

FPix_BmO_D3_BLD10_PNL1_ROC(c)

Global Position



Local Position



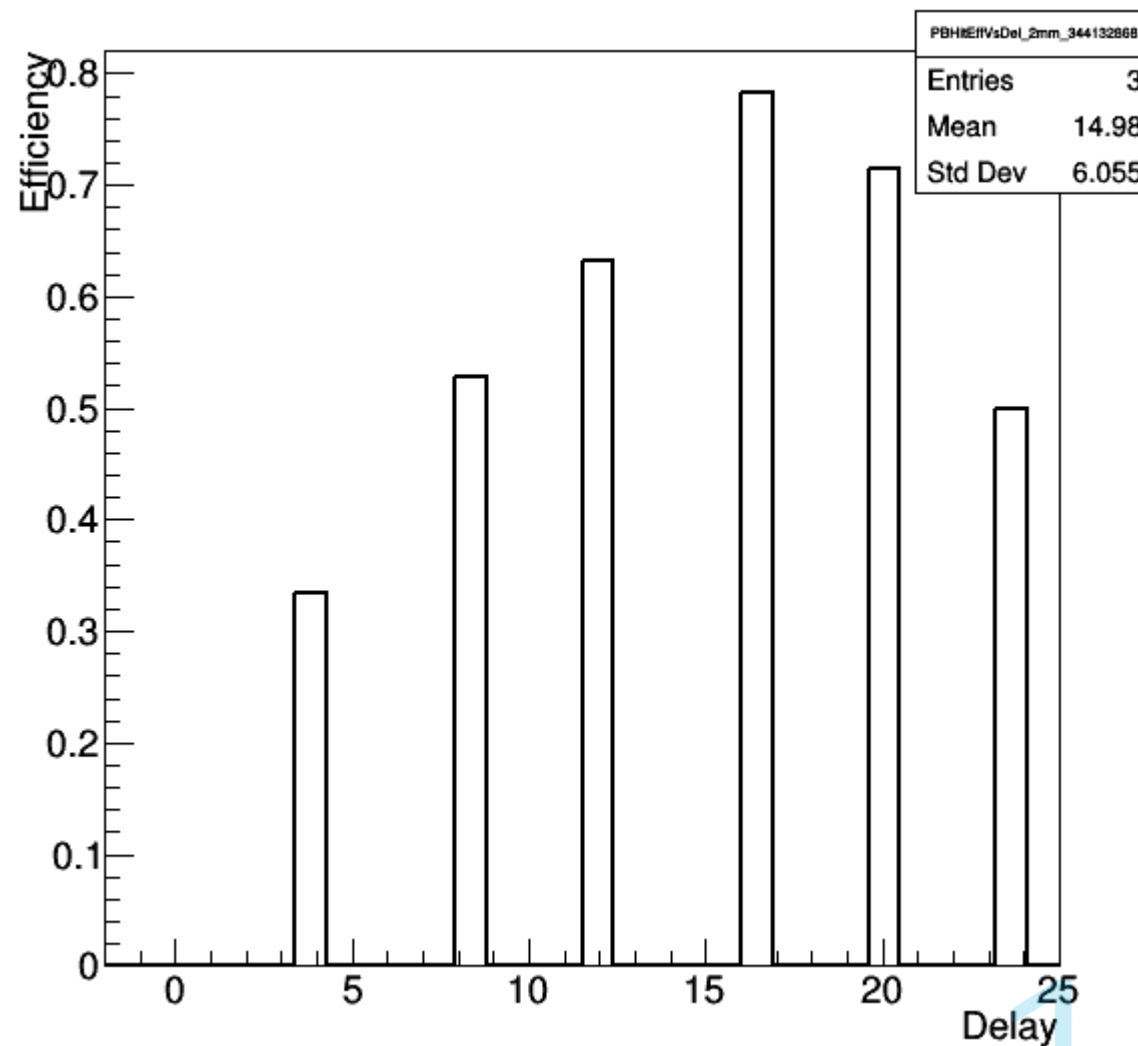
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD10_PNL1_ROC(c)

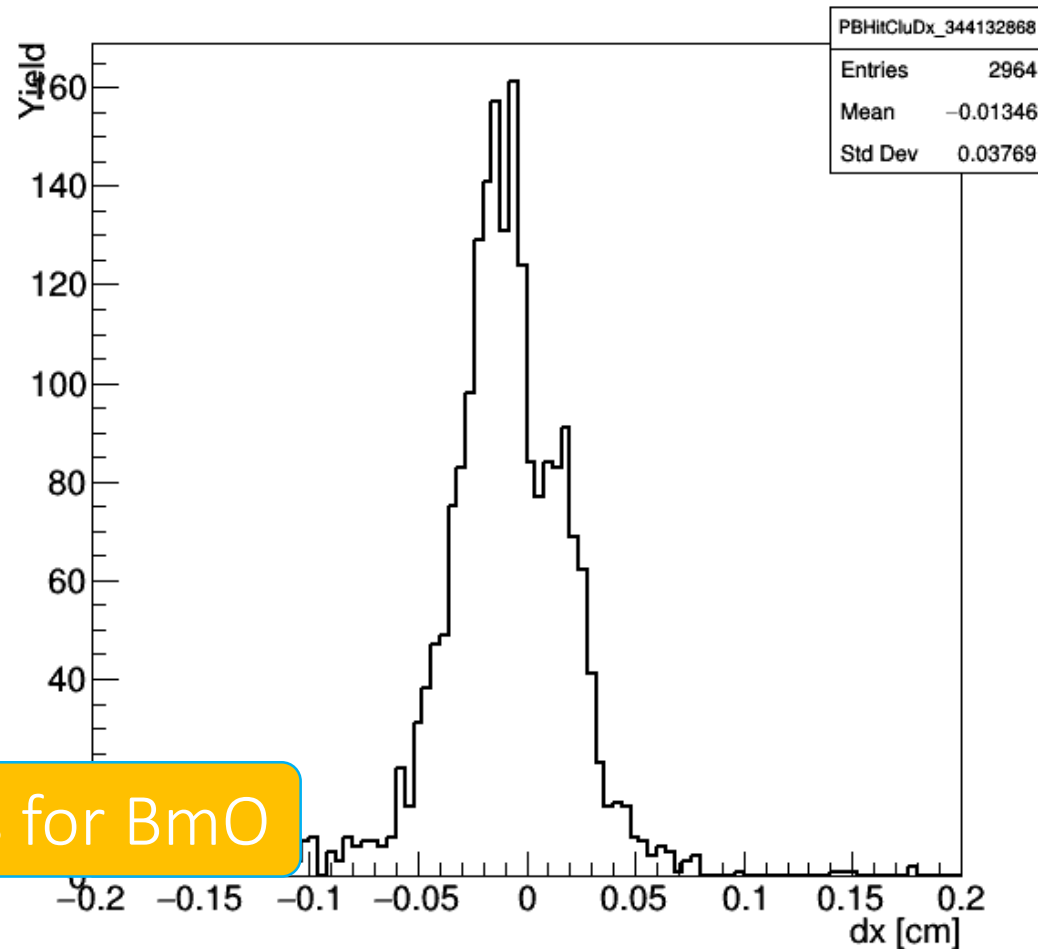
RecHit efficiency vs Delay in FPix_BmO_D3_BLD10_PNL1_PLQ1



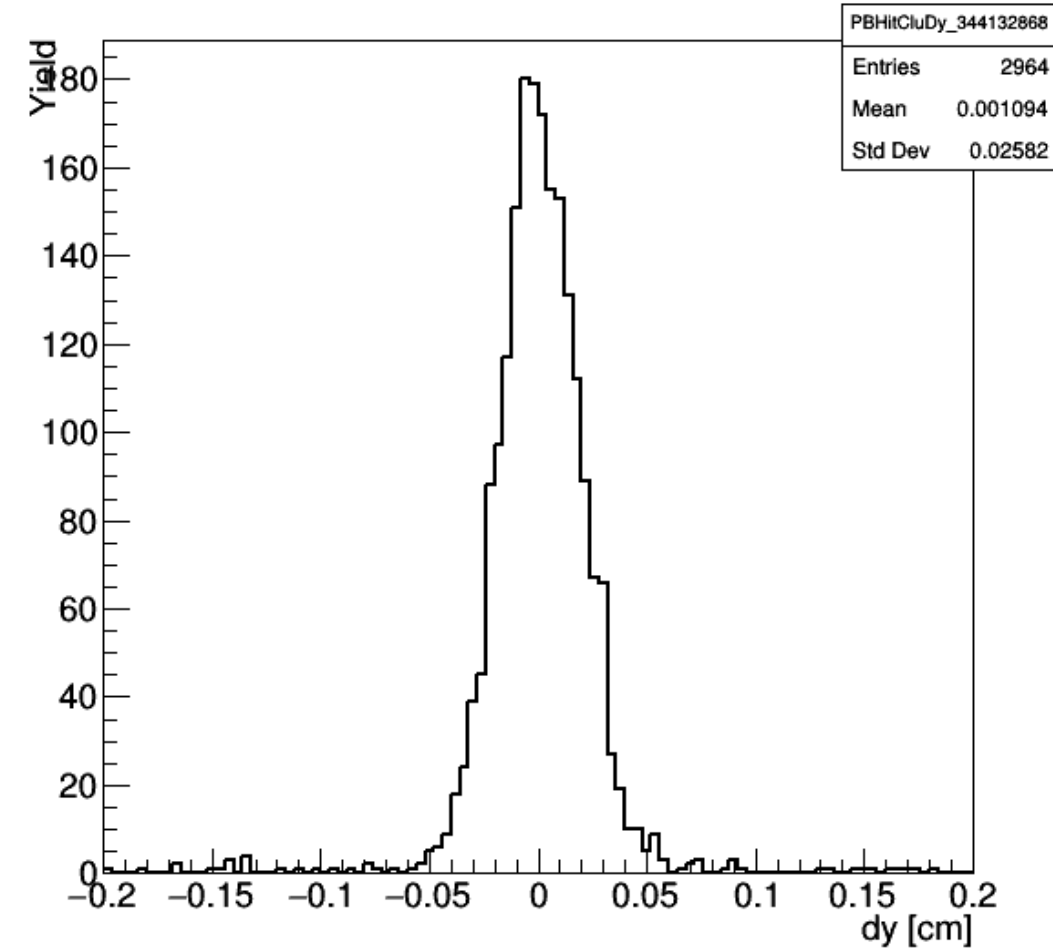
Residuals (Zoomed)

FPix_BmO_D3_BLD10_PNL1_ROC(c)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



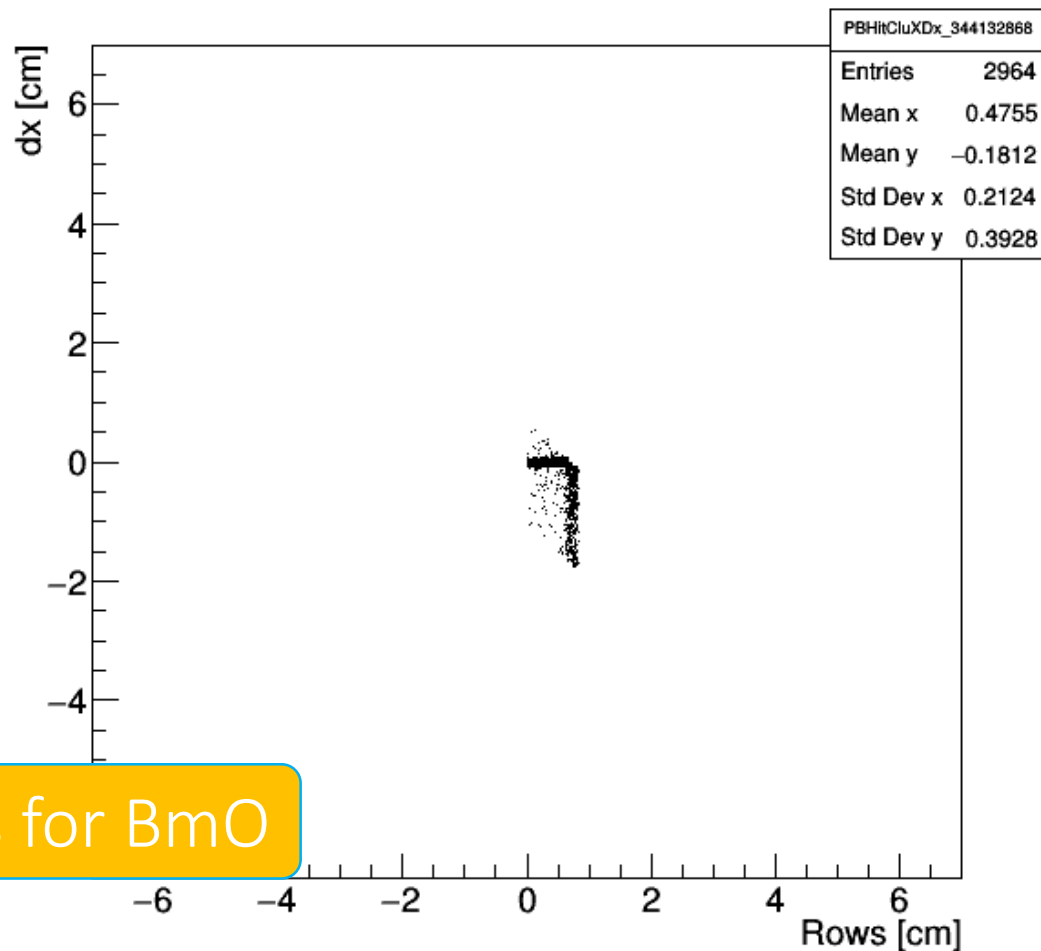
Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



Position vs Residuals

FPix_BmO_D3_BLD10_PNL1_ROC(c)

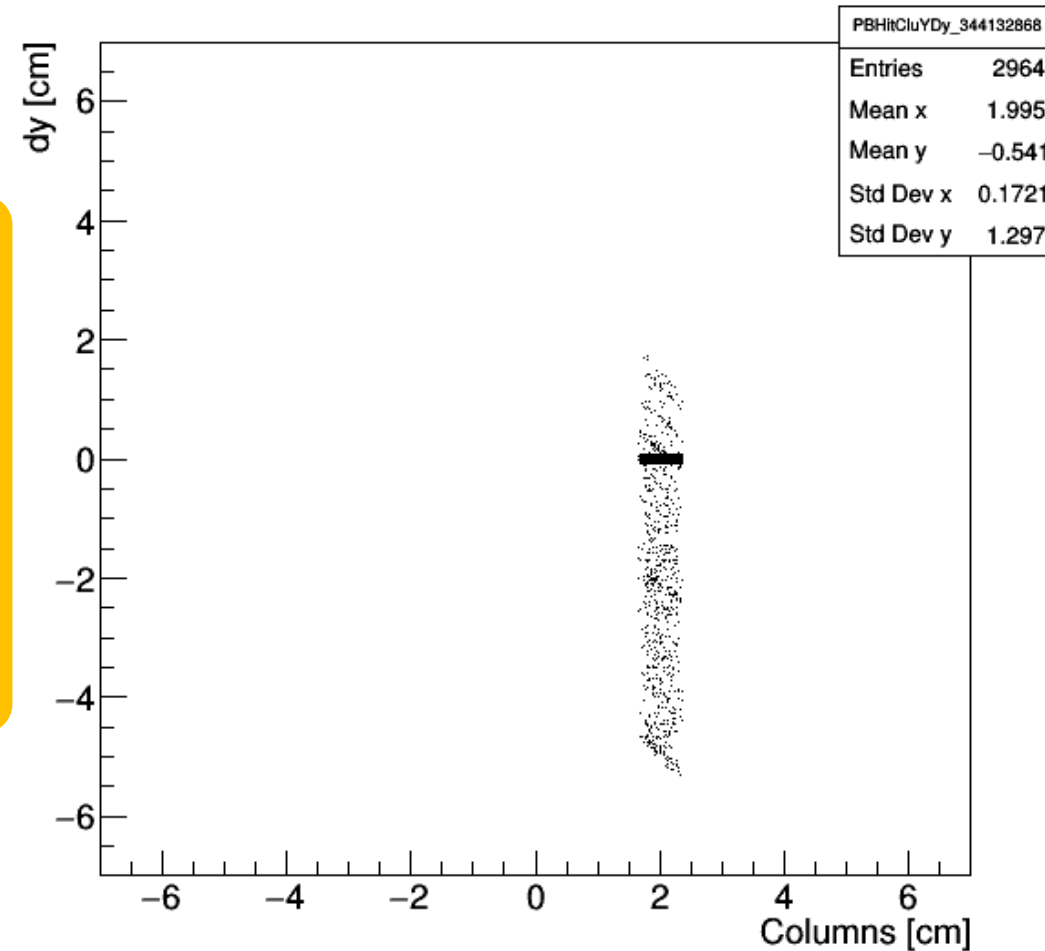
Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD10_PNL1_PLQ1



Azimuthal
direction

18 ns for BmO

Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD10_PNL1_PLQ1

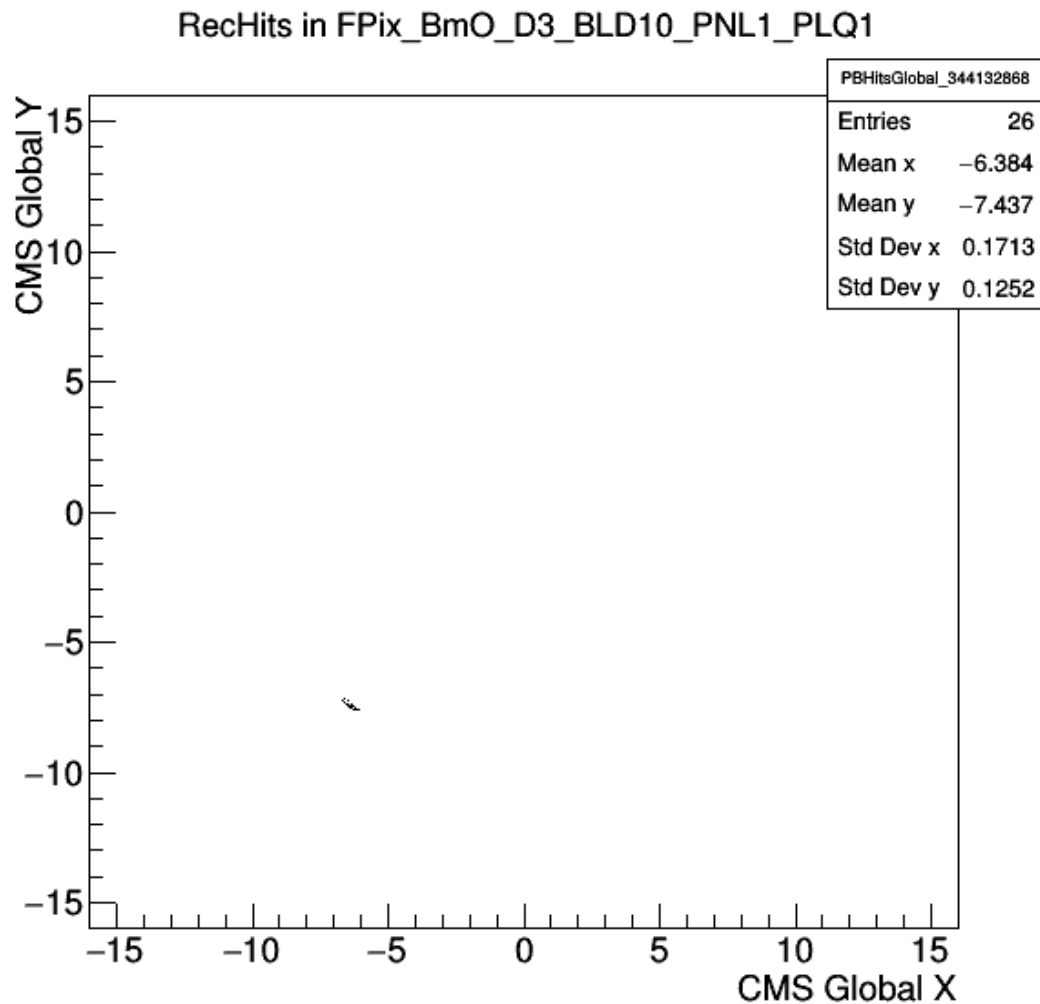


Radial direction

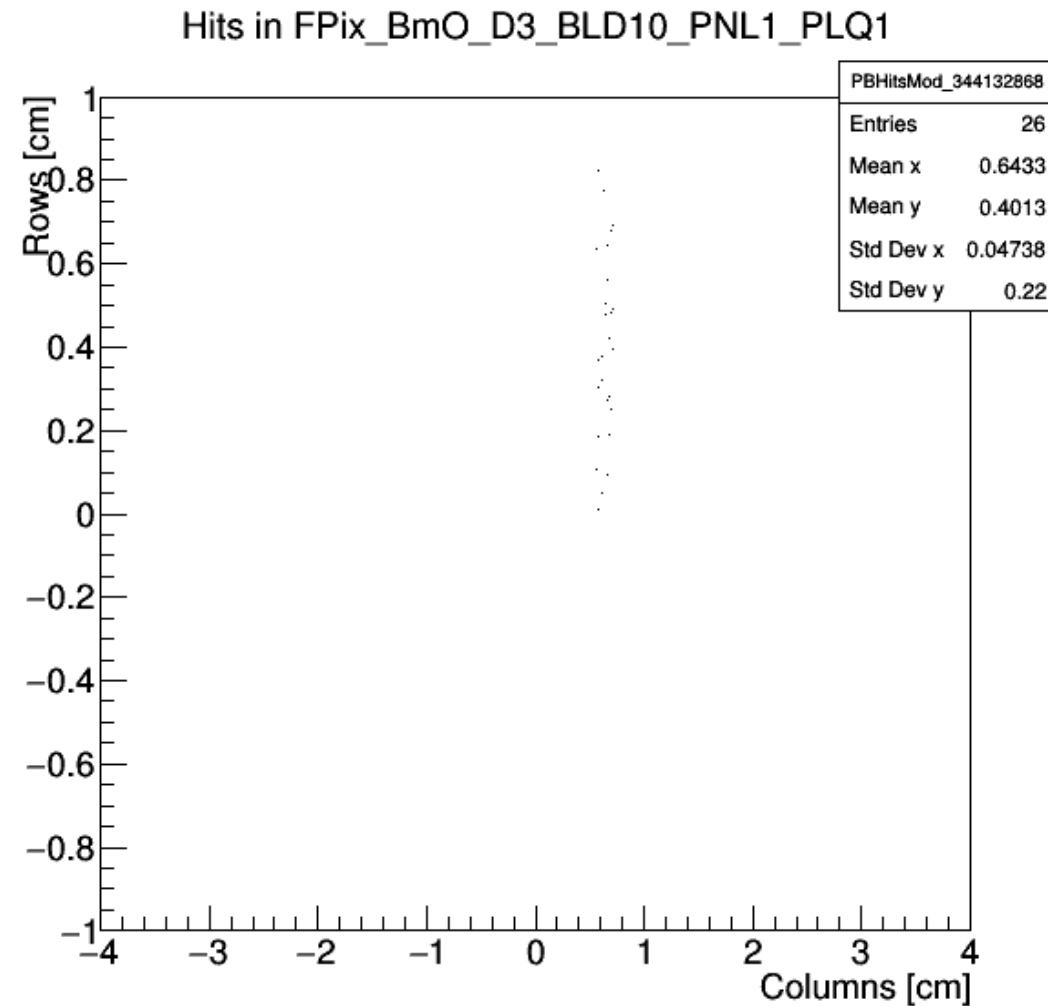
Position of the ROC

FPix_BmO_D3_BLD10_PNL1_ROC(d)

Global Position



Local Position



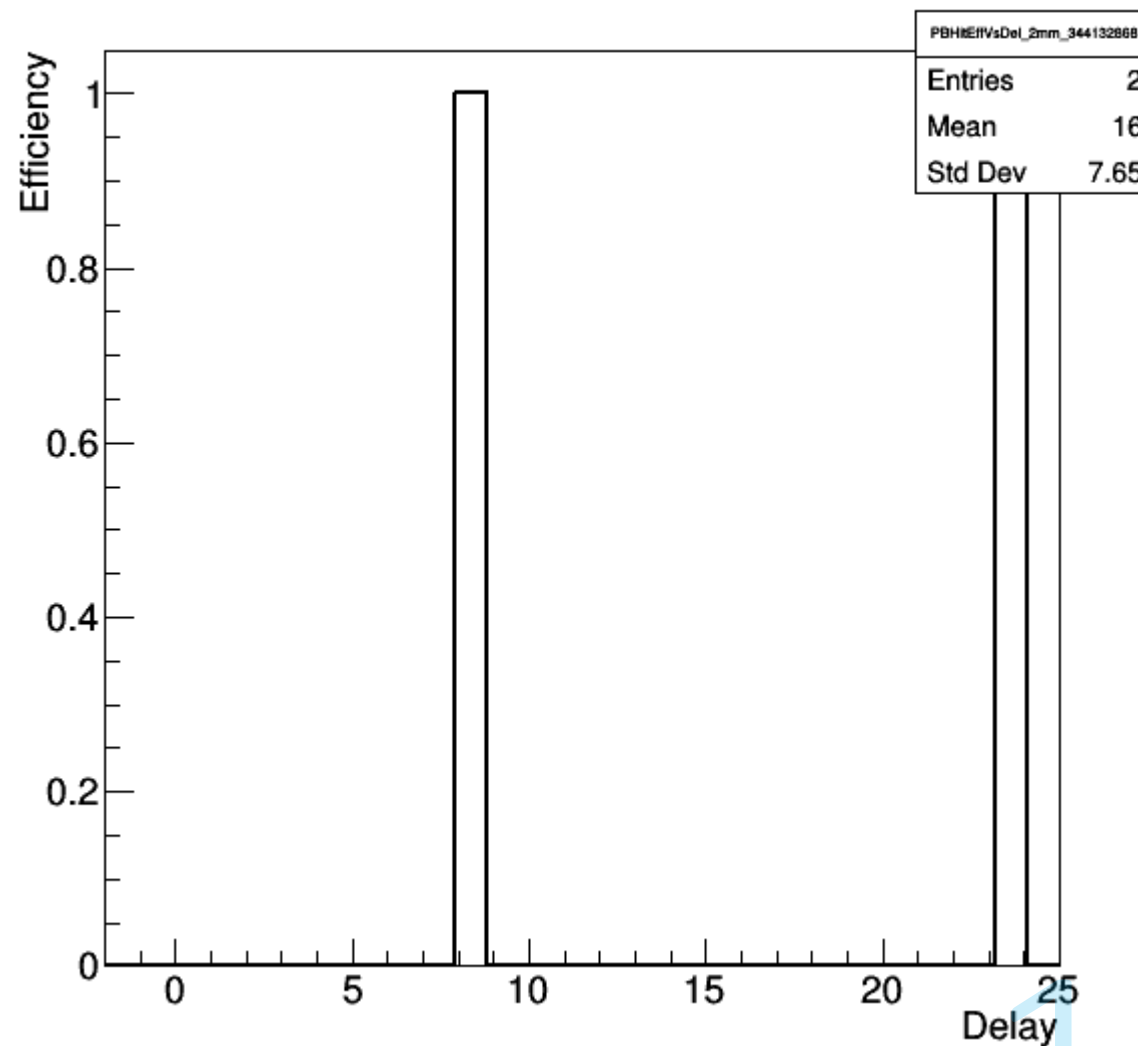
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD10_PNL1_ROC(d)

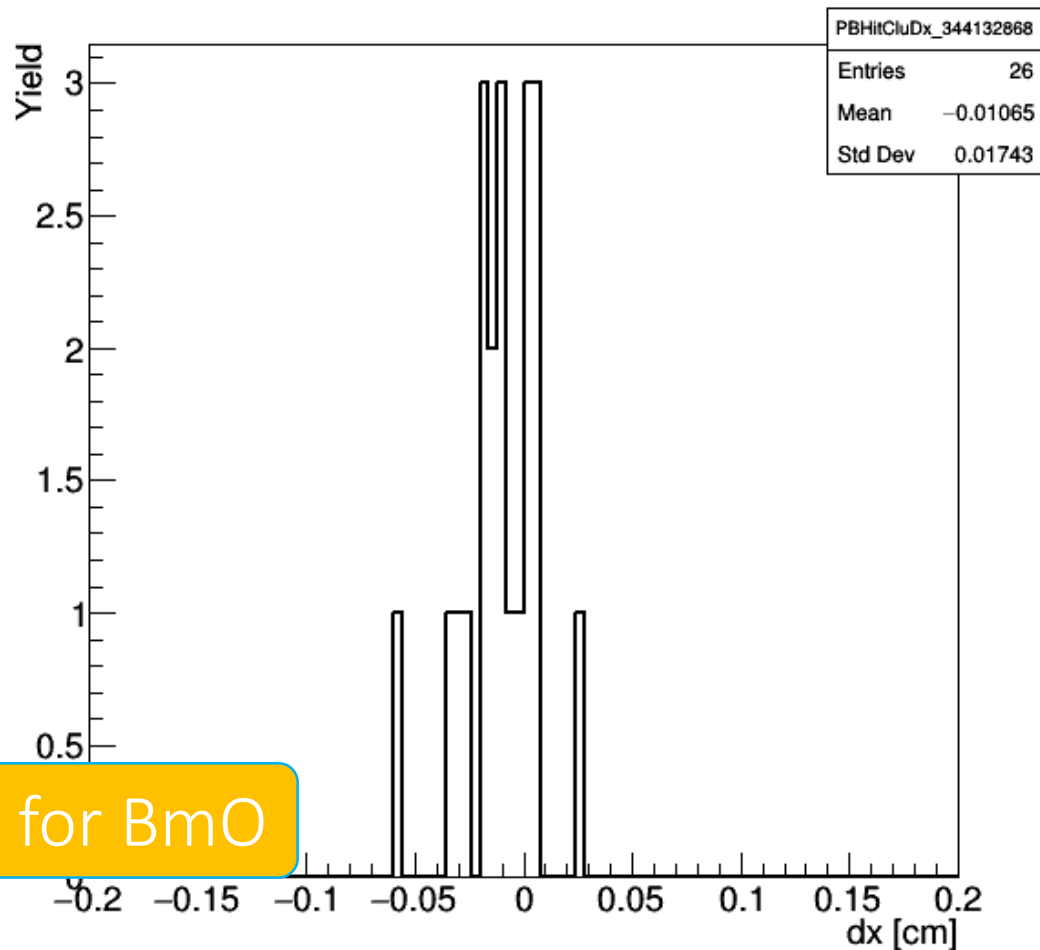
RecHit efficiency vs Delay in FPix_BmO_D3_BLD10_PNL1_PLQ1



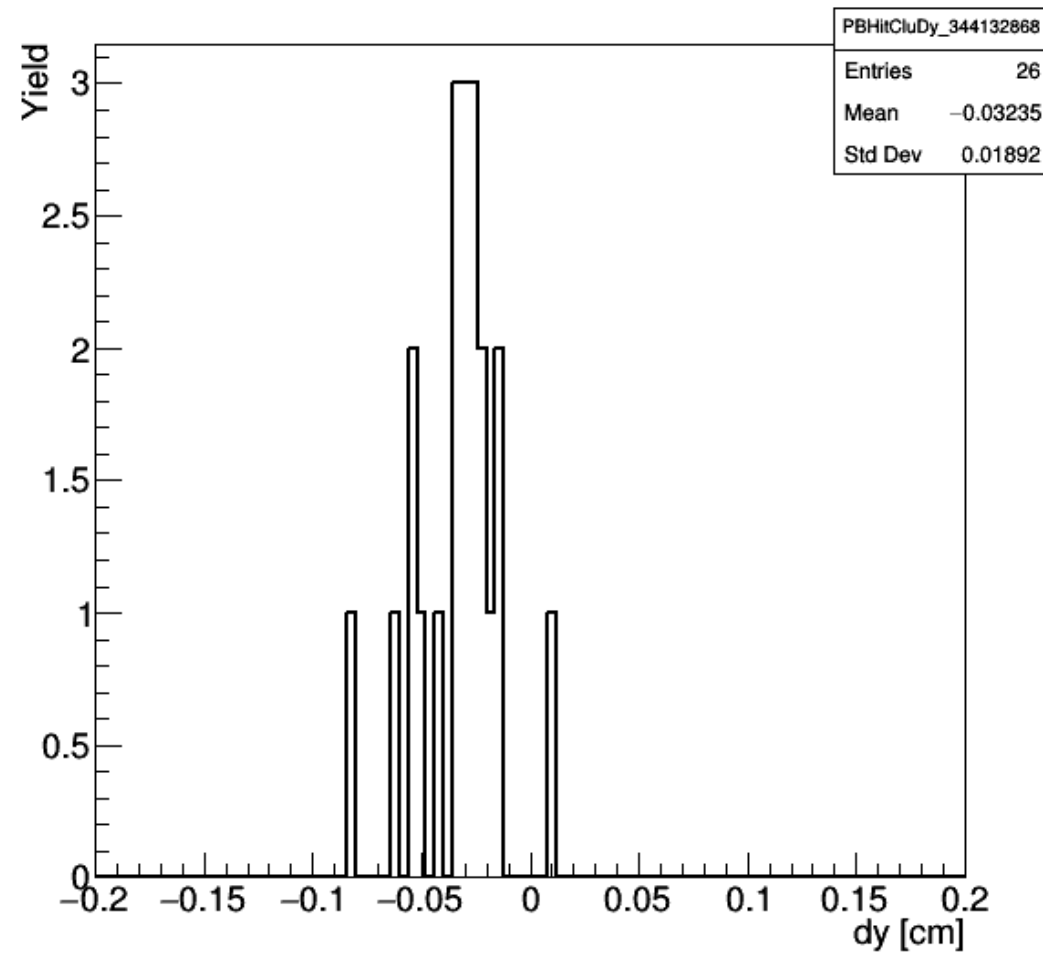
Residuals (Zoomed)

FPix_BmO_D3_BLD10_PNL1_ROC(d)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



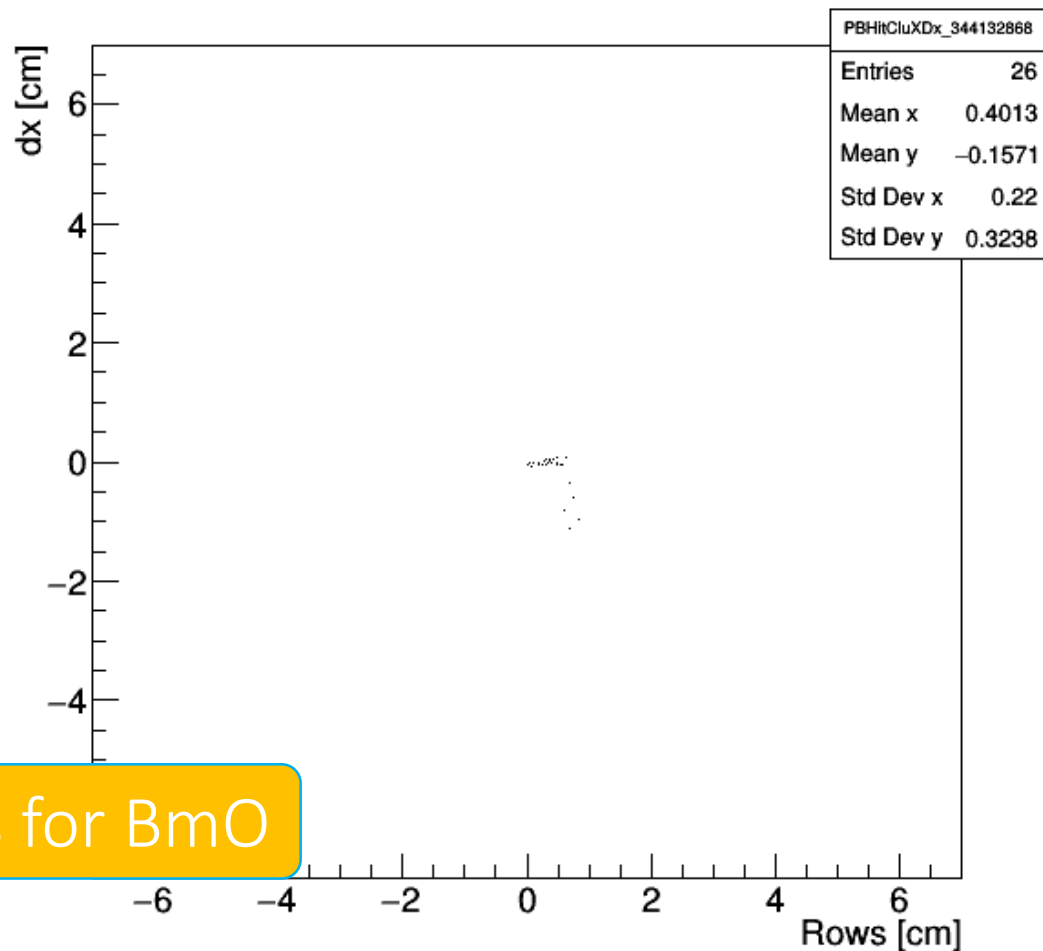
Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



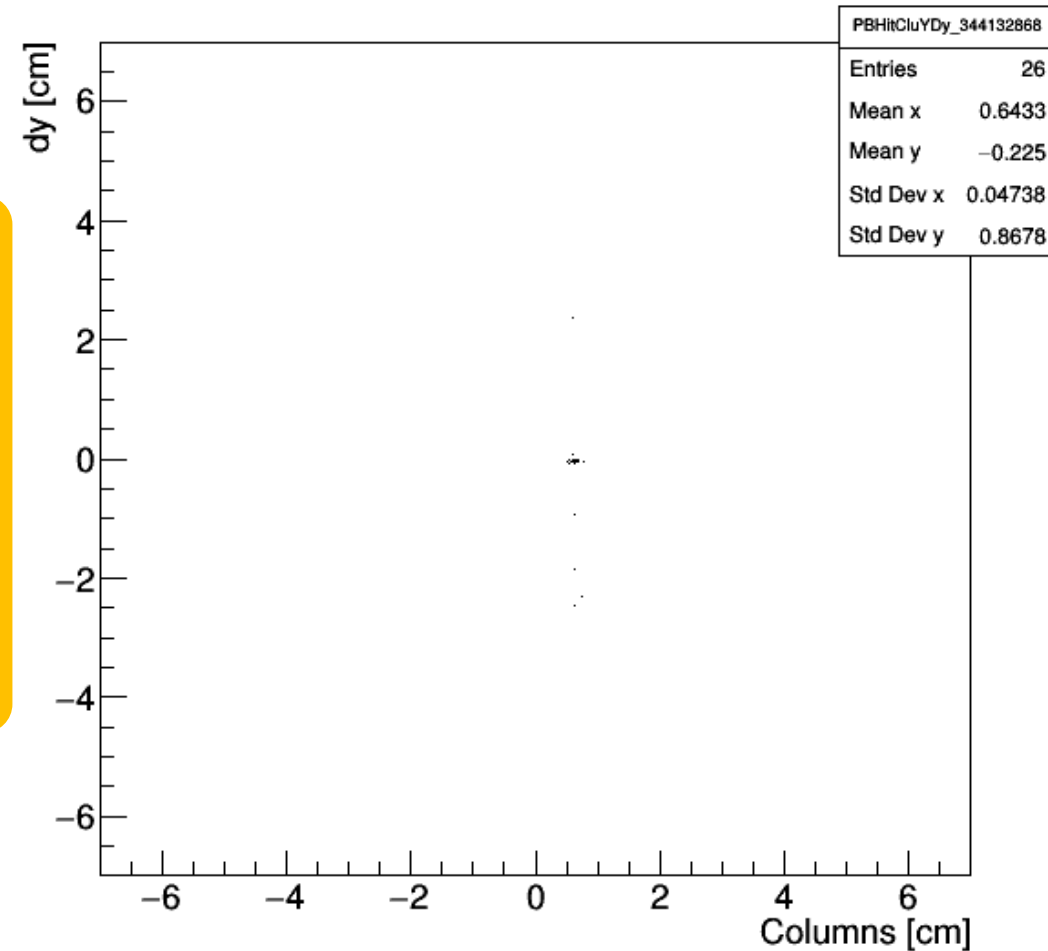
Position vs Residuals

FPix_BmO_D3_BLD10_PNL1_ROC(d)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD10_PNL1_PLQ1



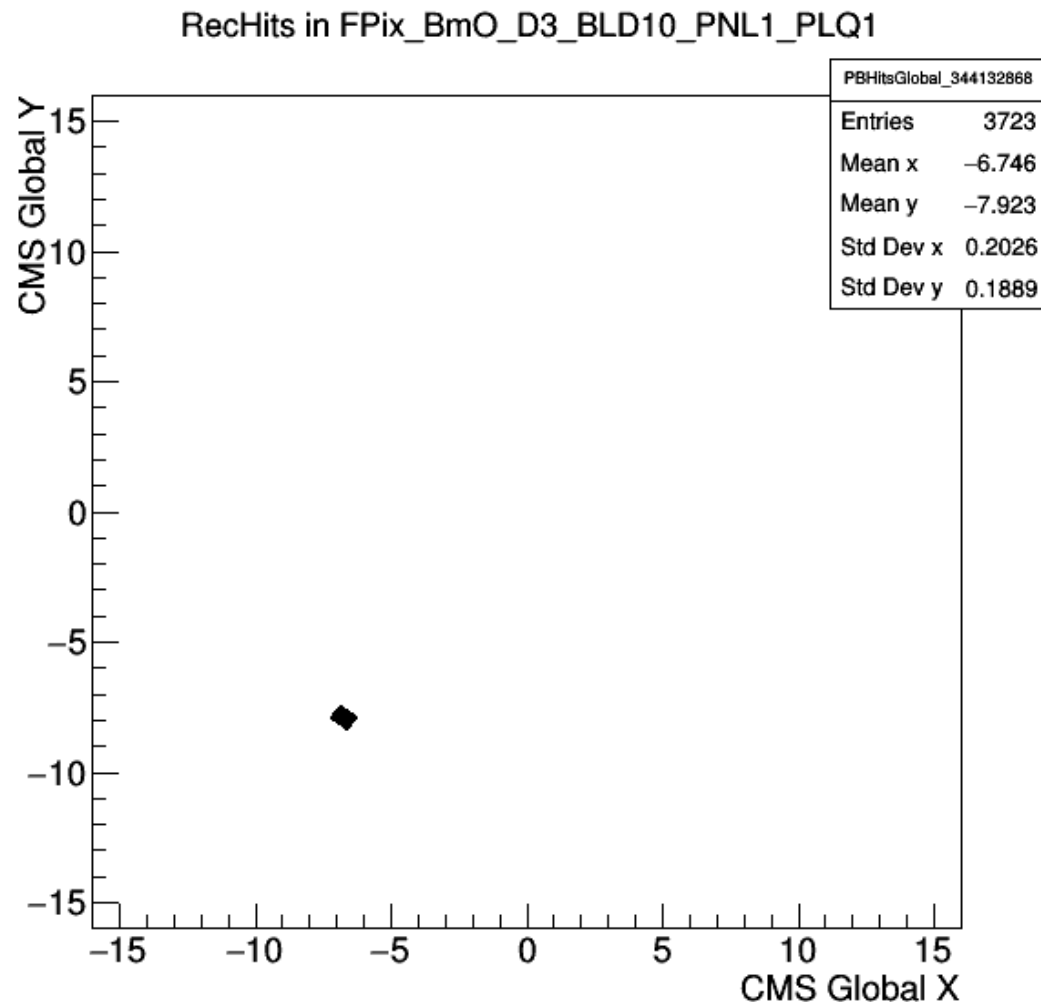
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD10_PNL1_PLQ1



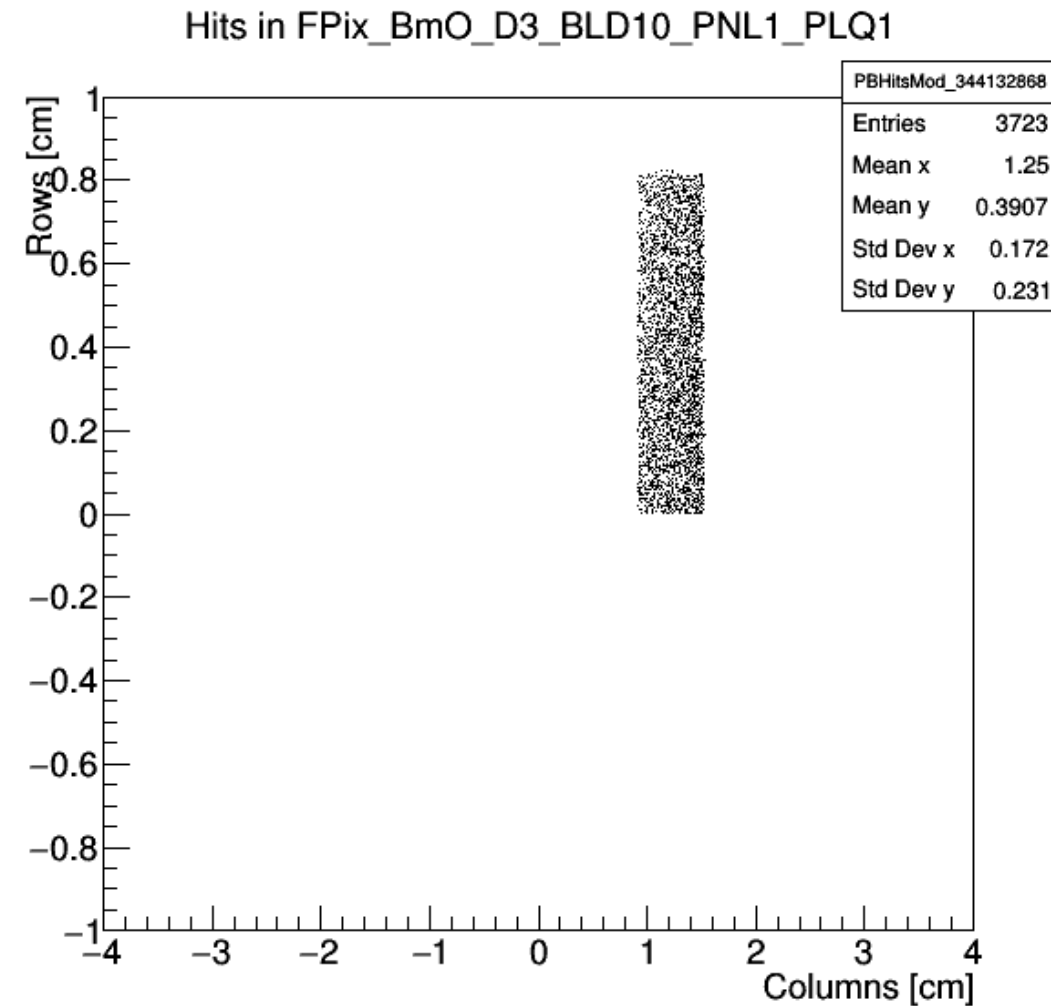
Position of the ROC

FPix_BmO_D3_BLD10_PNL1_ROC(e)

Global Position



Local Position



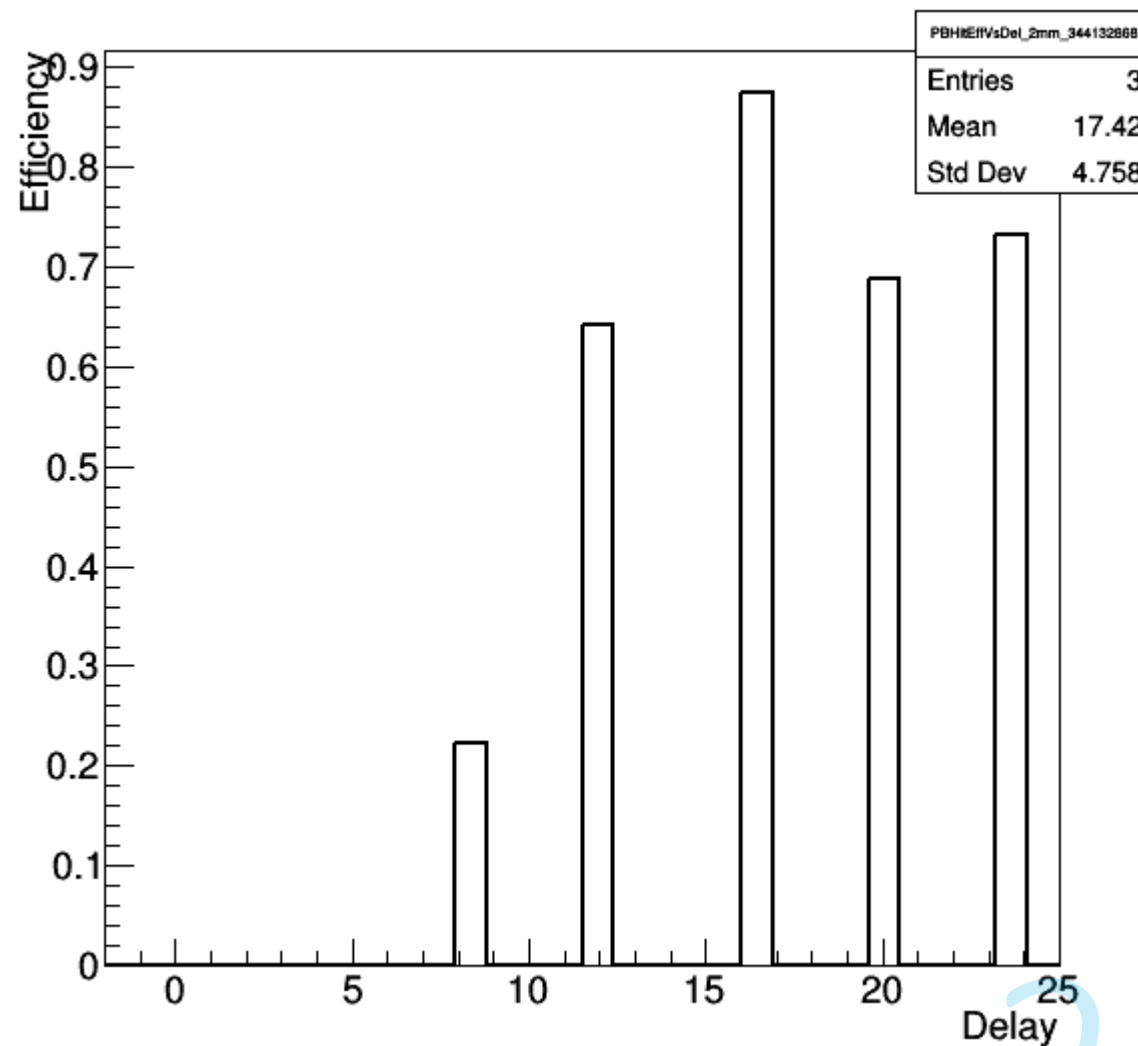
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD10_PNL1_ROC(e)

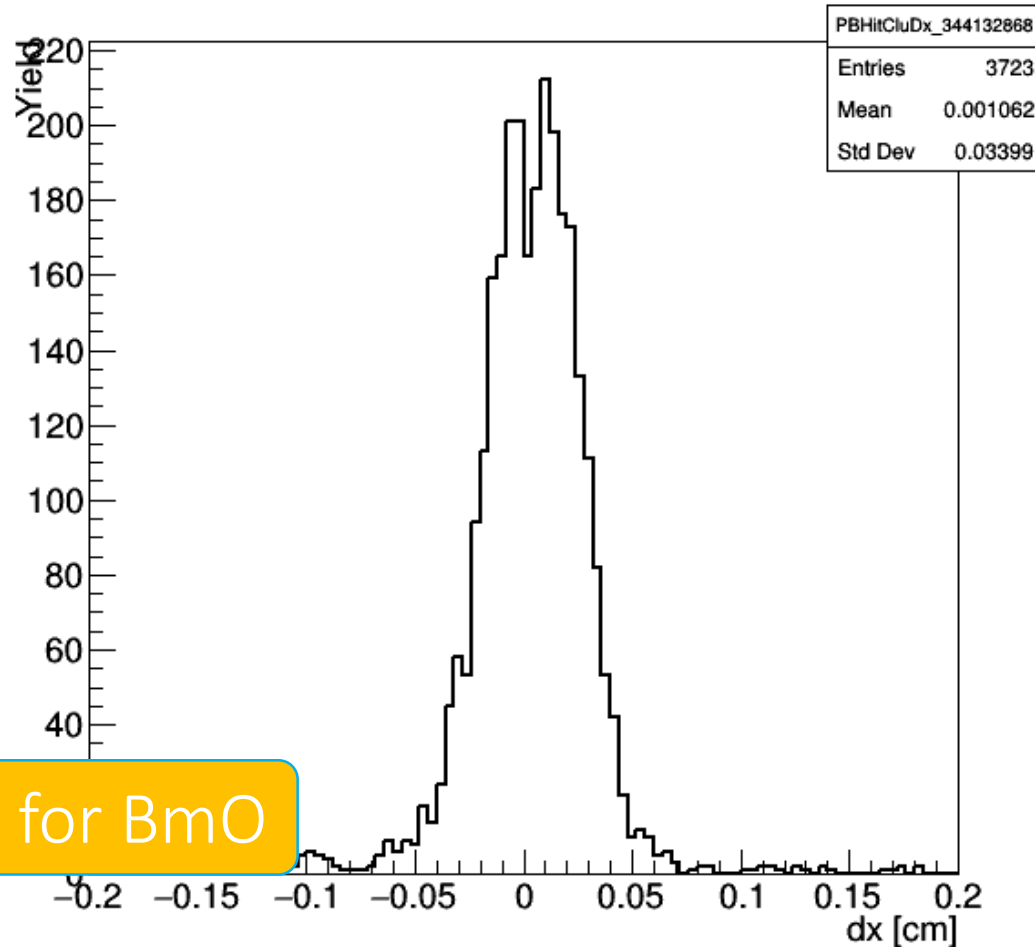
RecHit efficiency vs Delay in FPix_BmO_D3_BLD10_PNL1_PLQ1



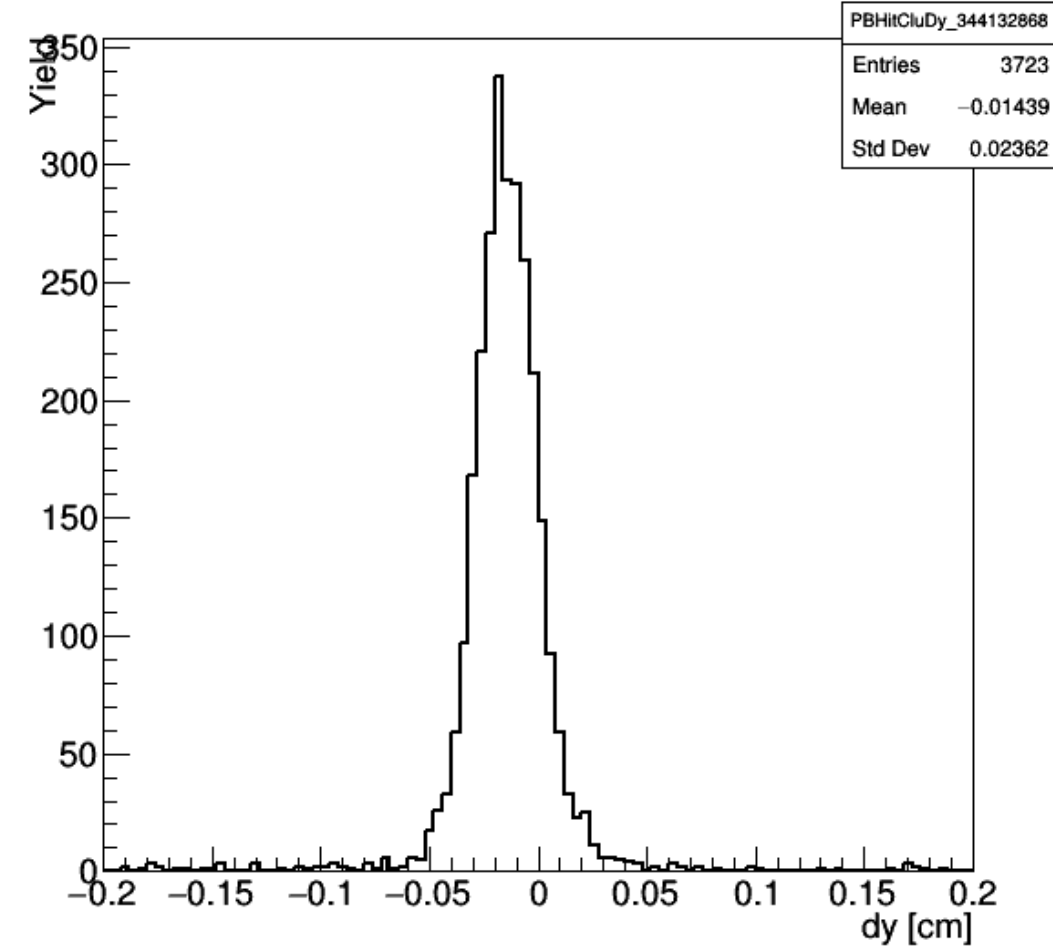
Residuals (Zoomed)

FPix_BmO_D3_BLD10_PNL1_ROC(e)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



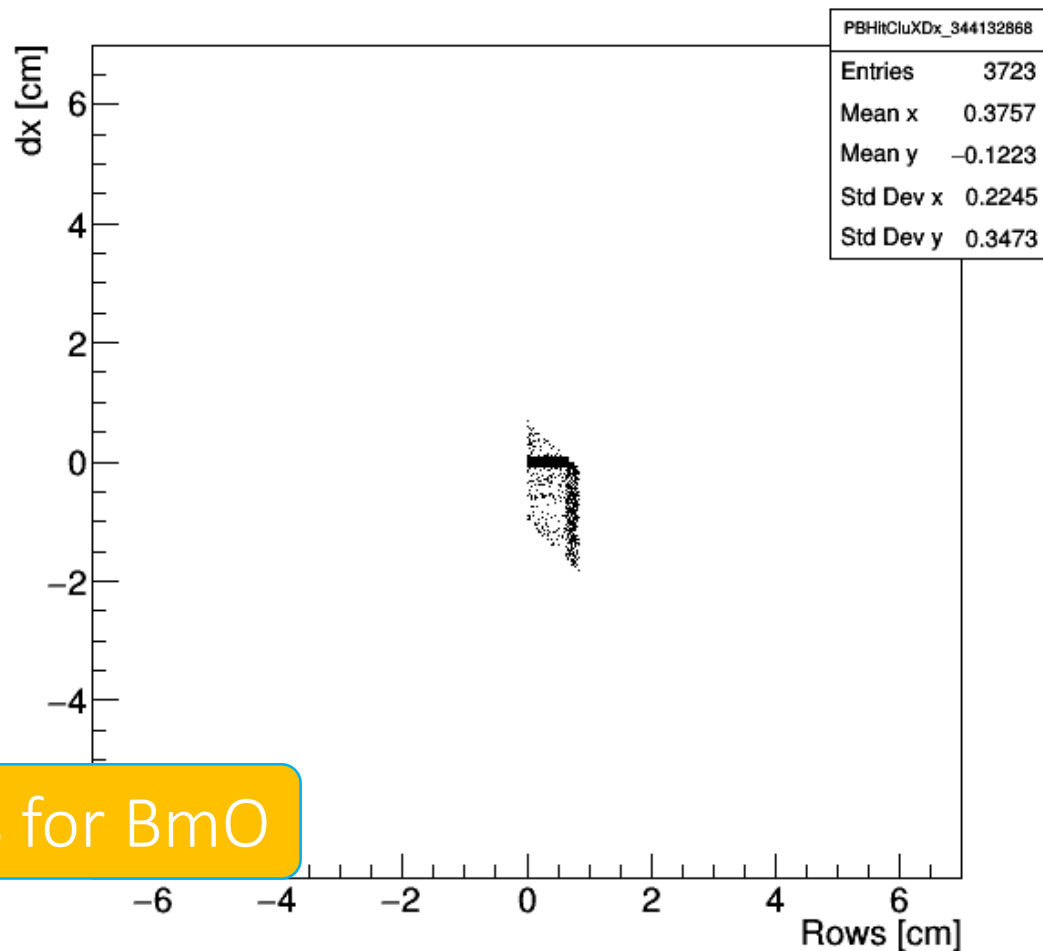
Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



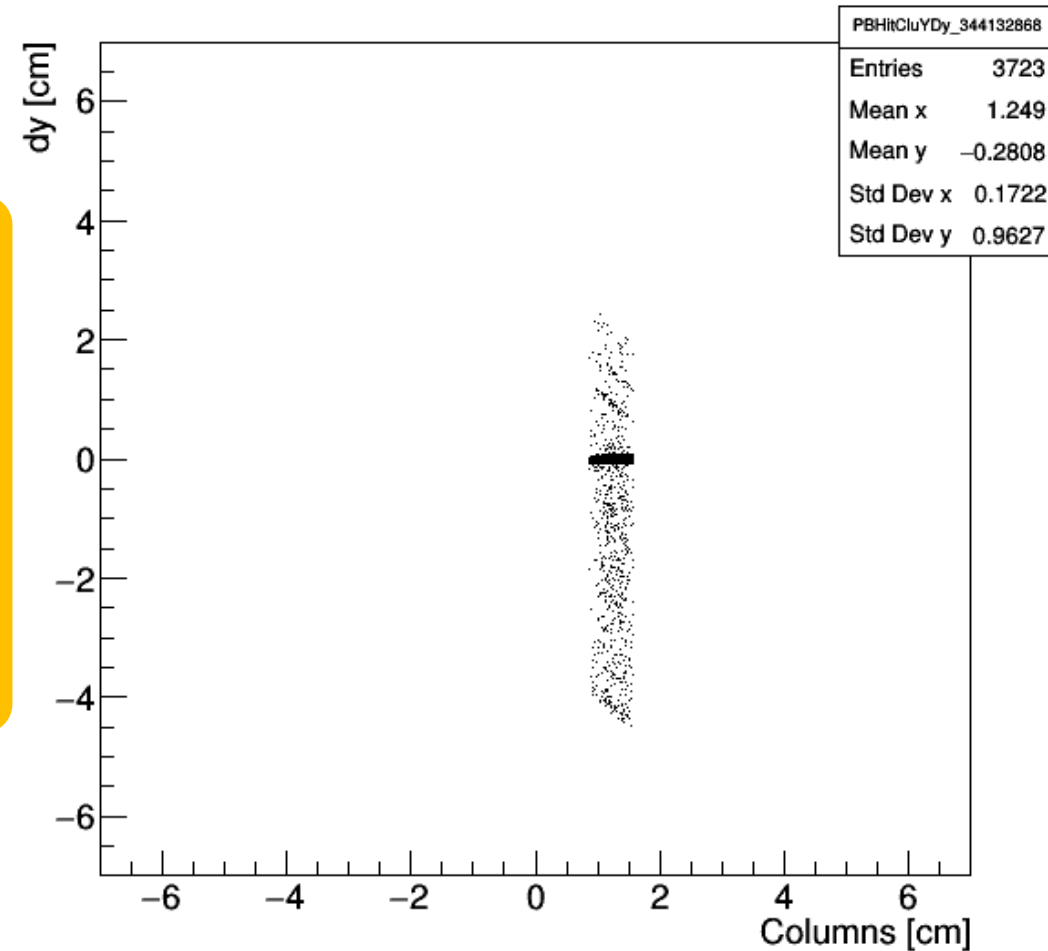
Position vs Residuals

FPix_BmO_D3_BLD10_PNL1_ROC(e)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD10_PNL1_PLQ1



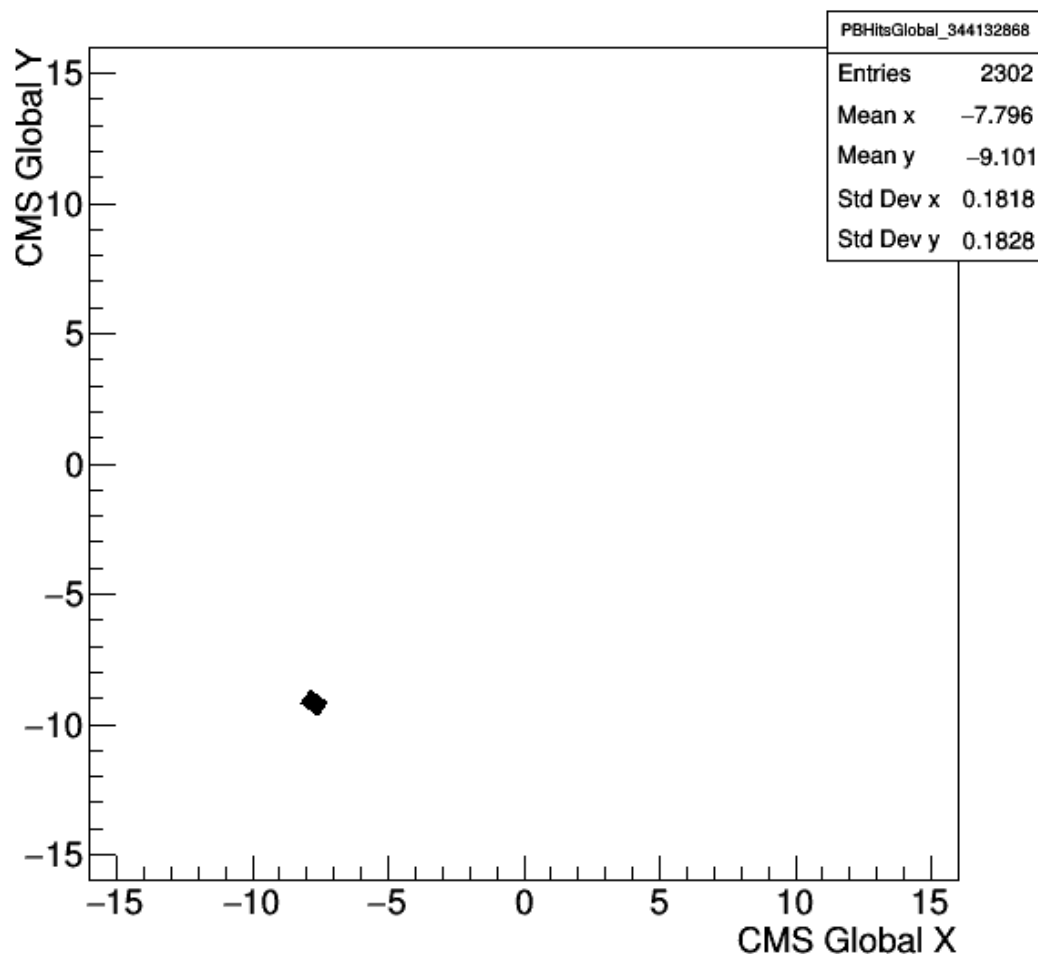
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD10_PNL1_PLQ1



Position of the ROC

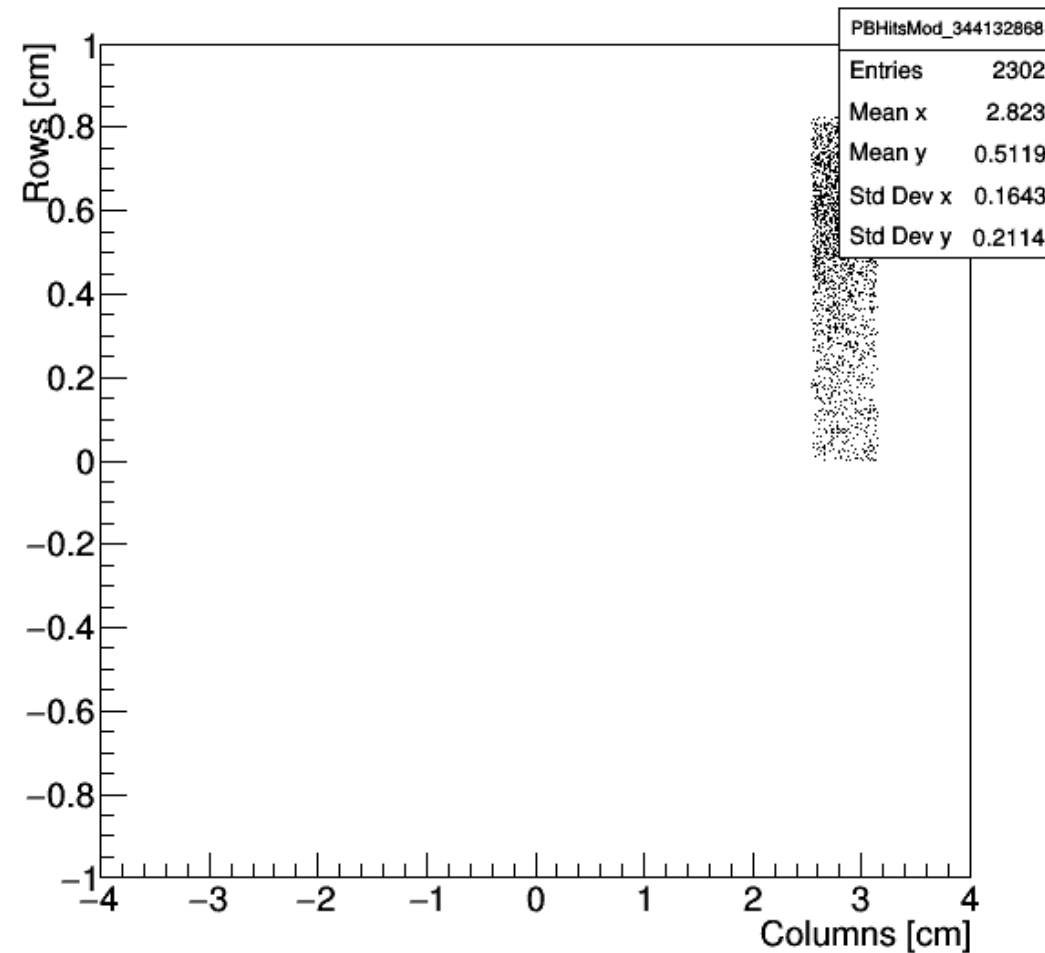
FPix_BmO_D3_BLD10_PNL1_ROC(f)

RecHits in FPix_BmO_D3_BLD10_PNL1_PLQ1



Global Position

Hits in FPix_BmO_D3_BLD10_PNL1_PLQ1



Local Position

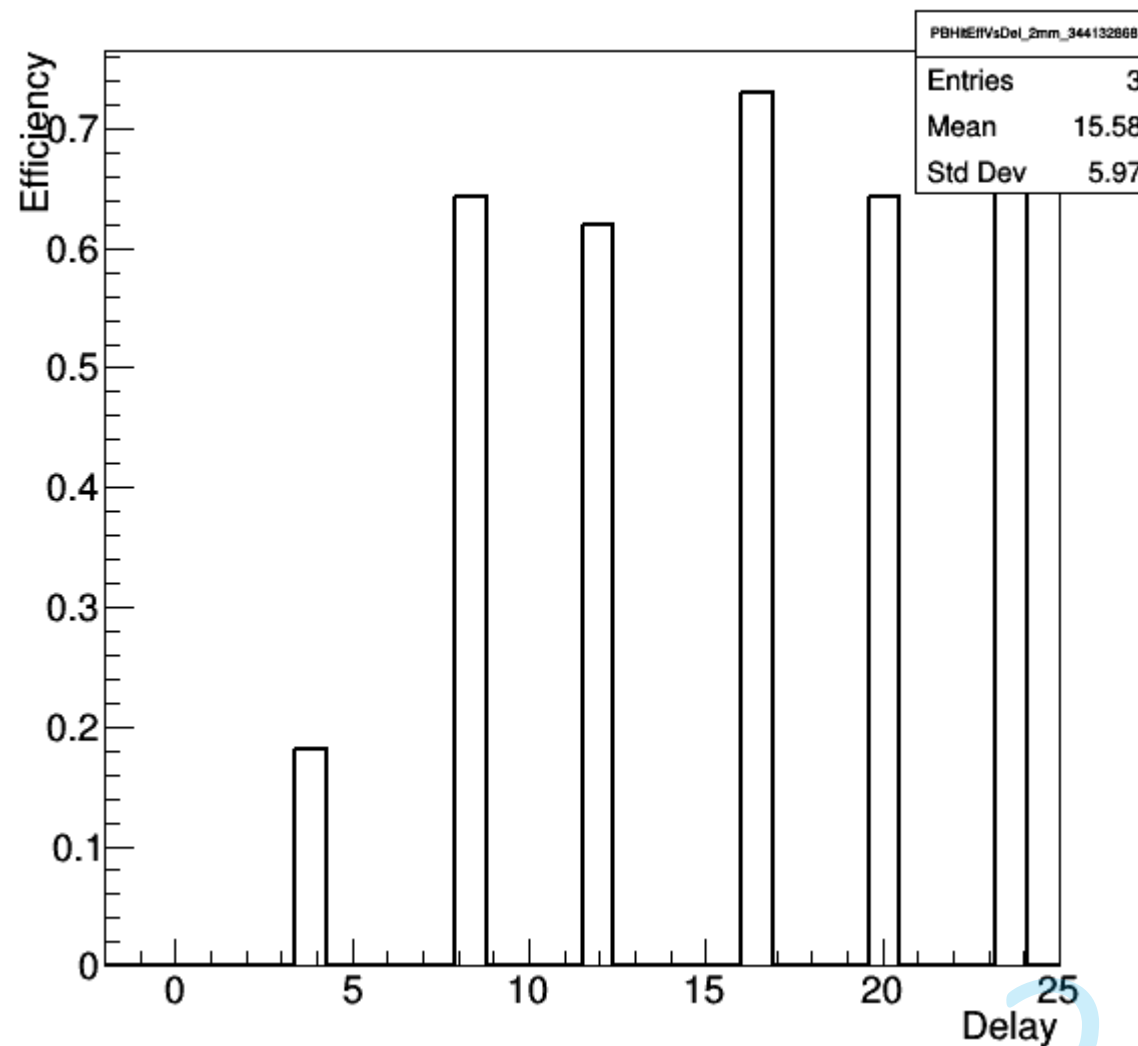
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD10_PNL1_ROC(f)

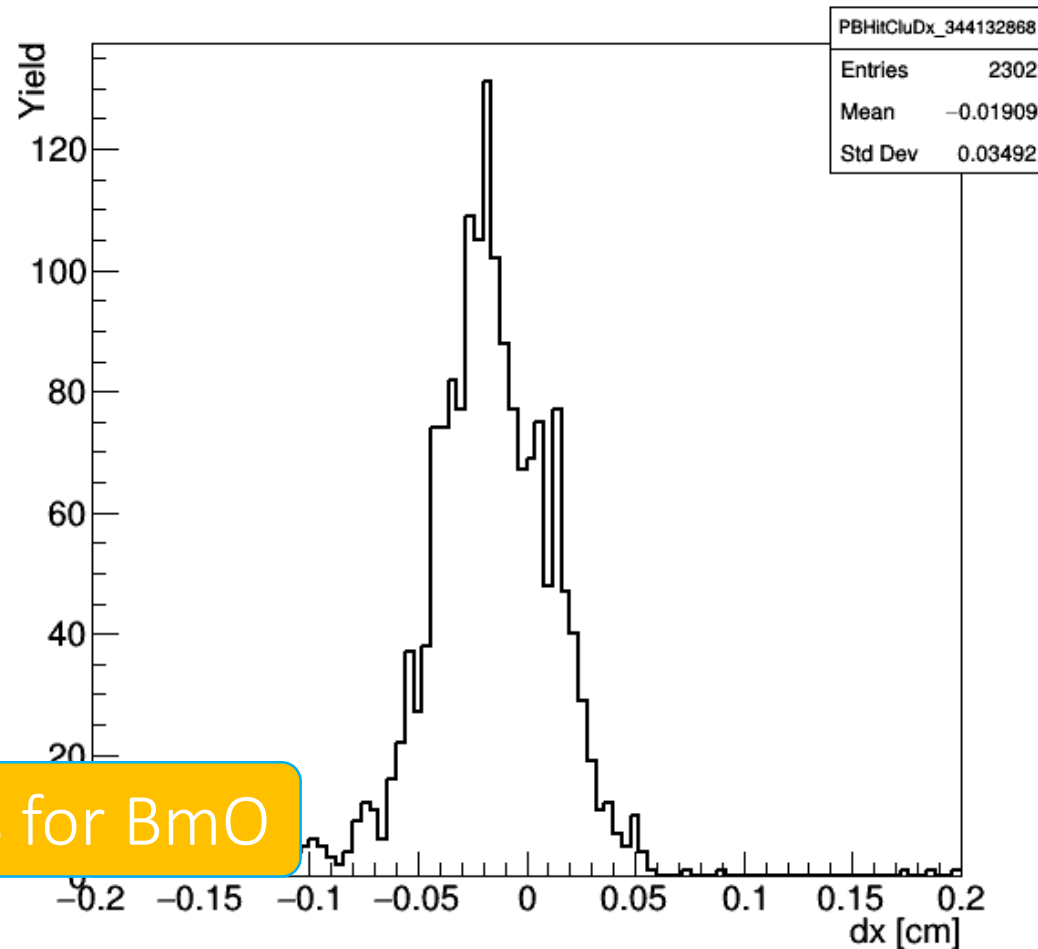
RecHit efficiency vs Delay in FPix_BmO_D3_BLD10_PNL1_PLQ1



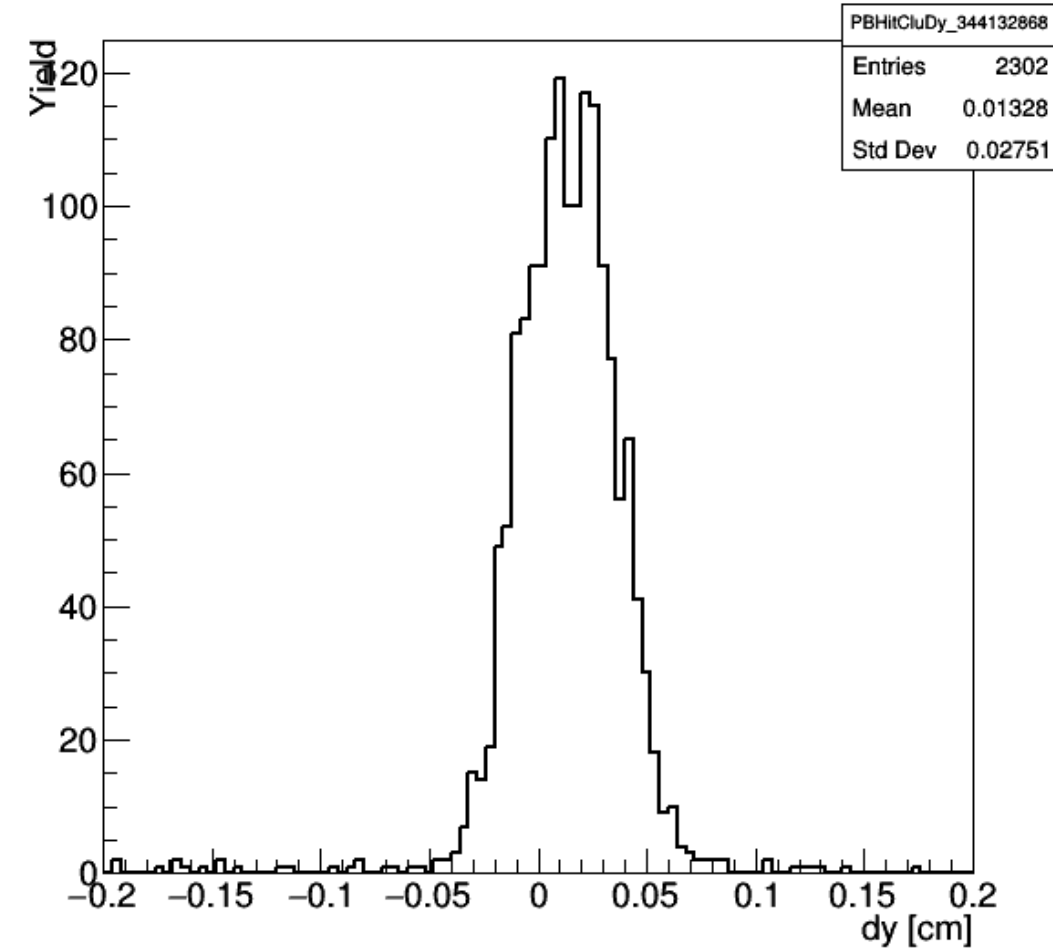
Residuals (Zoomed)

FPix_BmO_D3_BLD10_PNL1_ROC(f)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



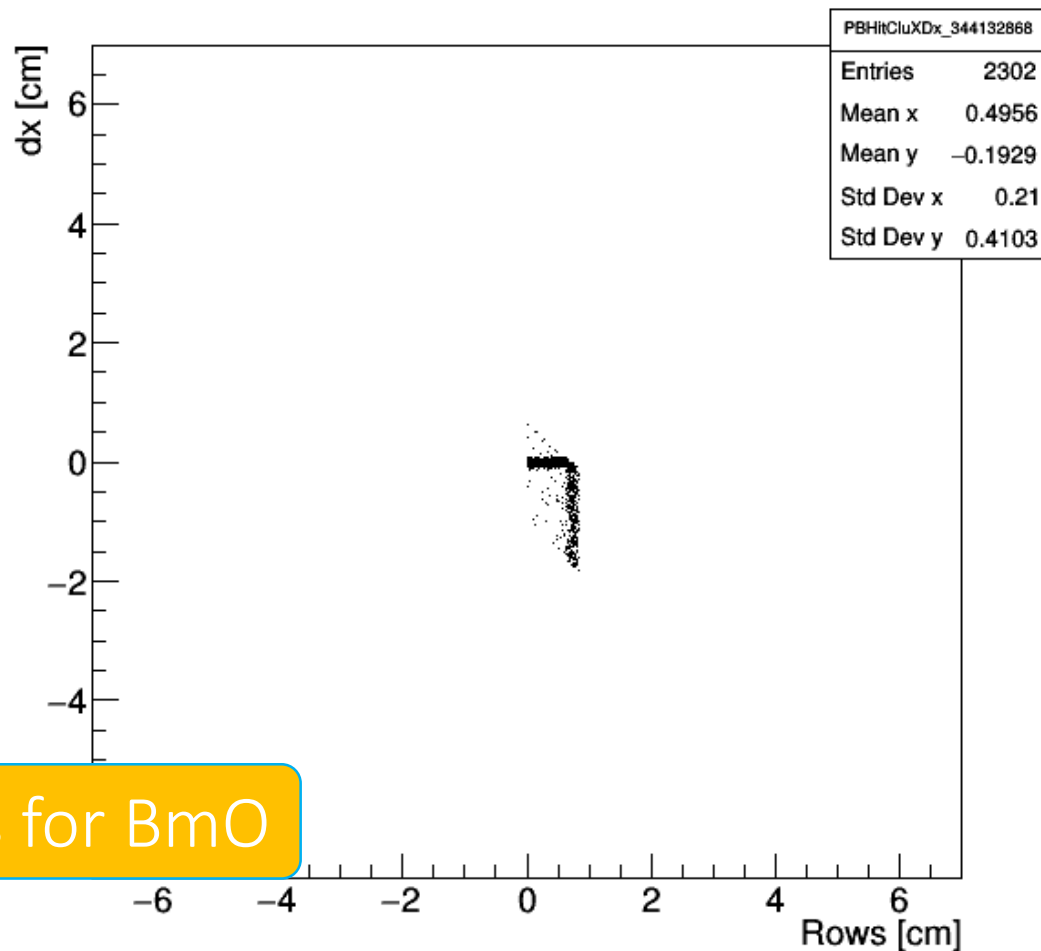
Rehit to nearest cluster distance in FPix_BmO_D3_BLD10_PNL1_PLQ1



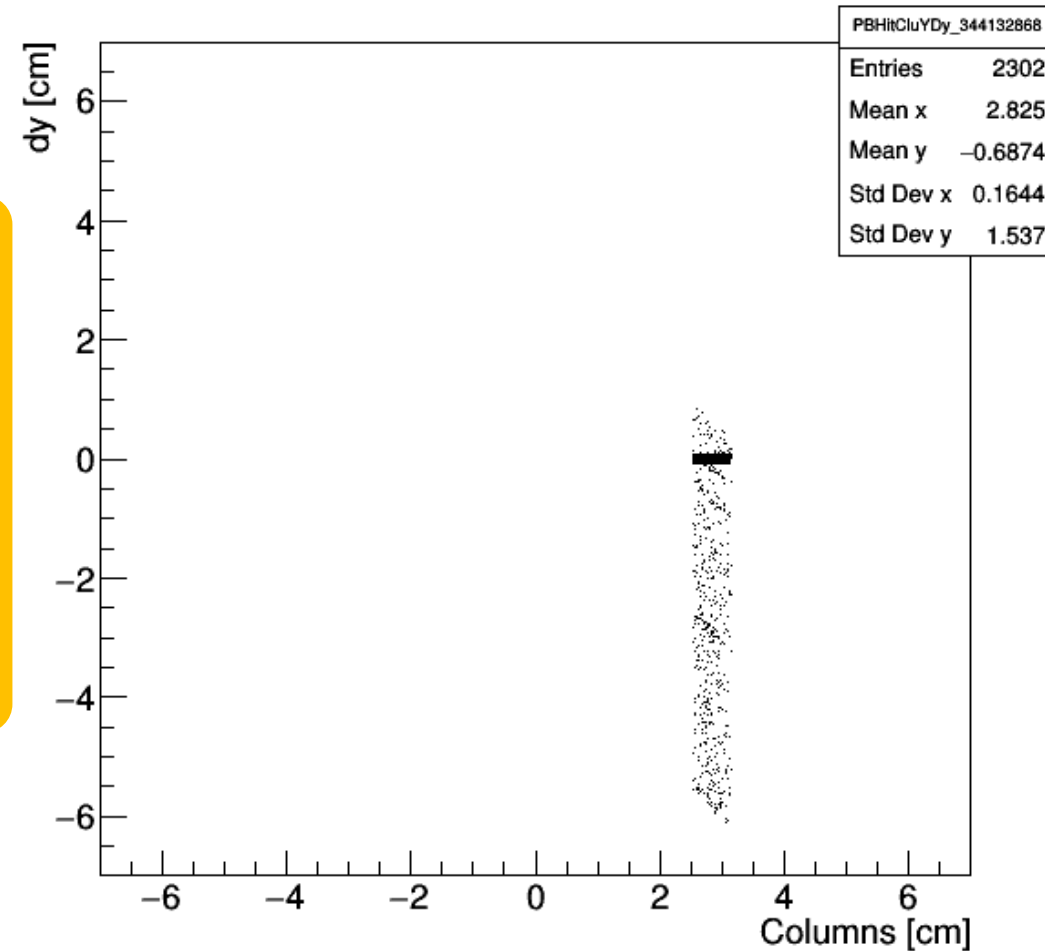
Position vs Residuals

FPix_BmO_D3_BLD10_PNL1_ROC(f)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD10_PNL1_PLQ1



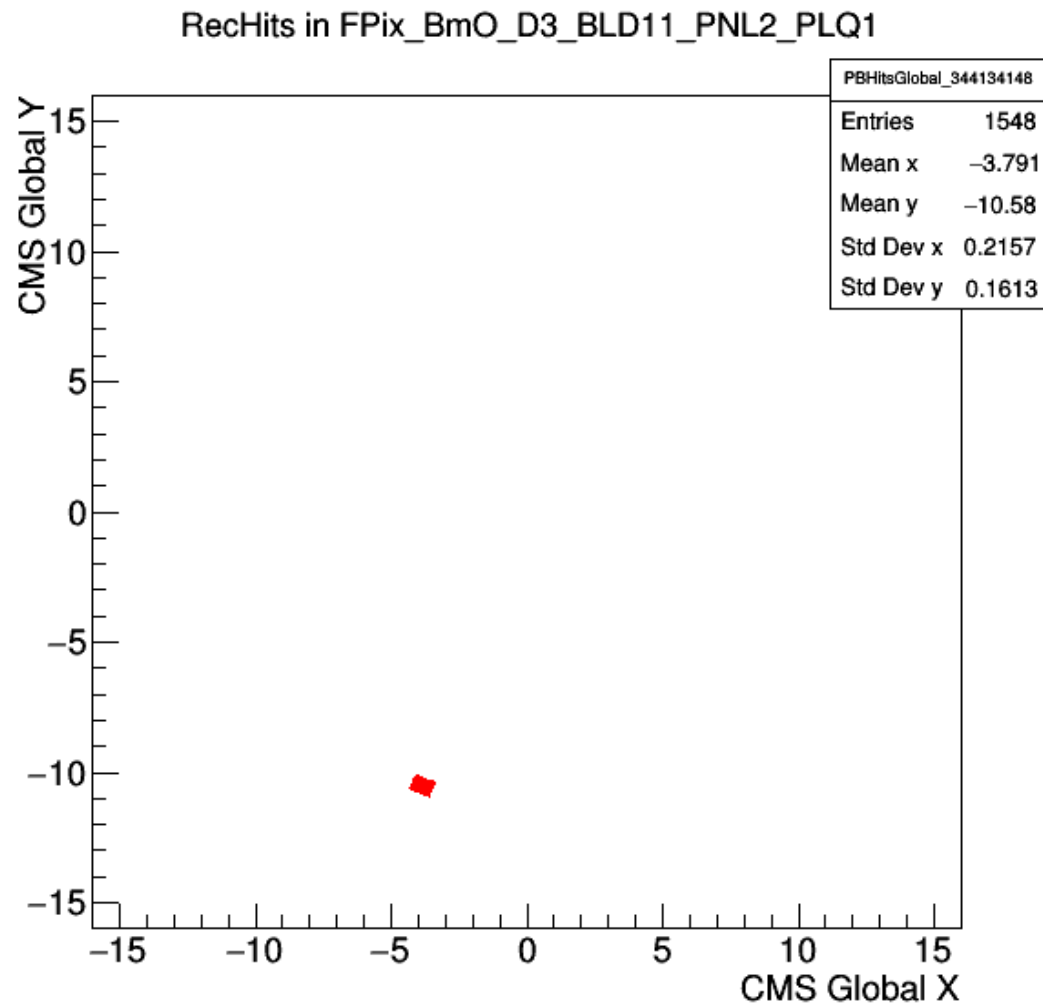
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD10_PNL1_PLQ1



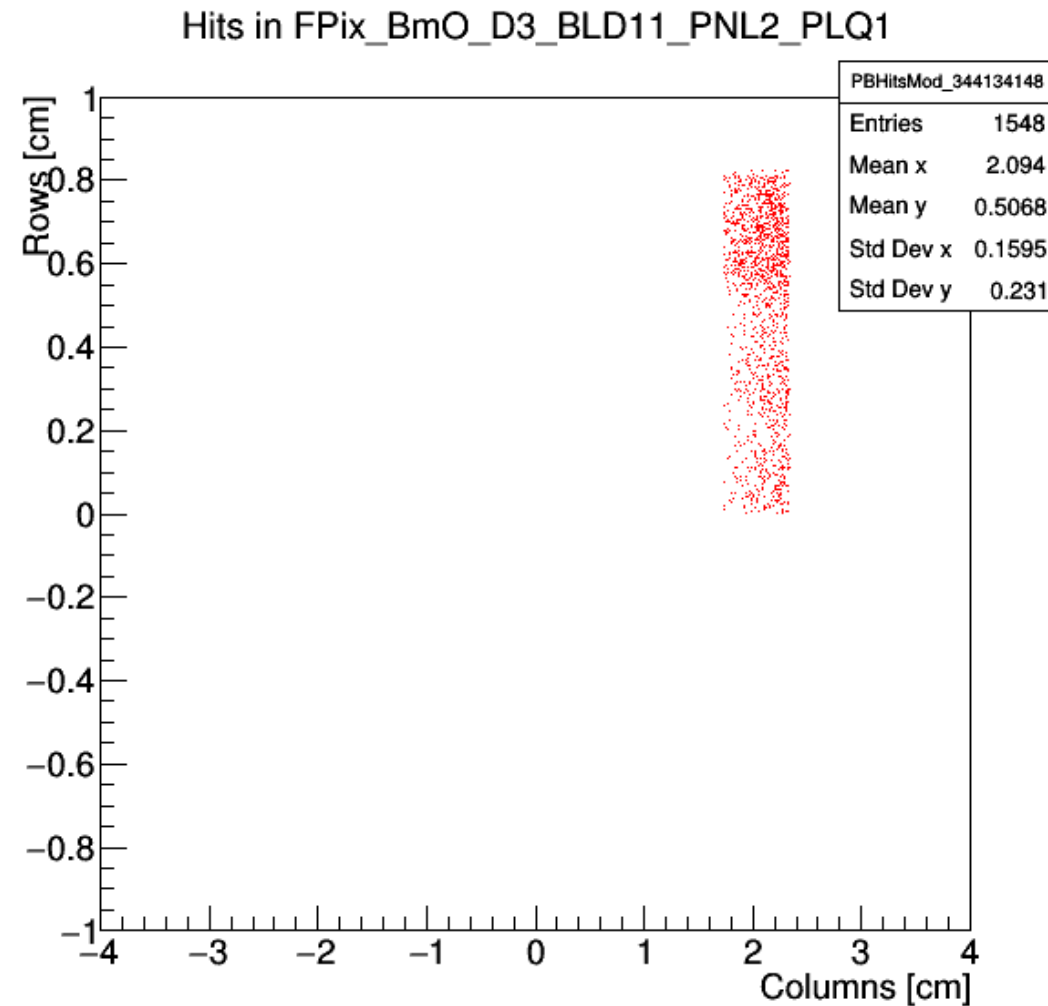
Position of the ROC

FPix_BmO_D3_BLD11_PNL2_ROC(a)

Global Position



Local Position



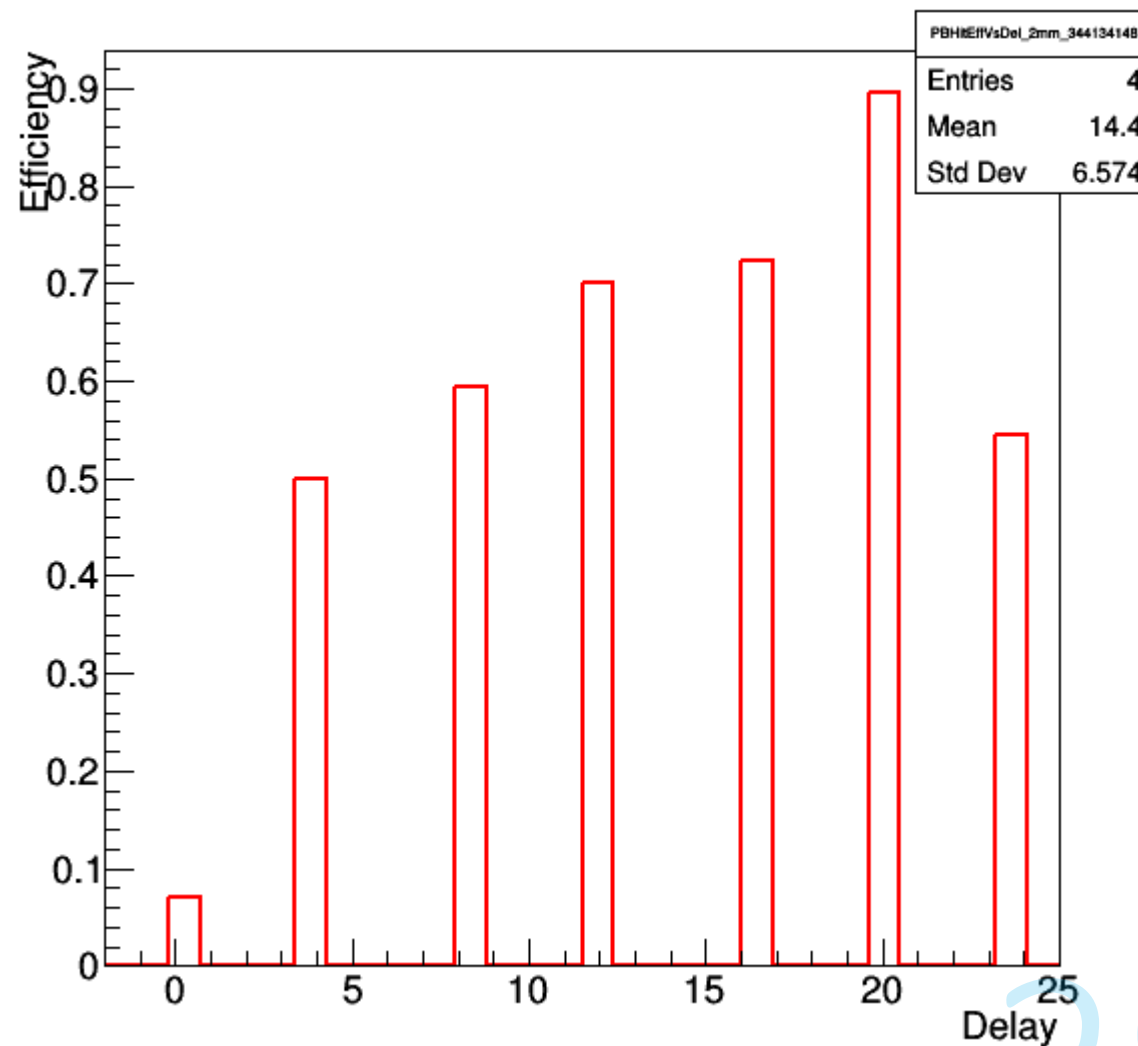
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD11_PNL2_ROC(a)

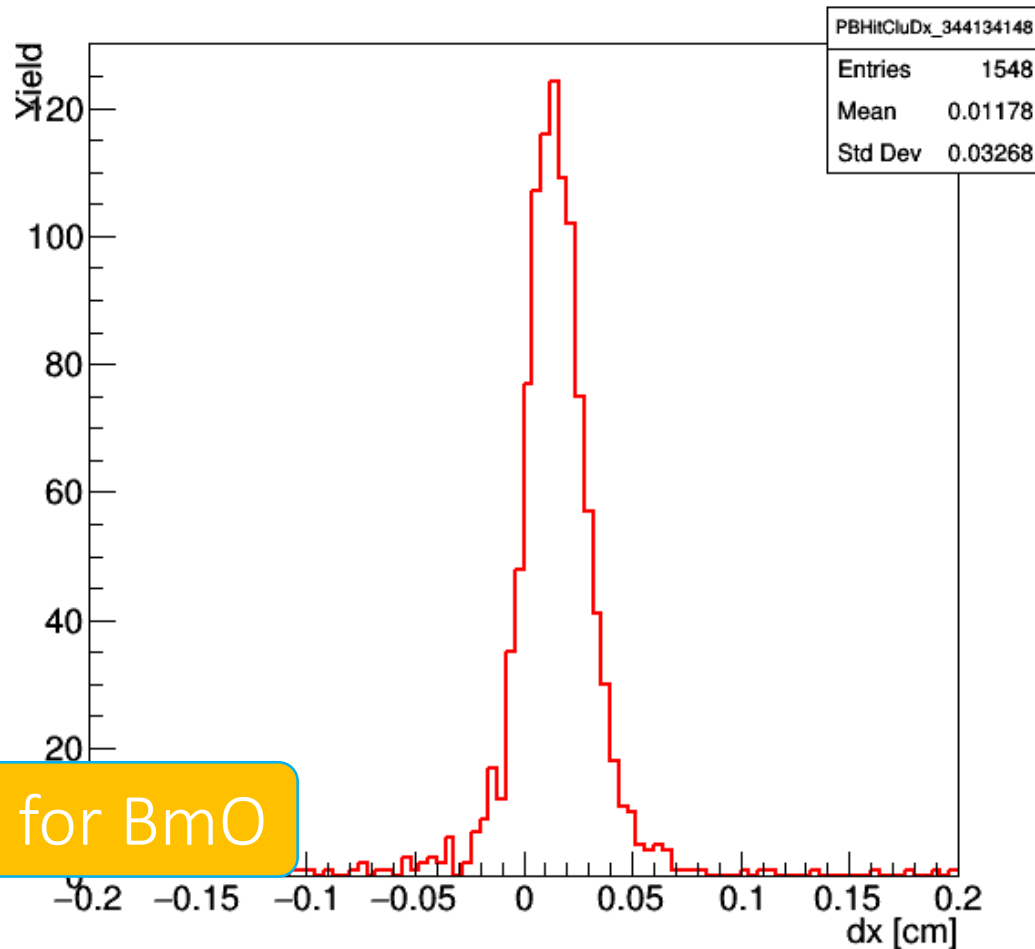
RecHit efficiency vs Delay in FPix_BmO_D3_BLD11_PNL2_PLQ1



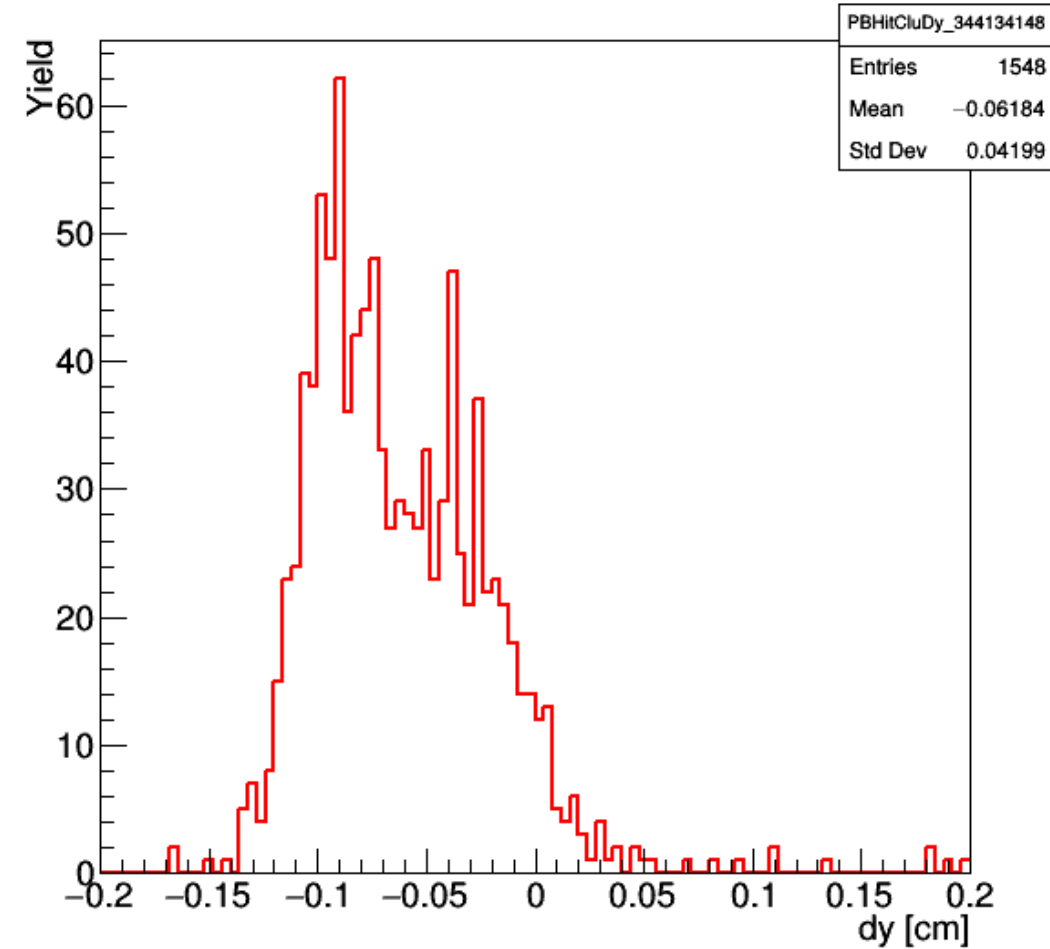
Residuals (Zoomed)

FPix_BmO_D3_BLD11_PNL2_ROC(a)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



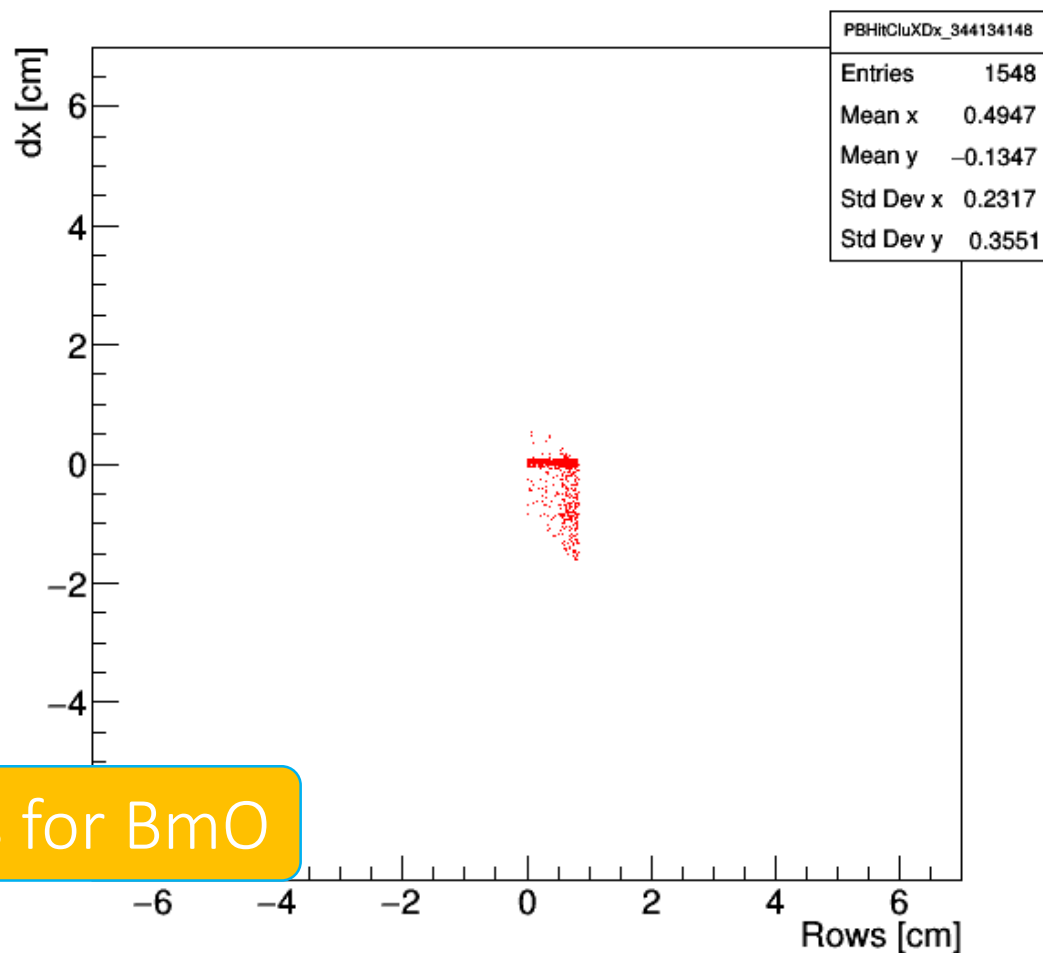
Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



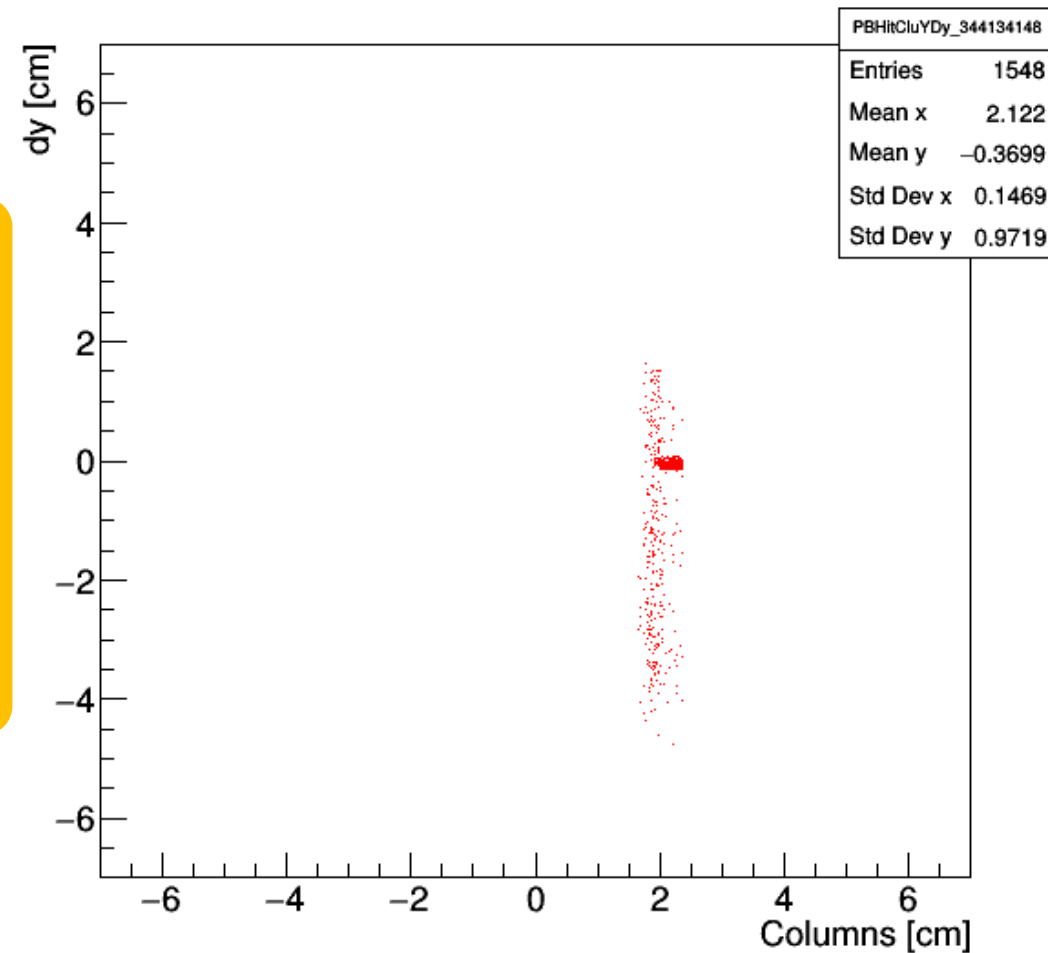
Position vs Residuals

FPix_BmO_D3_BLD11_PNL2_ROC(a)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD11_PNL2_PLQ1



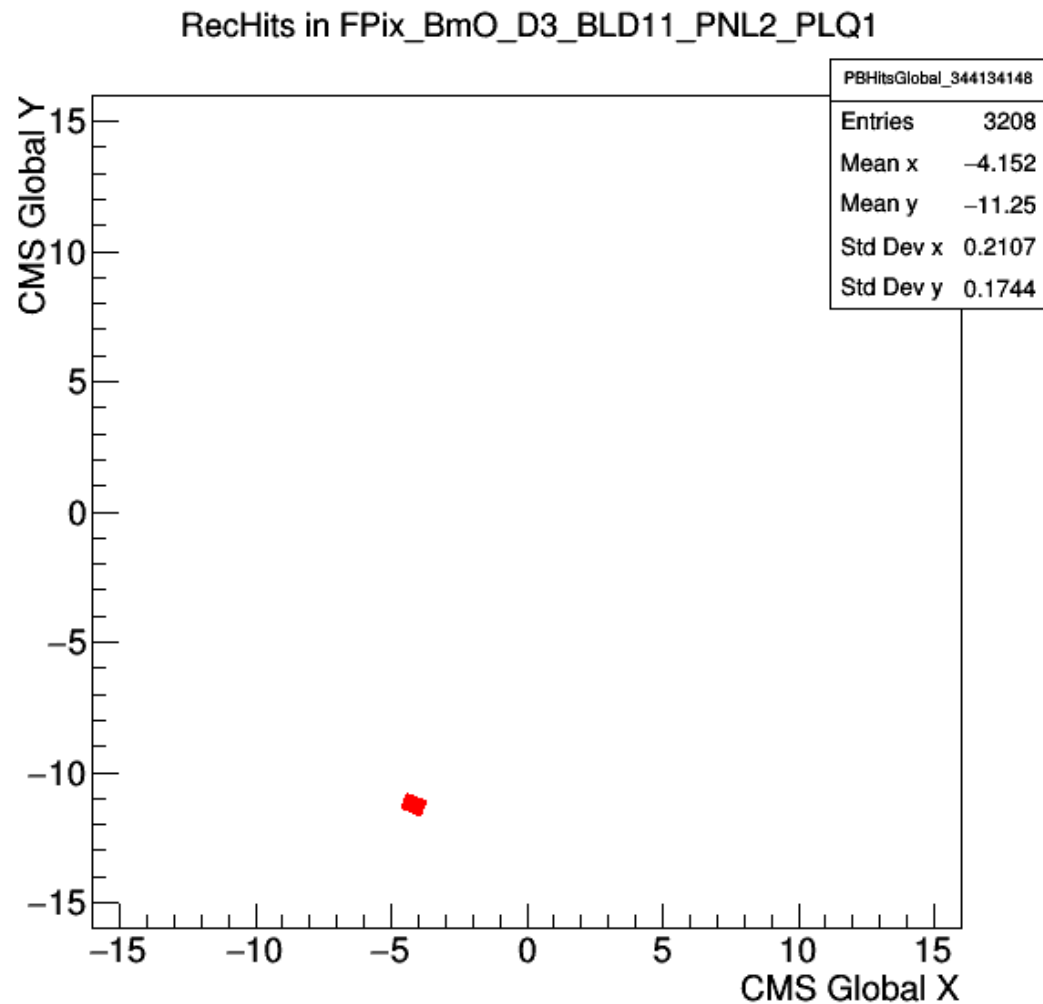
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD11_PNL2_PLQ1



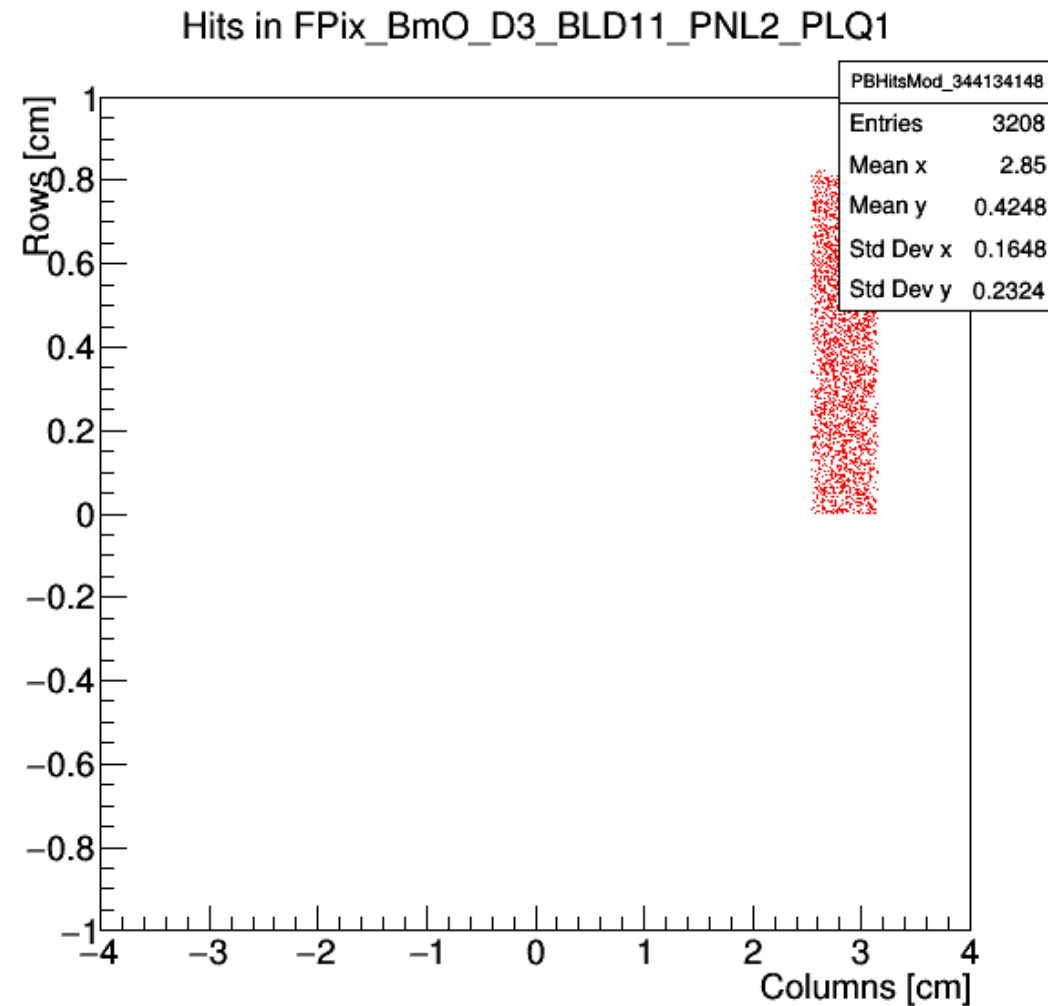
Position of the ROC

FPix_BmO_D3_BLD11_PNL2_ROC(b)

Global Position



Local Position



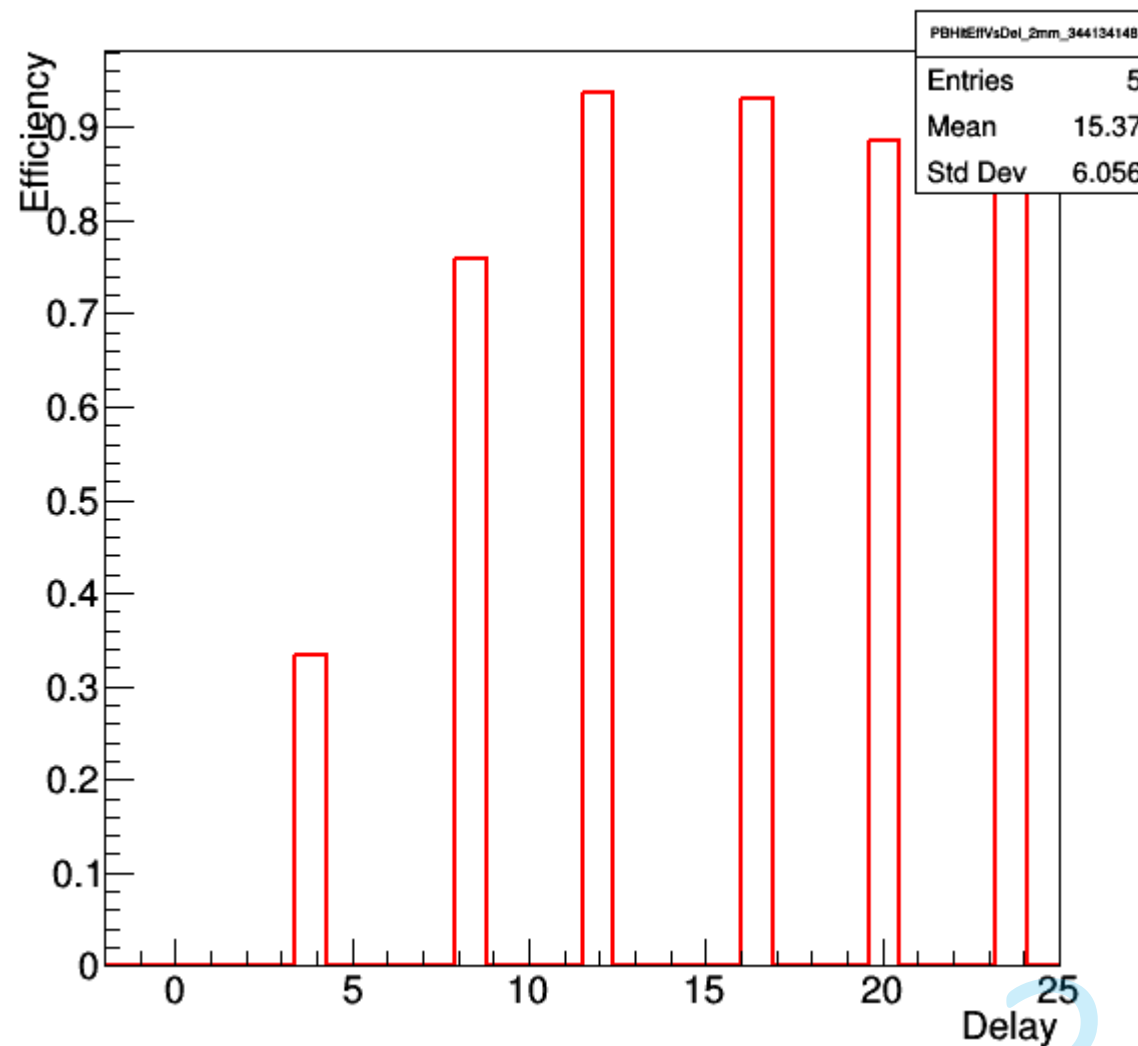
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD11_PNL2_ROC(b)

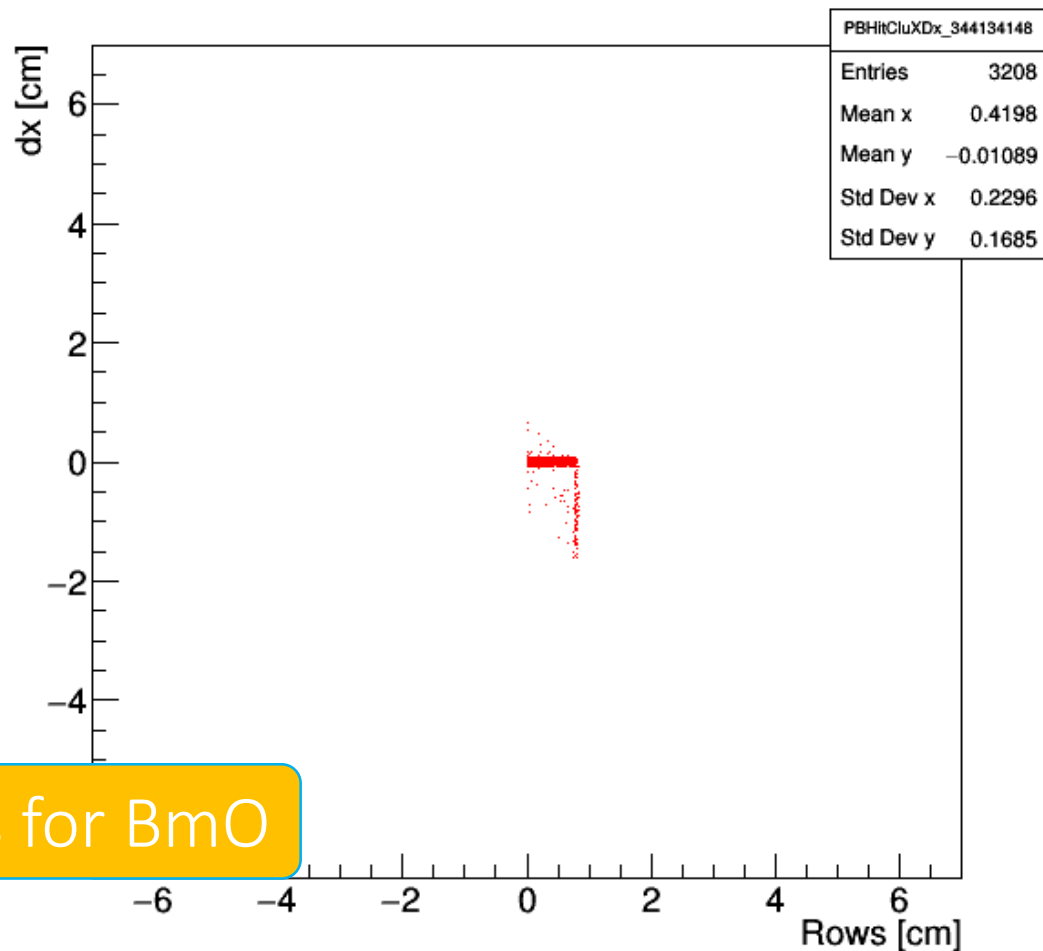
RecHit efficiency vs Delay in FPix_BmO_D3_BLD11_PNL2_PLQ1



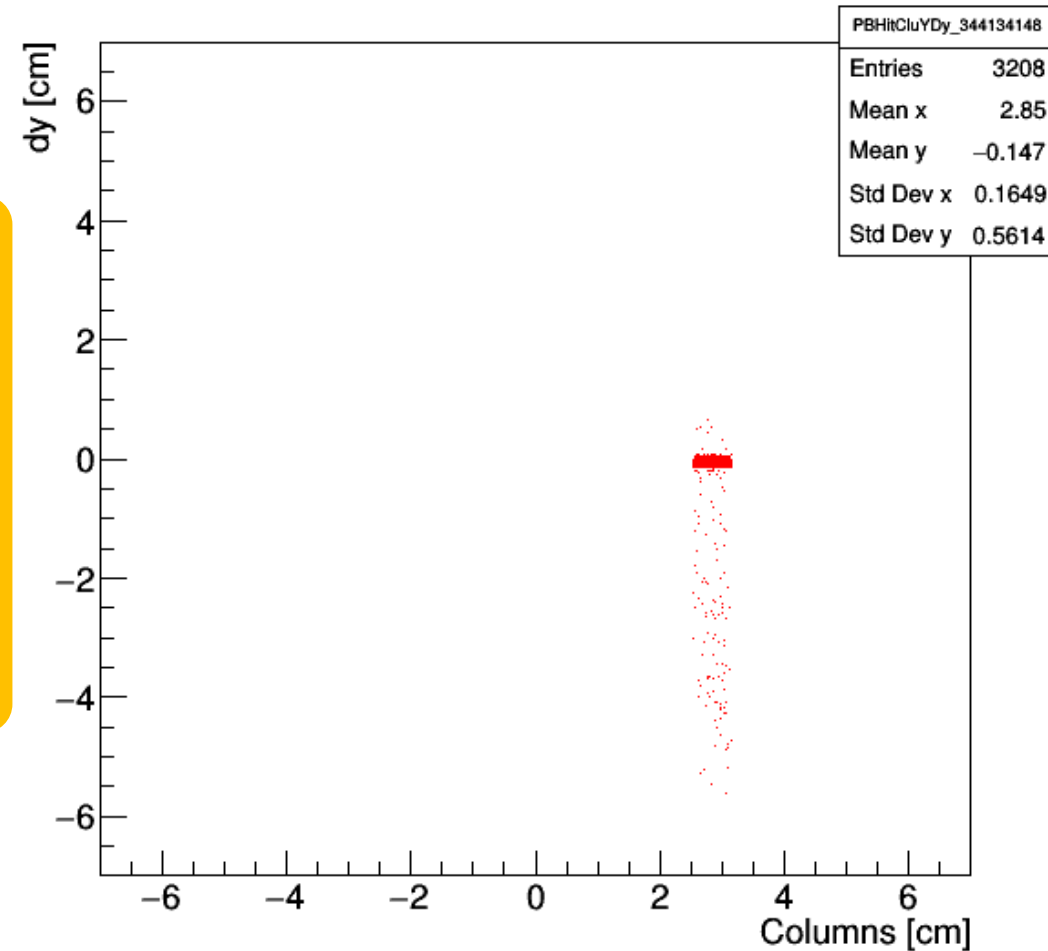
Position vs Residuals

FPix_BmO_D3_BLD11_PNL2_ROC(b)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD11_PNL2_PLQ1



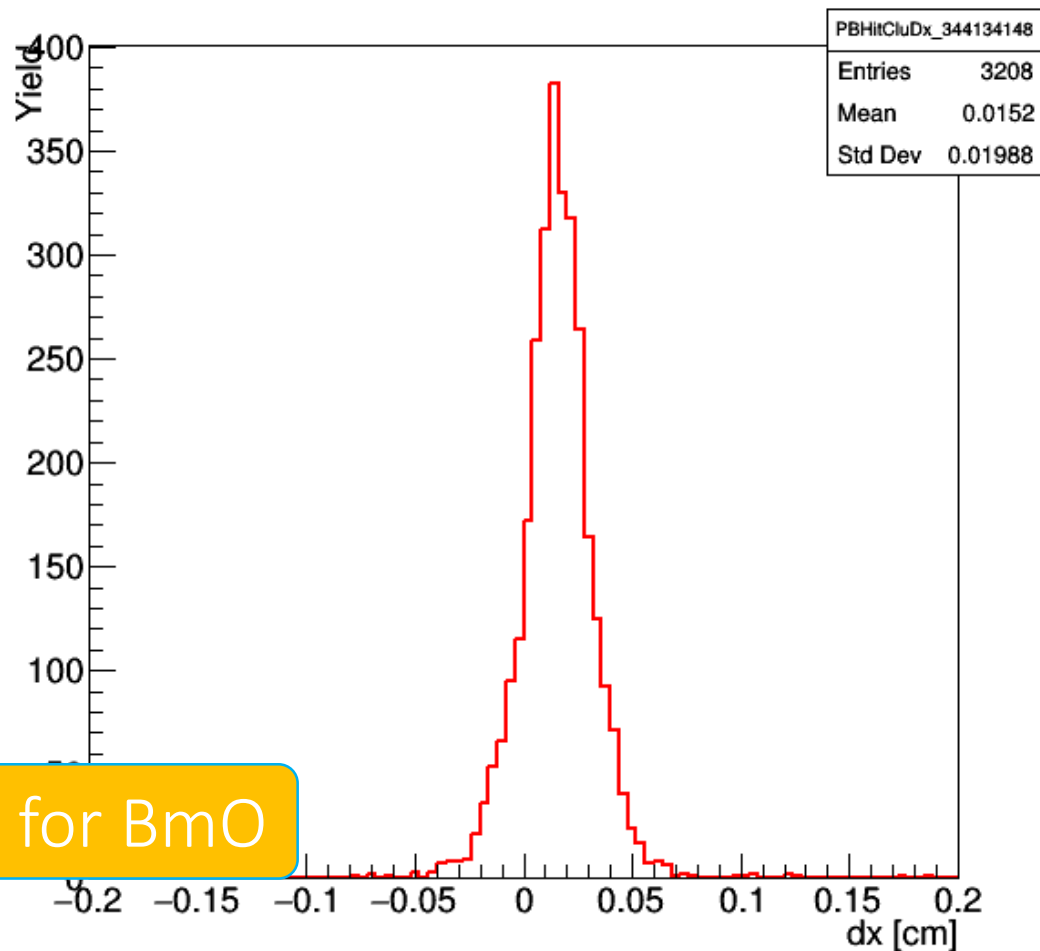
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD11_PNL2_PLQ1



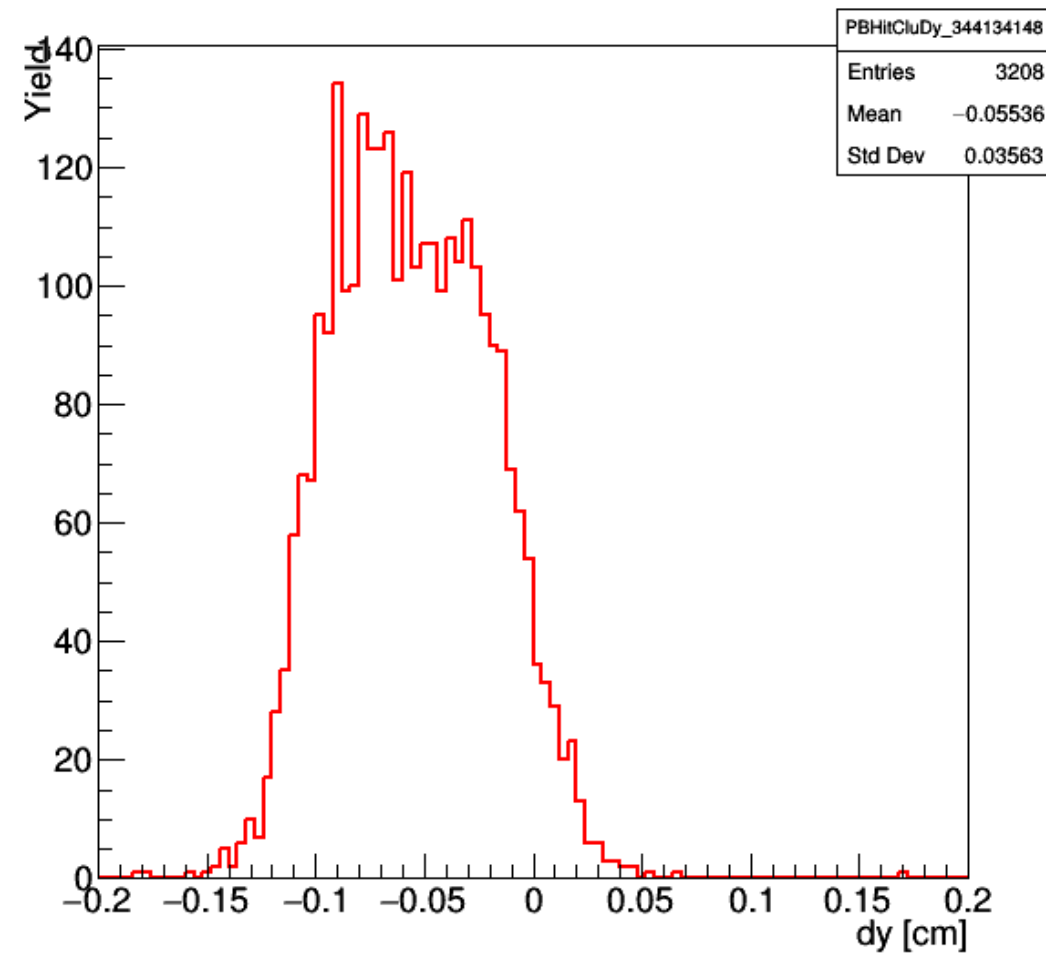
Residuals (Zoomed)

FPix_BmO_D3_BLD11_PNL2_ROC(b)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



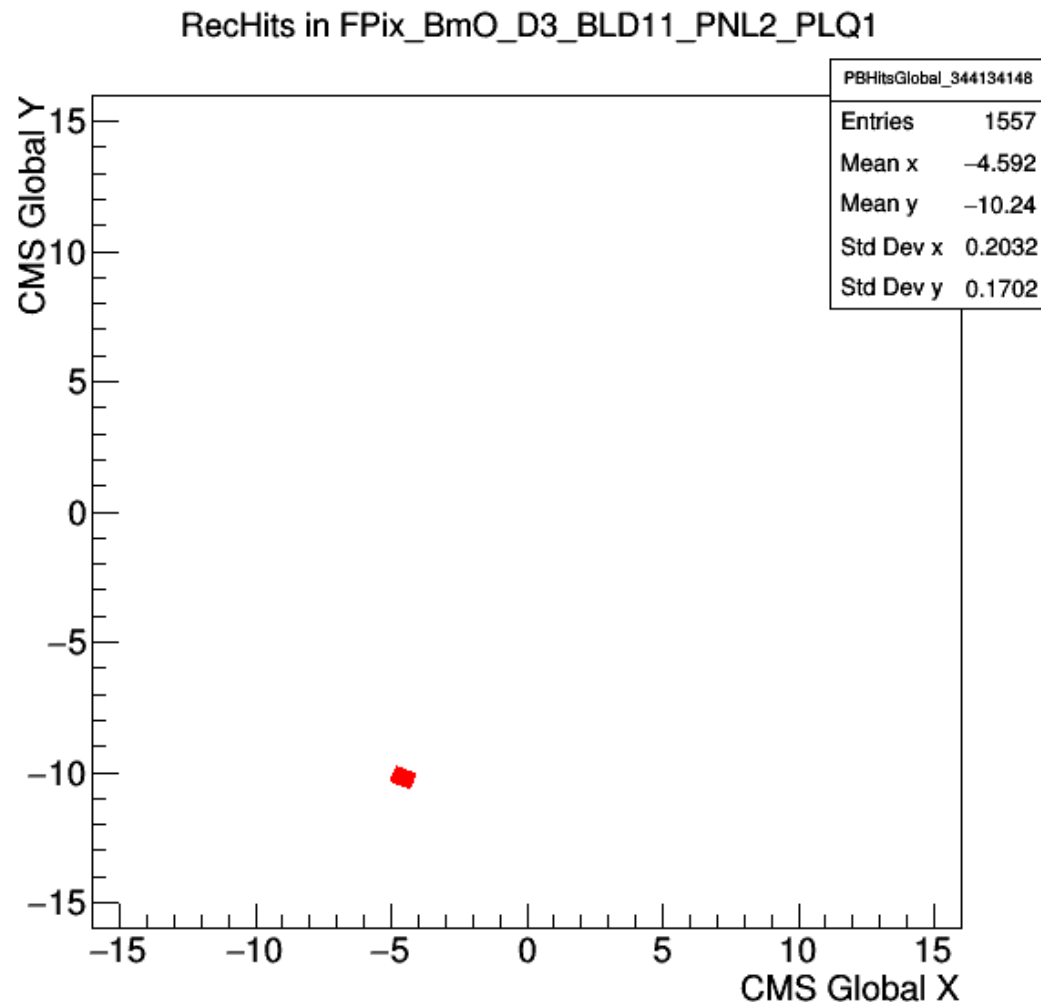
Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



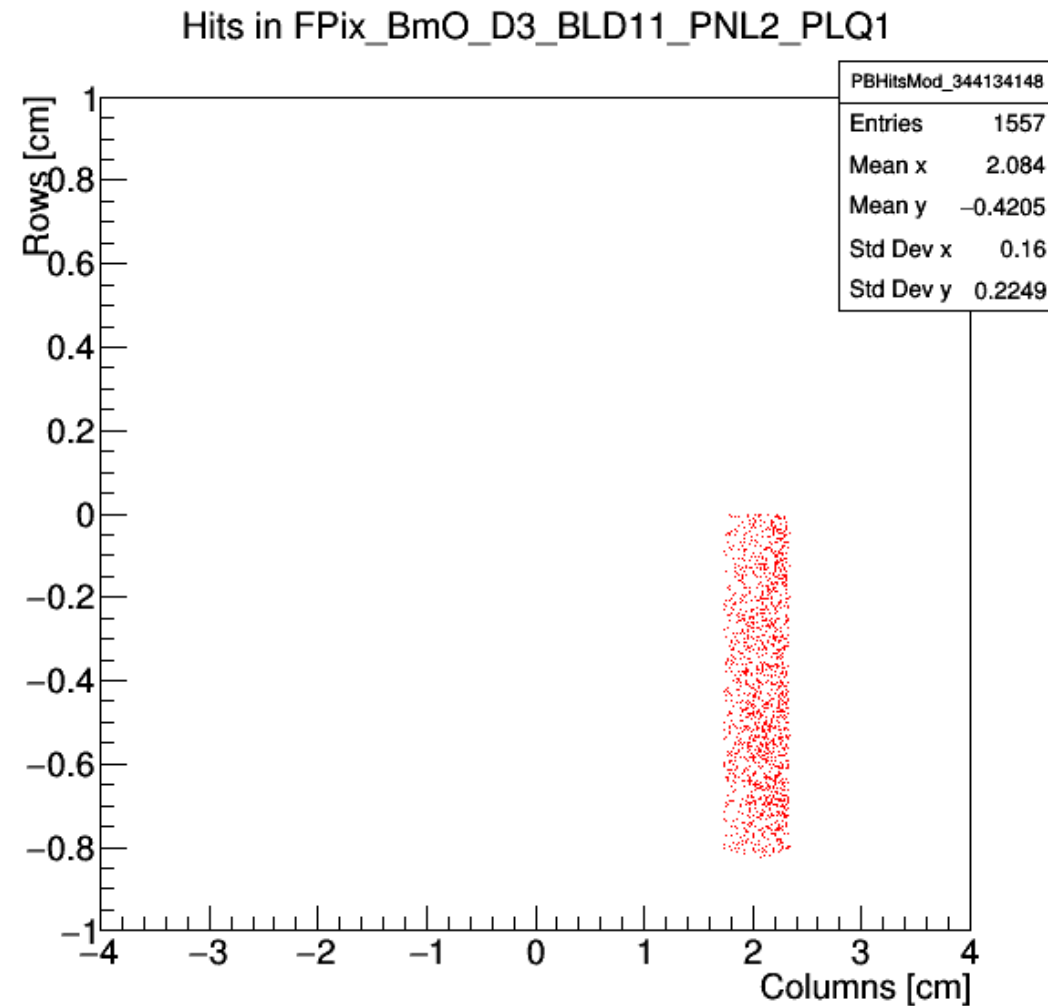
Position of the ROC

FPix_BmO_D3_BLD11_PNL2_ROC(c)

Global Position



Local Position



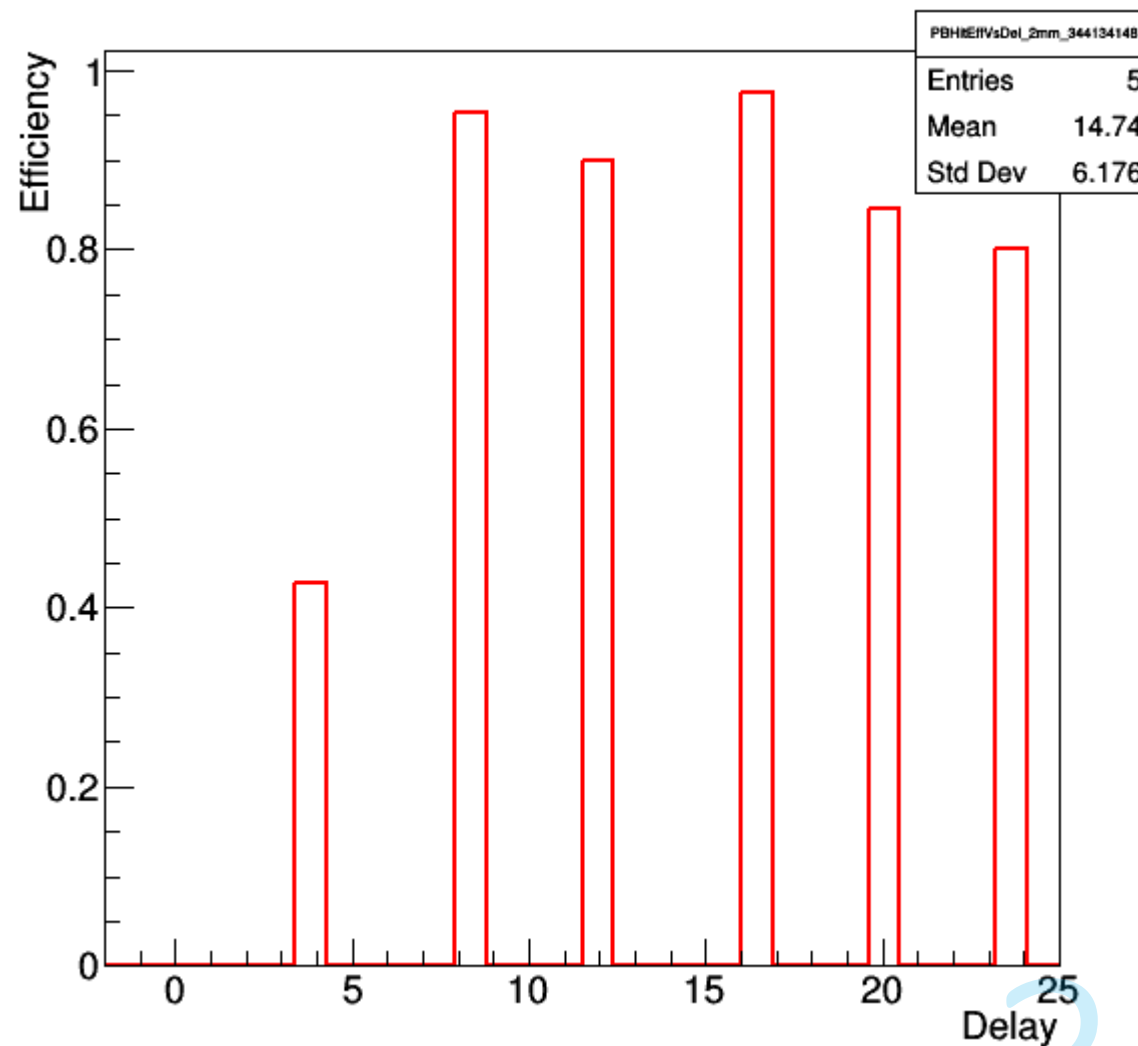
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD11_PNL2_ROC(c)

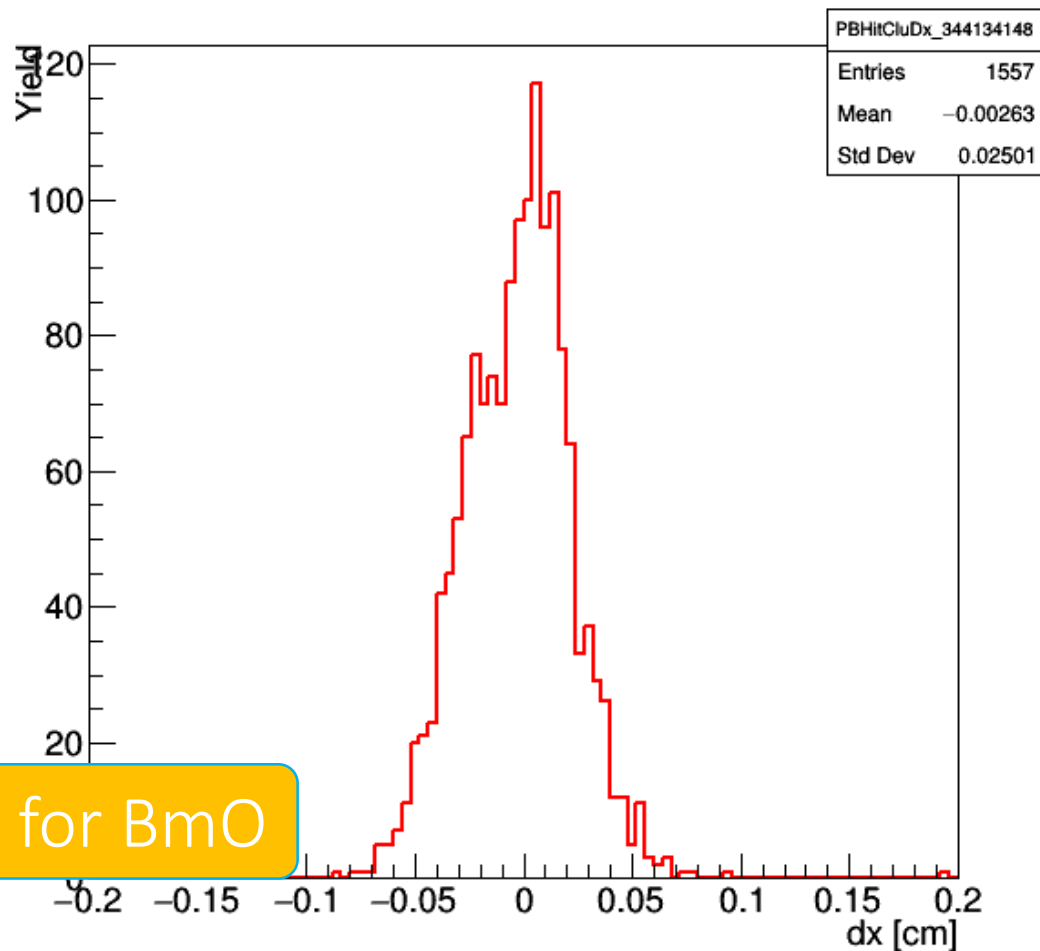
RecHit efficiency vs Delay in FPix_BmO_D3_BLD11_PNL2_PLQ1



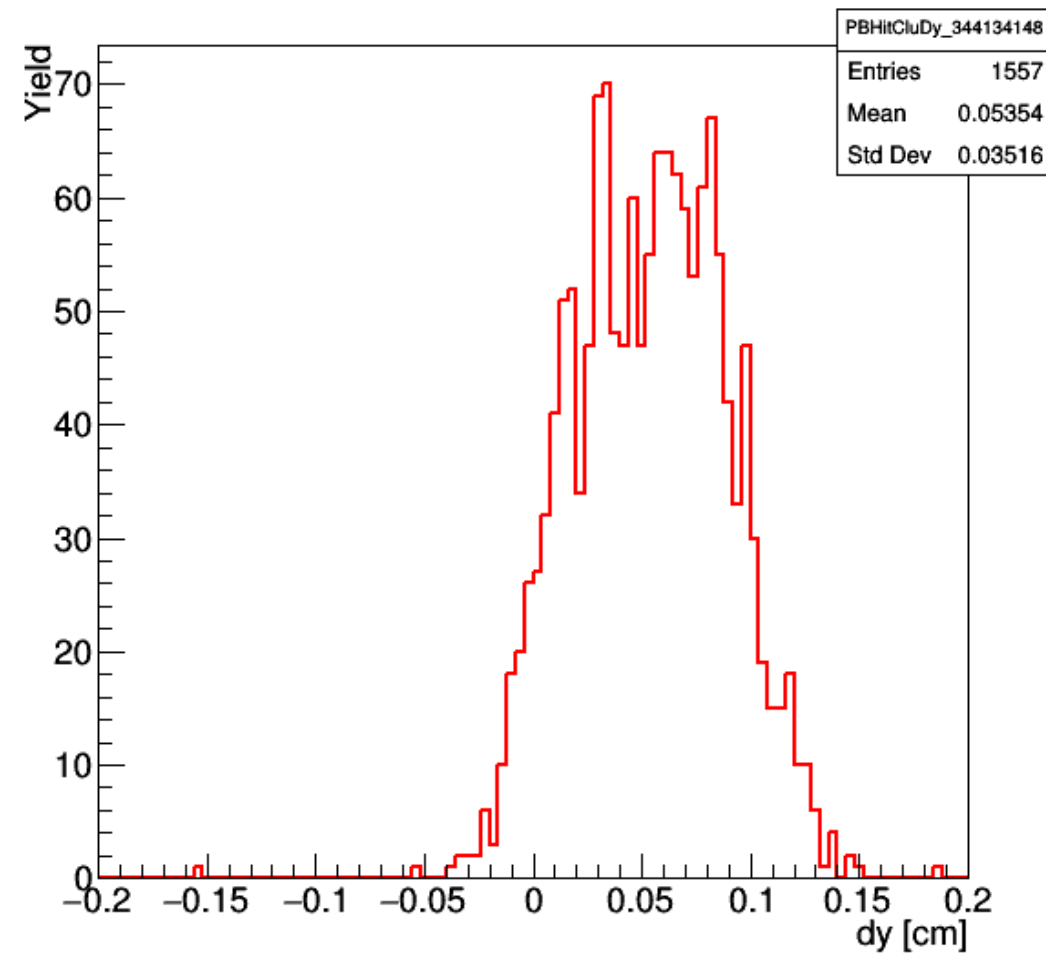
Residuals (Zoomed)

FPix_BmO_D3_BLD11_PNL2_ROC(c)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



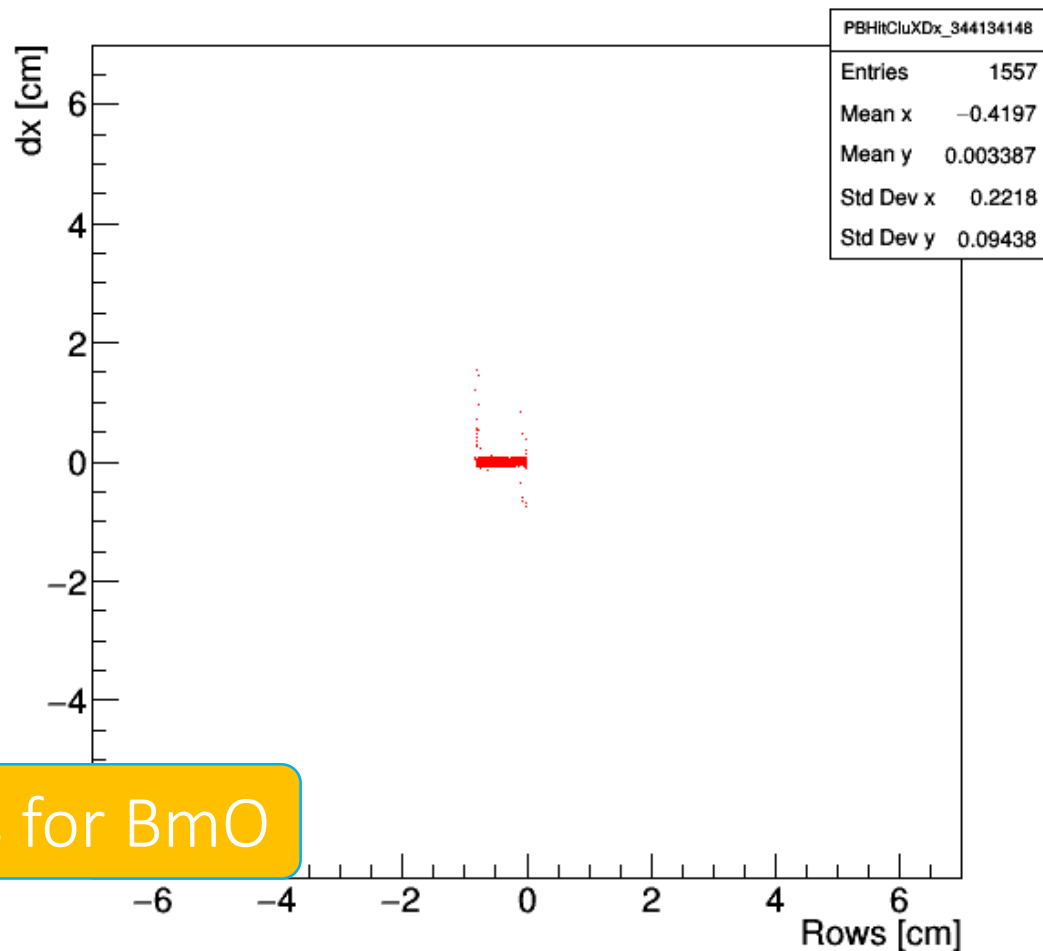
Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



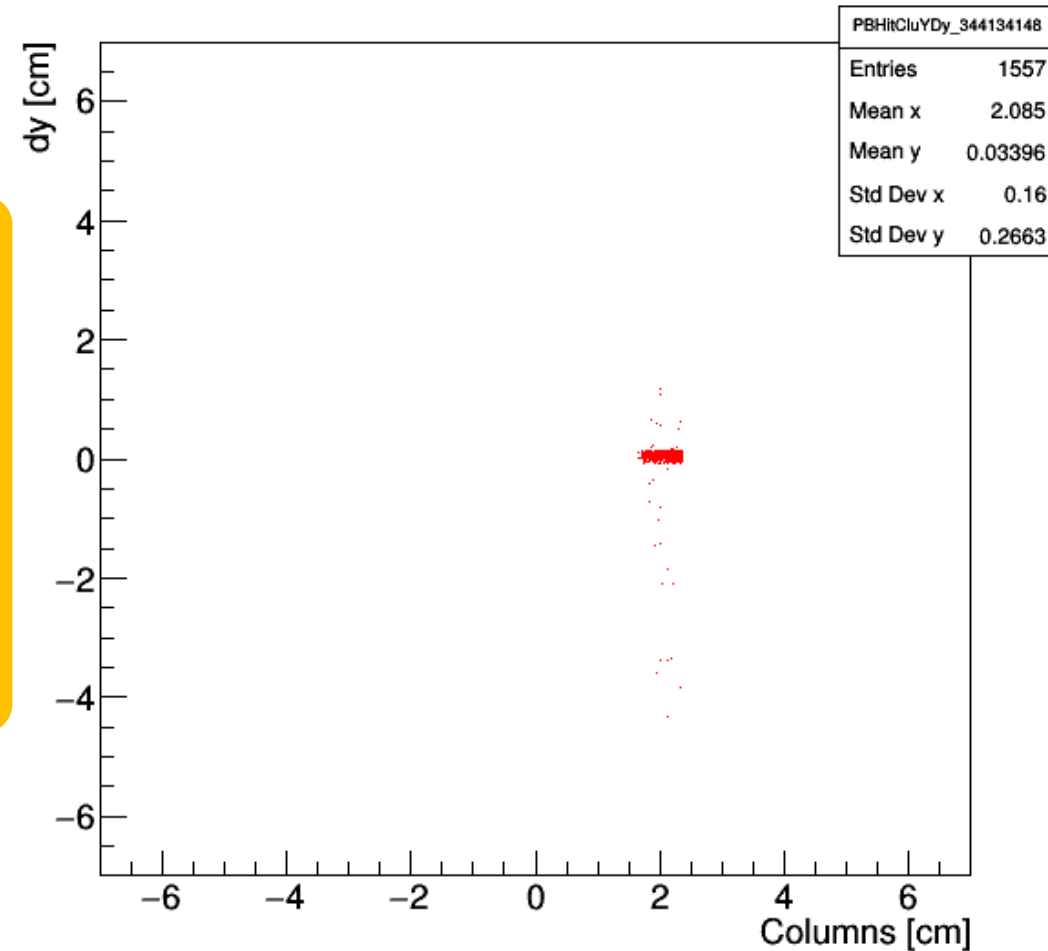
Position vs Residuals

FPix_BmO_D3_BLD11_PNL2_ROC(c)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD11_PNL2_PLQ1



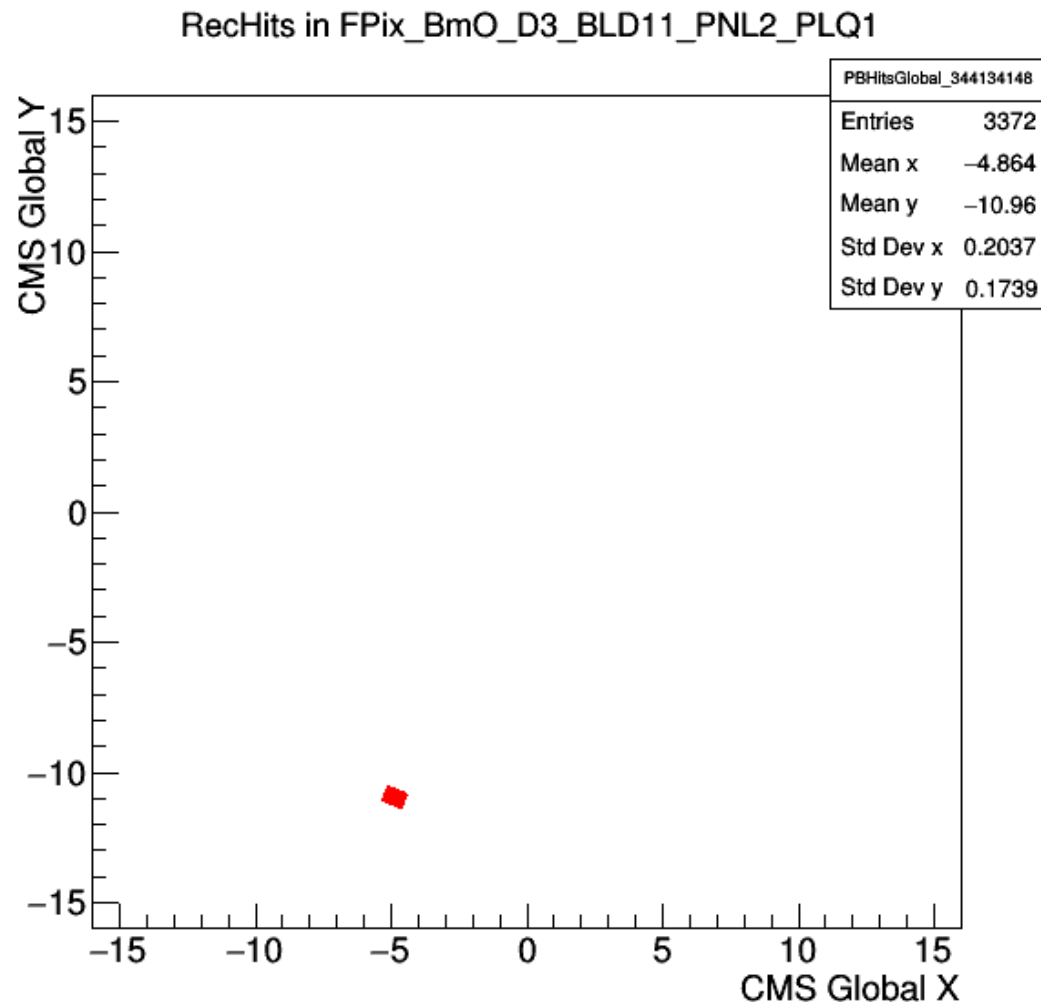
Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD11_PNL2_PLQ1



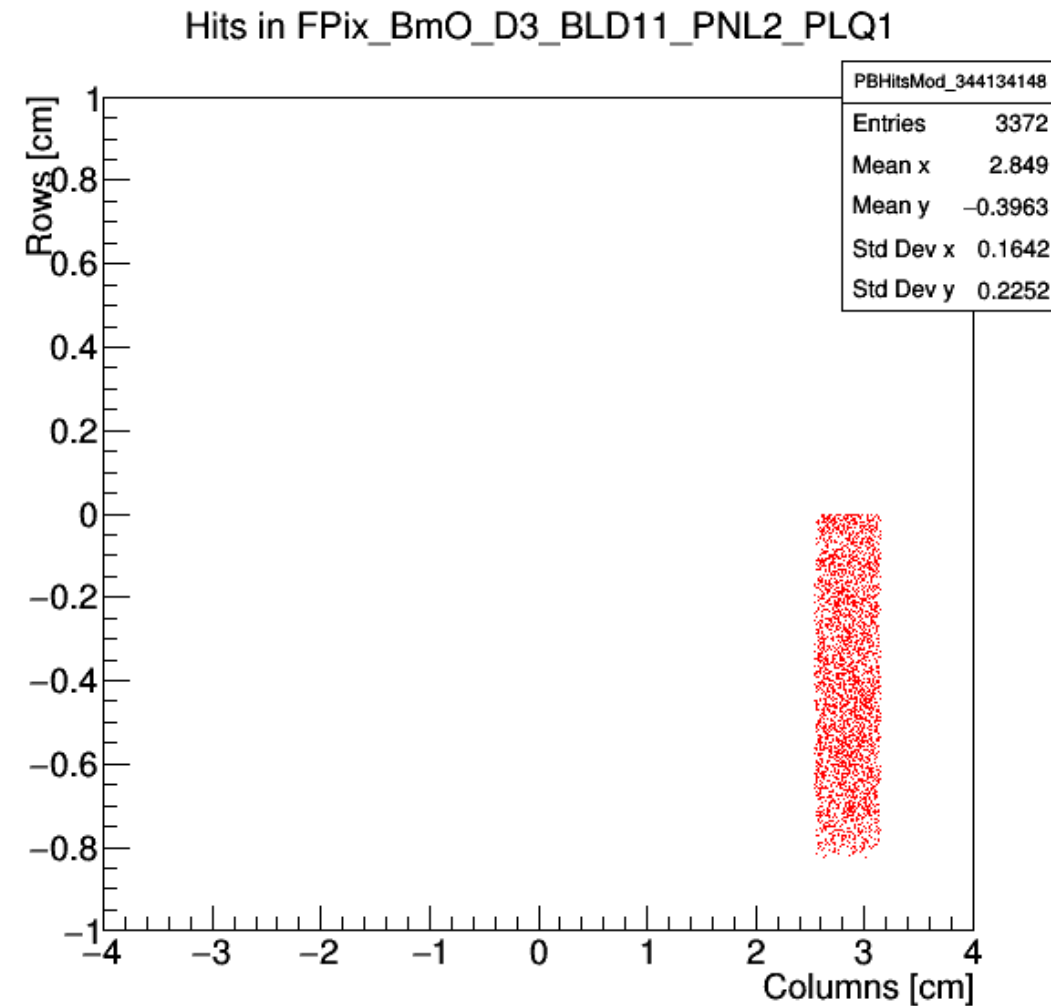
Position of the ROC

FPix_BmO_D3_BLD11_PNL2_ROC(d)

Global Position



Local Position



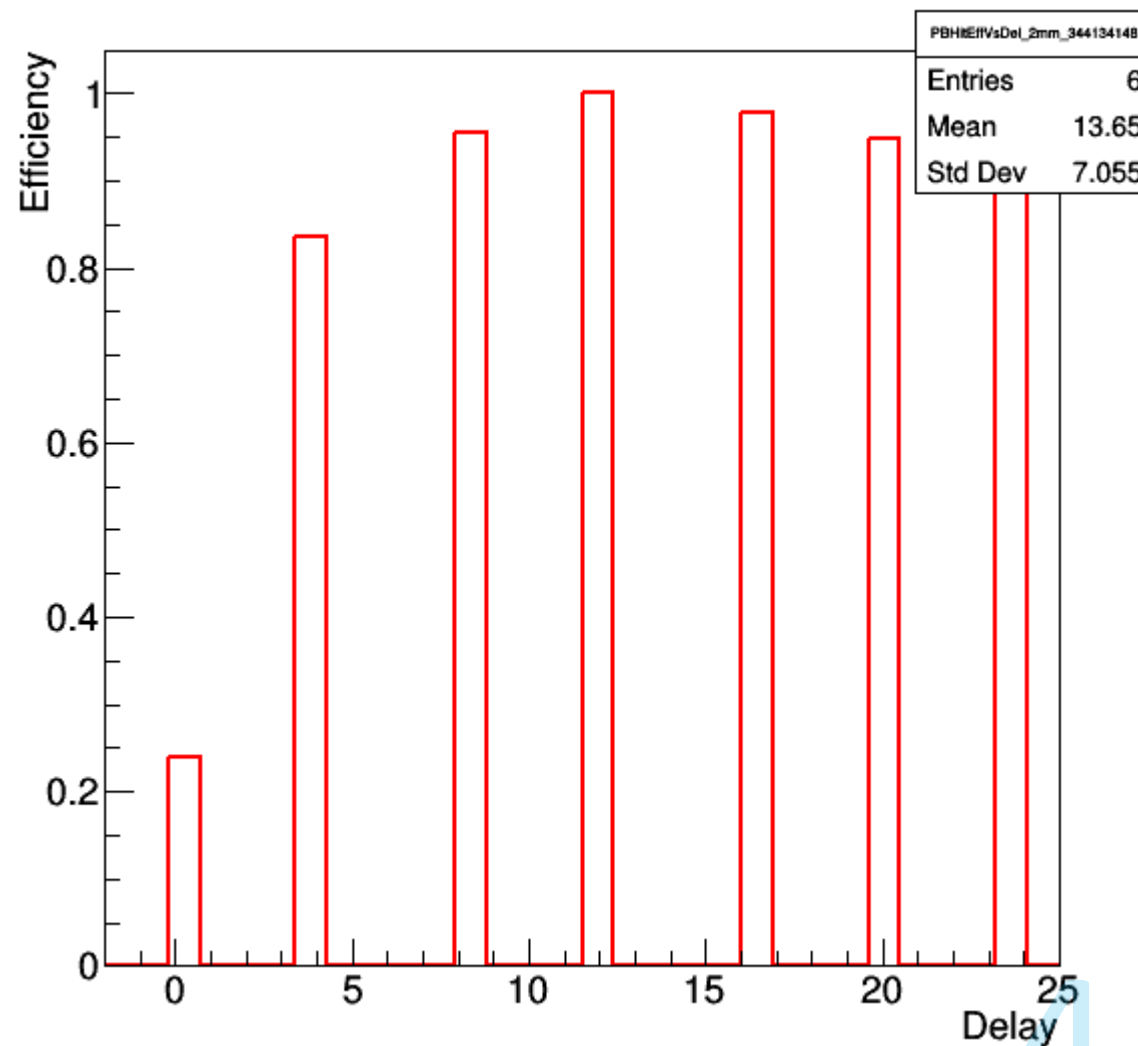
Efficiencies

$$\text{Efficiency} := \frac{\text{\#Found clusters}}{\text{\#expected clusters}}$$

In 2mm range

FPix_BmO_D3_BLD11_PNL2_ROC(d)

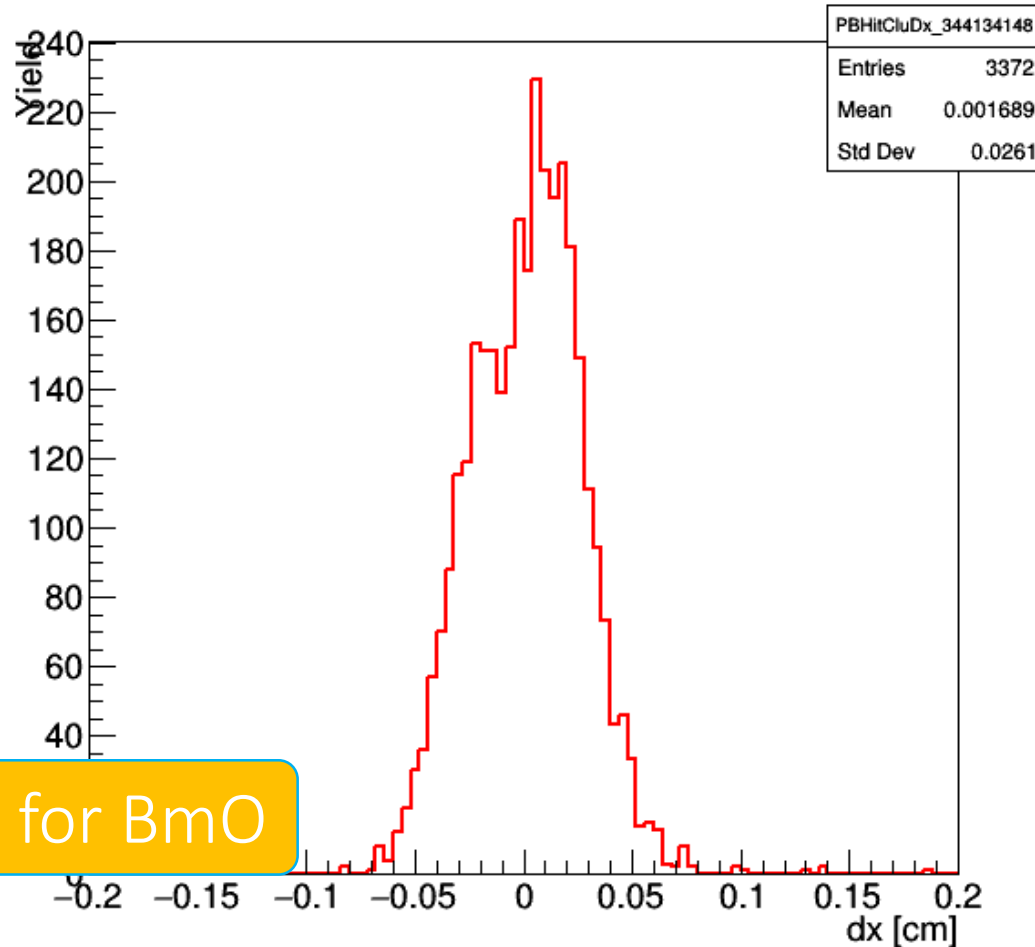
RecHit efficiency vs Delay in FPix_BmO_D3_BLD11_PNL2_PLQ1



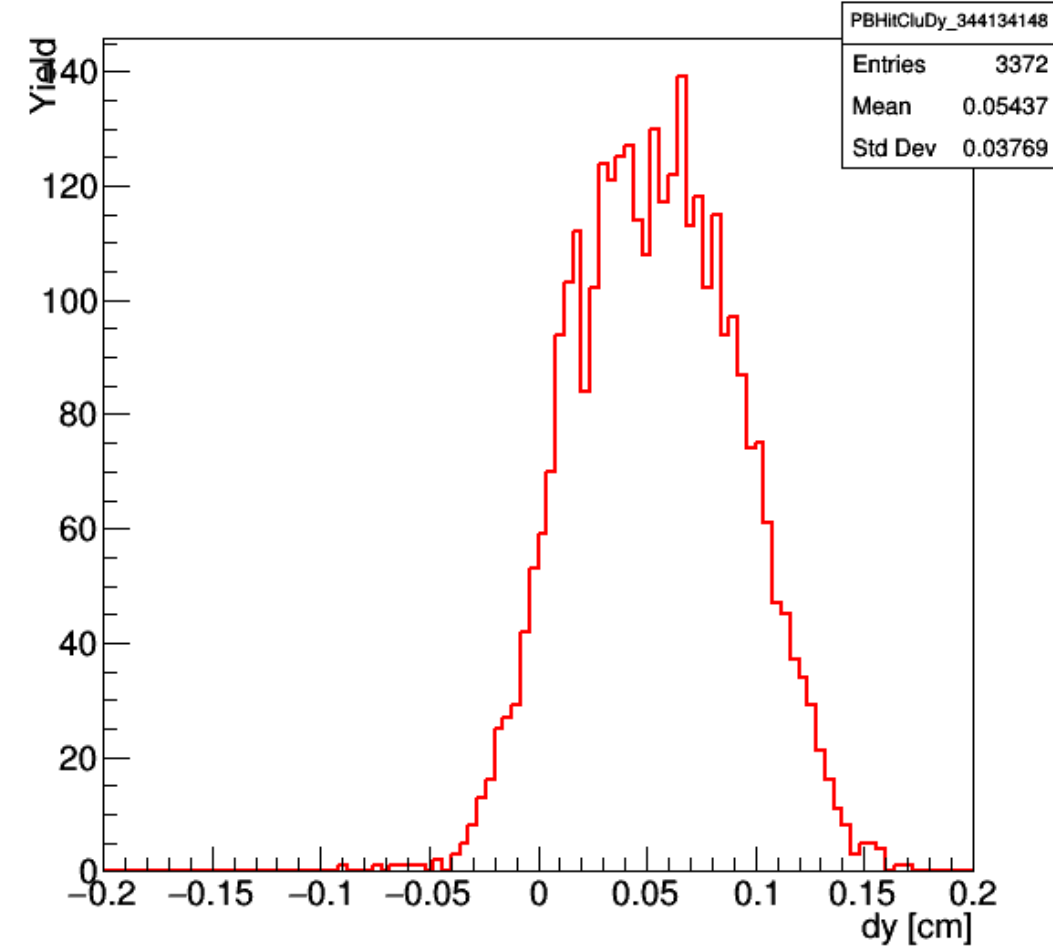
Residuals (Zoomed)

FPix_BmO_D3_BLD11_PNL2_ROC(d)

Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



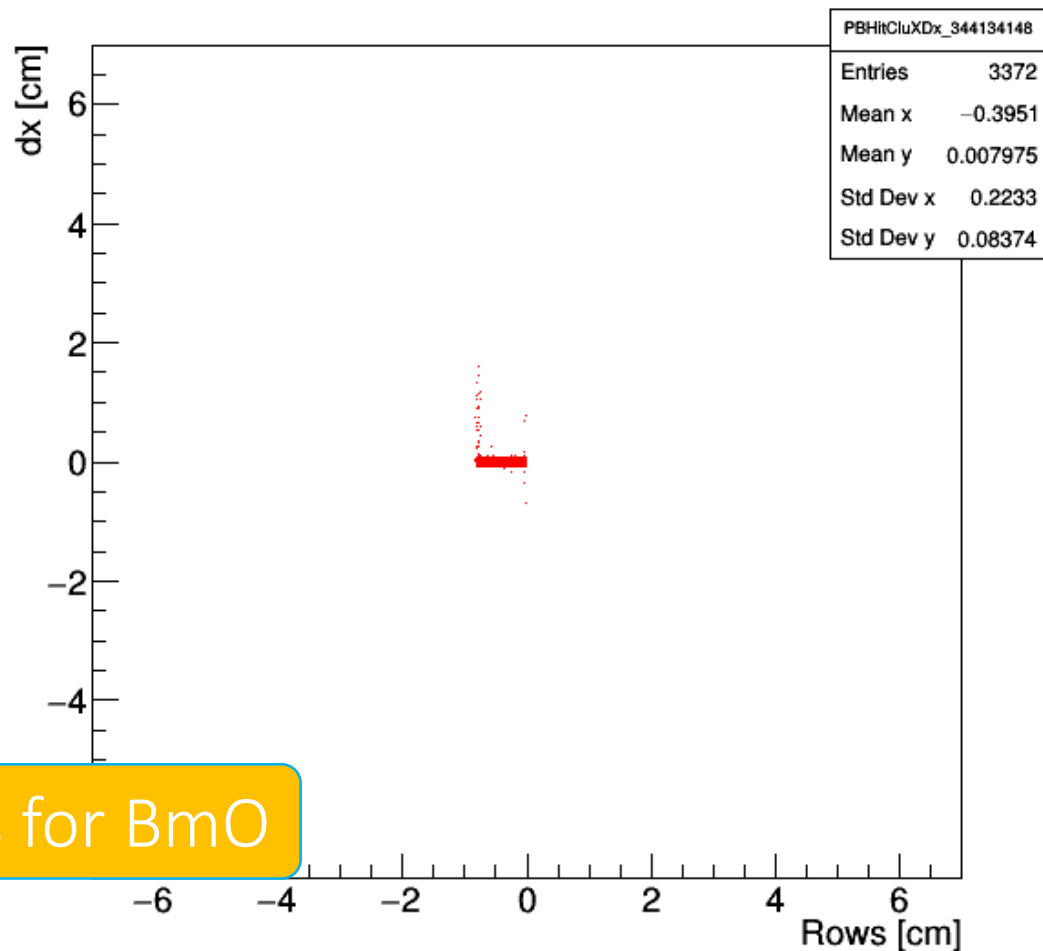
Rehit to nearest cluster distance in FPix_BmO_D3_BLD11_PNL2_PLQ1



Position vs Residuals

FPix_BmO_D3_BLD11_PNL2_ROC(d)

Inactive rechit position (x) and the x residual FPix_BmO_D3_BLD11_PNL2_PLQ1



Inactive rechit position (y) and the y residual FPix_BmO_D3_BLD11_PNL2_PLQ1

