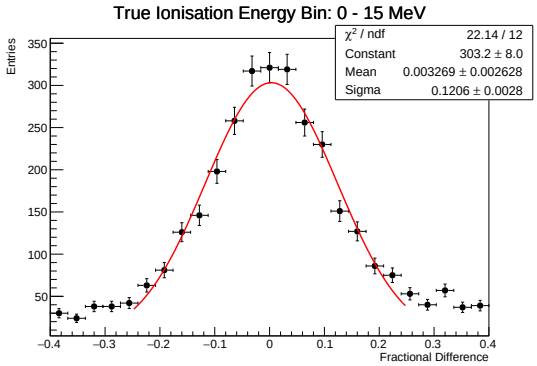
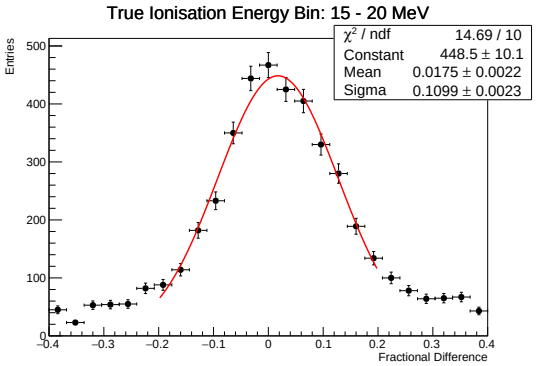
A

Additional Details for Michel Electron Reconstruction

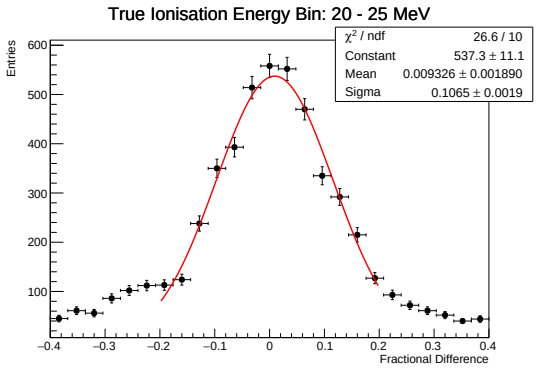
Chapter 7 provided a study of the fractional energy resolution of the developed Michel electron reconstruction algorithm, in terms of ionisation only deposited energy. The bias and resolution estimates were based on gaussian fits to the fractional difference between the reconstructed ionisation energy and the true ionisation energy. The fits used to populate Figure 7.21 are shown in Figure A.1. The data is binned in terms of the total true ionisation energy deposited by the Michel electron, and each plot contains the data from a single bin. No attempt was made to fit the tails of the distribution, which is particularly noteworthy in Figure A.1e, where there is a significant tail for negative fractional differences.



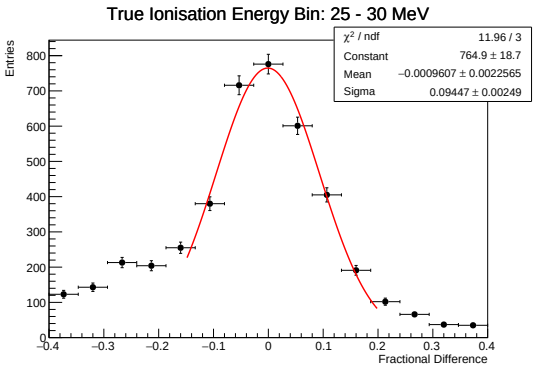
(a) 0 - 15 MeV



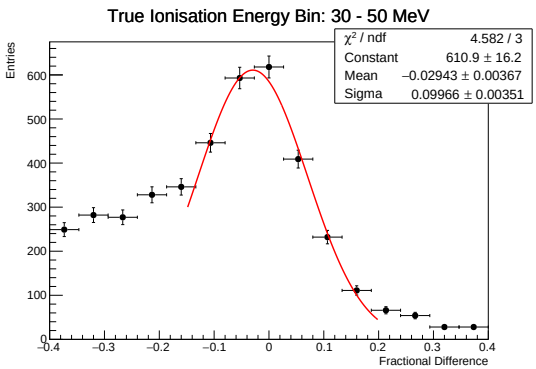
(b) 15 - 20 MeV



(c) 20 - 25 MeV



(d) 25 - 30 MeV



(e) 30 - 50 MeV

Figure A.1: Gaussian fits to the fractional energy difference between reconstructed ionisation energy and true ionisation energy, used to predict the energy resolution and bias as a function of energy in Figure 7.21. No Attempt was made to fit the tails of the distribution.