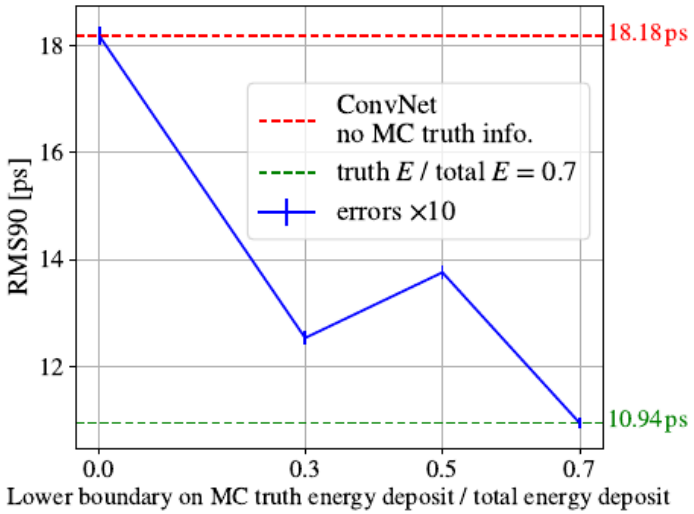
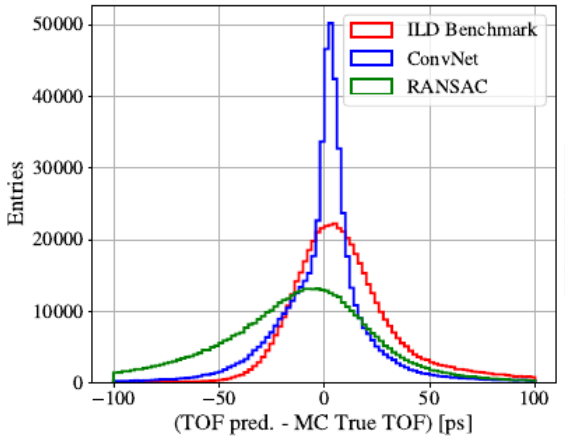


Figure A.3.: RMS90 of ConvNet, trained and tested on datasets of various quality. The x axis represents a lower bound on $\frac{\text{energy deposited by MC truth}}{\text{total energy in the shower}}$.



TOF estimator	RMS90 mean [ps]	RMS90 [ps]
ConvNet	-0.48 ± 0.02	18.18 ± 0.02
Benchmark algorithm	9.73 ± 0.03	23.62 ± 0.02
RANSAC	-16.34 ± 0.05	40.14 ± 0.04

Figure 5.13.: Performance comparison of ConvNet, the benchmark algorithm and RANSAC. Predictions are made for the testing dataset, containing 600,170 pfos. Since the RANSAC algorithm fits an affine function, having two degrees of freedom (d.o.f.), to the data, predictions can only be made for showers with more than two hits. Thus, RANSAC was was only able to predict TOFs for 98.7% of pfos.

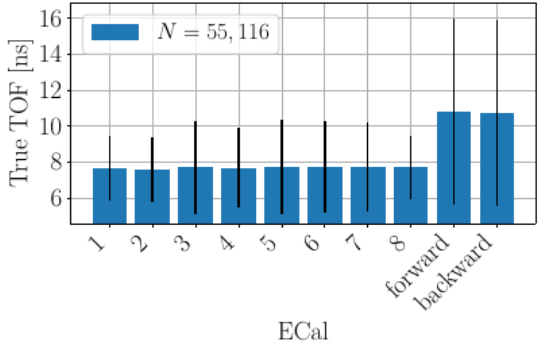


Figure 5.3.: MC truth average TOF in each tile. Numbers represent the eight ECal barrel tiles. Forward and backward refers to the forward, $z > 0$, and backward, $z < 0$, endcap ECals. A random subset of pfos from the data was chosen. Black lines indicate the standard deviation of the TOFs.

Highlight plots from my mid-term report