

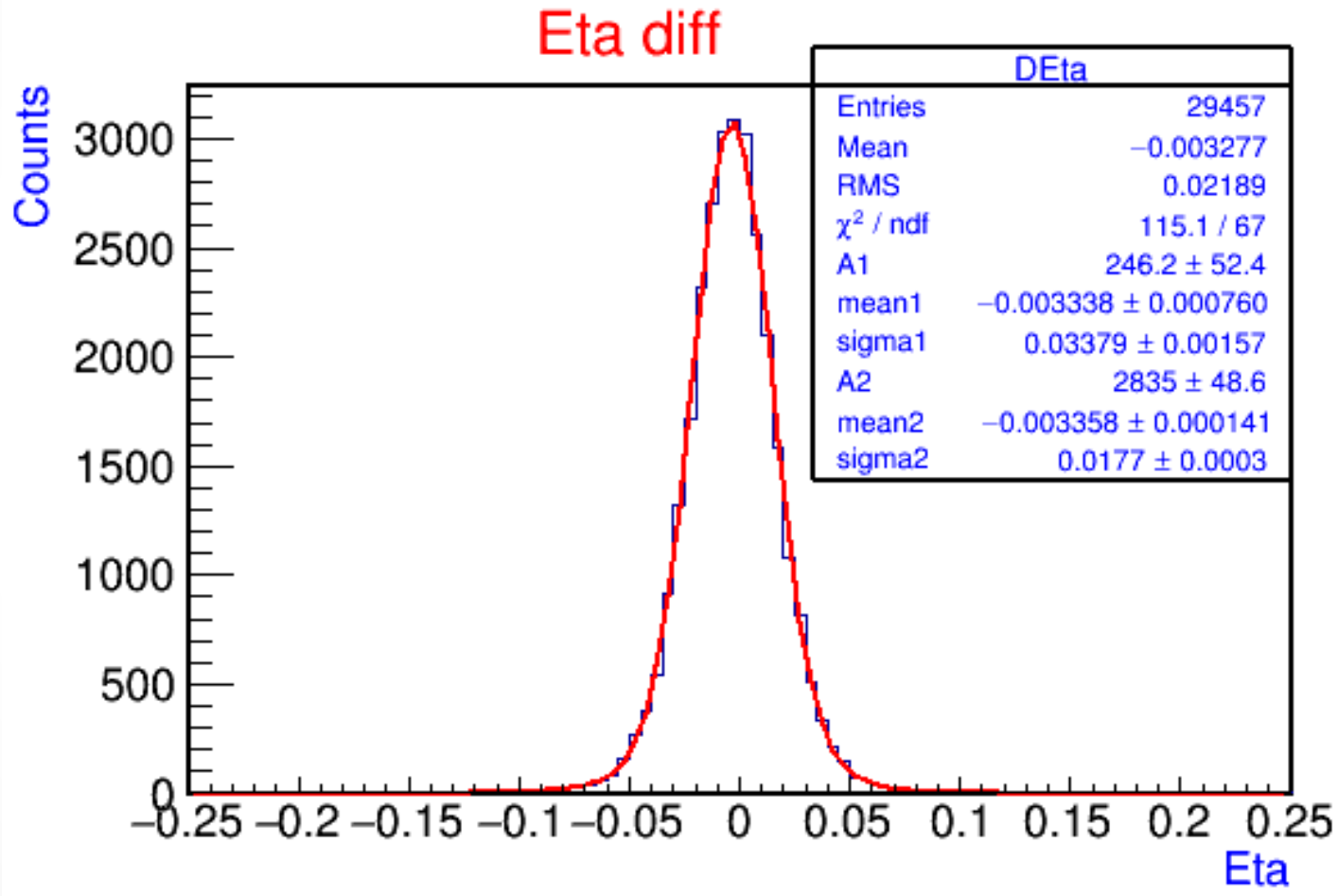


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FCAL Analysis Pointing Resolution

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- Electrons
- Eta between 3.4 and 4.4



- *Difference in Eta between measured and true particle direction*

- *5 GeV e-*

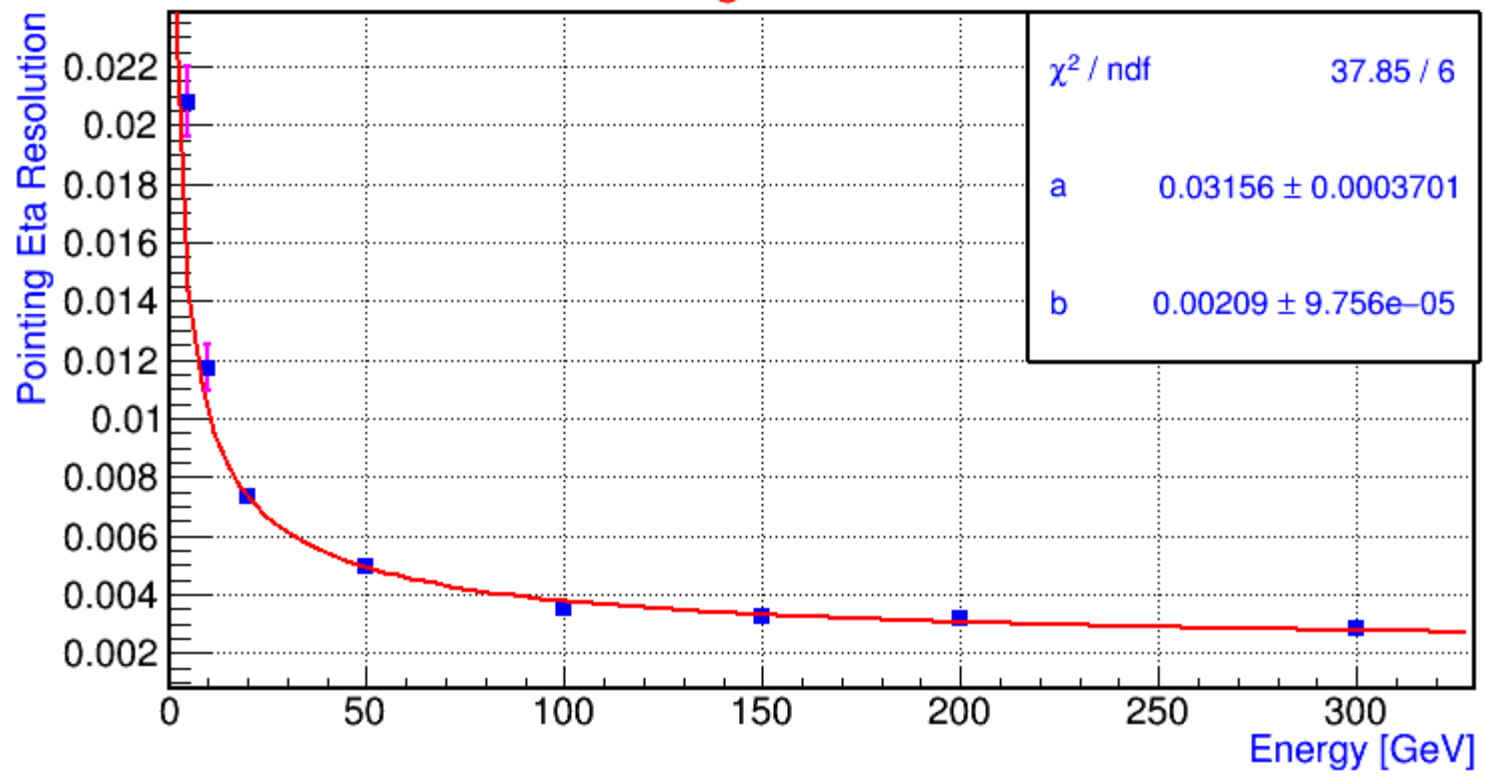
- *Fit with Double Gaussian:*

➤ *Pointing Eta Resolution*

$$\sigma_{\eta} = 0.0207622 \pm 0.00118473$$

- Electrons
- Eta between 3.4 and 4.4

Pointing Eta Resolution



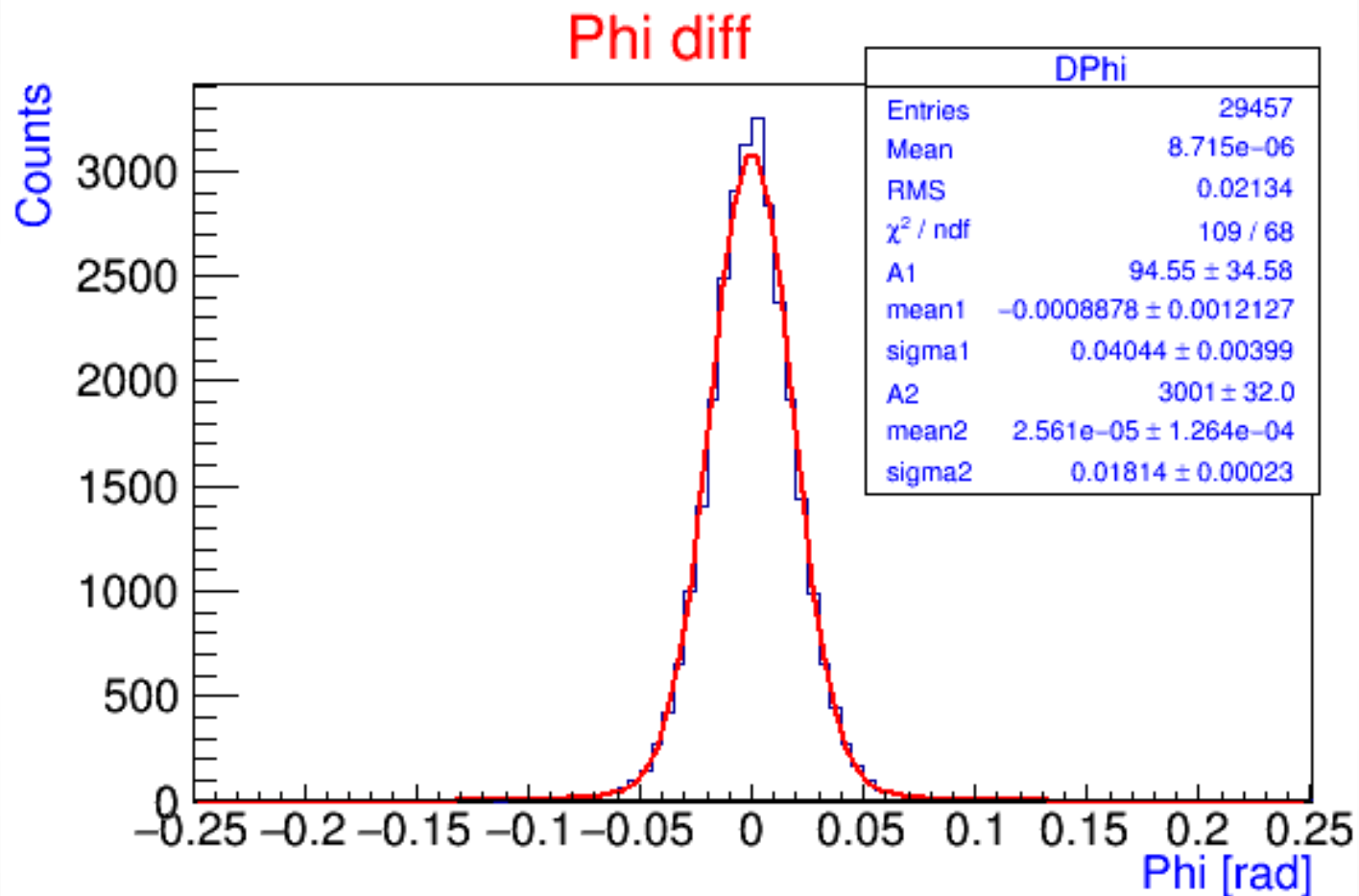
- *Pointing η Resolution vs Energy*
- *Fit with :*

$$\sigma_{\eta} = \frac{a}{\sqrt{E}} \oplus b$$

$$a = 0.03156 \sqrt{\text{GeV}}$$

$$b = 0.00209$$

- Electrons
- Eta between 3.4 and 4.4



- *Difference in Phi between measured and true particle direction*

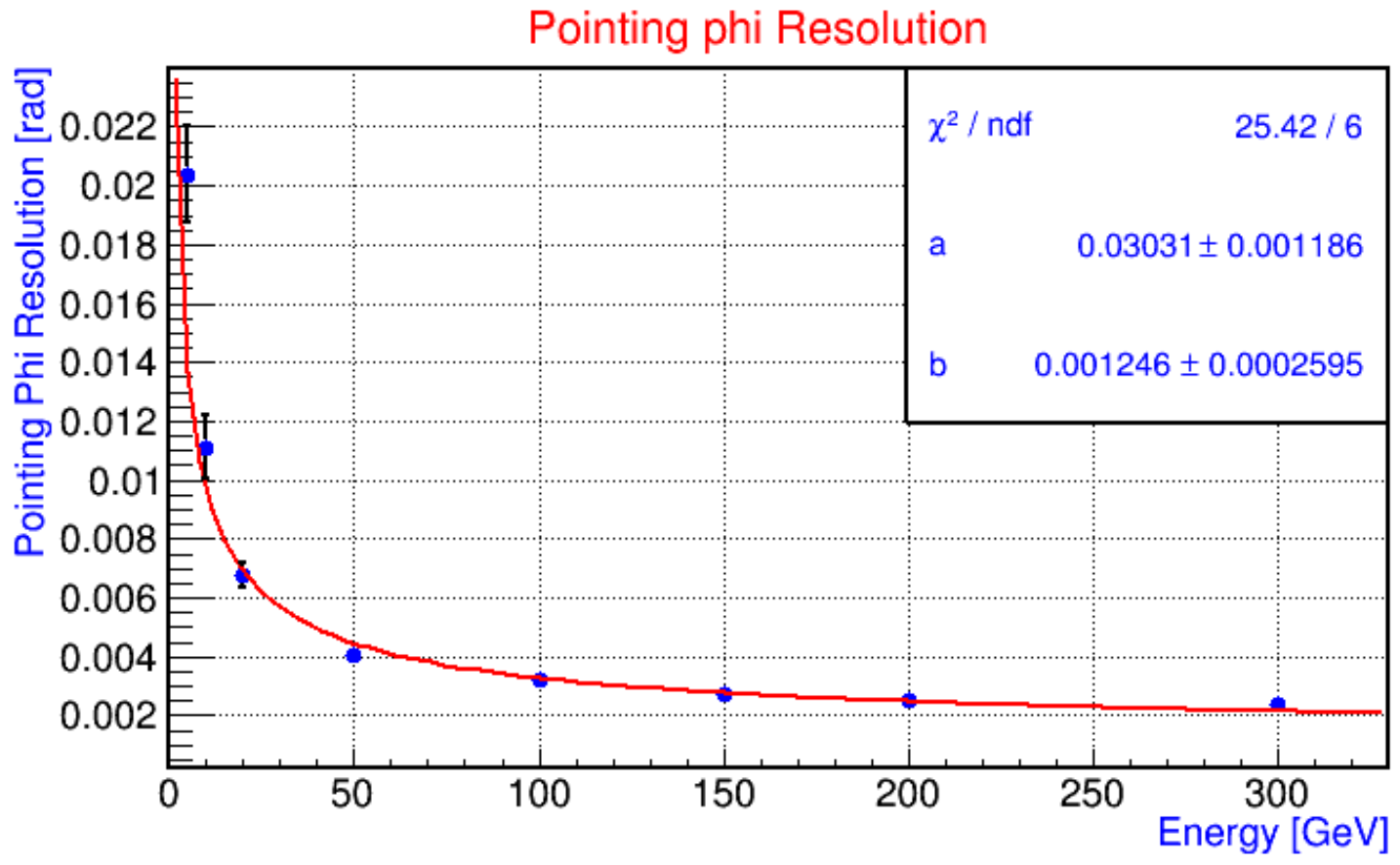
- *5 GeV e-*

- *Fit with Double Gaussian:*

➤ *Pointing Phi Resolution*

$$\sigma_{\varphi} = 20.3685 \pm 1.6265 \text{ mrad}$$

- Electrons
- Eta between 3.4 and 4.4



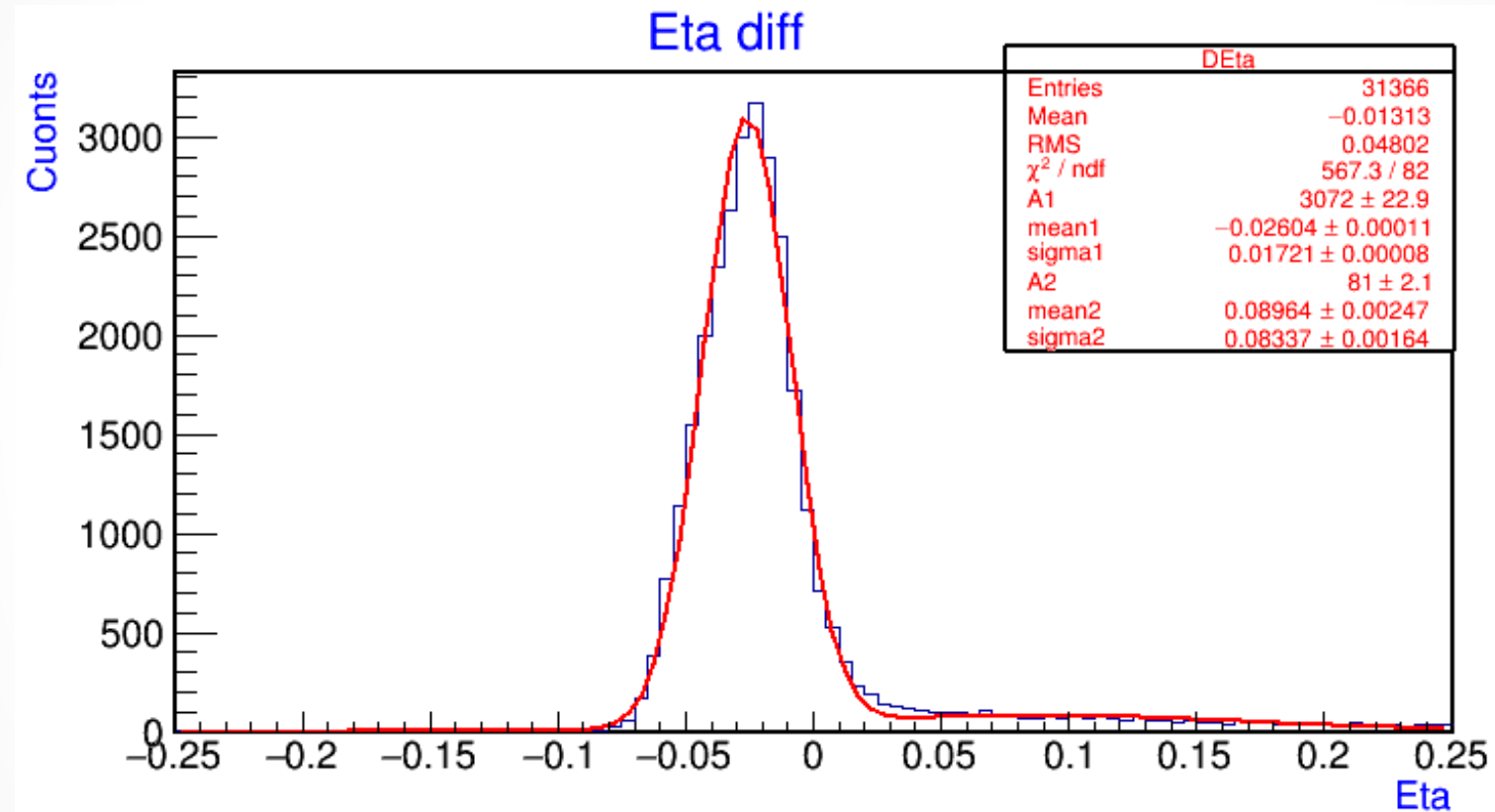
- *Pointing ϕ Resolution vs Energy*
- *Fit with :*

$$\sigma_{\phi} = \frac{a}{\sqrt{E}} \oplus b$$

$$a = 30.31 \text{ mrad } \sqrt{\text{GeV}}$$

$$b = 12.46 \text{ mrad}$$

- Pions
- Eta between 3.4 and 4.4



- *Difference in Eta between measured and true particule direction*

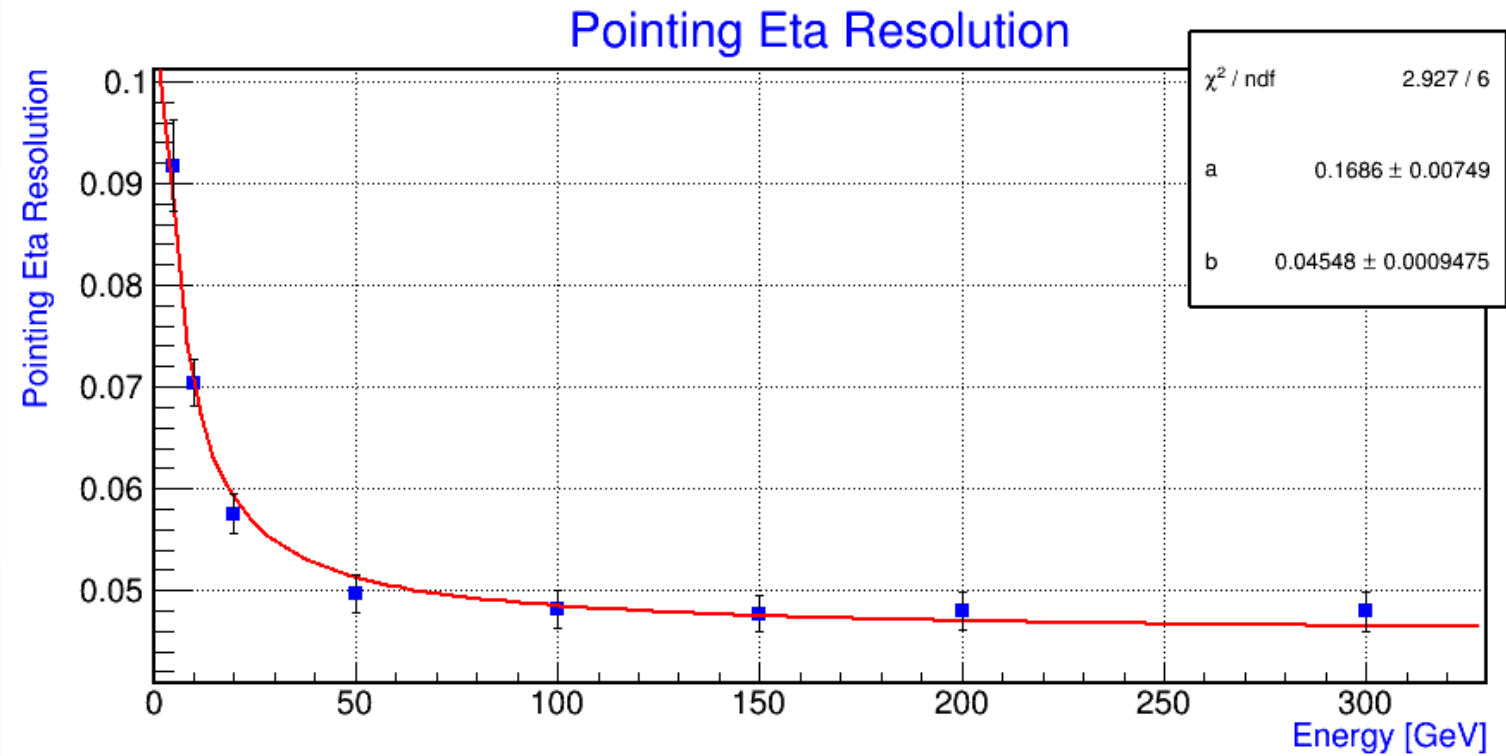
- *300 GeV pions*

- *Fit with Double Gaussian:*

➤ *Pointing Eta Resolution*

$$\sigma_{\eta} = 0.0489187 \pm 0.00191576$$

- Pions
- Eta between 3.4 and 4.4



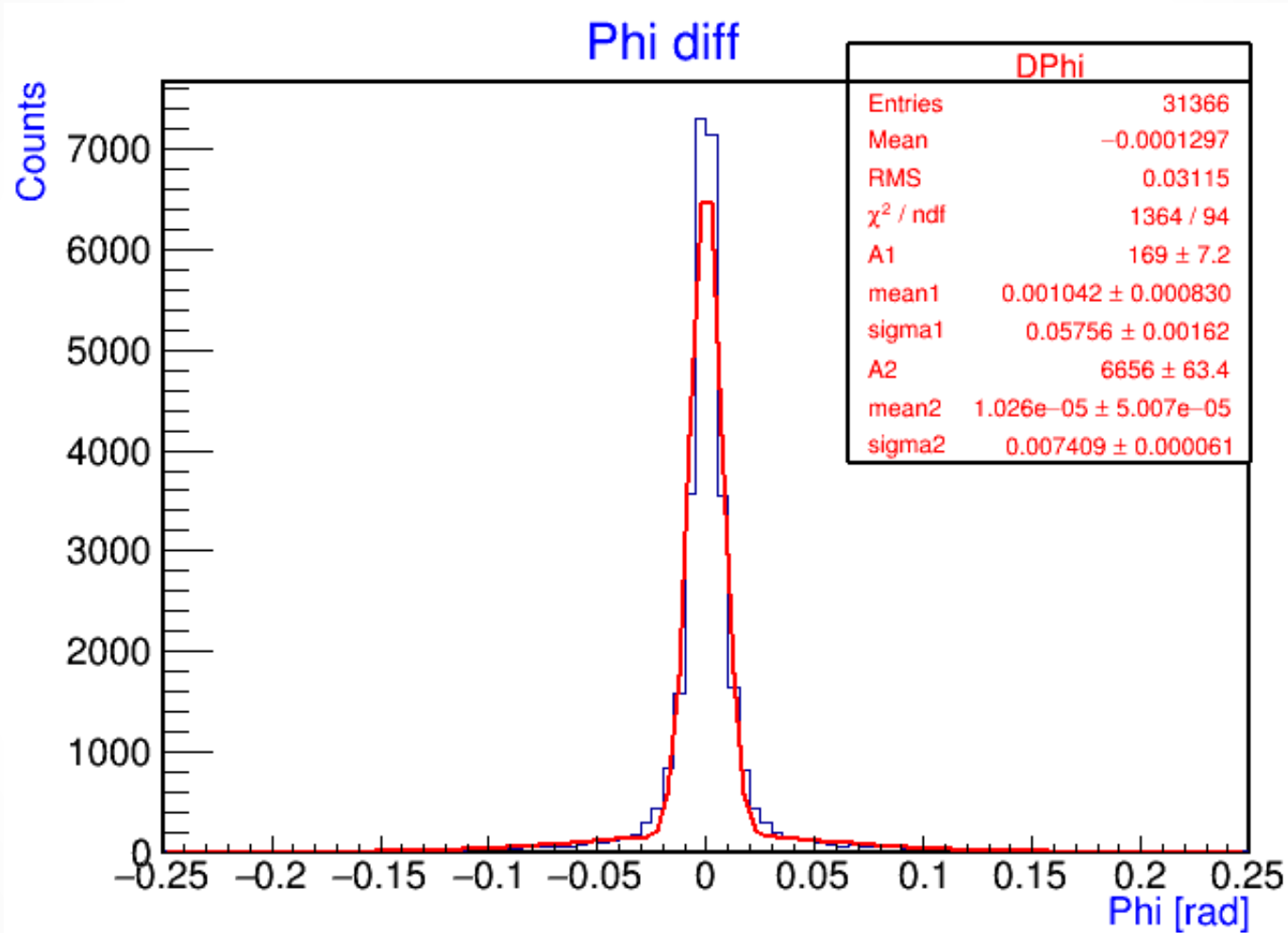
- *Pointing η Resolution vs Energy*
- *Fit with :*

$$\sigma_{\eta} = \frac{a}{\sqrt{E}} \oplus b$$

$$a = 0.01686\sqrt{\text{GeV}}$$

$$b = 0.04548$$

- Pions
- Eta between 3.4 and 4.4



• *Difference in Phi between measured and true particle direction*

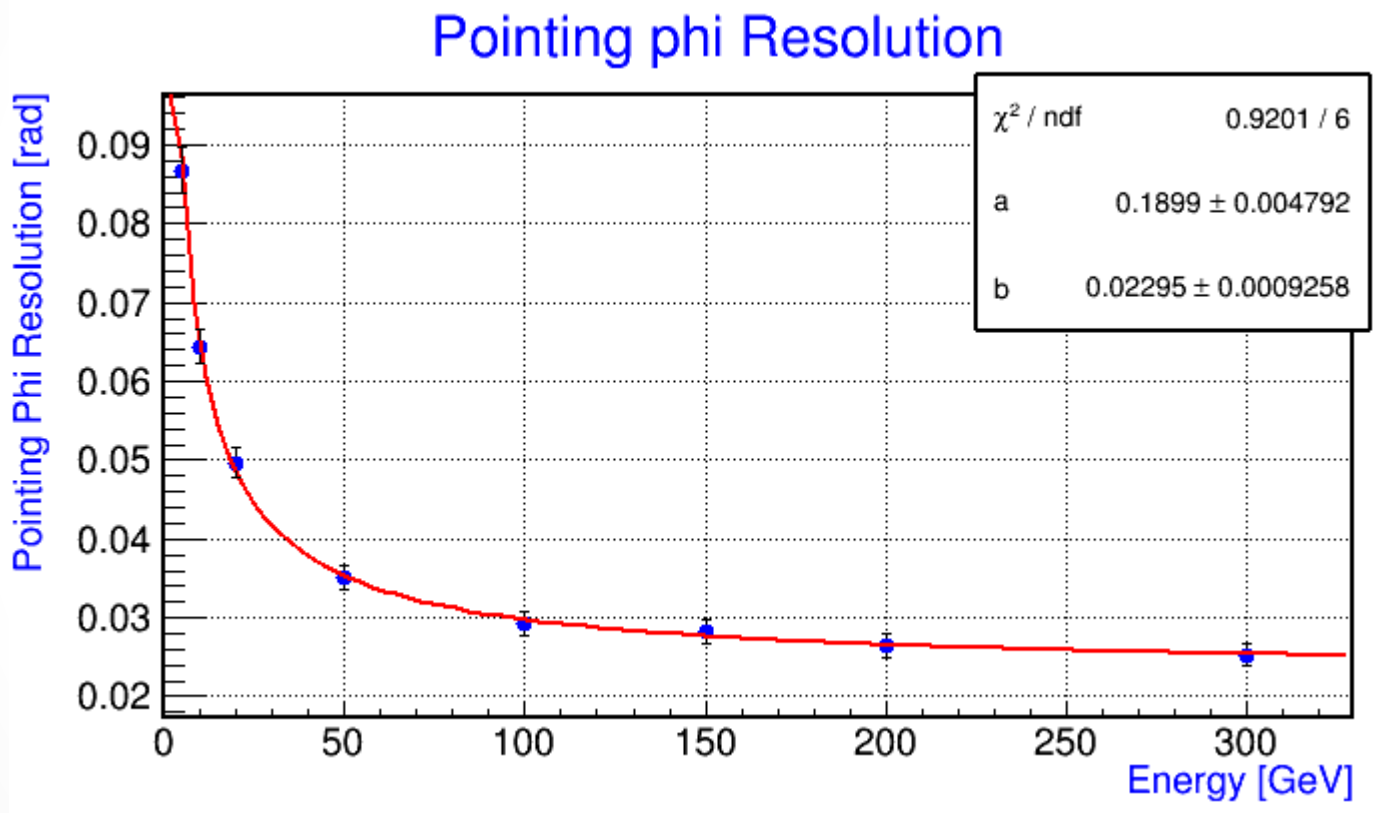
• *300 GeV Pions*

• *Fit with Double Gaussian:*

➤ *Pointing Phi Resolution*

$$\sigma_{\phi} = 0.0243257 \pm 0.00144123 \text{ rad}$$

- Pions
- Eta between 3.4 and 4.4



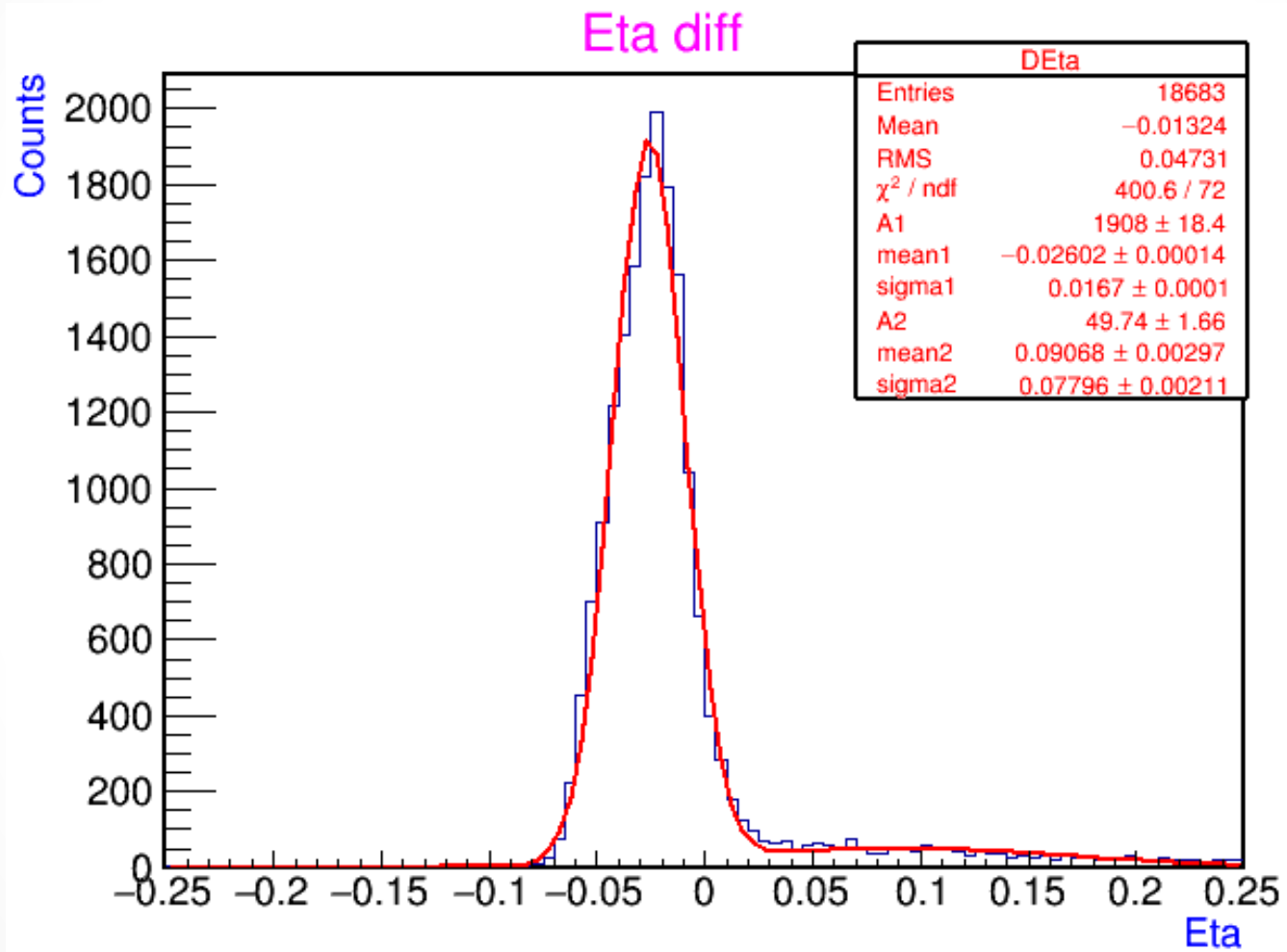
- *Pointing ϕ Resolution vs Energy*
- *Fit with :*

$$\sigma_{\phi} = \frac{a}{\sqrt{E}} \oplus b$$

$$a = 0.1899 \text{ rad } \sqrt{\text{GeV}}$$

$$b = 0.02295 \text{ rad}$$

- **Pions**
- **Eta between 3.5 and 4.1**



- *Difference in Eta between measured and true particle direction*

- *300 GeV pions*

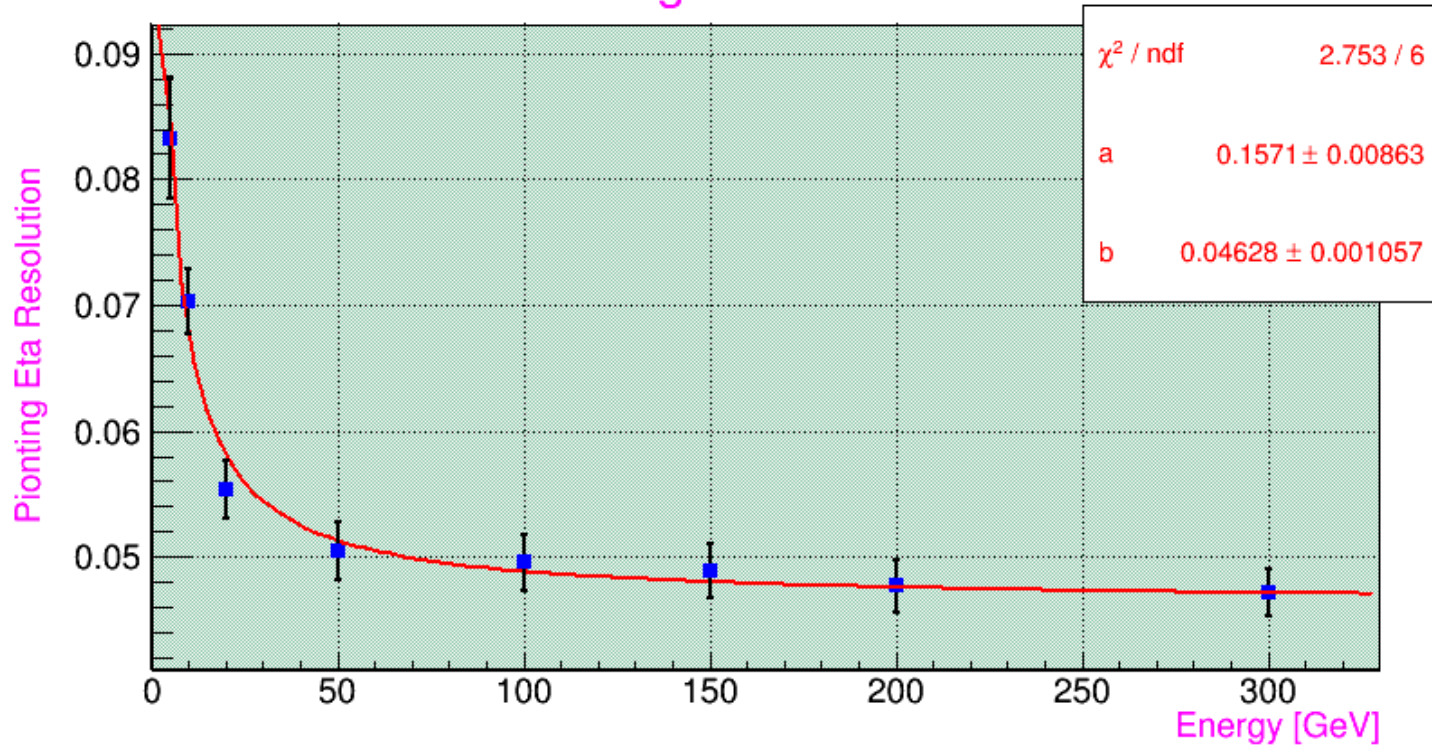
- *Fit with Double Gaussian:*

➤ *Pointing Eta Resolution*

$$\sigma_{\eta} = 0.0471712 \pm 0.00184696$$

- Pions
- Eta between 3.5 and 4.1

Pointing Eta Resolution



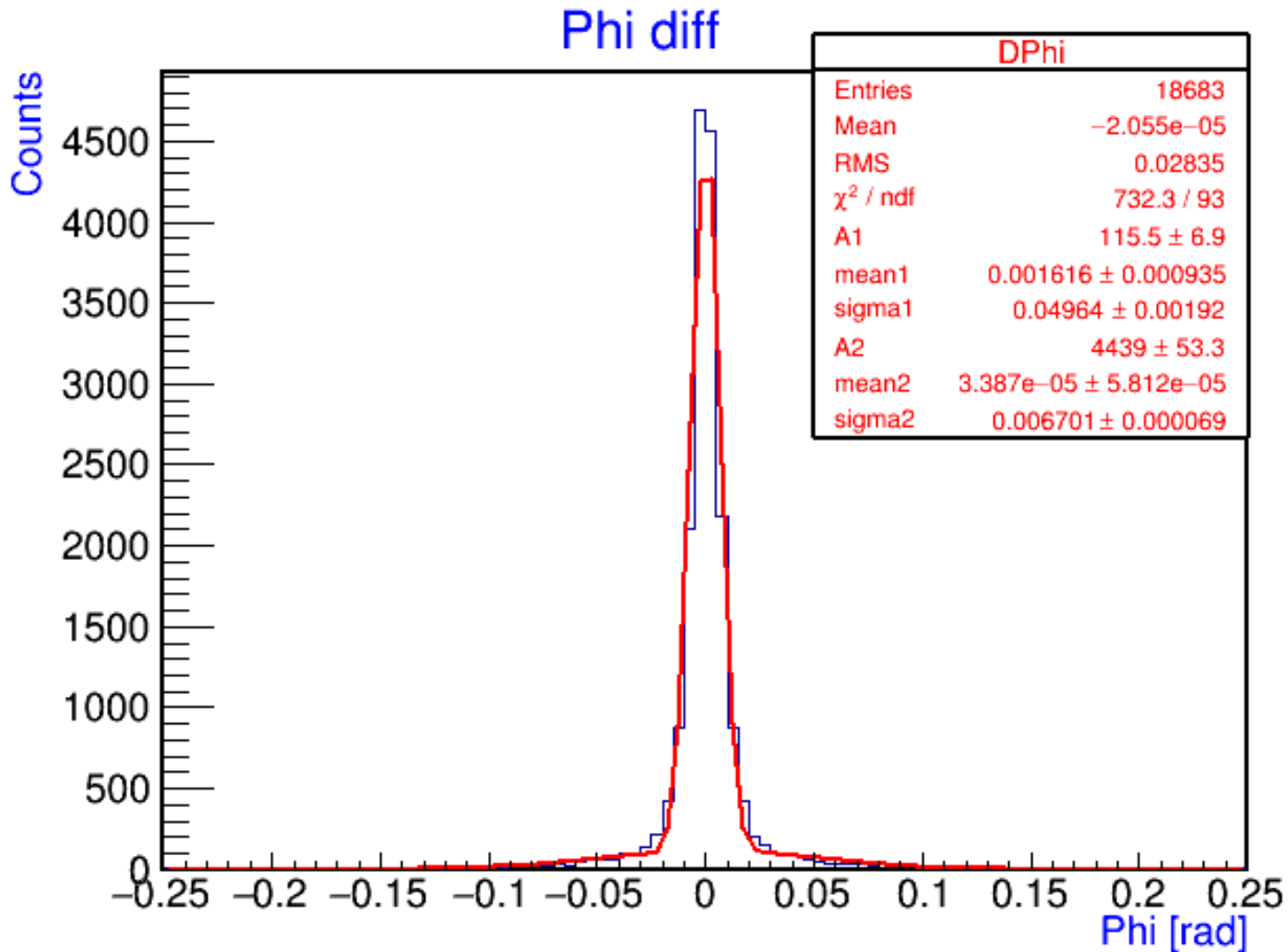
- *Pointing η Resolution vs Energy*
- *Fit with :*

$$\sigma_{\eta} = \frac{a}{\sqrt{E}} \oplus b$$

$$a = 0.01571\sqrt{\text{GeV}}$$

$$b = 0.04628$$

- Pions
- Eta between 3.5 and 4.1



- *Difference in Phi between measured and true particle direction*

- *300 GeV Pions*

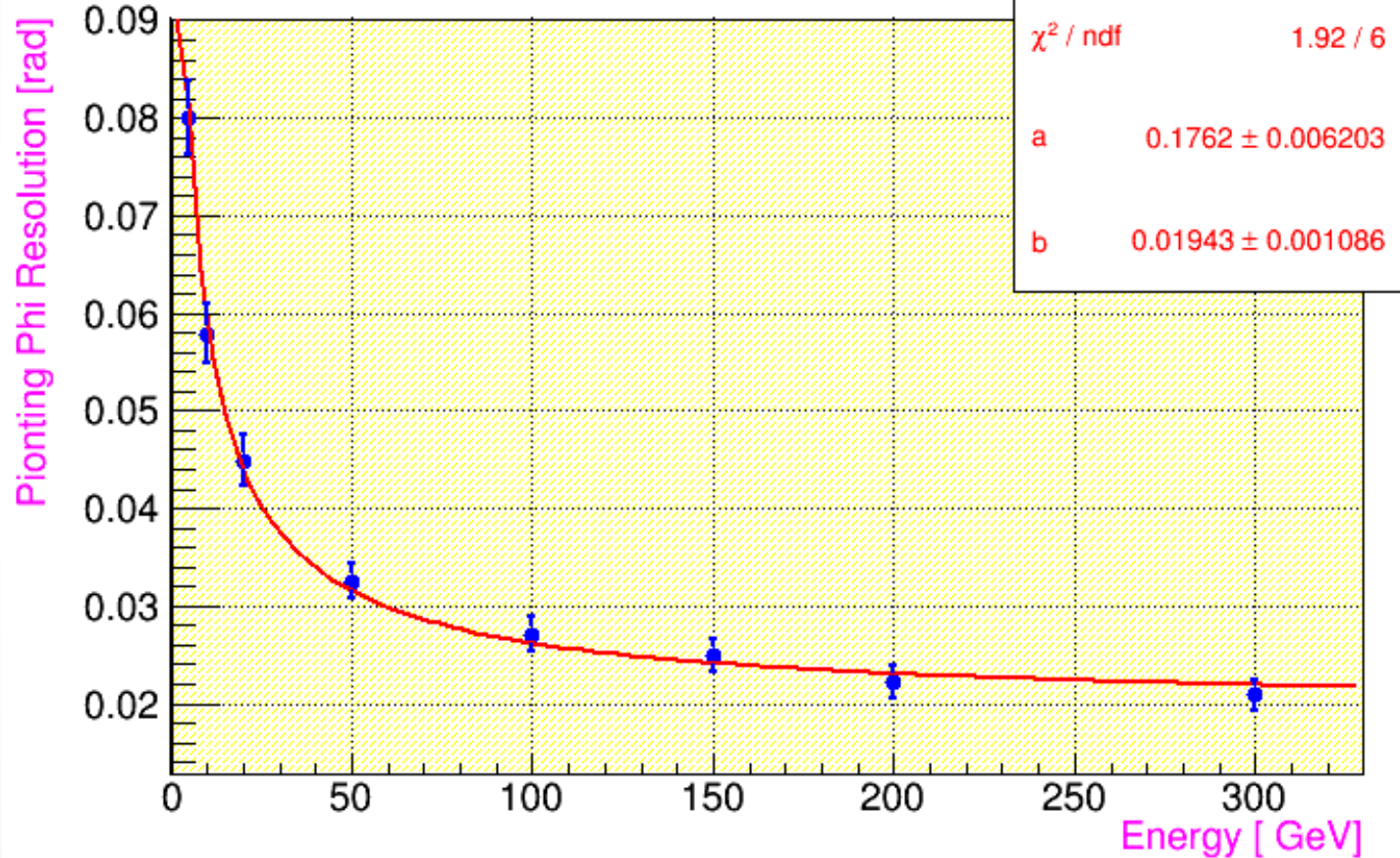
- *Fit with Double Gaussian:*

➤ *Pointing Phi Resolution*

$$\sigma_{\phi} = 0.0208839 \pm 0.00154987 \text{ rad}$$

- Pions
- Eta between 3.5 and 4.1

Pointing phi Resolution



- *Pointing ϕ Resolution vs Energy*
- *Fit with :*

$$\sigma_{\phi} = \frac{a}{\sqrt{E}} \oplus b$$

$$a = 0.1762 \text{ rad } \sqrt{\text{GeV}}$$

$$b = 0.01943 \text{ rad}$$