Run Full Chain Simulation

Run: genie->cal->reco->ana

Genie options:

```
--pot=1e20 \
--evt=NUE-EL \
--beam=me000z200i \
```

18 subrun

Output Files

In the directory: minerva/ana

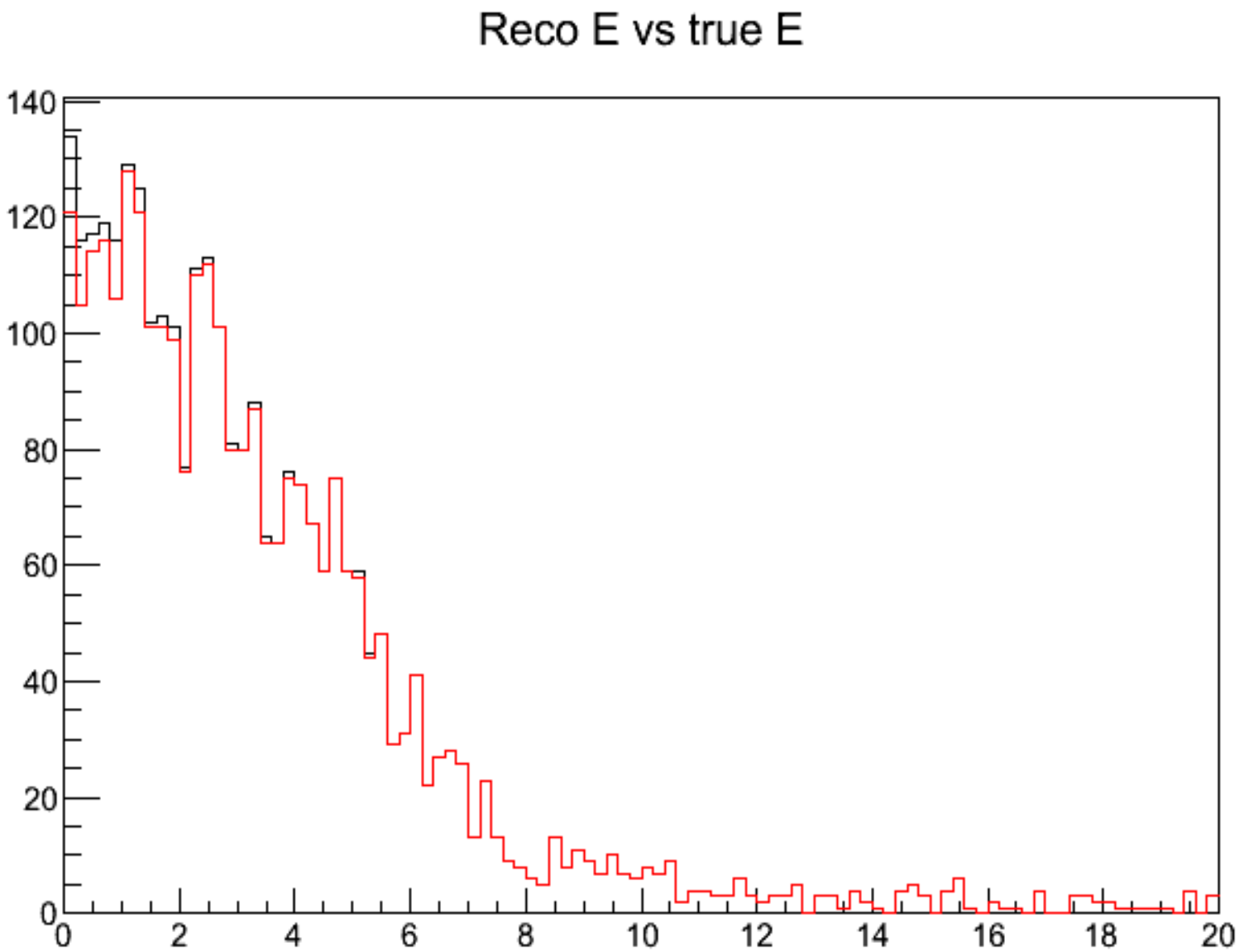
J:

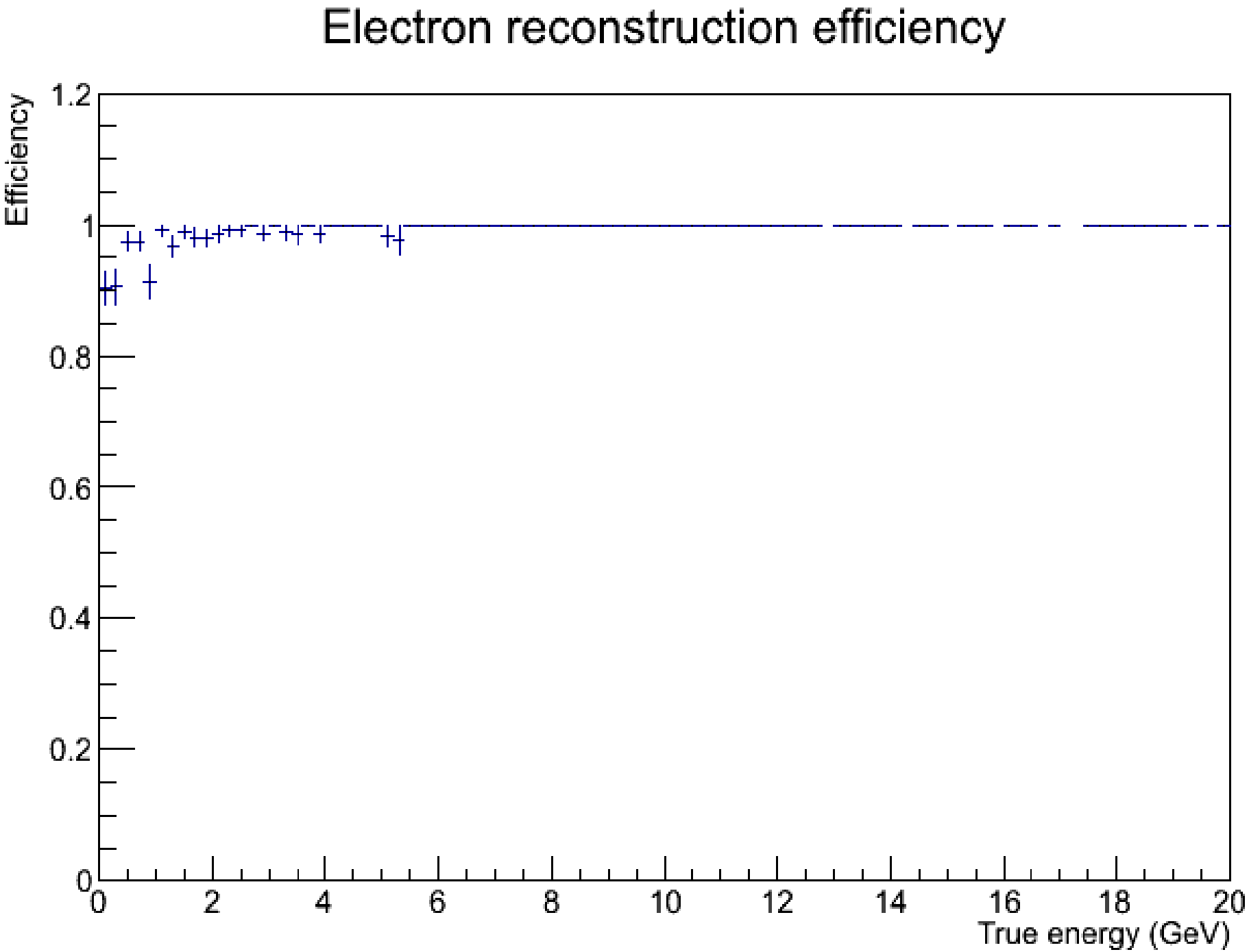
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_ConeDelta50.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_ConeDelta50_v2.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_ConeDelta50_v3.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_ConeDelta50_v4.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_ConeDelta50_v5_noSC.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_ConeDelta50_v5.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_xtr-ne.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_xtr-ne-xzuz.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_xtr-ne-xzuz-sbp.root
SIM_minerva_00000100_0001_Ana_Tuple_v3_v10r2p3_xtr.root

W:

SIM_minerva_00000001_0001_Ana_Tuple_v3_v10r2p3.root

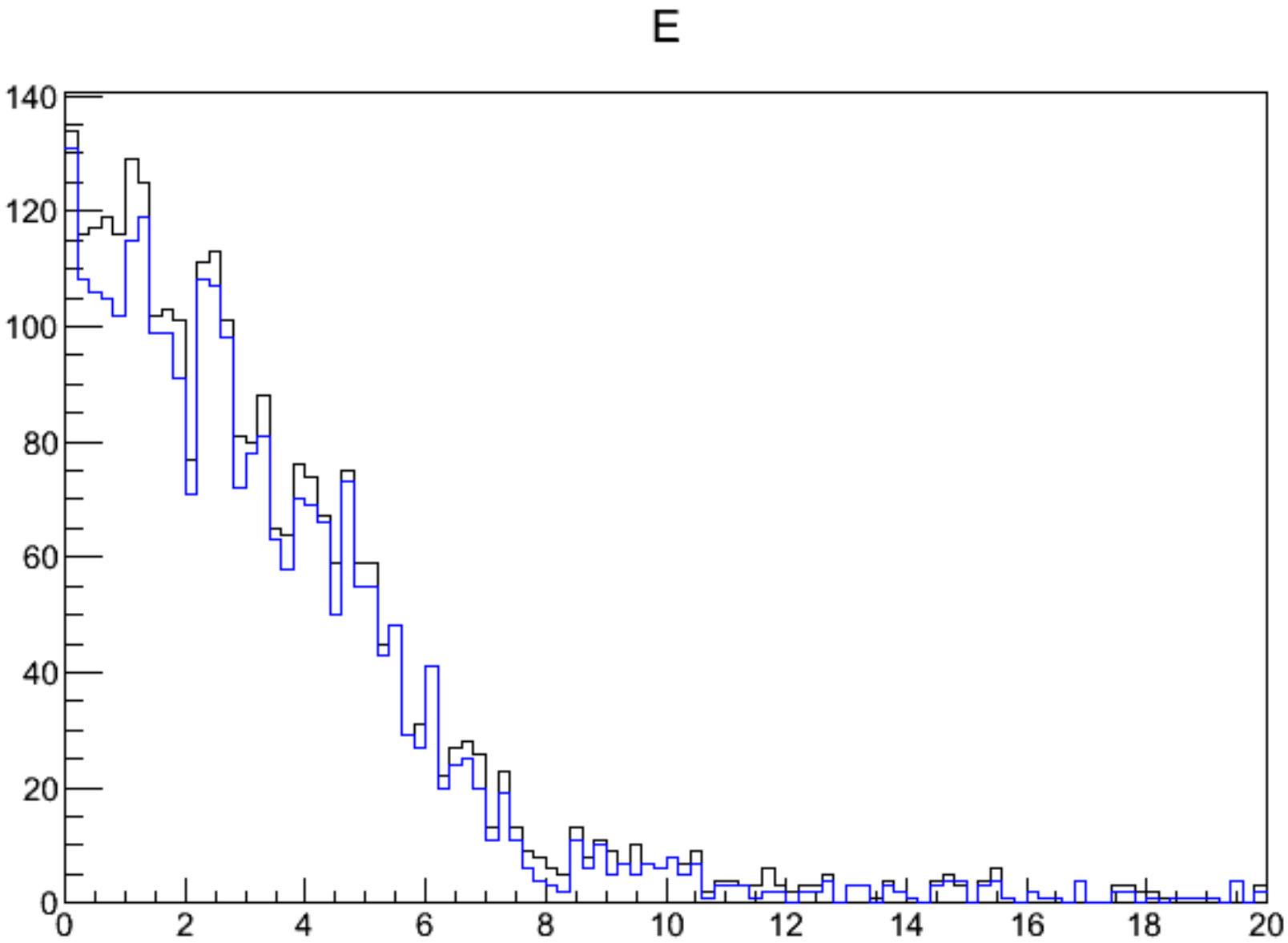
Plot Electron Energy




Electron reconstruction efficiency
Efficiency
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
16
18
20
True energy (GeV)

True E vs Genie E

Different?



Fiducial Event Rate 18E20 POT

	numu	anti_numu
Genie (W)	2058	110
Genie (J)	2767	149
Prediction	2484	129

W:

vtxz >= 5.99 && vtxz<=8.34 && vtxx>=-0.85 && vtxx<=0.85 && vtxx<=2*vtxy + 1.7 && vtxx >= 2*vtxy -1.7 && vtxx >= -2*vtxy-1.7 && vtxx <= -2*vtxy+1.7

J:

```
 vtxz>5.798+0.04523 && vtxz<8.602-4*0.04523 &&
  TMath::Abs(vtxx)<0.88125 &&
  TMath::Abs(TMath::Cos(TMath::Pi()/3)*vtxx+TMath::Sin(TMath::Pi()/3)*vtxy)<0.88125
&&
  TMath::Abs(TMath::Cos(TMath::Pi()/3)*vtxx-TMath::Sin(TMath::Pi()/3)*vtxy)<0.88125
```