Bias Correction for the Profile Tool

Using All Gammas:/nfs/farm/g/glast/u11/RunsSpring2004/AllGamma-v4r2/IndividualRuns/
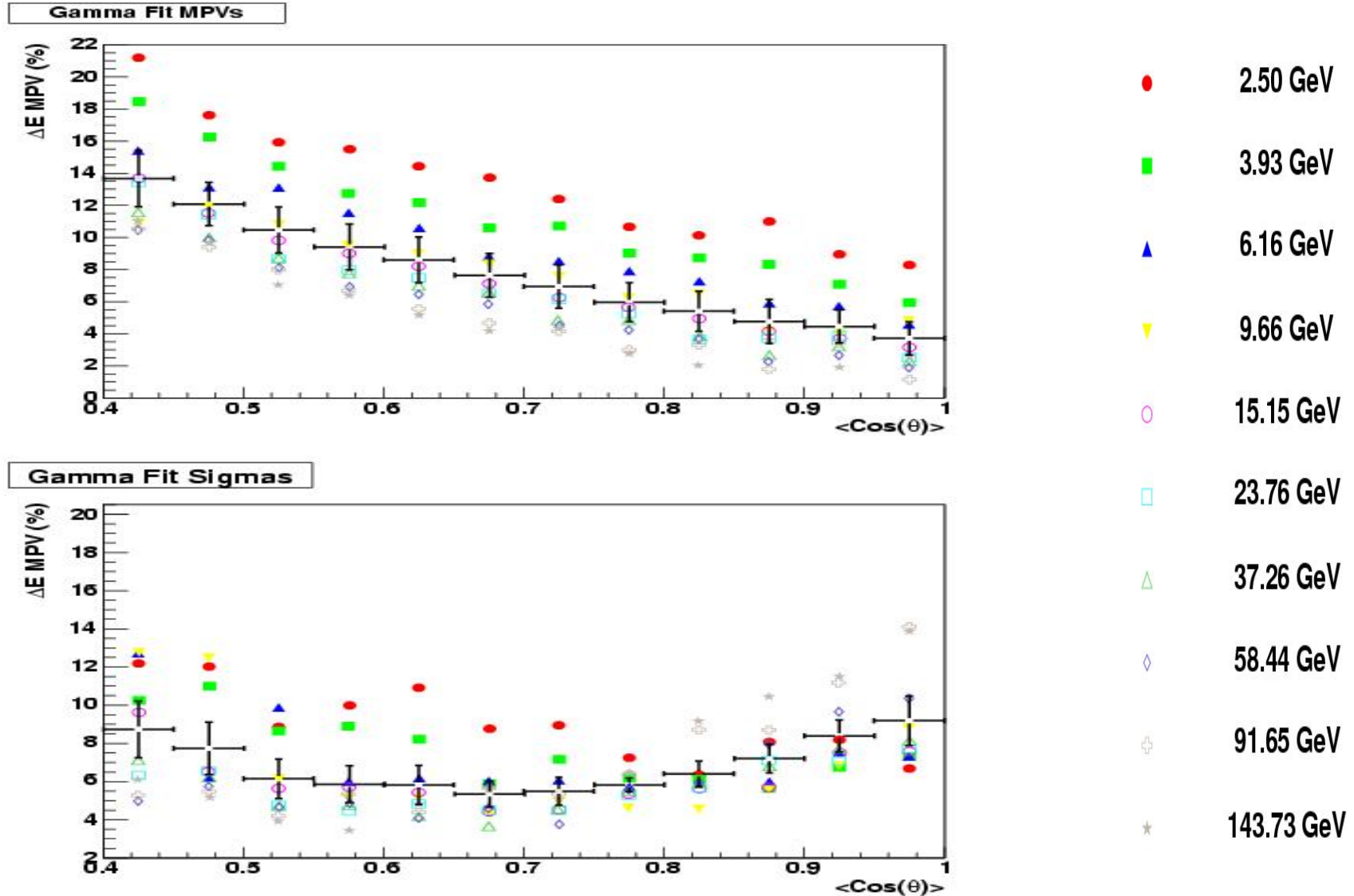
Estimation of $\frac{E_\text{fit}}{E_\text{MC}}$ distributions' MPVs for at given $\cos(\theta_\text{MC})$ and E_MC:

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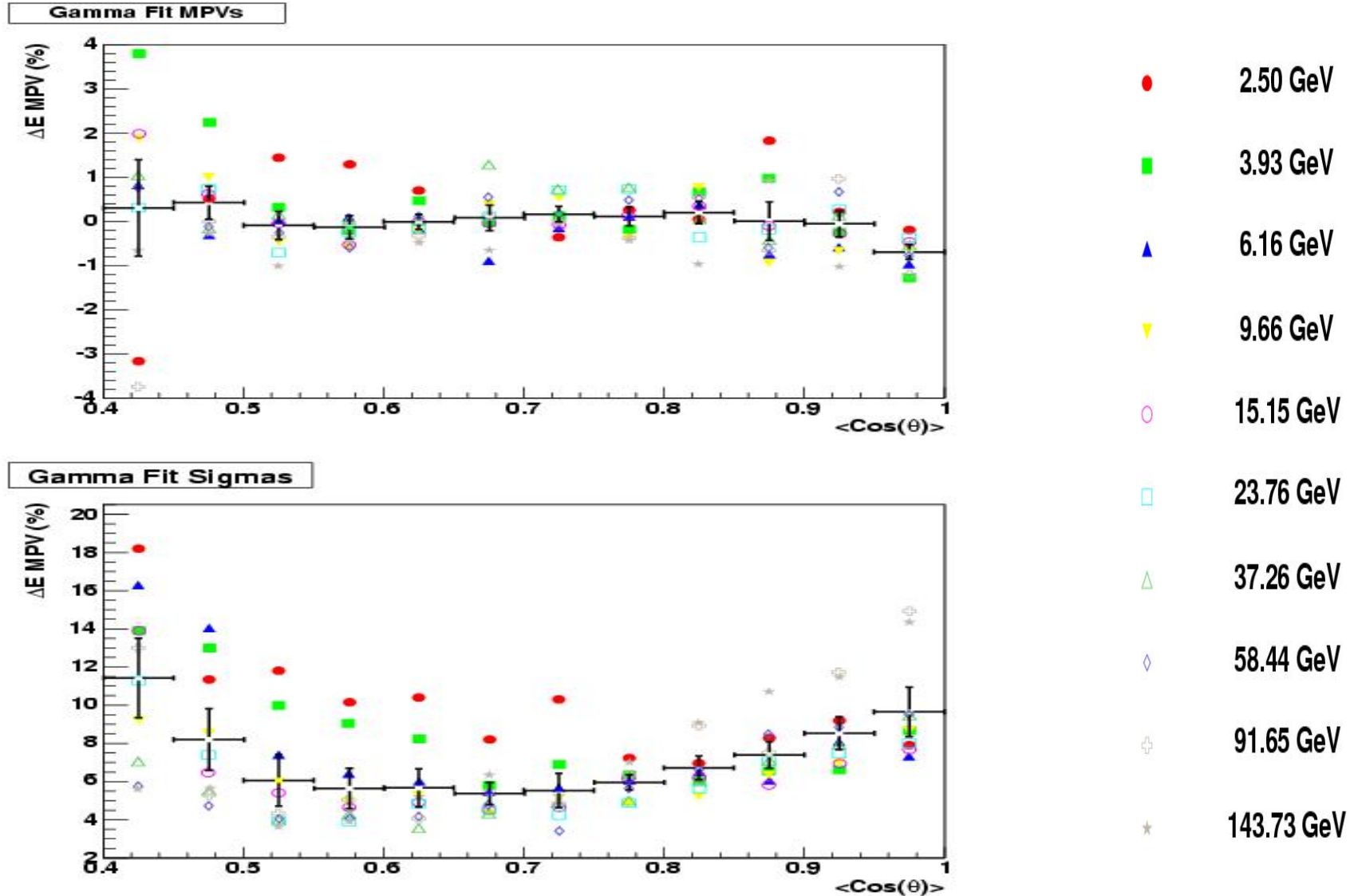- fitted using log normal function.

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 θ.
- $MeanBias(E, cos(\theta))$ is estimated using the MPVs of the distributions.
- $\tilde{E}_1 = E_\text{fit} + MeanBias(E_\text{fit}, cos(\theta_\text{rec}))$
- $\tilde{E}_2 = E_\text{fit} + MeanBias(\tilde{E}_1, cos(\theta_\text{rec}))$

Results with Bias:

Results Bias Corrected:

new CalRecon tag v5r16p2