Energy Spectra Comparison (Feynman *vs*. Spot)

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AAG meeting, BNL

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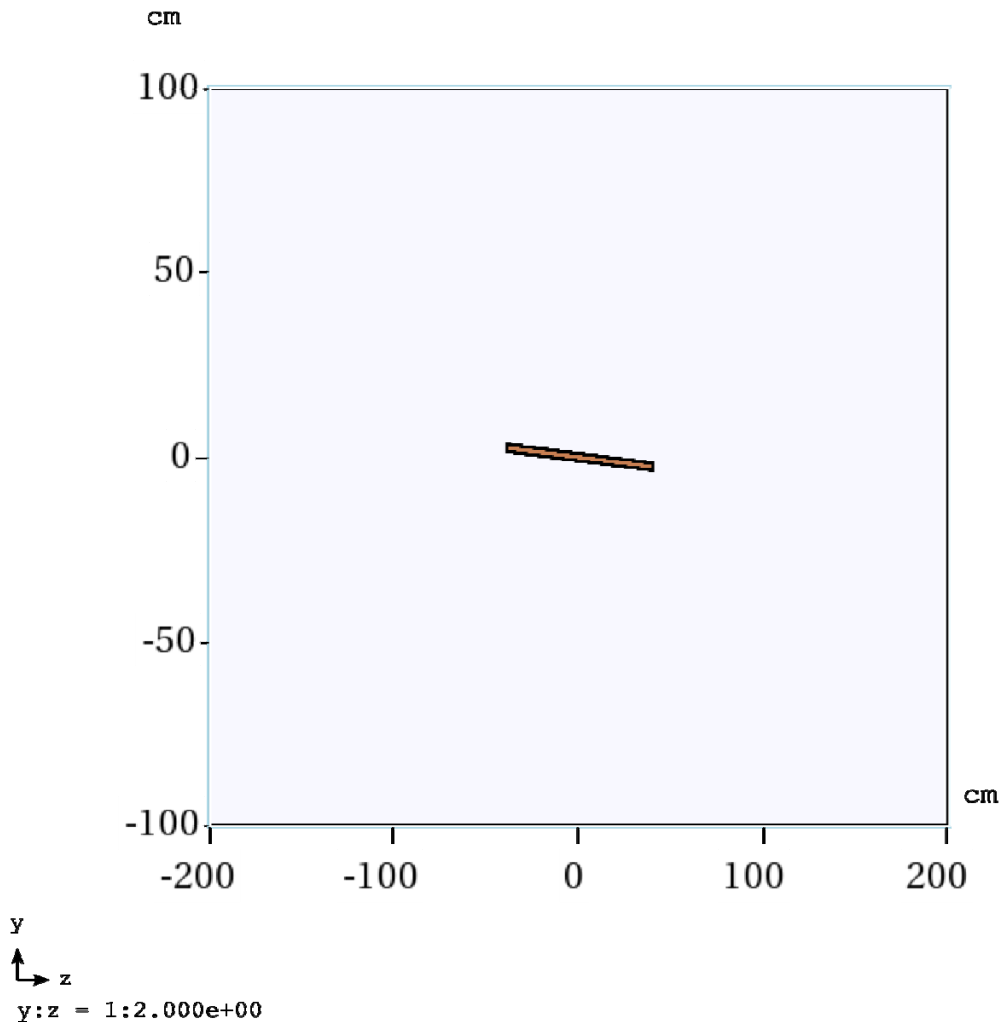
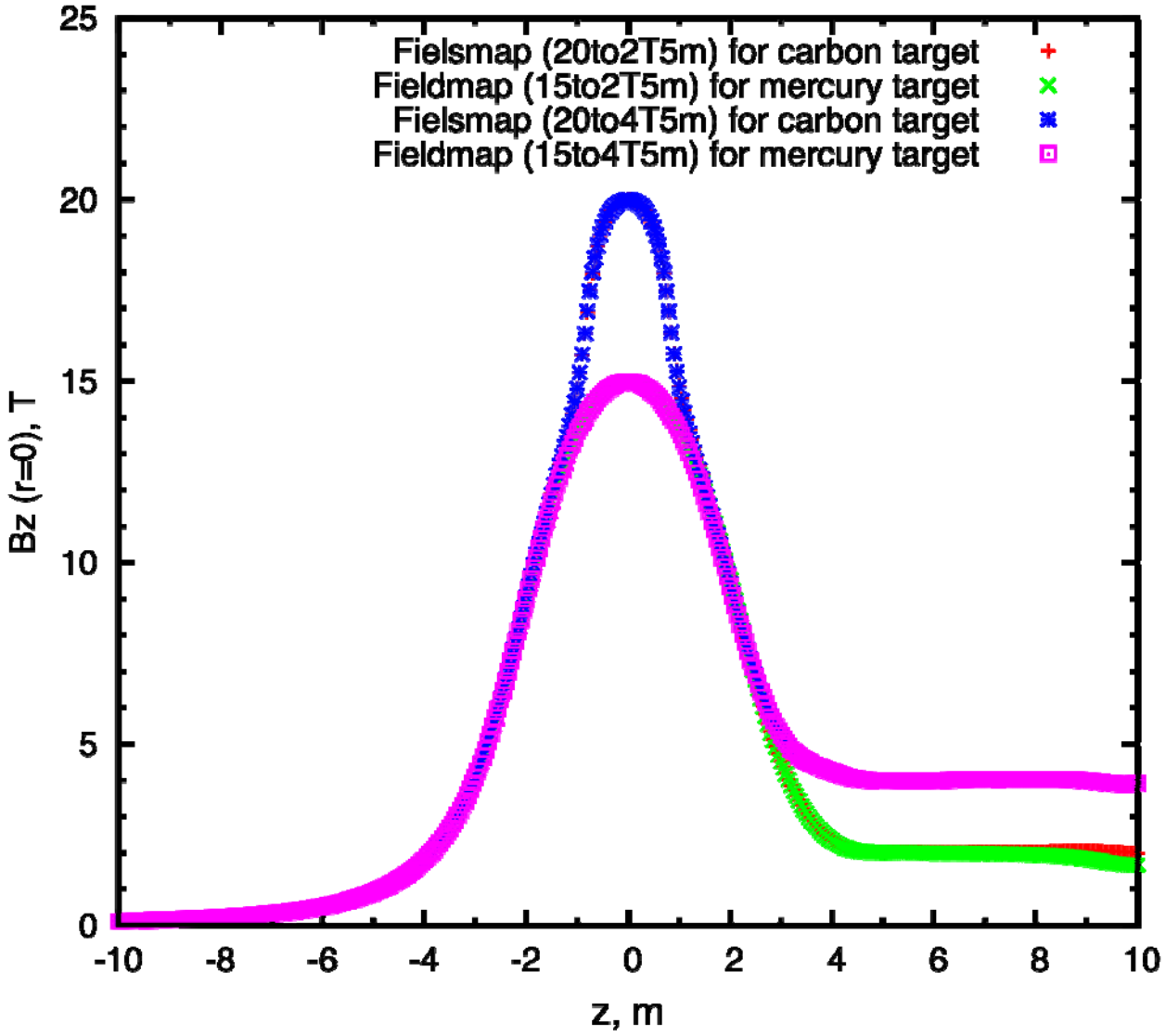
Target + 20to4T5m Fieldmap



Fieldmap on SC axis



Method

- MARS15 Installation

  Feynman (Princeton): New Version(2015)

  Spot (BNL cluster): Old Version (2014)
- ROOT-based geometry setting;
- Generate simple gaussian beam with zero emittance (launching at z = -100 cm) by MARS.INP setting and proceed through 20to4T5m fieldmap;
- Collect beam at z = 0.4 m, z =1.2 m and z = 2 m (r = 100 cm) in the same MARS run;
- Sum all particles (positive + negative)

SMIN Card

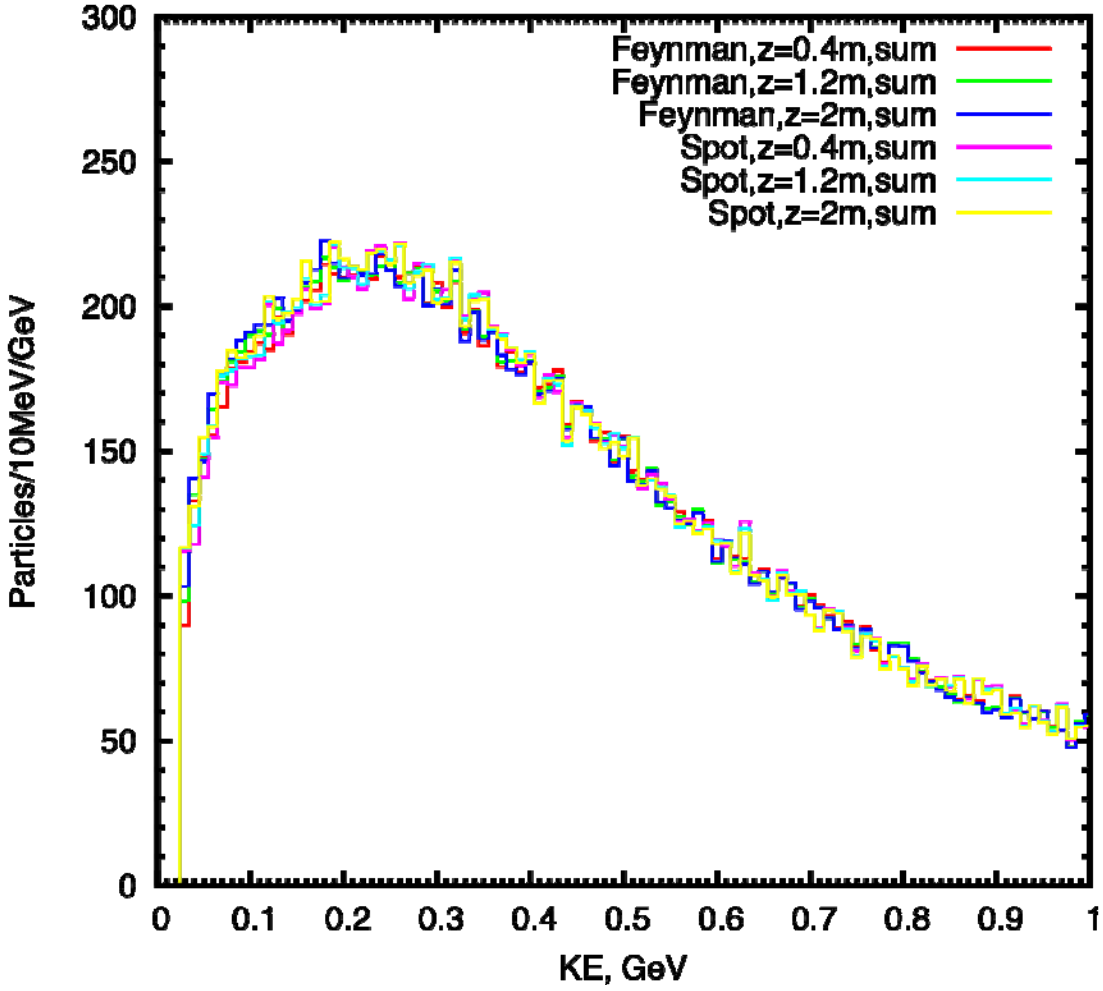
- **SMIN STEPEM STEPH** (Past setting: SMIN 0.01 3.)

  Real variables specifying global boundary localization precision and pilot step lengths.

- No SMIN card setting (Nicholai Mokhov's Recommendation)

Feynman *vs*. Spot

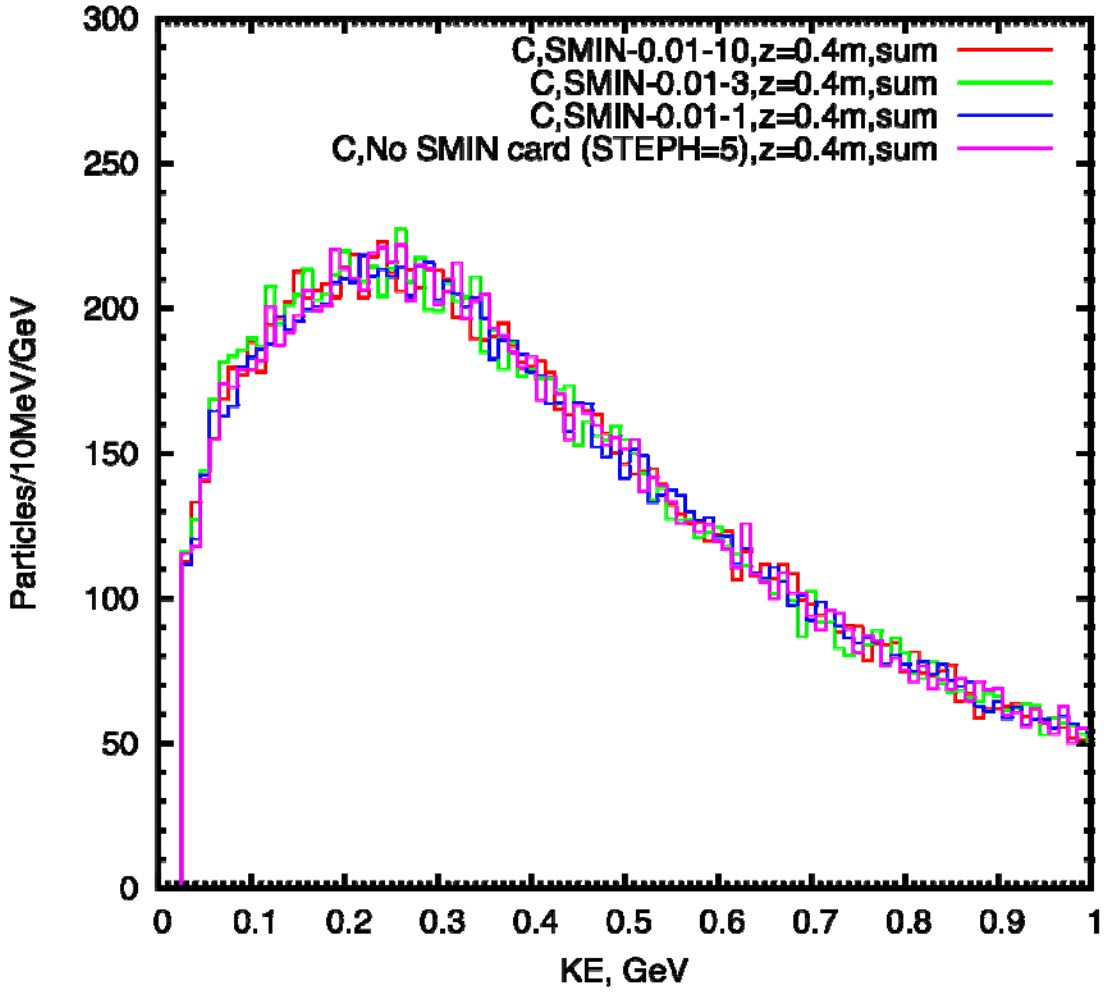
(No SMIN card)



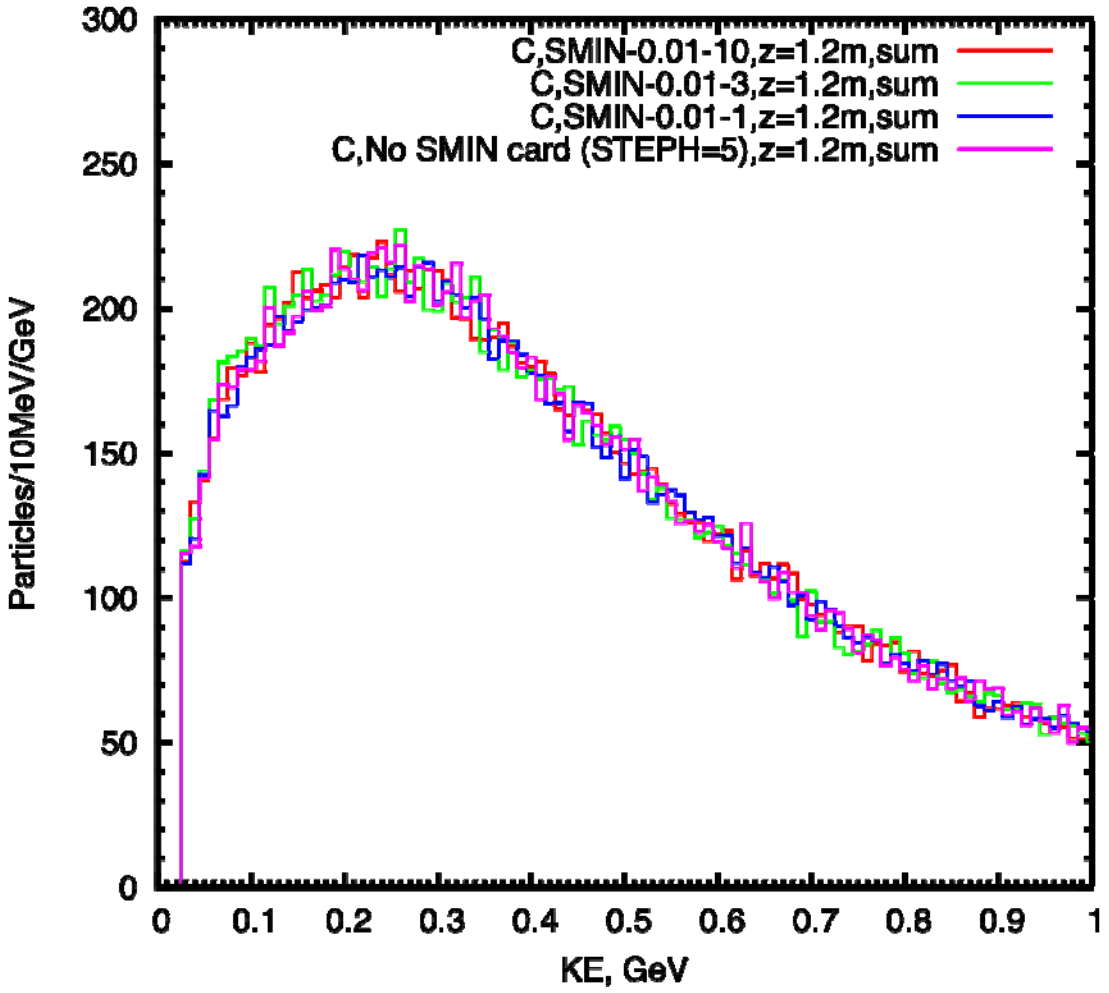
MARS.OUT

SMIN: GLOBAL MINIMAL STEPEM(CM) = 1.0000E-08 AND STEPH(CM) = 5.000E+00

Spot Run (STEPH = 1,3,5,10) (z = 0.4 m)



Spot Run (STEPH = 1,3,5,10) (z = 1.2 m)



Spot Run (STEPH = 1,3,5,10) (z = 2 m)