

MUON TARGET STUDIES: TAPERED CAPTURE SOLENOID

HISHAM KAMAL SAYED
BROOKHAVEN NATIONAL LABORATORY

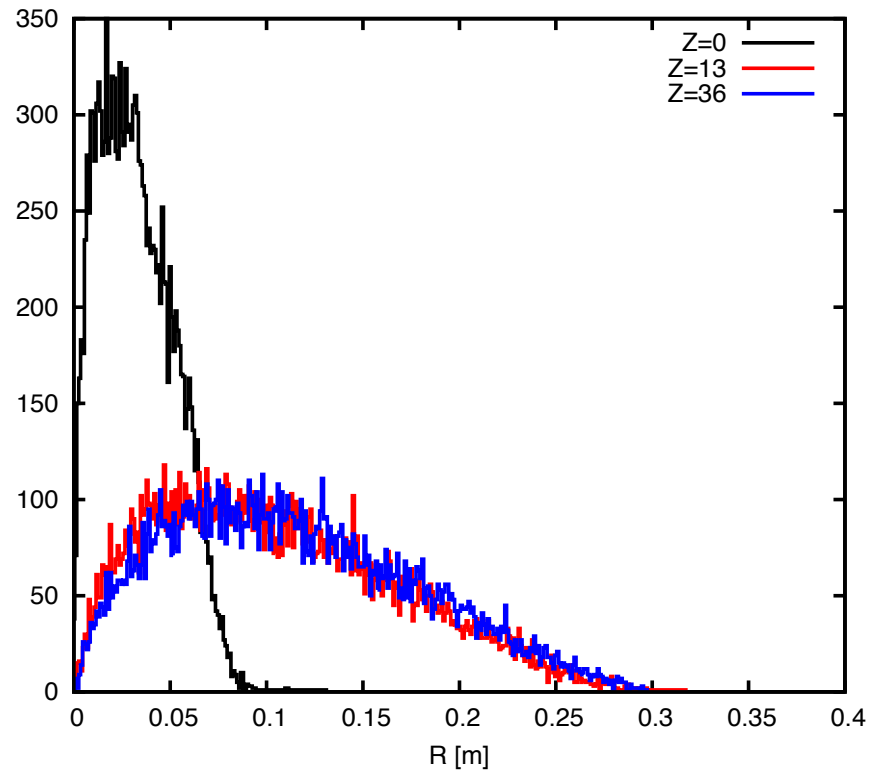
DISTRIBUTIONS OF PARTICLES SURVIVED THE FRONT END AND ACCELERATION CUTS

- 1- Taper solenoid field: 20 --> 1.5 T over 15 m
- 2- ICOOL applied aperture for decay region $R_{\text{aperture}} = 0.4 \text{ m}$ & 0.3 afterwards
- 3- Good particles are those who satisfy the following conditions/cuts
 - 1- Survived the phase rotator and cooling sections
 - 2- Fall within required acceleration acceptance cuts
 - $0.17 < P_z < 0.27 \text{ GeV}$
 - Transverse cut $R < 0.3 \text{ m}$
 - Longitudinal cut 0.15 m

DISTRIBUTIONS OF PARTICLES SURVIVED THE FRONT END AND ACCELERATION CUTS

Particle radii distribution

Taper solenoid field: 20 --> 1.5 T over 15 m



DISTRIBUTIONS OF PARTICLES SURVIVED THE FRONT END AND ACCELERATION CUTS

Transverse Momentum distribution

