

Figure 25: Left) Time difference between measured hits in the BCAL and the expectation based on the RF times for a sample of candidate pions with momentum greater than 0.5 GeV. The peaks at 4 ns intervals correspond to selecting the wrong RF bunch. Right) Measured velocity using BCAL hit times vs. the measured momentum for positive particles. The three curves corresponds to the expected response of pions, kaons and protons.

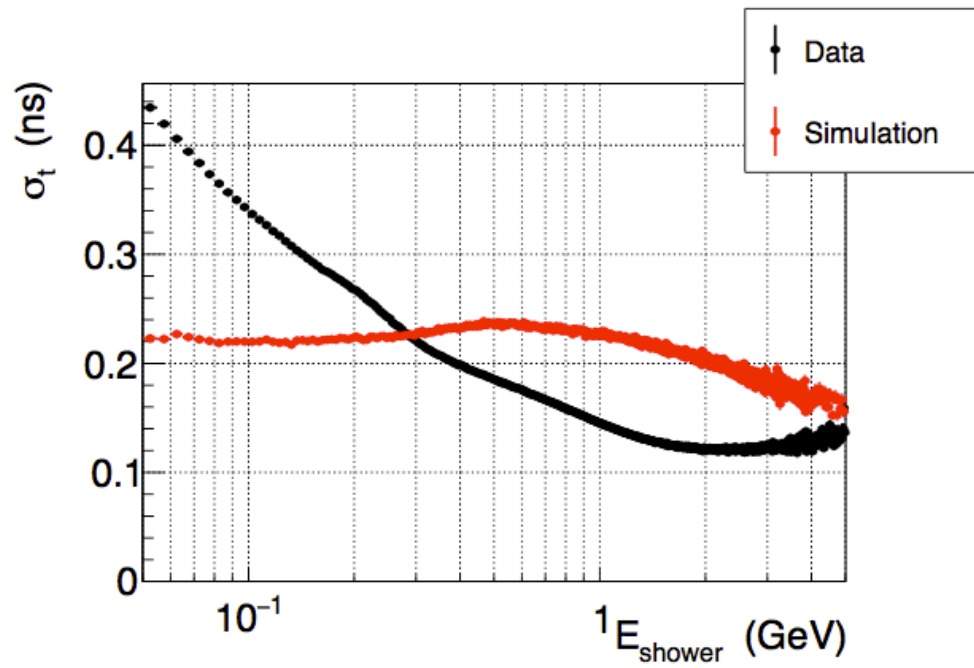


Figure 26: Time resolution for neutral showers from  $\pi^0$  decays and Monte Carlo.

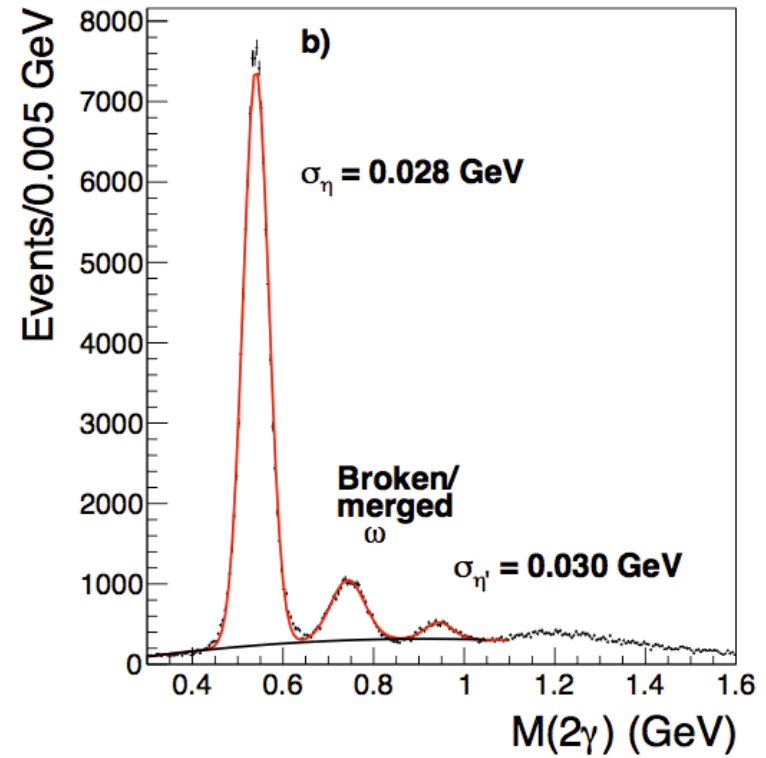
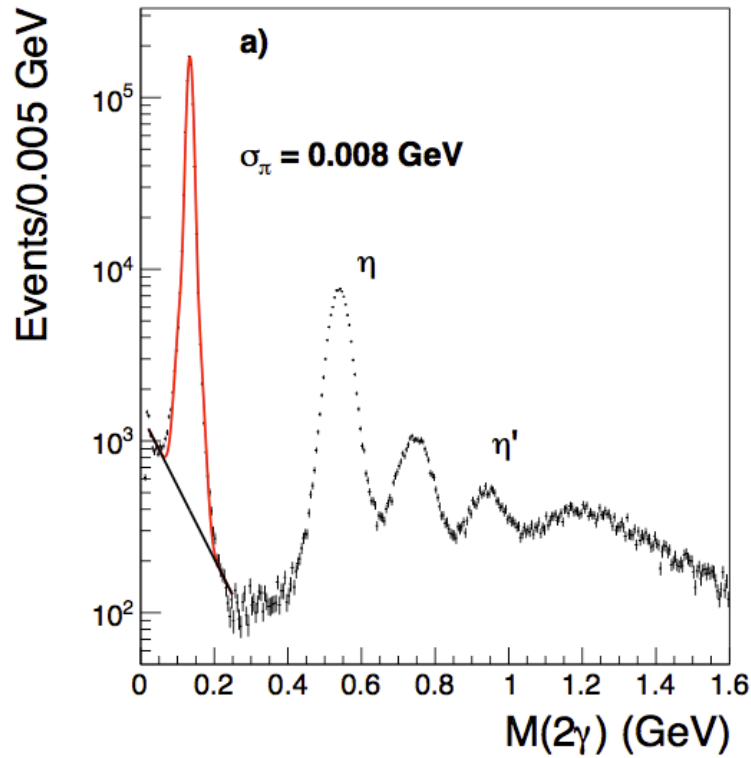


Figure 27: a) Two-photon mass distribution for an exclusive sample of events  $\gamma p \rightarrow p\gamma\gamma$  on a logarithmic scale over the full mass range. b) Same distribution on a linear scale over the mass range of the  $\eta$  and  $\eta'$  mesons.

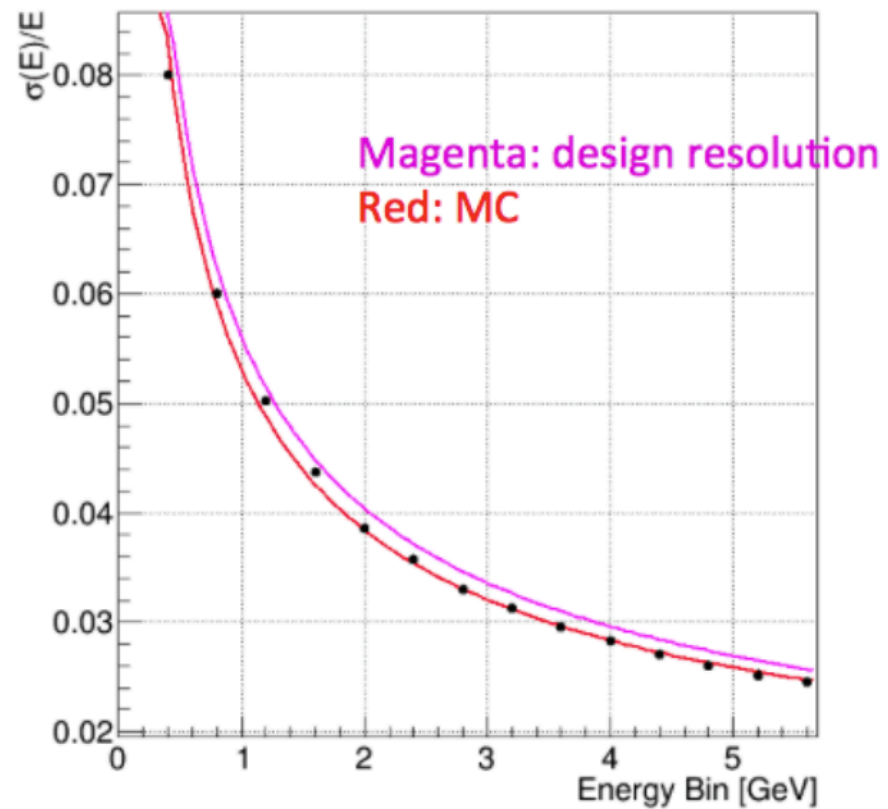
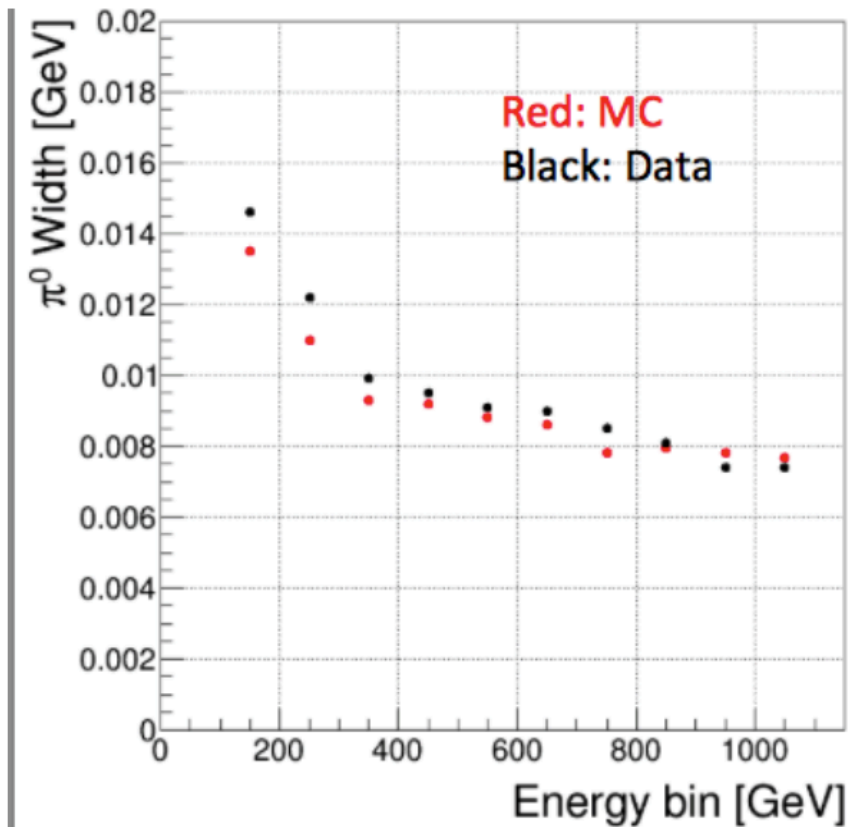


Figure 28: Left)  $\pi^0$  width as a function of energy for symmetric decays, where both photons are required to be within 0.1 GeV of each other. Right) Energy resolution in the simulation which is used to reproduce the  $\pi^0$  width distributions on the left.

