BC08

Determining Effects of a Neutrino Beam on Muon Flux

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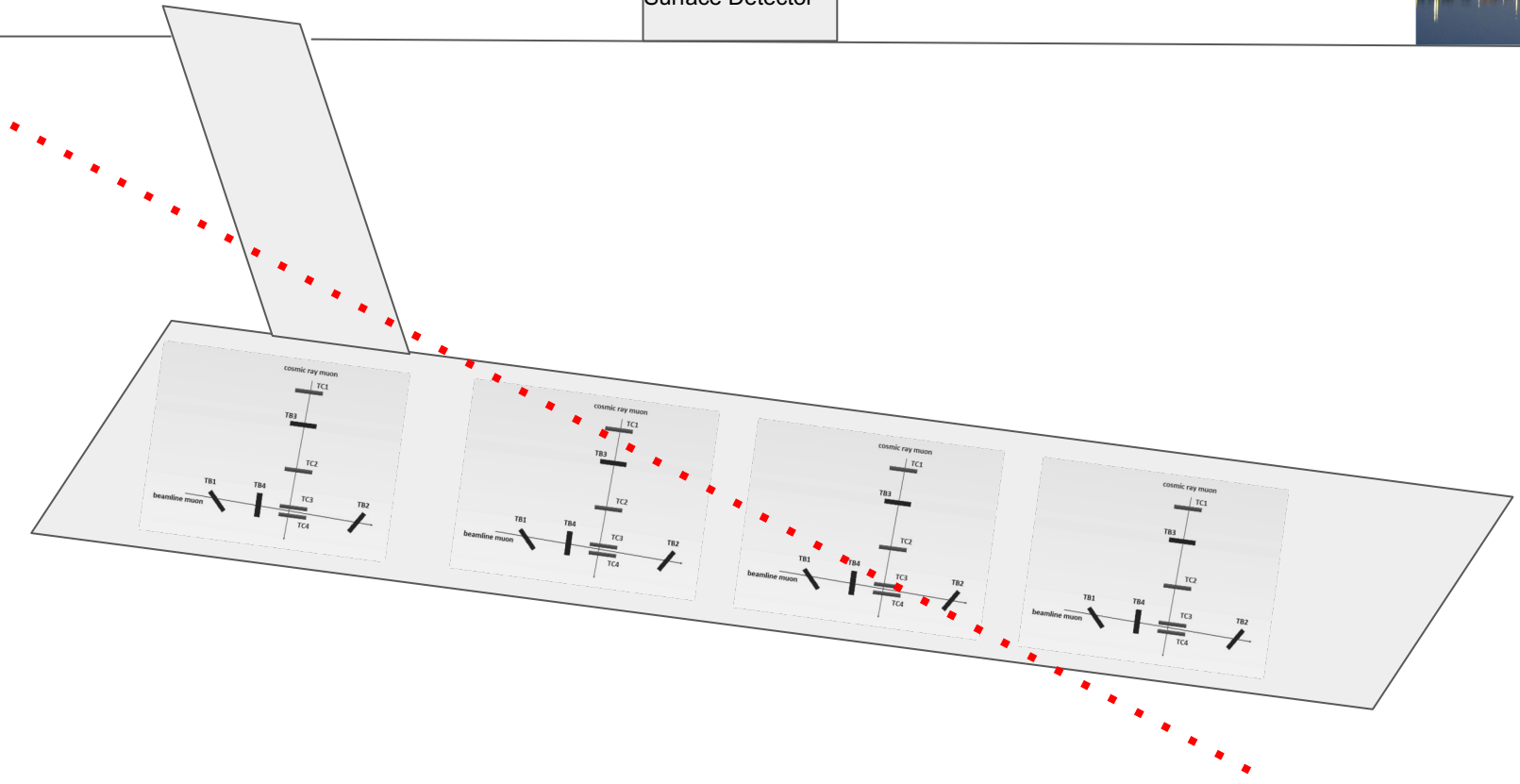
General MUSE Experiment

- Chicago High School collaboration
- 100 meter deep tunnel
- Objective: Muon Flux
- Surface, tunnel and beam detectors
- Position change along tunnel

Tunnel Setup



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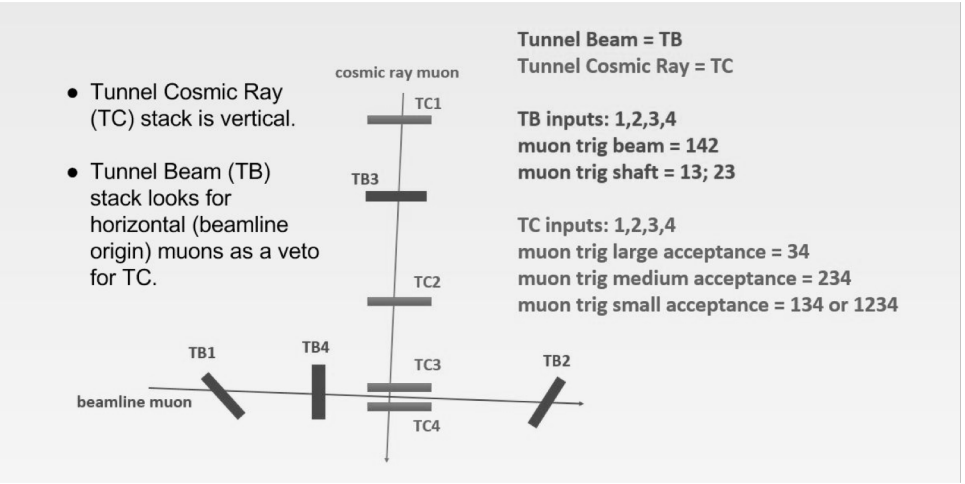
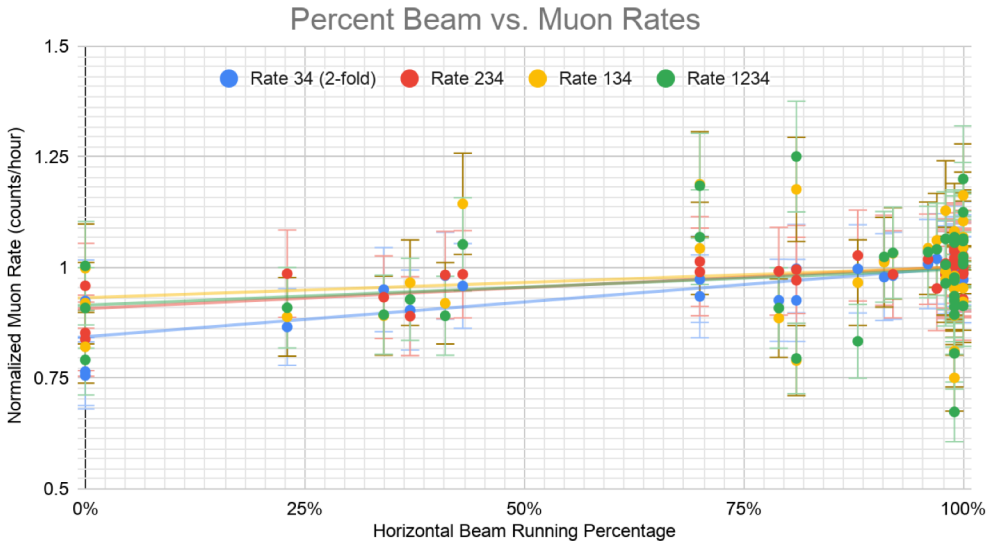
Experiment Design

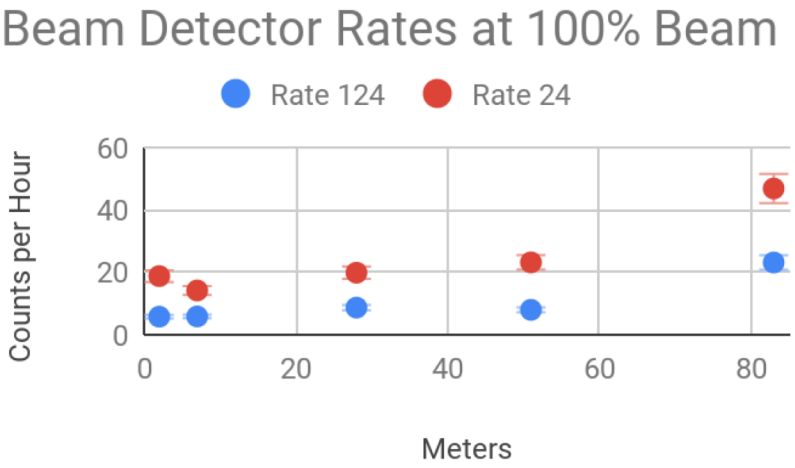
Detector Layout



- The TB detector was horizontally configured to detect the muons produced by the effects of the beam
- 124, 24 configurations have larger flux

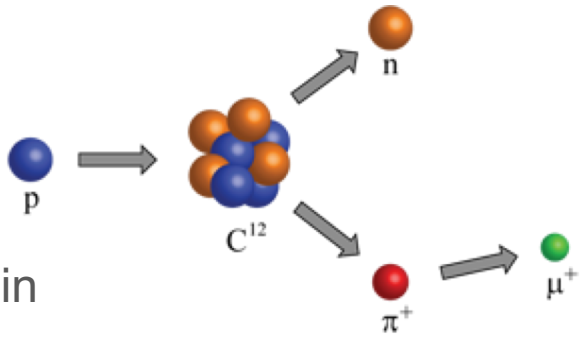
Detecting Beamline



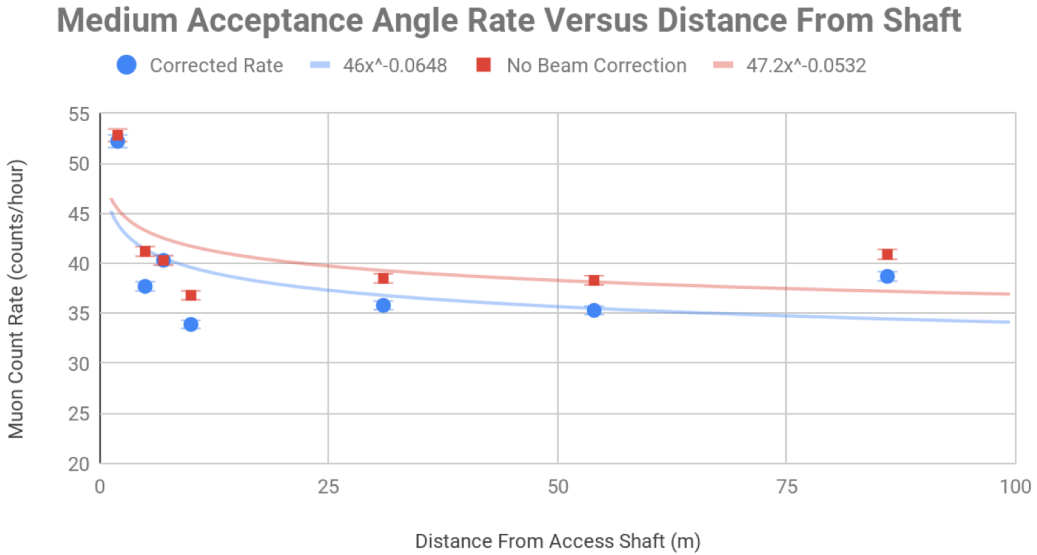


The beamline is shown in normalized data, and is extenuated at 80 meters which indicates beamline intersection (when the beamline is on for 100% of the day).

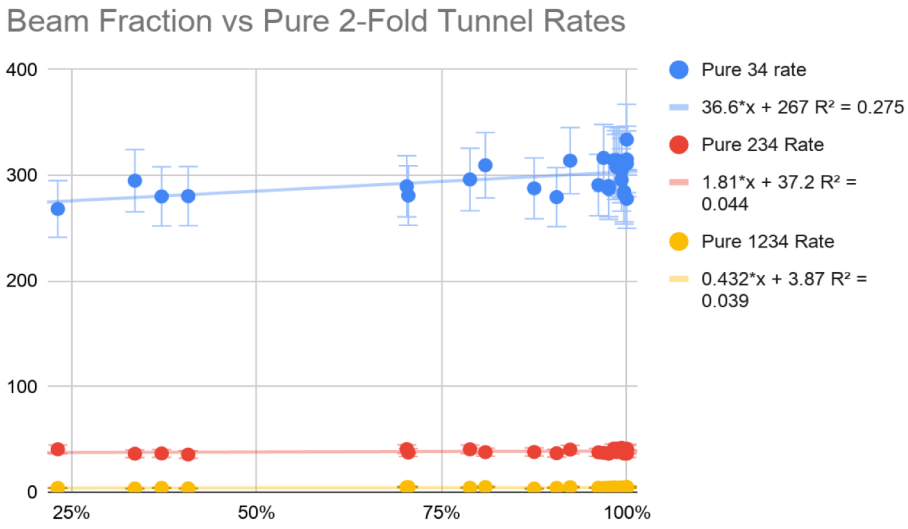
How Beam Relates to Muon Flux

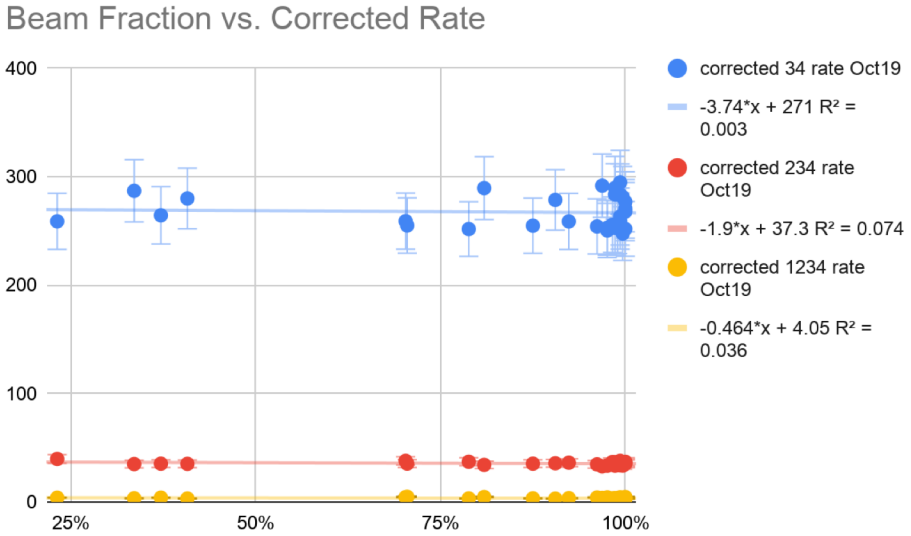


The beam passes through rock, collisions create muons in tunnel.



Normalizing For Beamline





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Thank You

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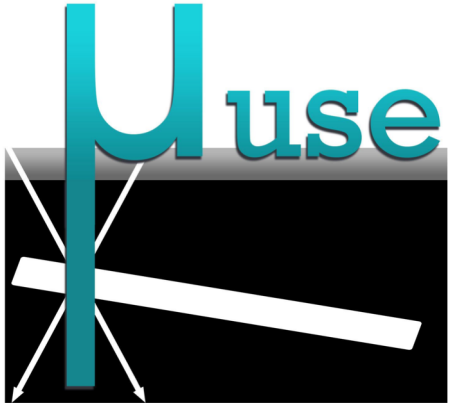
GLENBROOK NORTH HIGH SCHOOL



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