Bias Correction for the Profile Tool

Using All Gammas: /nfs/farm/g/glast/u11/RunsSpring2004/AllGamma-v4r2/IndividualRuns/

Estimation of $\frac{E_{\text{fit}}}{E_{\text{MC}}}$ distributions’ MPVs for given $\cos(\theta_{\text{MC}})$ and $E_{\text{MC}}$:

- $0.1 < \cos(\theta_{\text{MC}}) < 1$, step size .5
- $2\text{GeV} < E_{\text{MC}} < 180\text{GeV}$, 10 log steps
- fitted using log normal function.

Bias correction:

- The profile is estimated as a $\Gamma(z/\cos(\theta))$ function:
  The shower’s radial distribution is neglected. As a result, the main bias is function of $\theta$.
- $\text{MeanBias}(E, \cos(\theta))$ is estimated using the MPVs of the distributions.
- $\tilde{E}_1 = E_{\text{fit}} + \text{MeanBias}(E_{\text{fit}}, \cos(\theta_{\text{rec}}))$
- $\tilde{E}_2 = E_{\text{fit}} + \text{MeanBias}(\tilde{E}_1, \cos(\theta_{\text{rec}}))$
Results with Bias:

Pol d'Avezac, LLR, Ecole polytechnique
Results Bias Corrected:

new CalRecon tag v5r16p2