



# Front End 5.1

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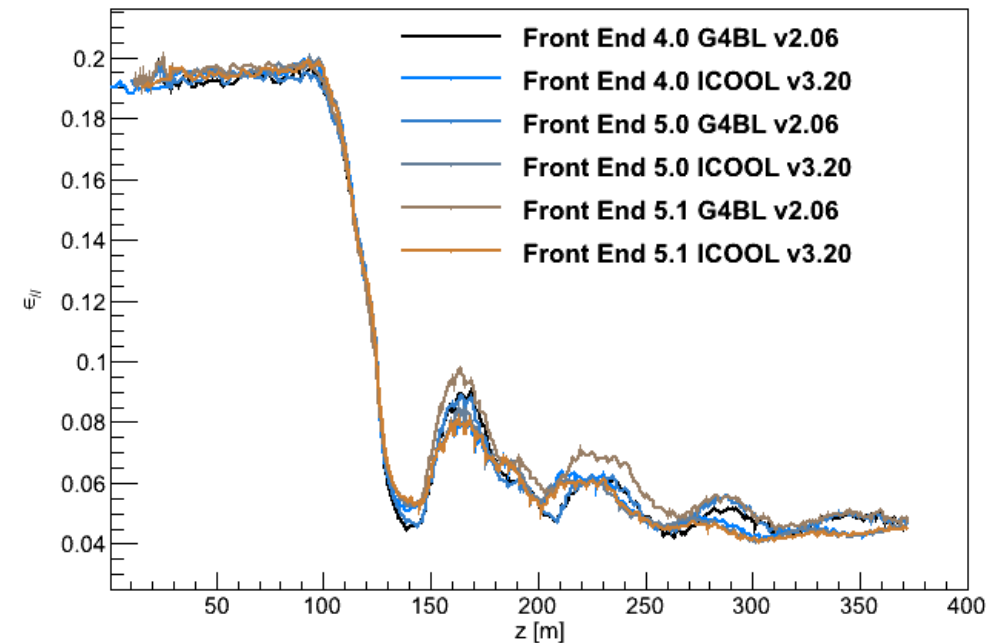
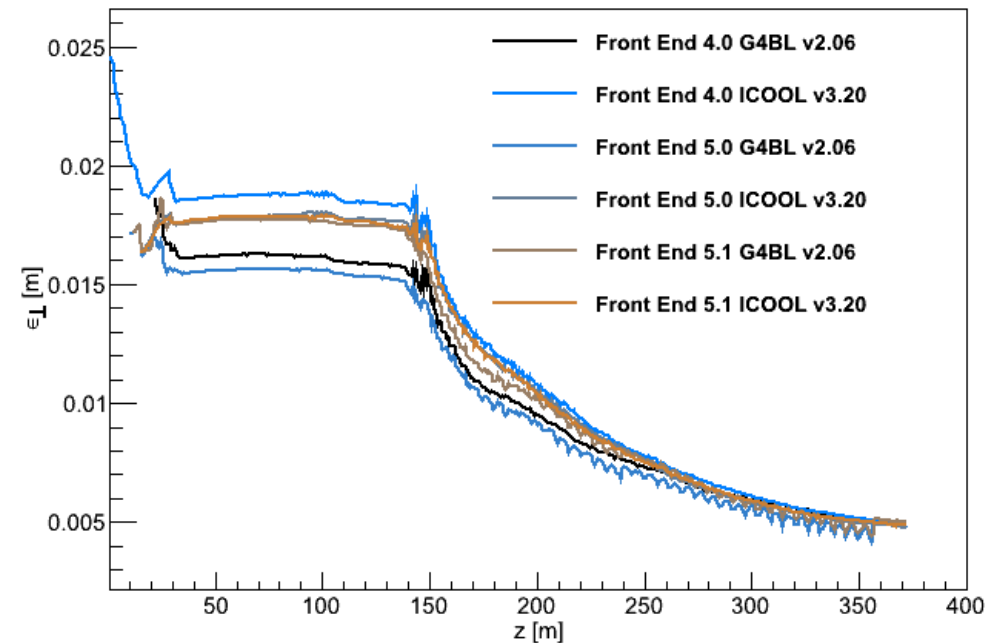
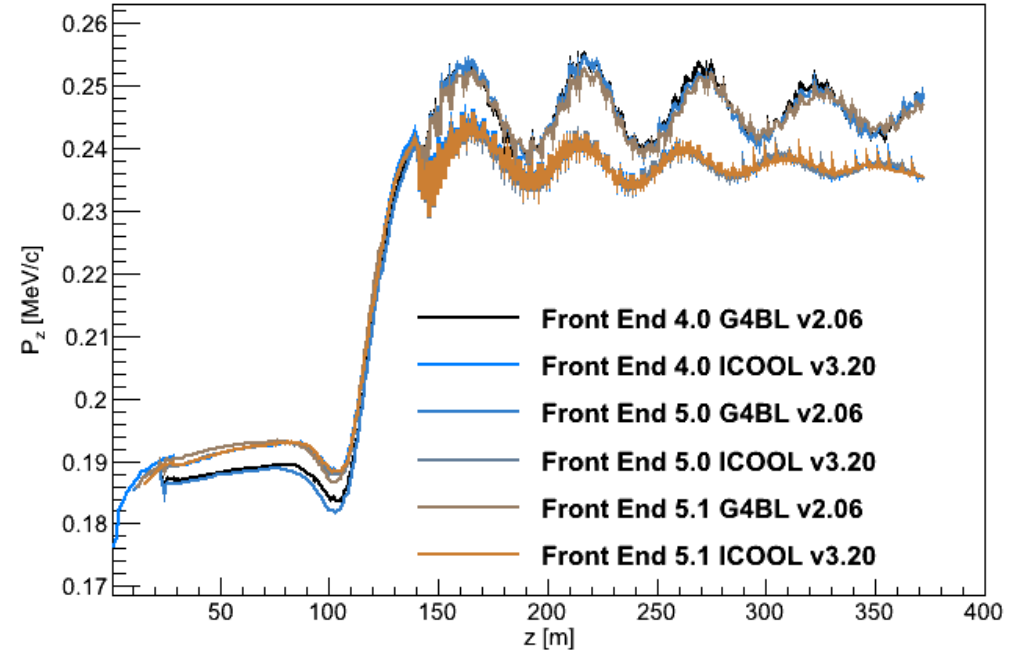
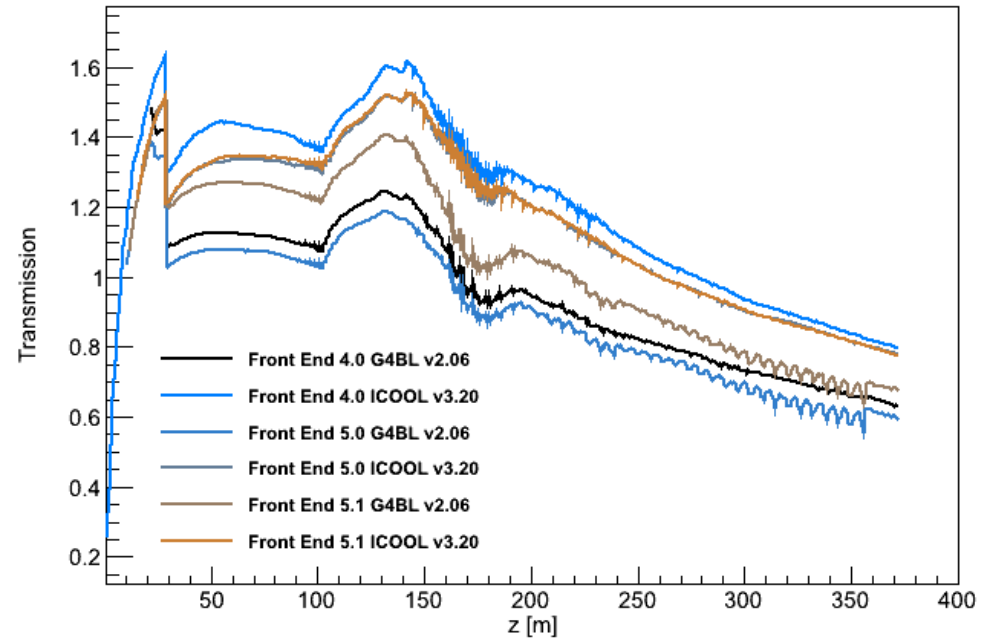
Chris Rogers,  
ASTeC,  
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9 October 2013



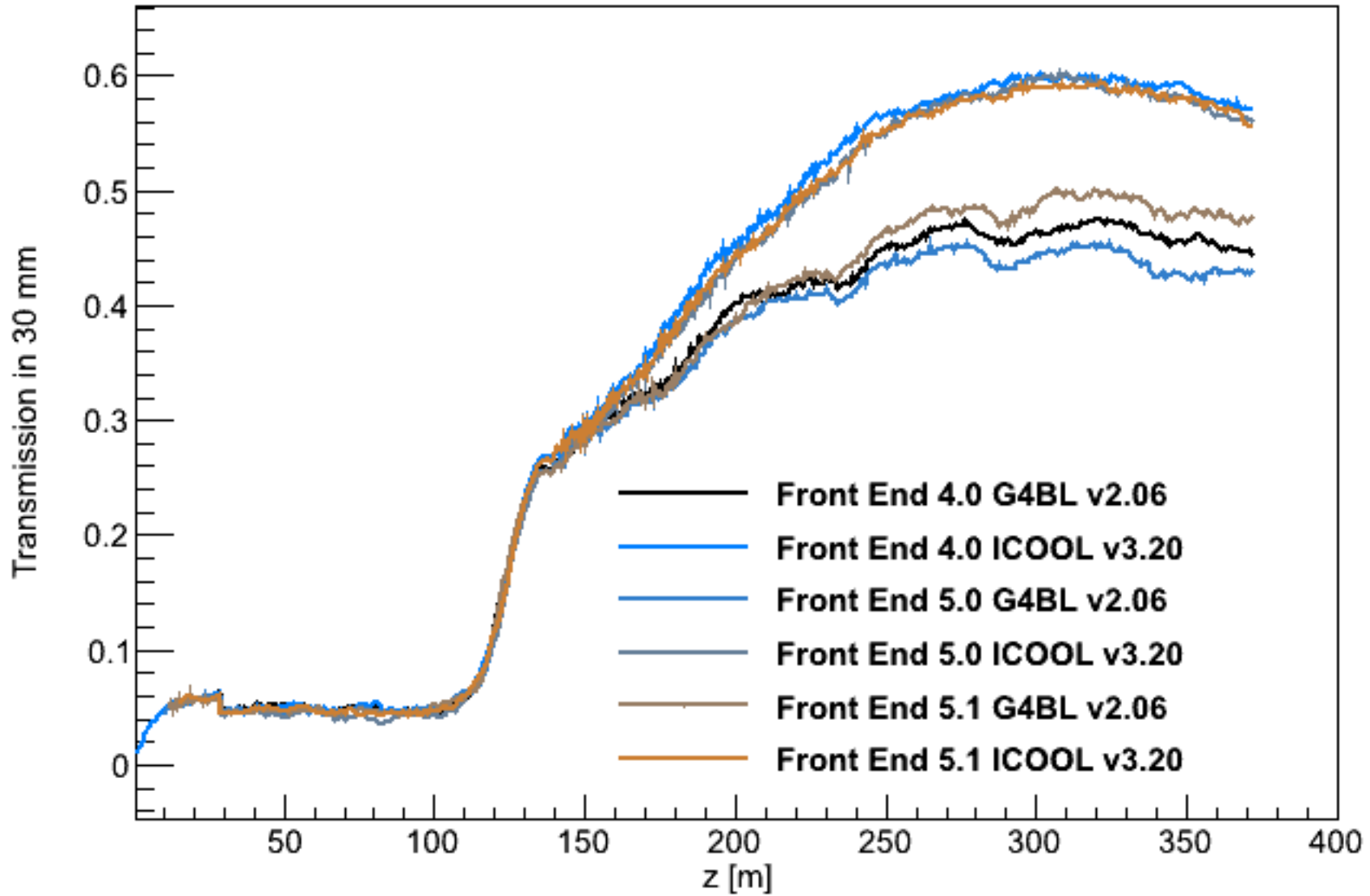
# Front End 5.1

- Available from
  - <https://launchpad.net/muon-front-end>
- Note that old UK-NF website will soon disappear
  - File system is no longer supported
  - Admin (Stephen Brooks) is moving to Brookhaven

# Capture Performance (400k pot)



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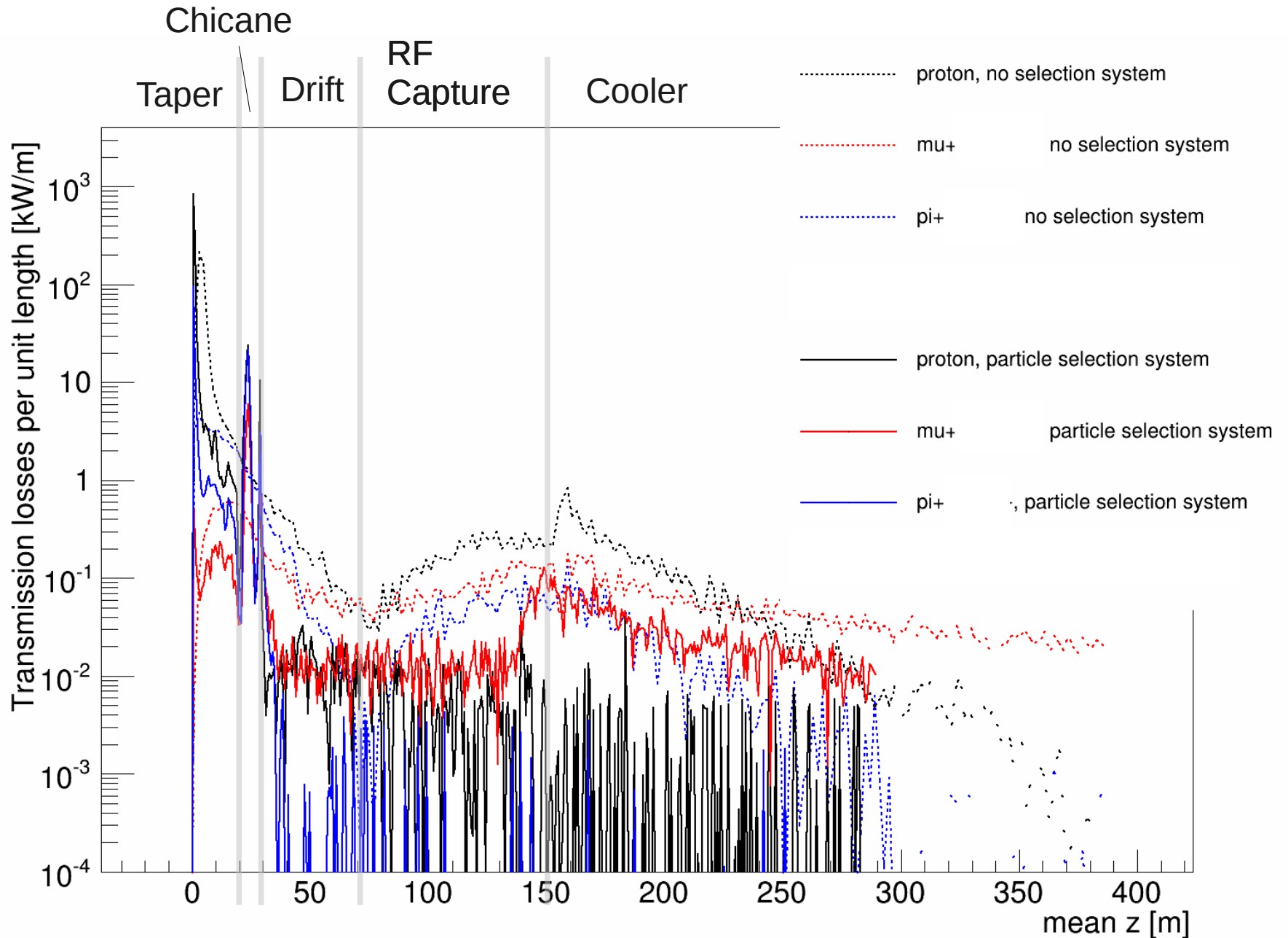
# Comment on G4BL Rate

- Tried to fix low good muon yield in G4BL
  - Try adding arbitrary phase offset to cavities (different phasing routine)
  - Try fiddling with LiH thickness (different LiH density)
- No luck so far
- Some effect from fringe field of chicane?
  - Studies ongoing

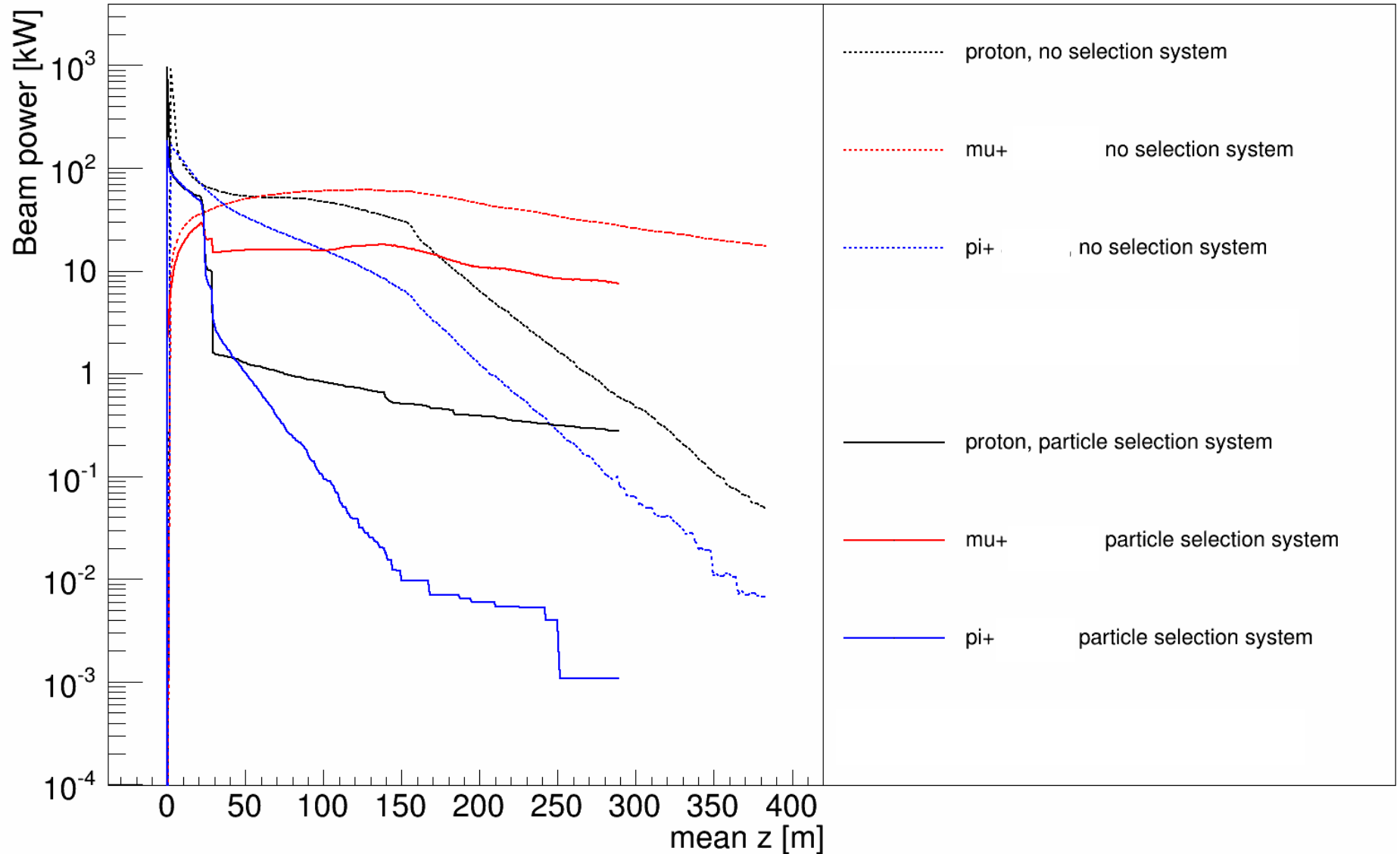
# G4BL Study of (Uncontrolled) Losses

- Use G4BL lattice to study beam loss in chicane system and downstream
  - Complementary to MARS simulation
  - Examine beam power lost for different particle species
  - Examine energy spectrum – propose enhanced particle selection scheme

# Beam Power Deposited



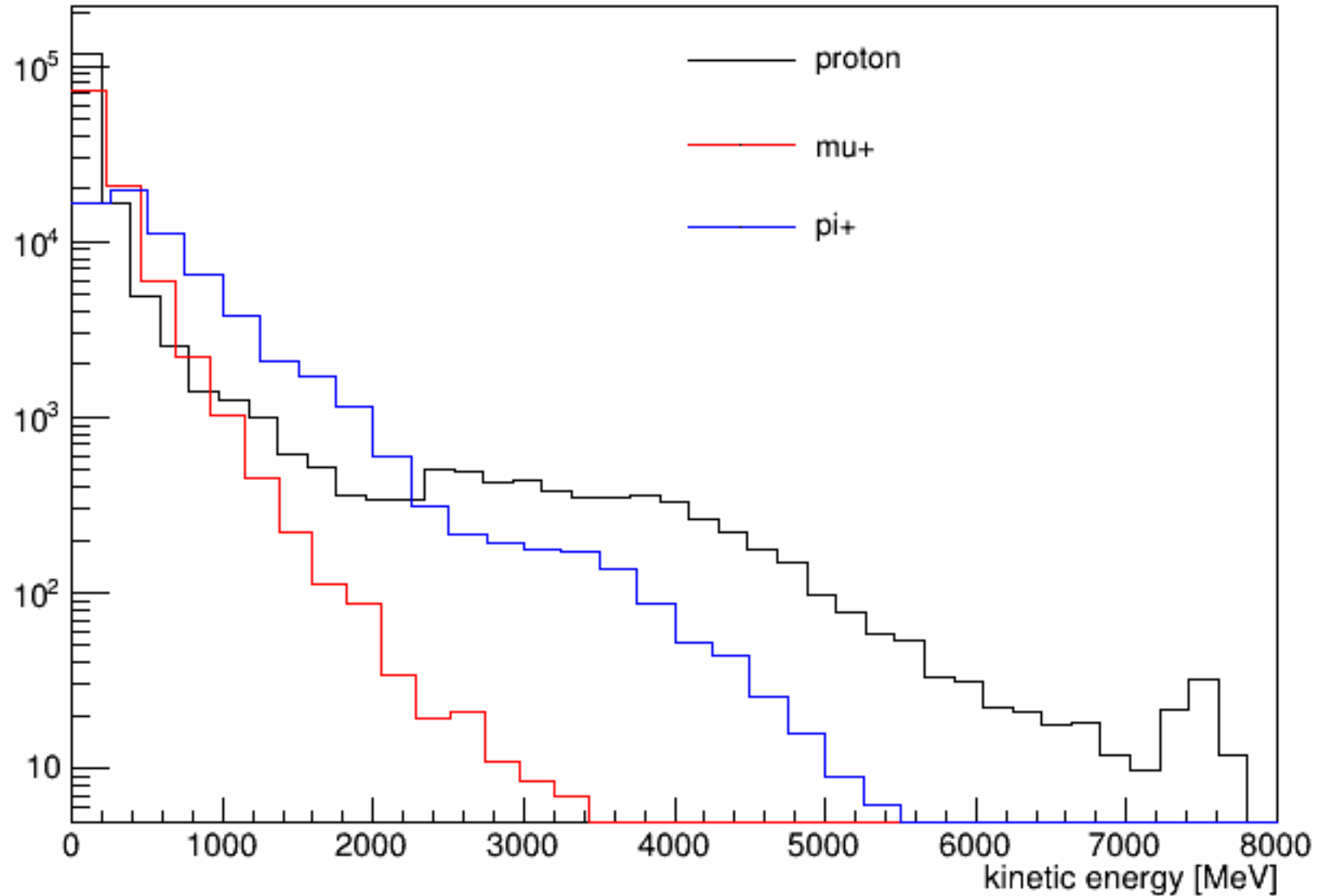
# Remaining Beam Power





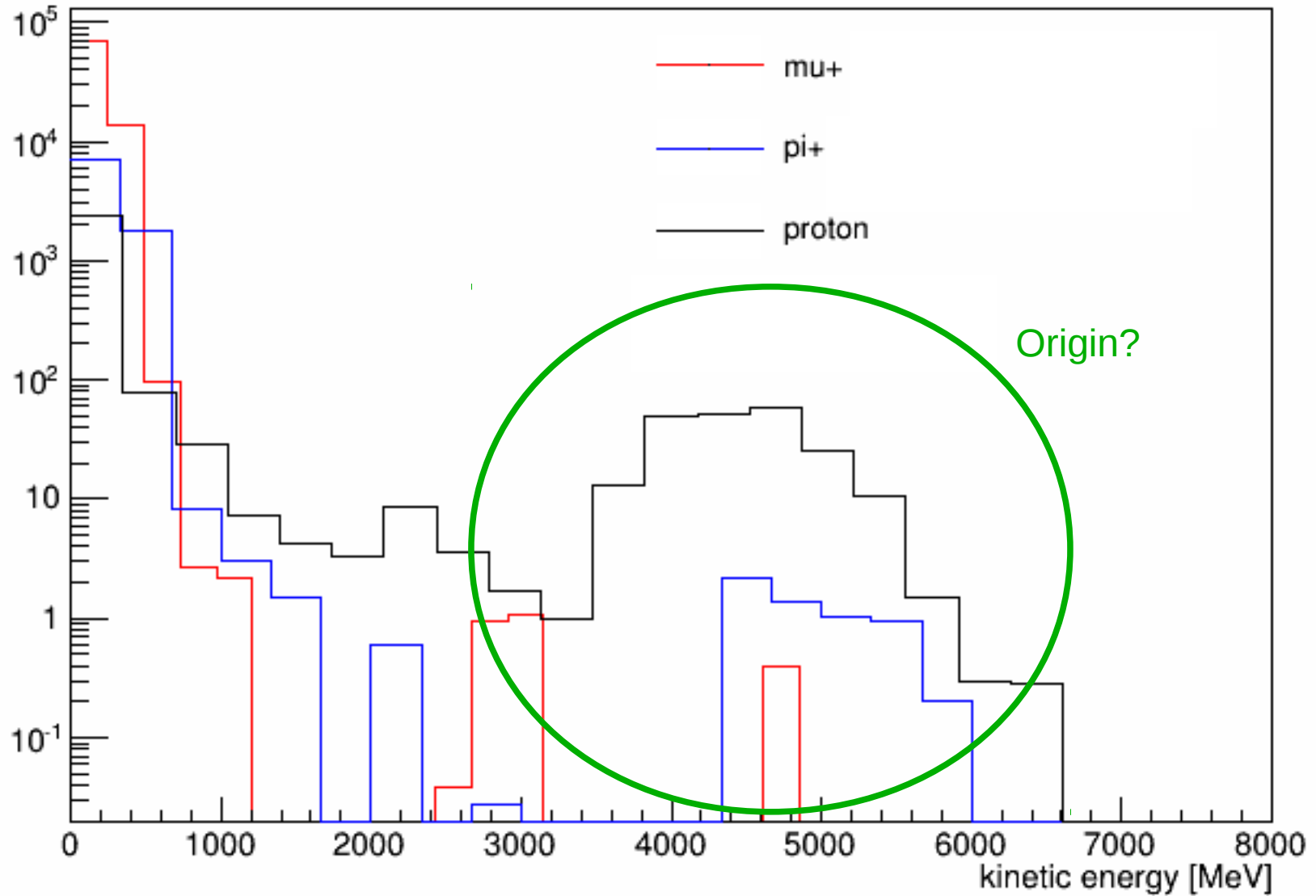
# Beam Energy Before Chicane

19500.0 [mm]



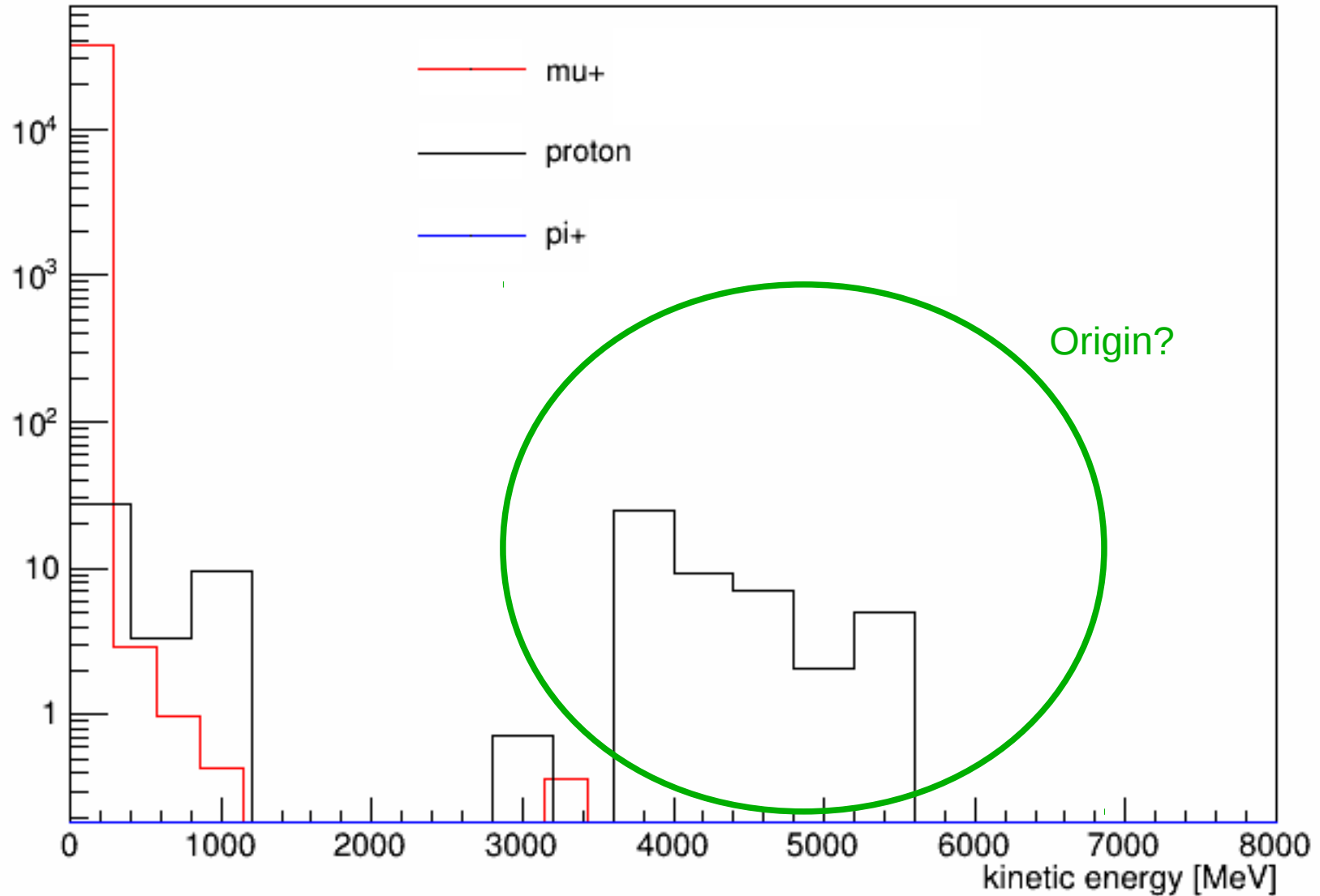
# Beam Energy After Chicane and absorber

30750.0 [mm]



# Beam Energy After Cooler

289500.0 [mm]



# Open Issues

- Can we recover lost performance in G4BL?
  - Running out of excuses
- Uncontrolled losses are a little uncomfortable
  - How do the high energy particles get through the chicane?