

# Carbon Target Parameters

X. Ding

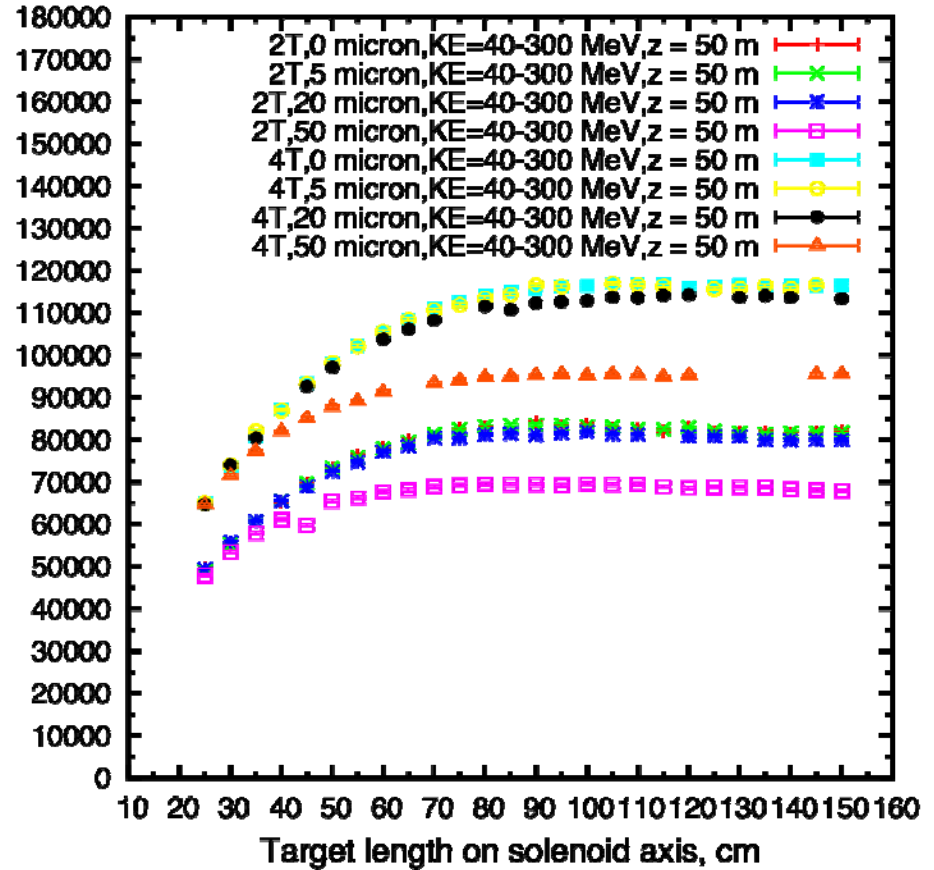
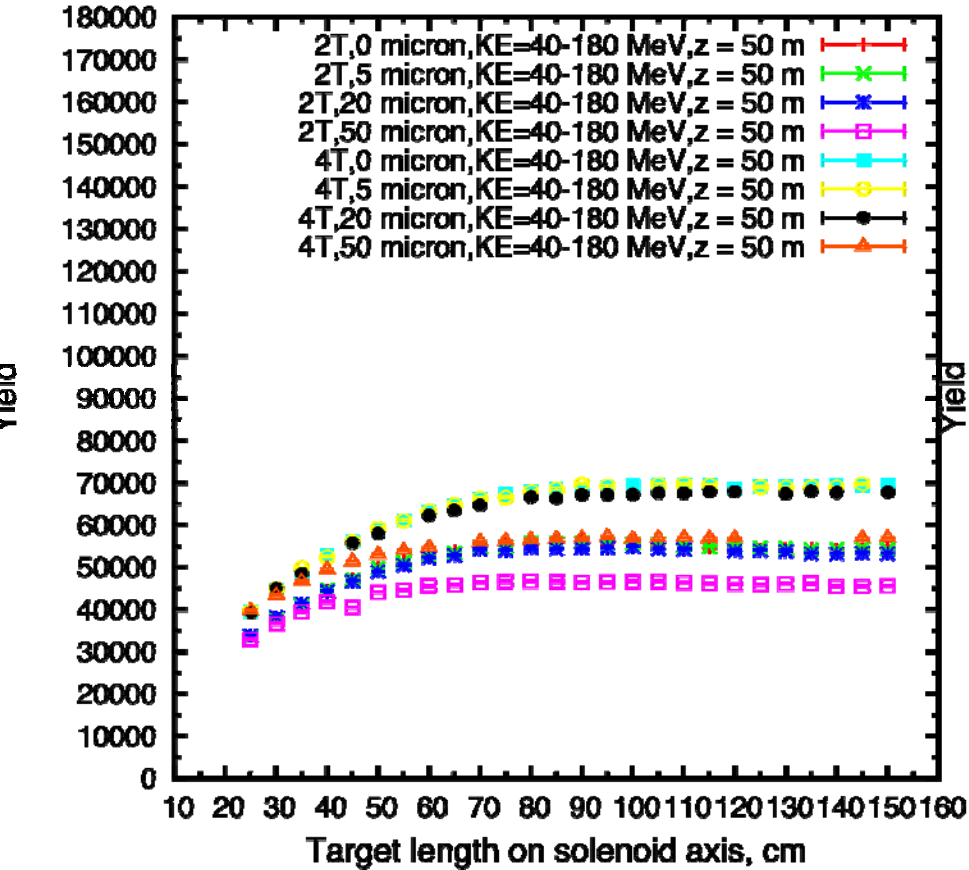
AAG meeting, BNL

Sep 10, 2015

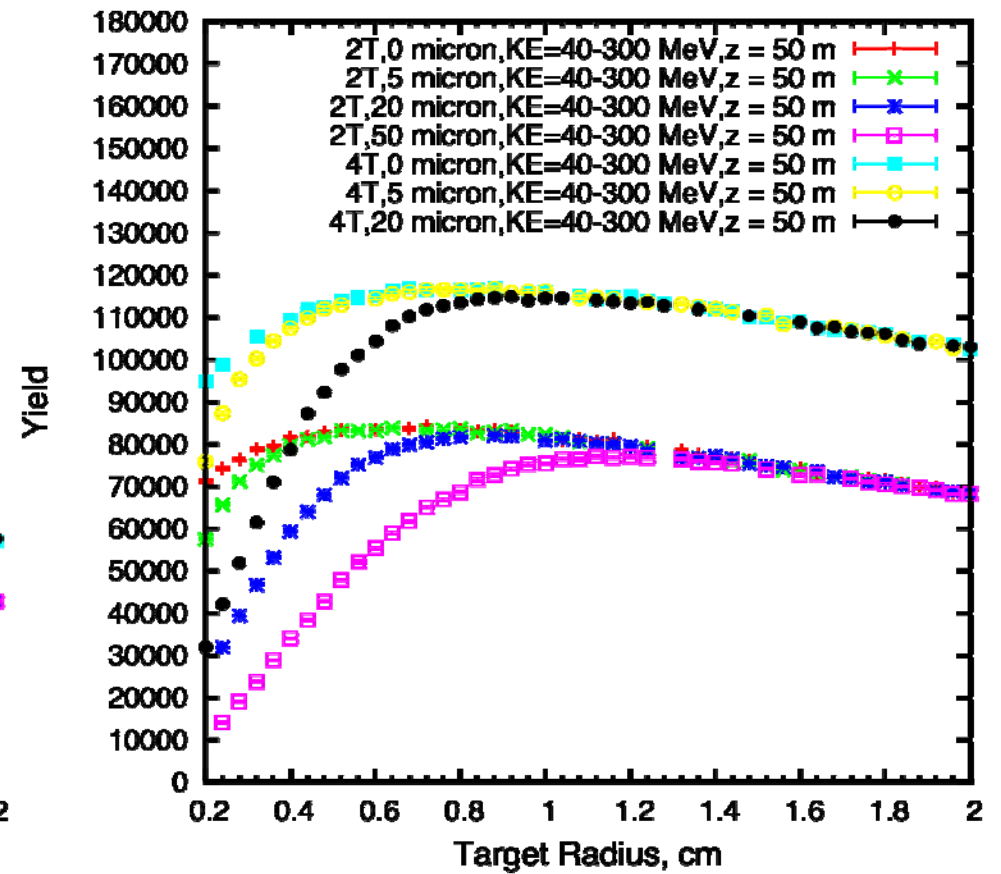
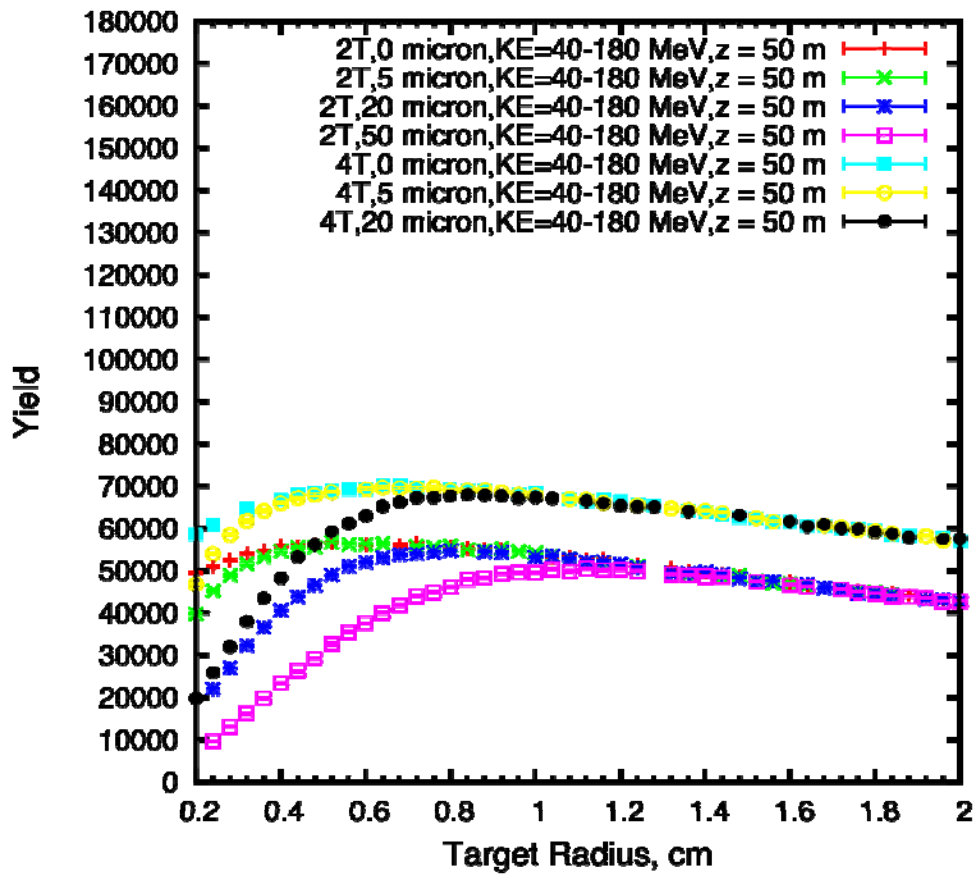
# Introduction

- MARS15 (BNL Spot Cluster)
- ROOT-based geometry setting without BE windows for 20t02T5m and 20to 4T5m configuration (Carbon target,  $1.8 \text{ g/cm}^3$ )
- No SMIN card and 400,000 events
- Beam emittance: 0, 5, 20, 50 micron
- KE at 6.75 GeV, launched at  $z = -100 \text{ cm}$
- Collect all particles at  $z = 50 \text{ m}$  with KE selection of min. of 40 MeV and max. of 180 MeV or 300 MeV

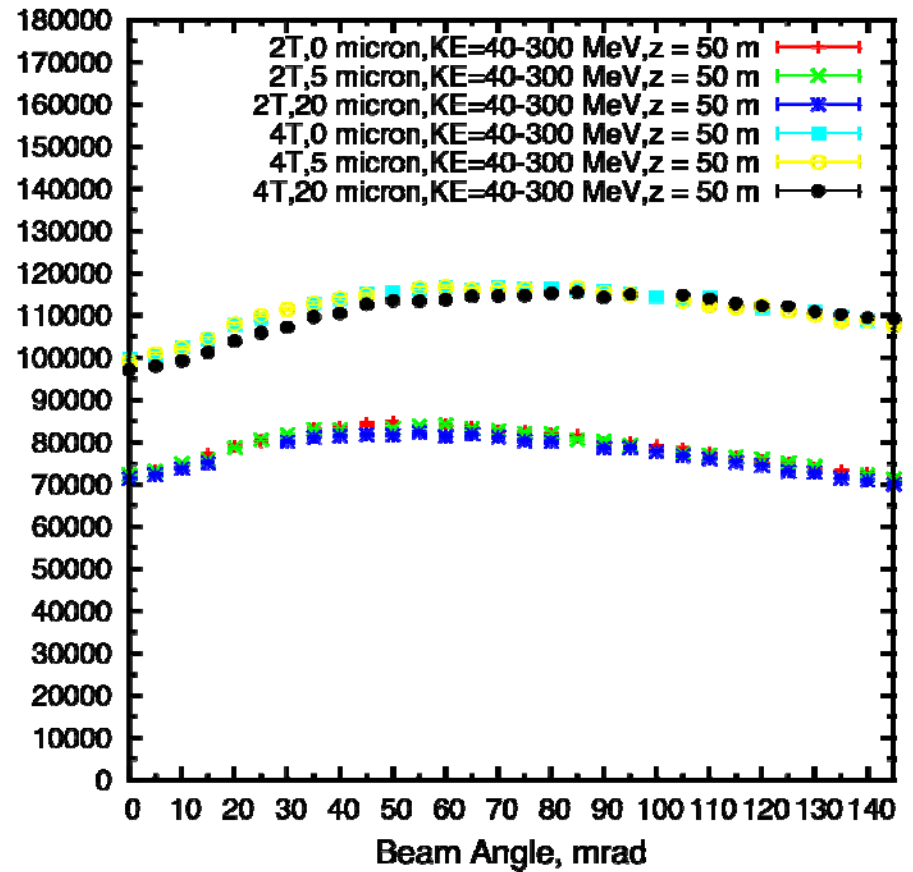
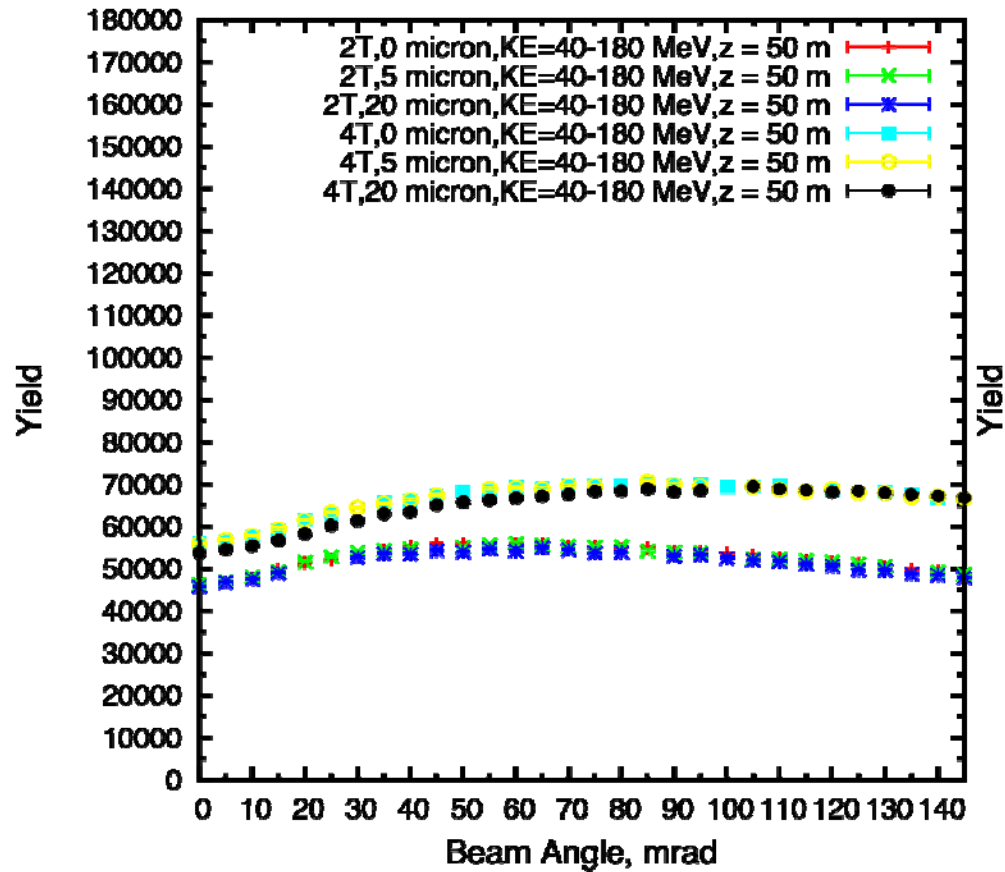
# Vary Target Length



# Vary Target Radius



# Vary Target Rod Angle



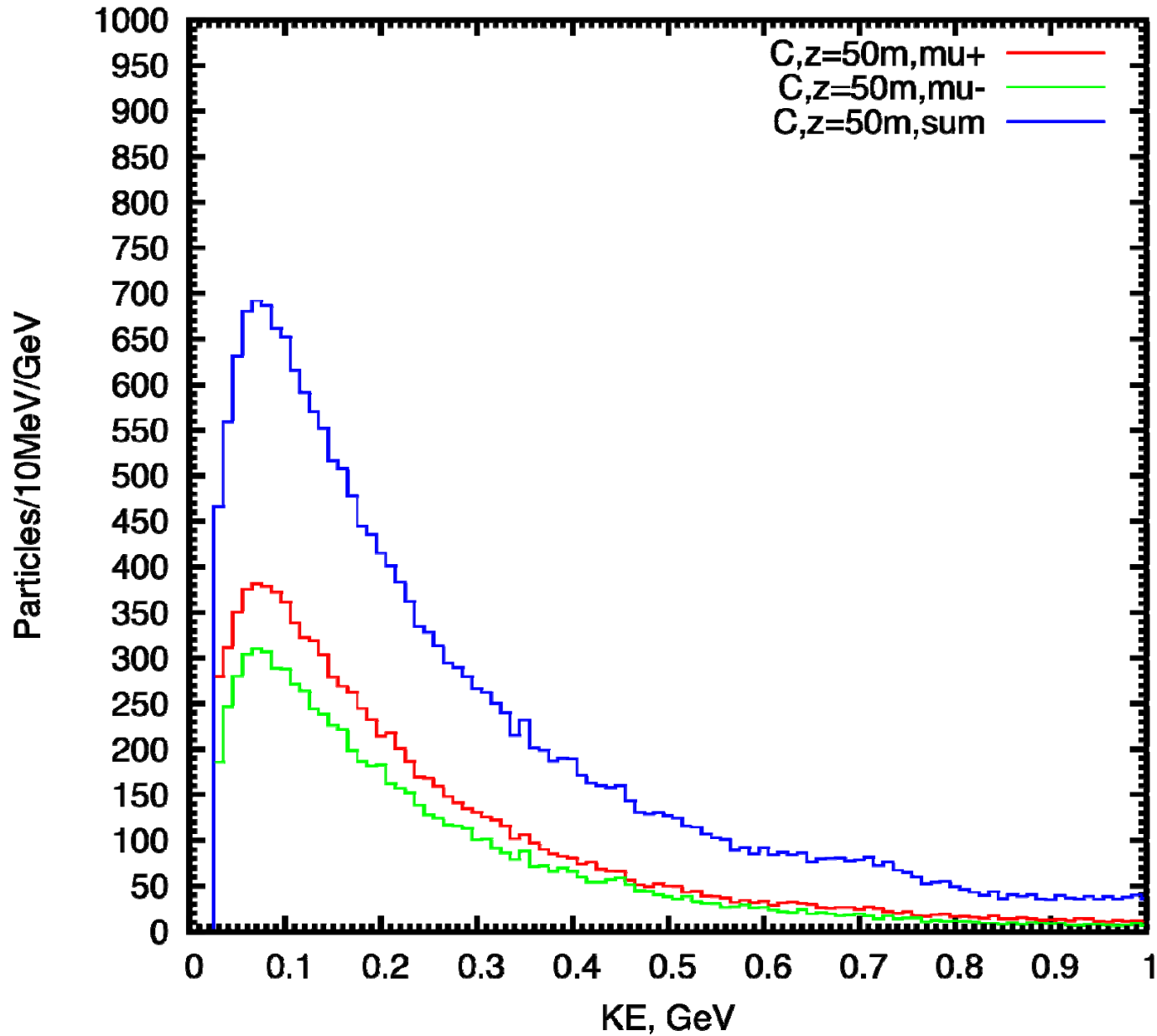
# Carbon Target Parameters for Front End Study ?

- Target Length: 100 cm
- Target Radius: 1 cm
- Beam Radius: 0.25 cm
- Beam Angle or Target Angle: 65 mrad
- Beam/Target Crossing Angle: 0 mrad
- Beam emittance: 0 and 20 micron
- Collection Plane: 2, 5, 10, 50 m

# Backup

# 20to2T5m Configuration

(LEN = 100 cm, TR = 0.8 cm, BR = 0.2 cm, BA = 65 mrad, CA = 0)





# 20to4T5m Configuration

(LEN = 100 cm, TR = 0.8 cm, BR = 0.2 cm, BA = 65 mrad, CA = 0)

