Prompt muons

Pascal Gutjahr

April 9, 2024
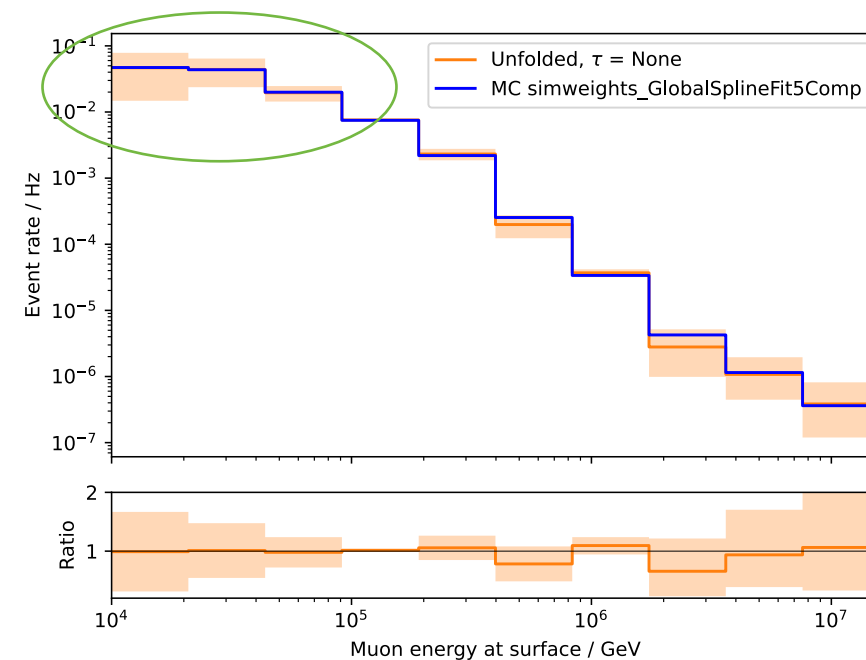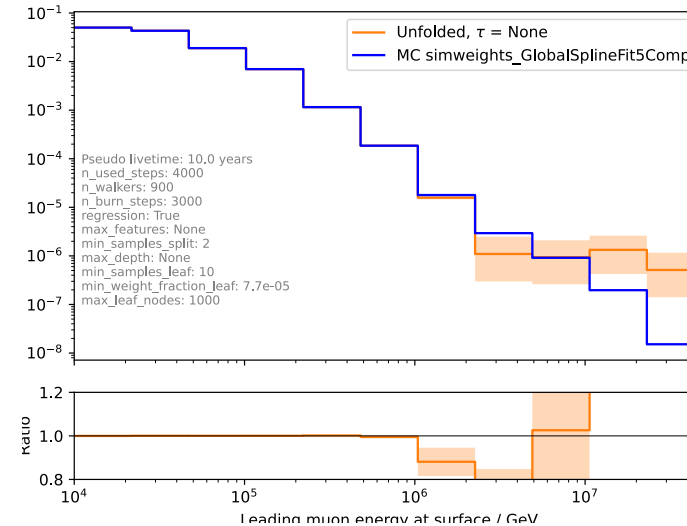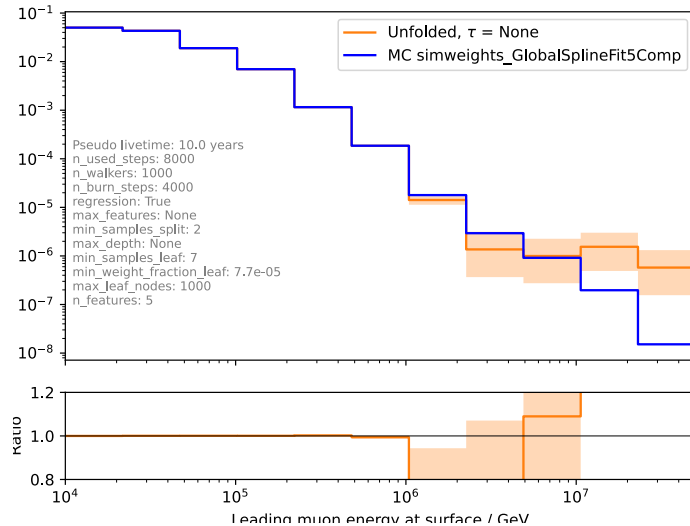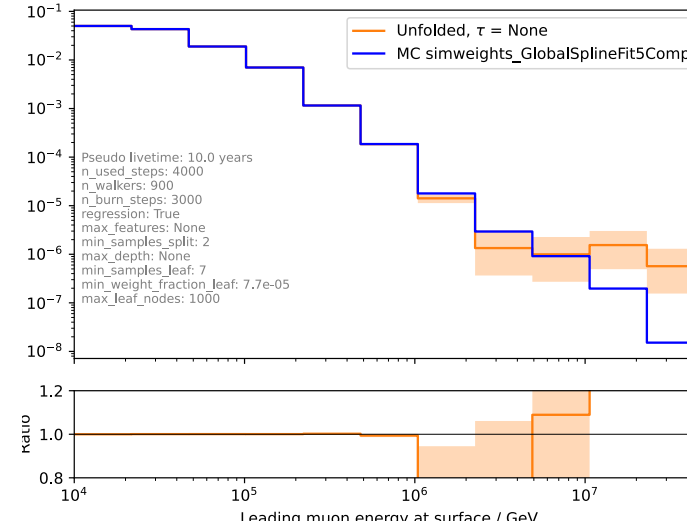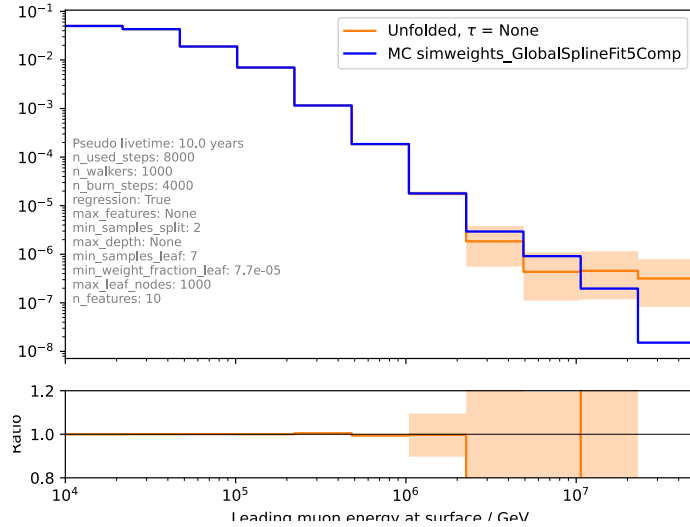
Unfolding – only energy proxy
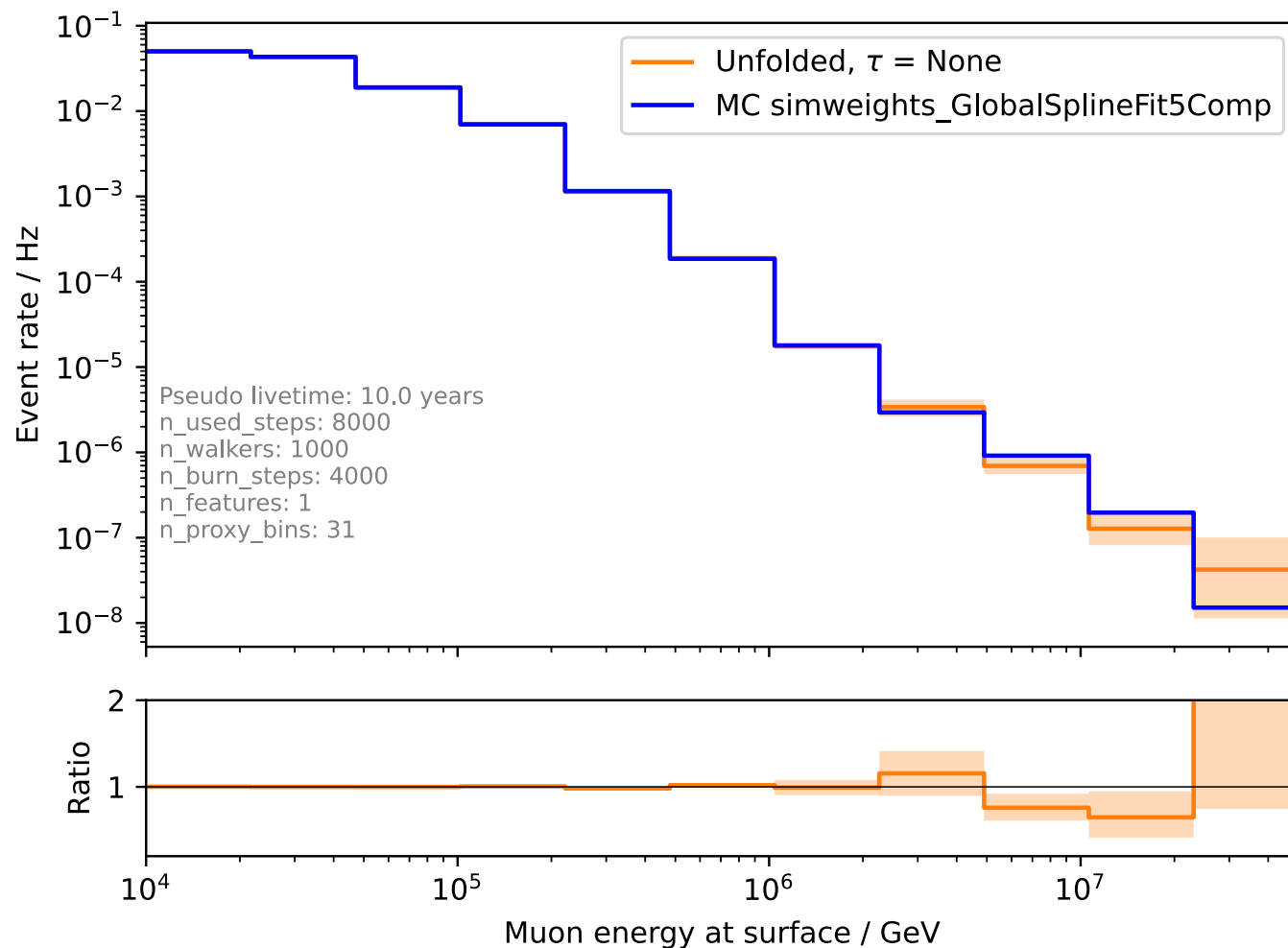
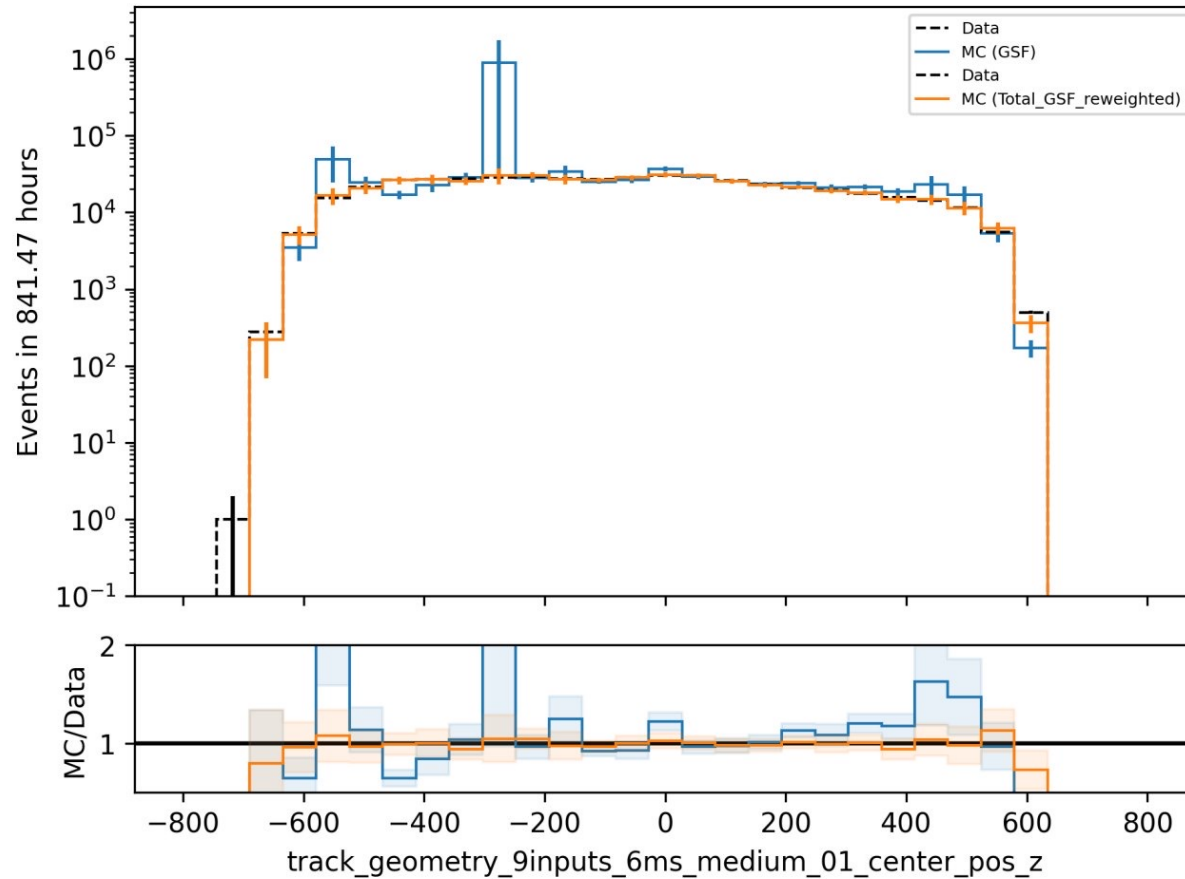old plot – binning too large

Unfolding – tree binning
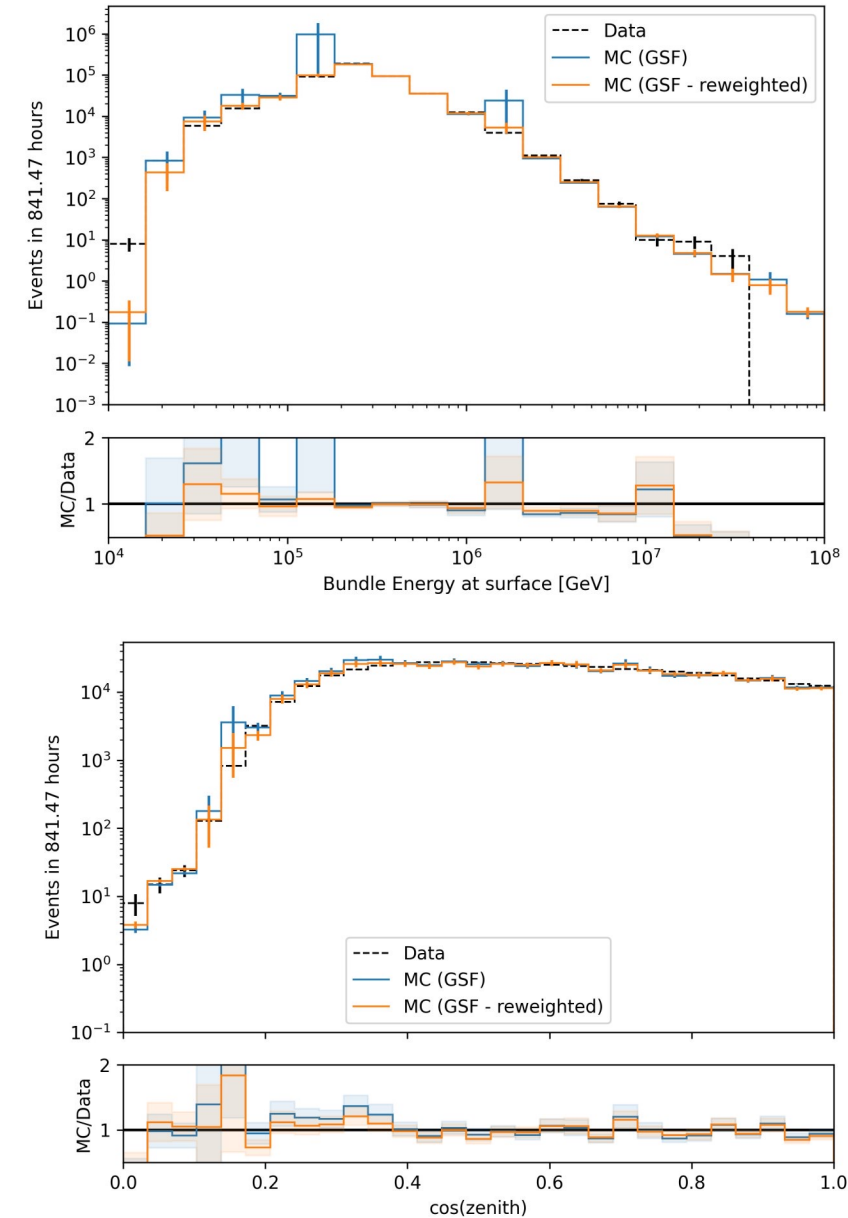

overshoots at high energies
- too little statistics?

Next steps
- plot binning

Data-MC: z-mismatch

re-weight z-position
- fixes z-mismatch
- no impact on energy/zenith (small improvement)

Simulation

Dataset Summary

22702	mhuennefeld (users)	ERRORS
Test dataset to for CORSIKA EHISTORY simulation (1e9 GeV - 1e10 GeV)		
22701	mhuennefeld (users)	COMPLETE
Test dataset to for CORSIKA EHISTORY simulation (1e8 GeV - 1e9 GeV)		
22700	mhuennefeld (users)	PROCESSING
Test dataset to for CORSIKA EHISTORY simulation (1e6 GeV - 1e8 GeV)		
22699	mhuennefeld (users)	ERRORS
Test dataset to for CORSIKA EHISTORY simulation (5e2 GeV - 1e6 GeV)		

started first iceprod tests
- investigate errors
- check configs for latest recommendations / software / settings
- Polyplopia: MuonGun vs CORSIKA ?

Misc / ToDos

- Investigate decision tree binning

- Investigate iceprod errors

- Check produced iceprod datasets

- Analyze impact of CORSIKA as polyplopia

- Finalize configs

- Estimate muon multiplicity for neutrino datasets using DNN (asked by Dave)

- Compare multiplicity charm/unflavored (asked by Lu)

- Train DNN to estimate neutrino energy (ESTES)?

LBL Meetings: Google drive to store meeting slides?