

Carbon Target Optimization (Preliminary)

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AAG meeting, BNL

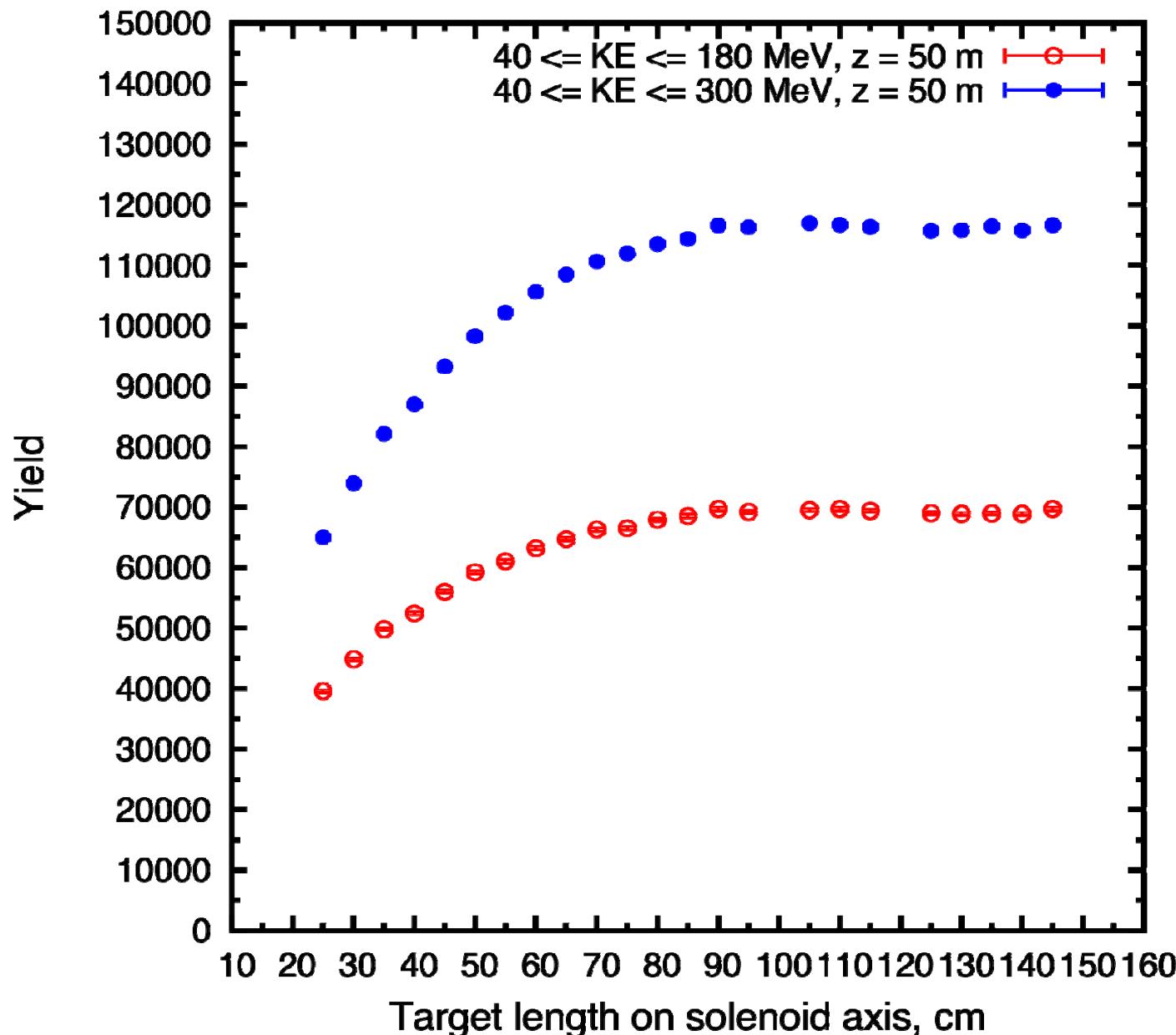
Aug 18, 2015

Introduction

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

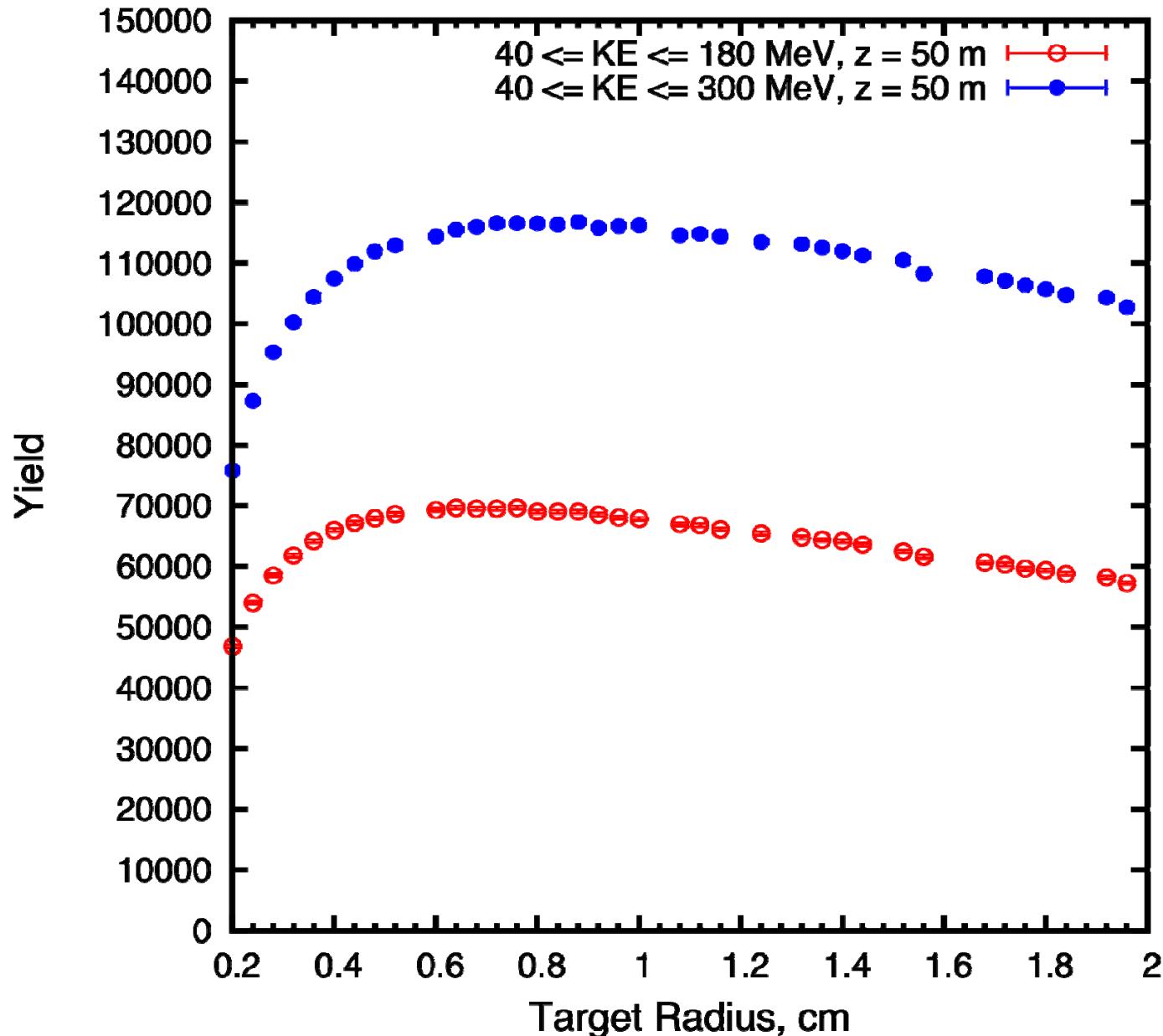
20to4T5m Configuration

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



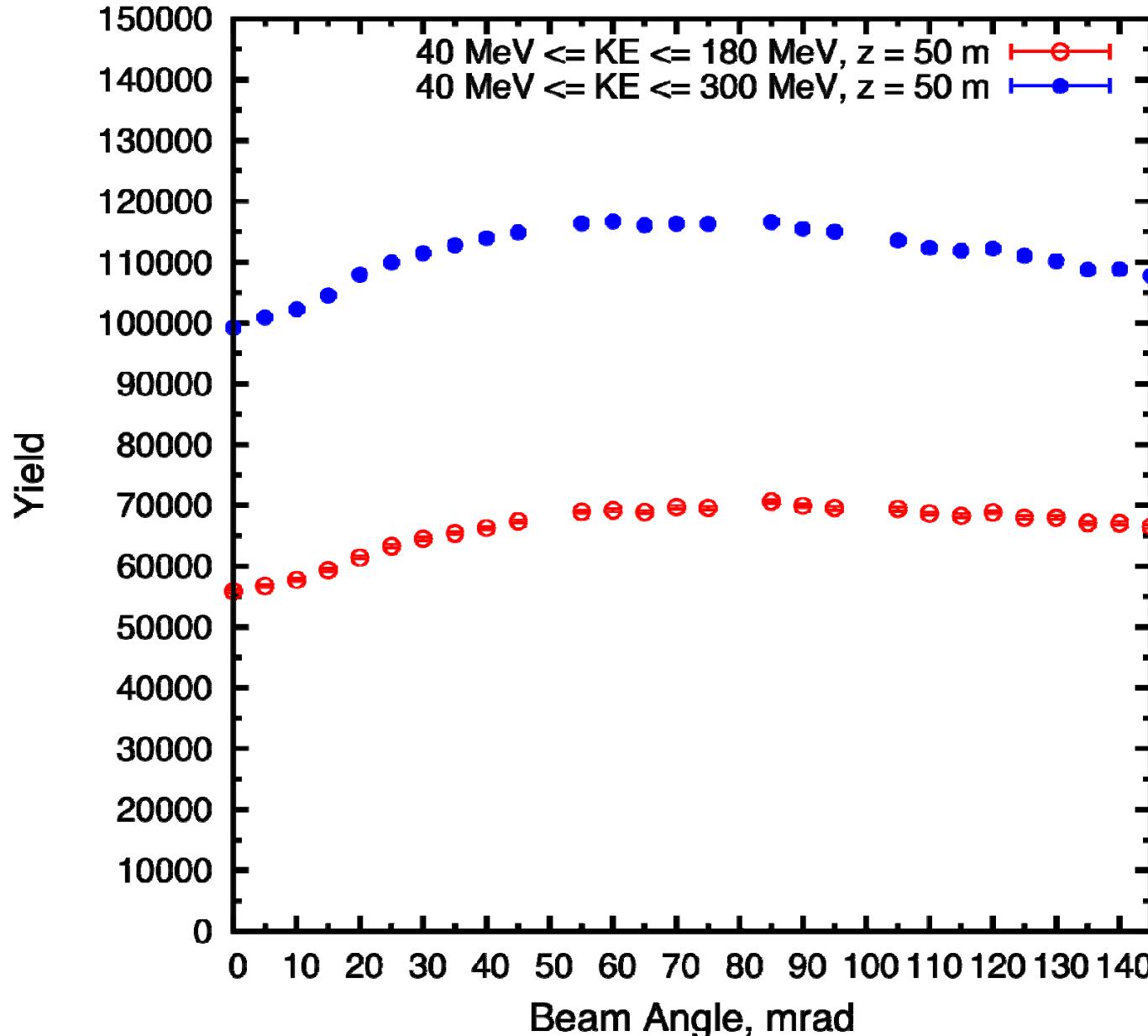
20to4T5m Configuration

(LEN = 100 cm, TR/BR = 4, CA = 0, BA = 65 mrad)



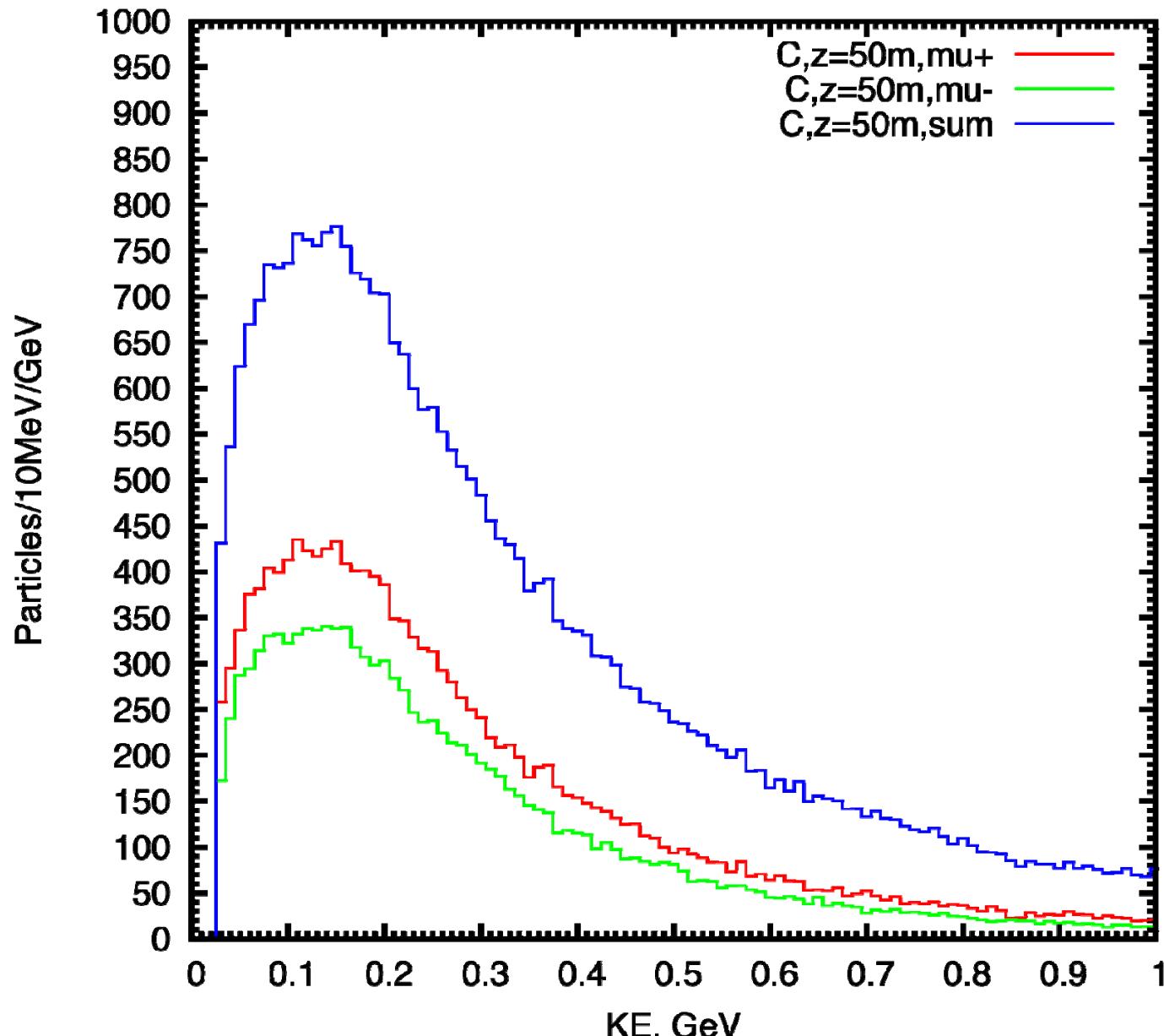
20to4T5m Configuration

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



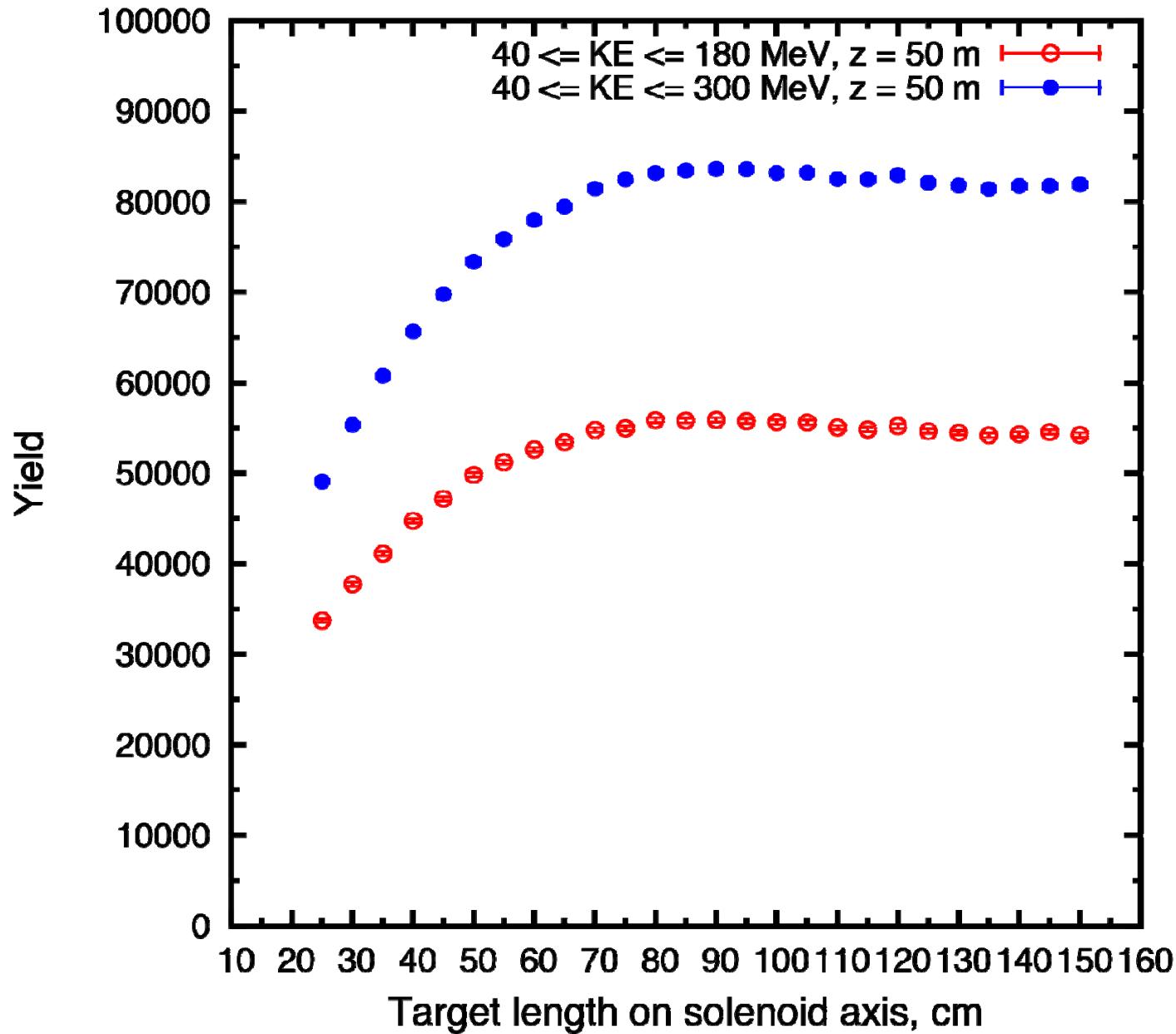
20to4T5m Configuration

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



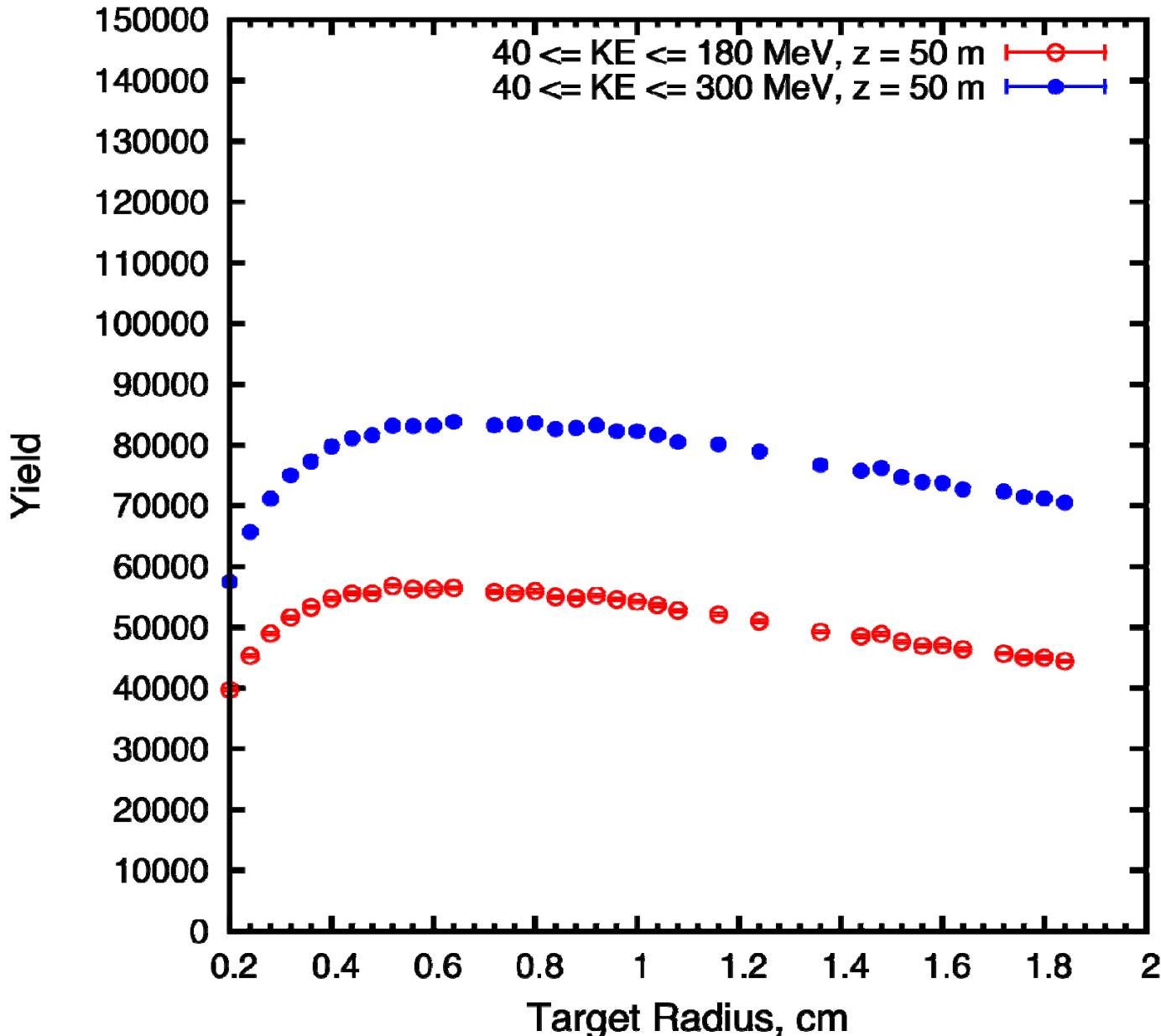
20to2T5m Configuration

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



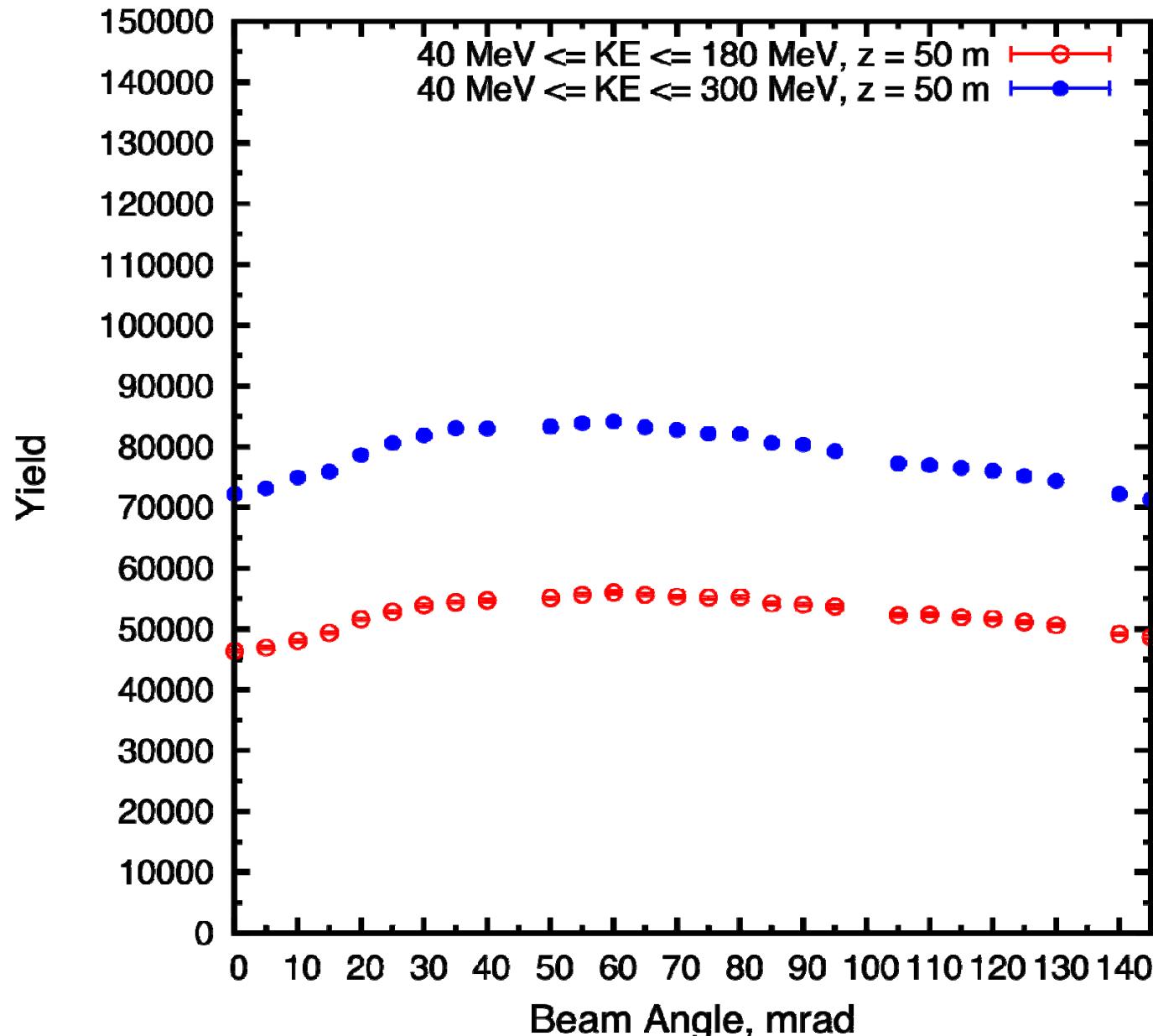
20to2T5m Configuration

(LEN = 100 cm, TR/BR = 4, CA = 0, BA = 65 mrad)



20to2T5m Configuration

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



20to2T5m Configuration

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

