

New Paired Data Validation

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▶ Using data:

- TDR paired data: `colweber_1e6_FHC_numu_ndfd_pairs_resim_muon.h5`
- TDR ND MC (on-axis): `CAFv7_0m_130_FHC.root`
- TDR FD MC: `FD_FHC_nonswap.root`

▶ Randomly sample $\sim 250k$ events with vertex in PRISM FV from each file

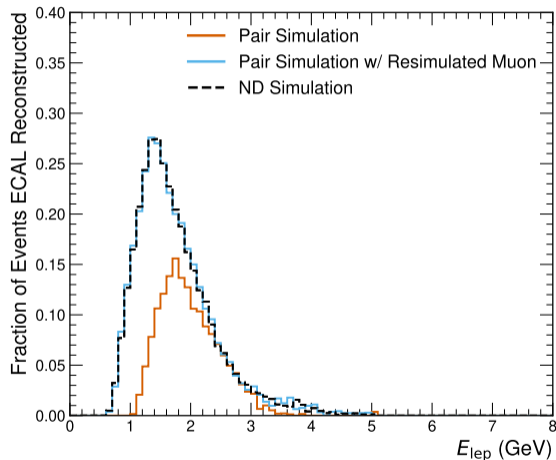
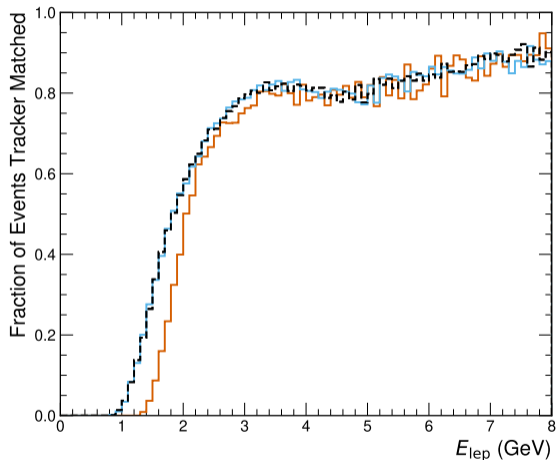
▶ ND selected means:

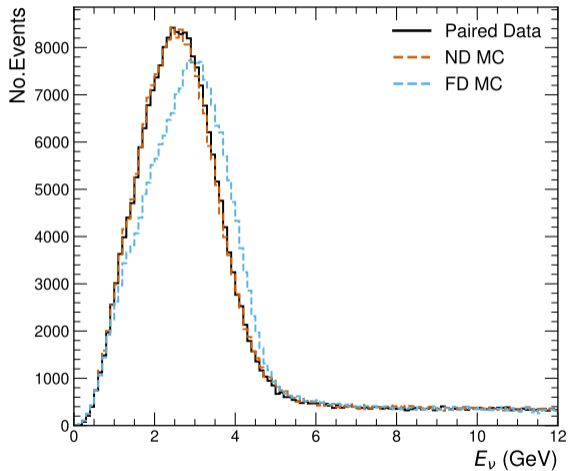
- `(muon_tracker == 1 || muon_contained == 1) && reco_numu == 1 && Ehad_veto < 30`

▶ FD selected means:

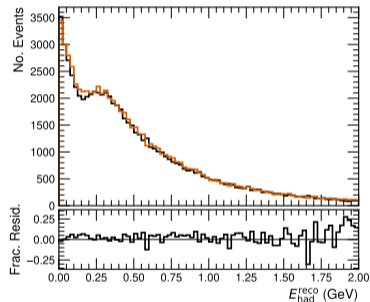
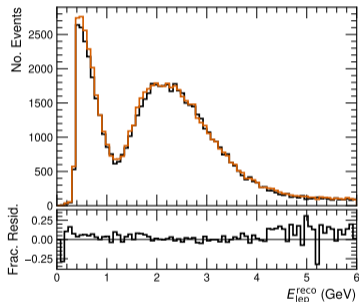
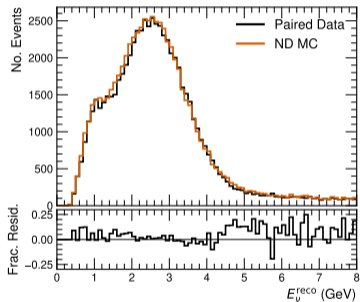
- `cvnnumu > 0.5`

Effect of Muon Resimulation

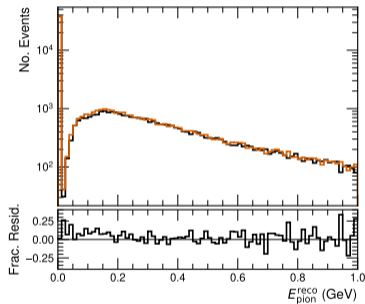
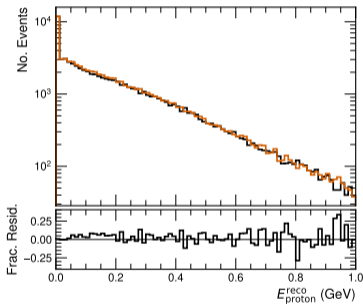
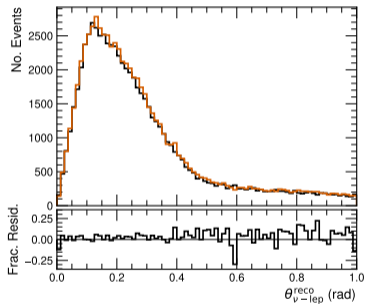




ND Validation (Selected)

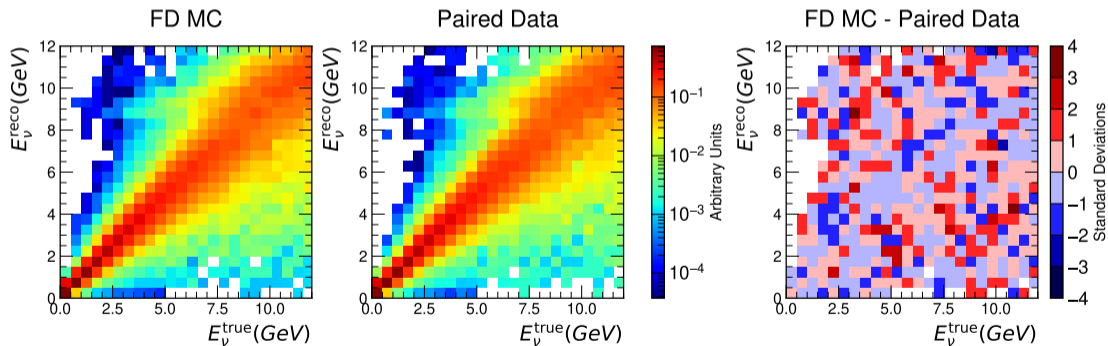


More ND Validation (Selected)



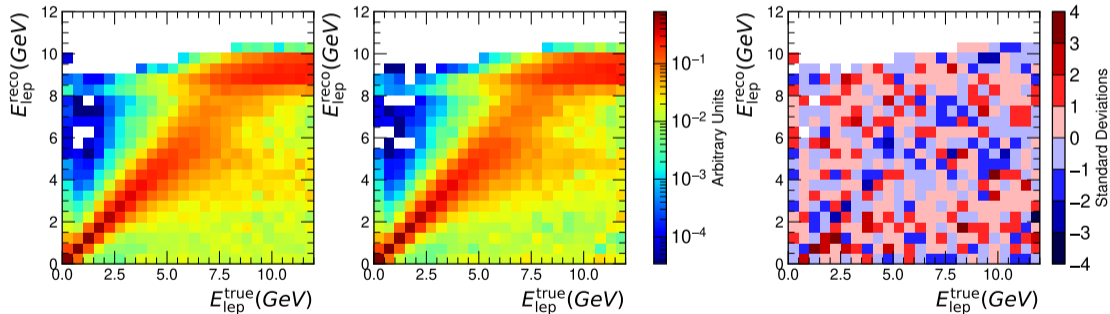
FD Validation - Nu Energy (Selected)

True energy bins normalised to 1



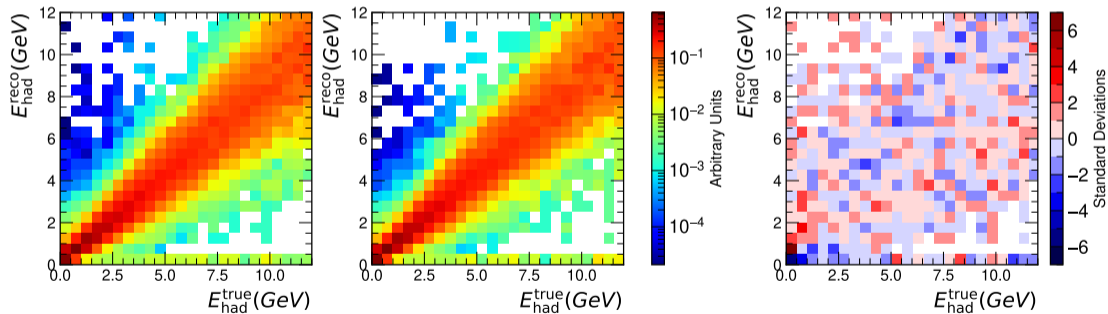
FD Validation - Lep Energy (Selected)

True energy bins normalised to 1



FD Validation - Had Energy (Selected)

True energy bins normalised to 1



FD Validation - CVN Score

True energy bins normalised to 1

