

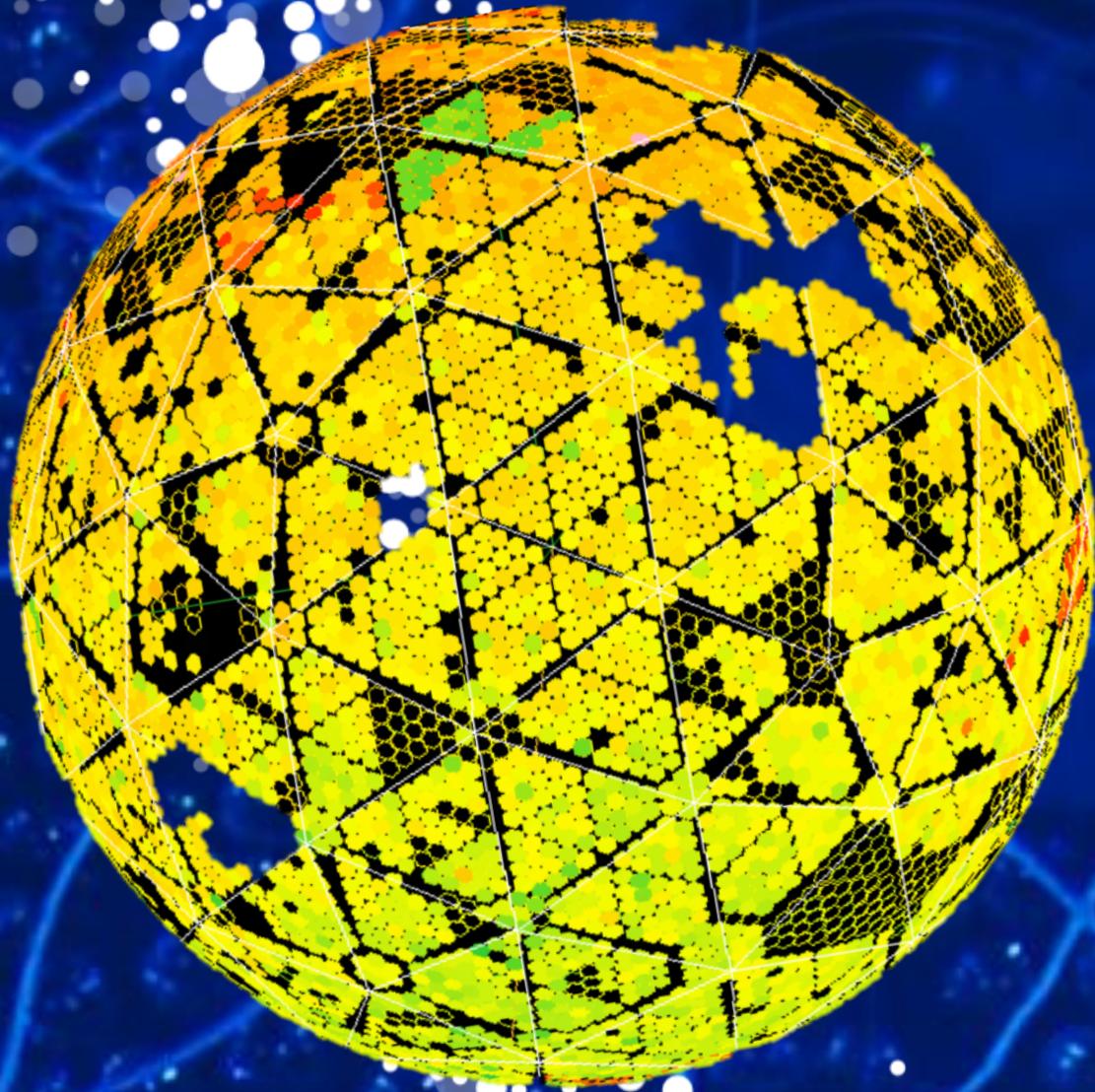


Muon Track Reconstruction in the Scintillator Phase of SNO+

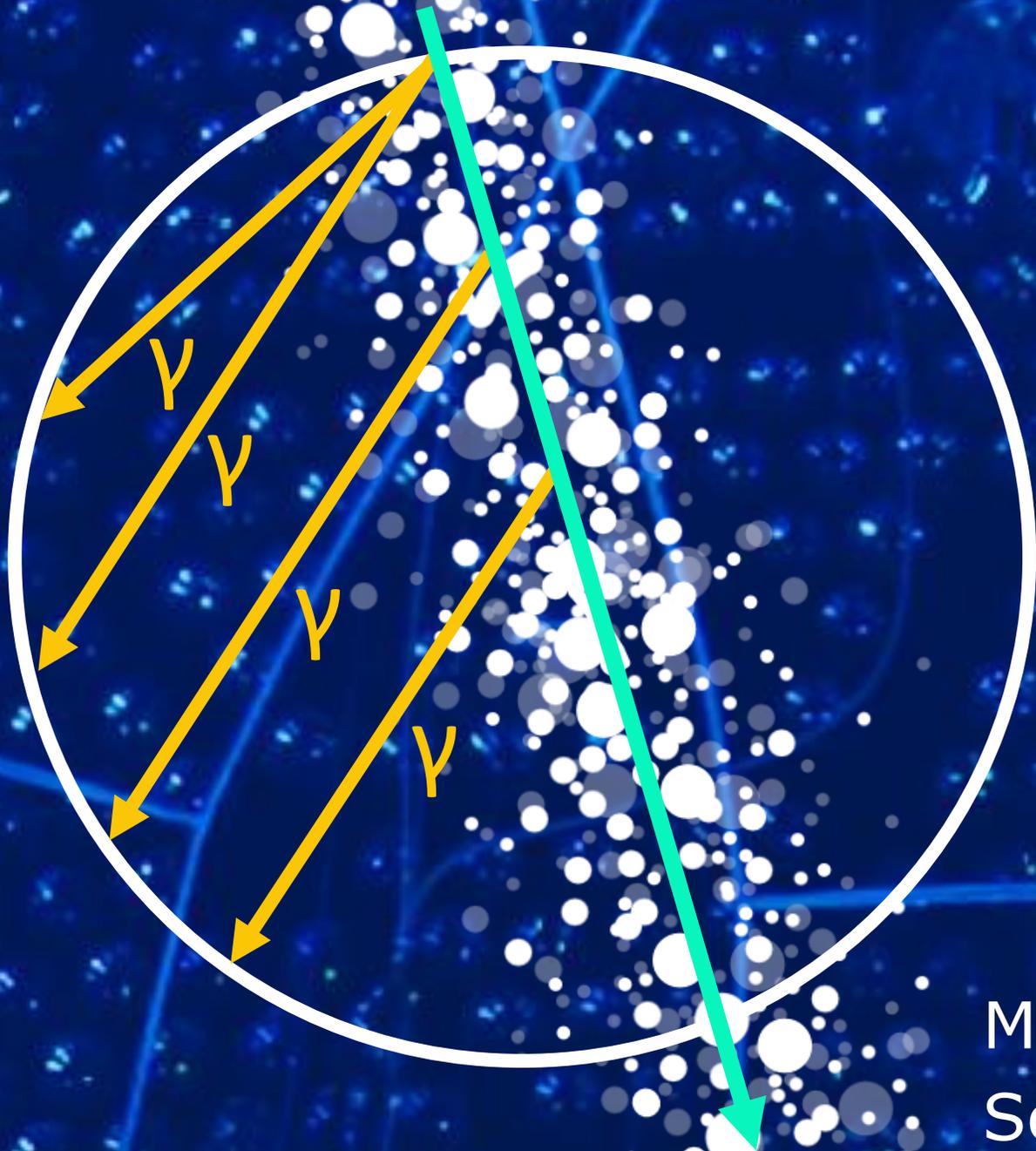
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On behalf of the SNO+ collaboration

18th December NuPhys 2023



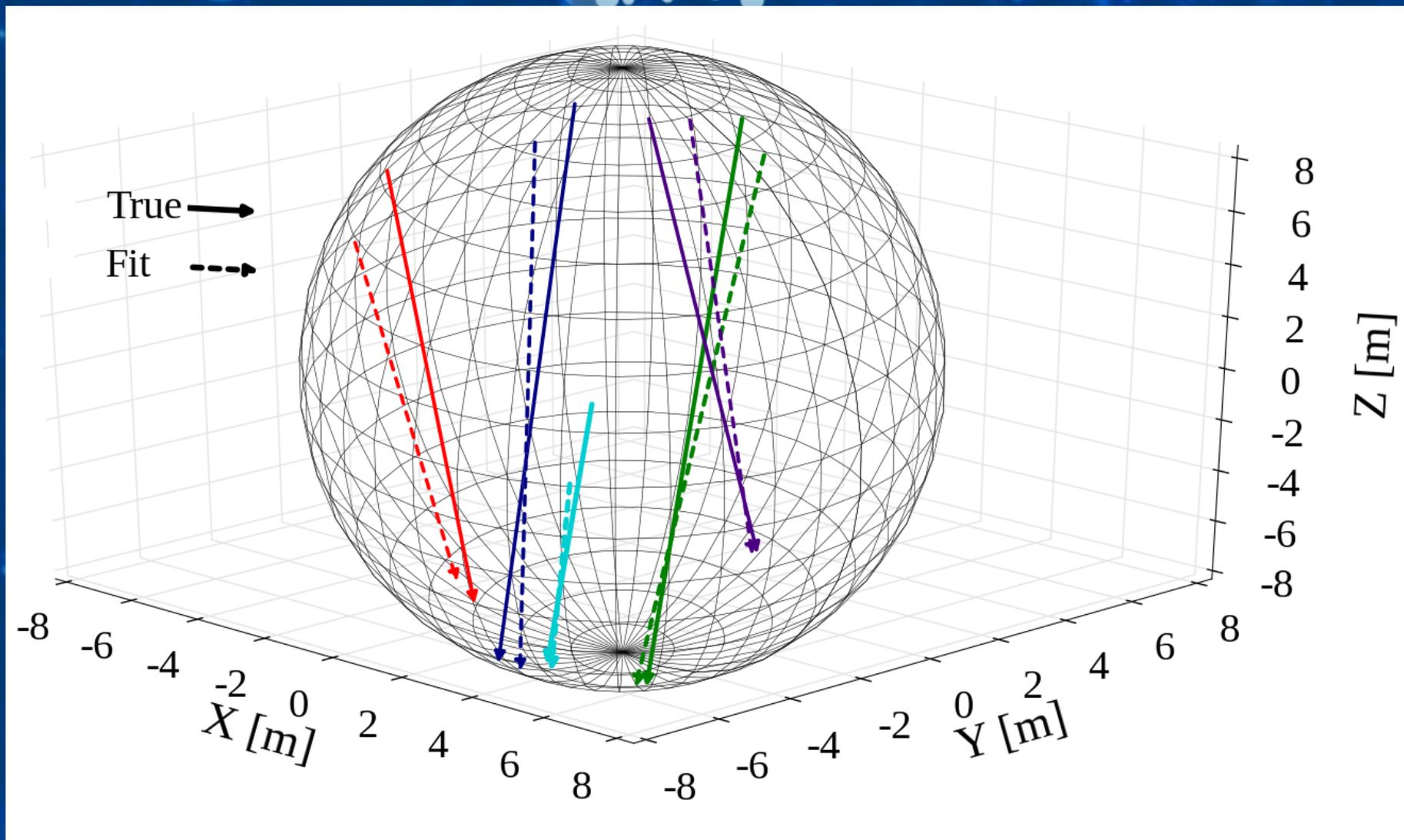
- Average 3 muons per hour
- Induced backgrounds affect multiple physics analyses
- Reconstructing the muon track would allow for improved rejection of induced backgrounds

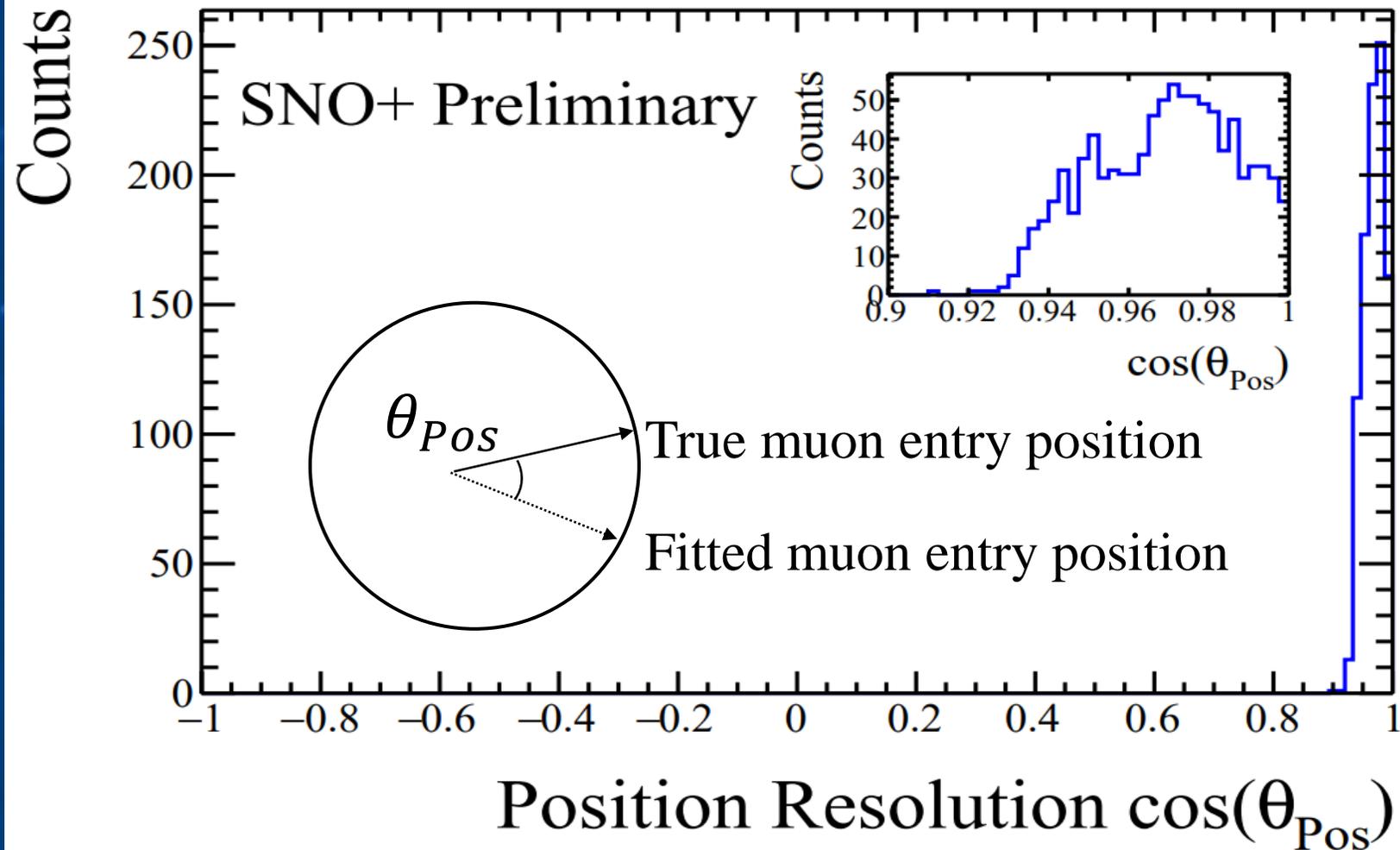


Scintillator photons
created along muon
track

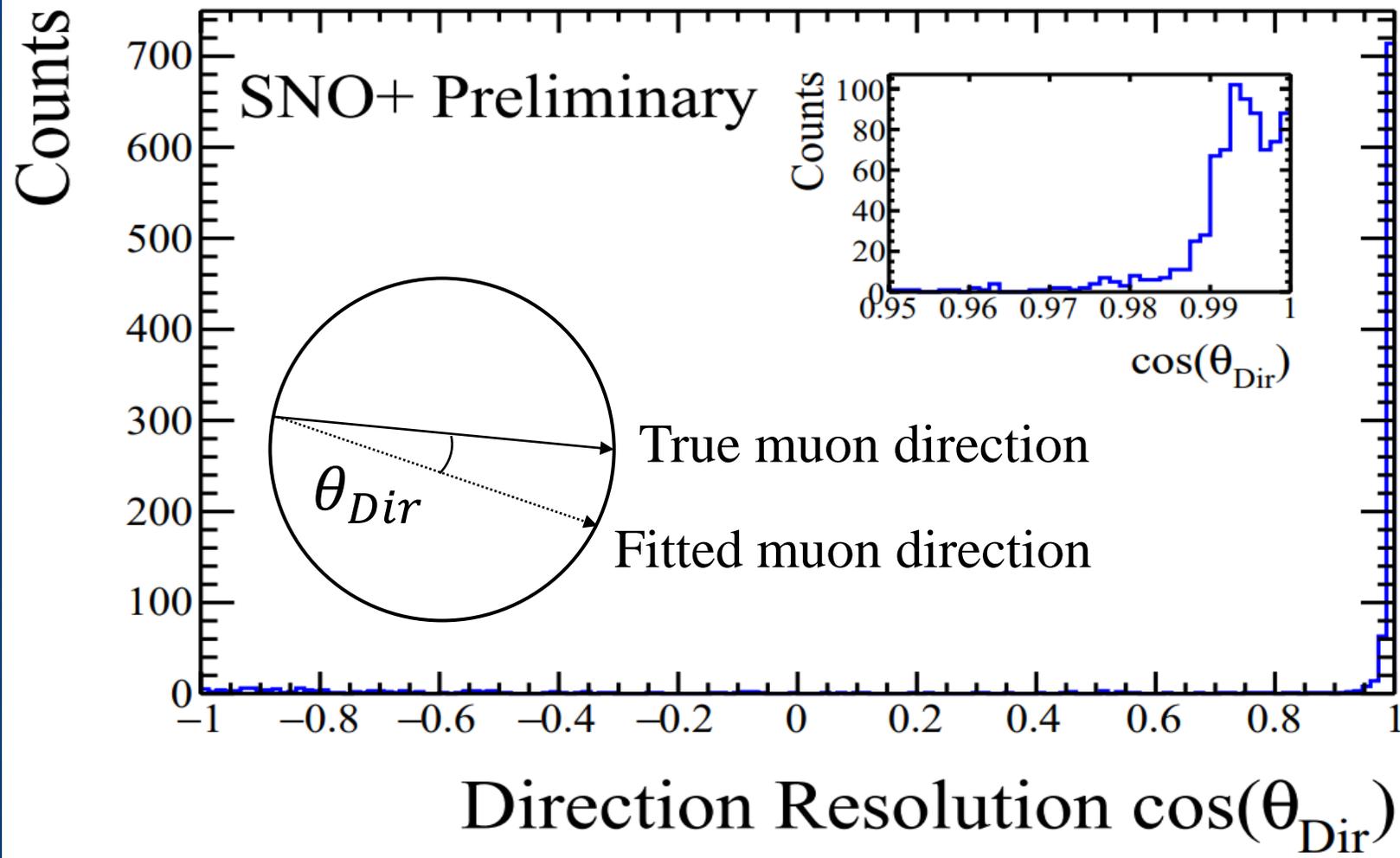
Fastest paths for a
photon to hit each PMT
shown in orange

Muon speed $\approx c$
Scintillator photon speed = c/n





Angular position resolution = 15°



Angular direction resolution = 7°