

Calibration Task Force

Technical Proposal, LBL and towards TDR

Sowjanya Gollapinni (UTK)
Kendall Mahn (MSU)

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(current) TP outline

1	Introduction to Calibration - 2 pages	
2	Physics Requirements for Calibration Systems - 3 pages	
2.1	Long baseline physics
2.2	Supernova physics
2.3	Other Physics

Future (TDR) studies for LBL

- *Simple parameterization in LBL fits which standalone studies connect to*
 - E scale for electrons, muons, protons, pions - separate (as much as possible) by particle type
 - Fiducial Volume - **How do we want to connect position related problems to LBL?**
 - Particle ID - **not easy to build in migration / misID, right? Also not obvious what calib effects feed into this? -> Ignore?**
- *Standalone studies with truth level parameters (outside LBL)*
 - If 1% energy bias, how would this change π^0 mass/Michel spectrum peak? (Absolute measurement). How do localized effects (alignment, E field) affect this?
 - Impact on MCS, E scale for misalignment in part of detector
 - How much shower energy goes into few MeV photons?
- *Dedicated (1-3) fake data studies (local or difficult to simulate physics cases)*
 - Multiple, local E field distortions // **discuss which specifically at May CM?**

Questions

- *Is anything in our (rough) draft of TP redundant with what is presented elsewhere?*
- *If DUNE doesn't run at nominal field, is there further work needed for LBL or Calib (beyond general extrapolation in text?)*
- *Latest statements on requirements of E scale vs. energy for either leptons or hadronic state?*

BACKUP