

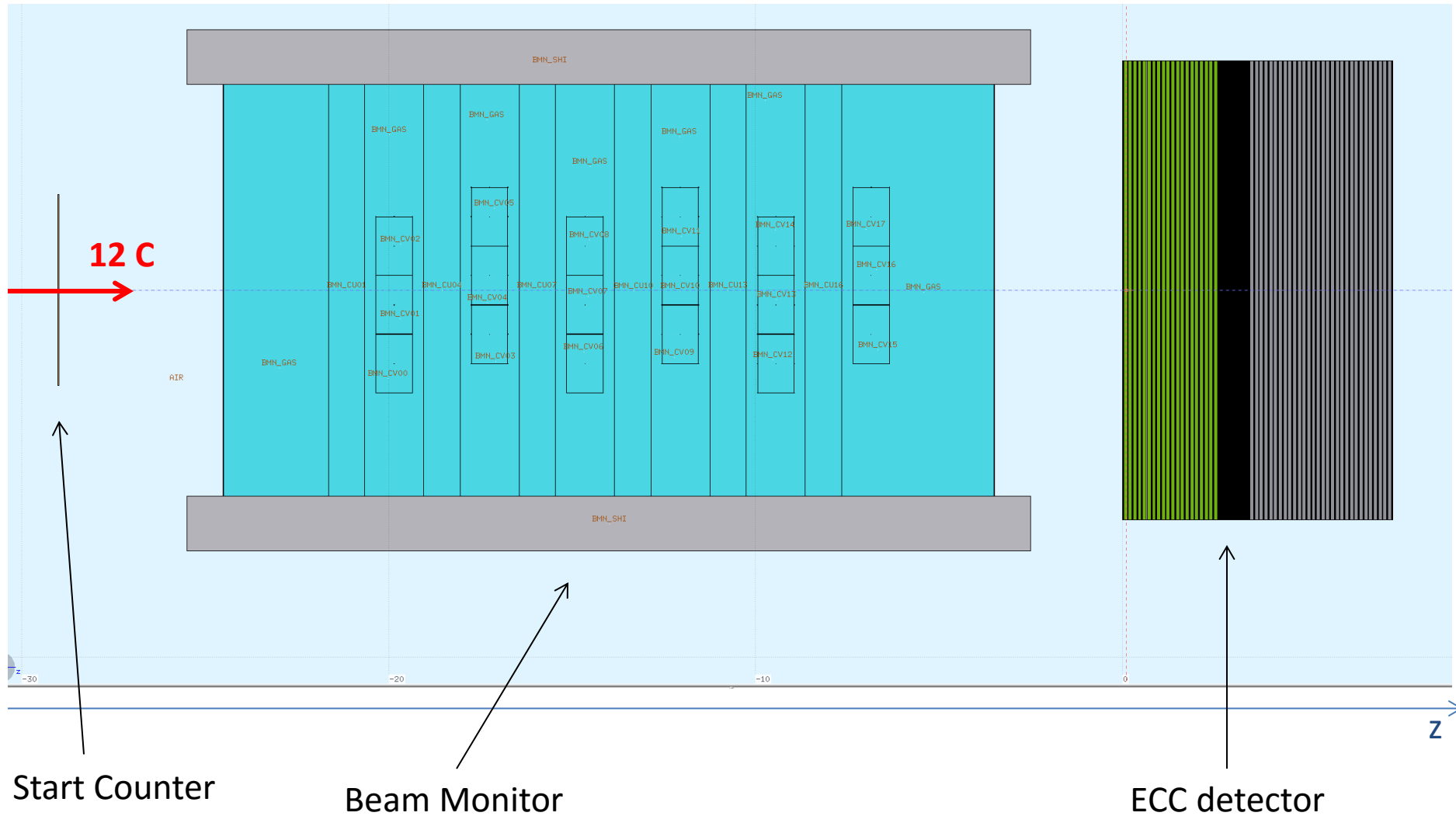
# $^{12}\text{C}$ on ECC : a first study

A. Di Crescenzo, A. Pastore

# Overview

- Simulation: beam and detector set up
- Primary particles characterisation
- Secondary particles characterisation
- Next steps

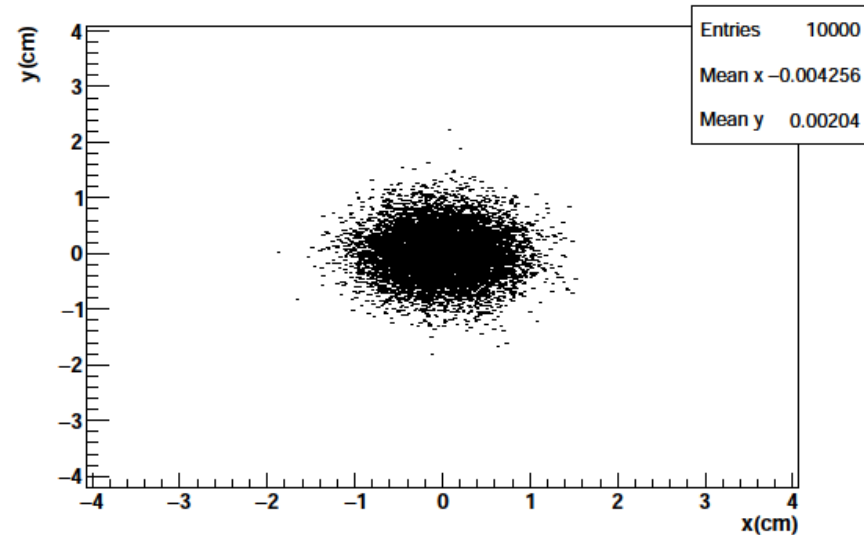
# Simulation: beam and detector set up



# Simulation: beam

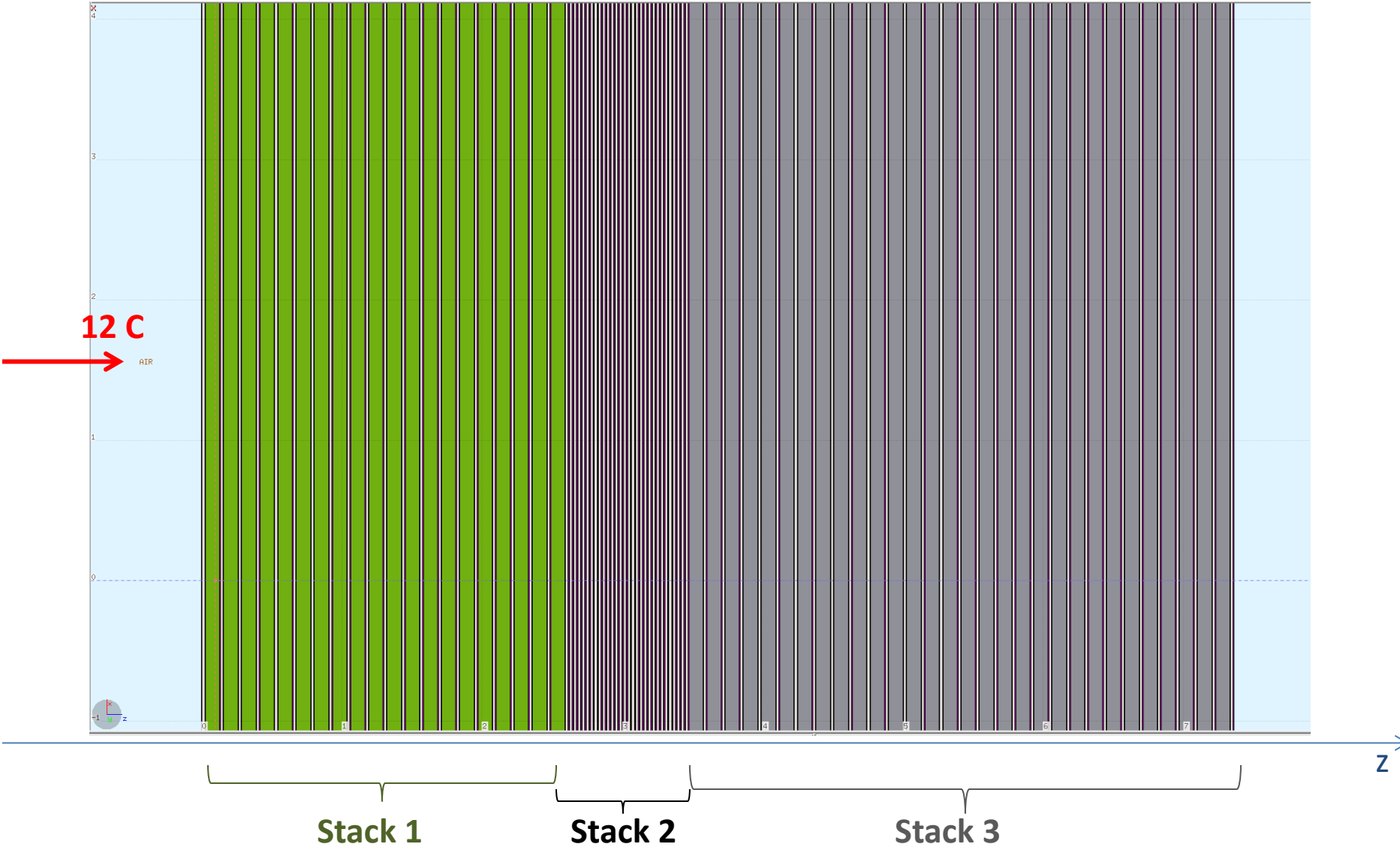


Fluka driven  
 $^{12}\text{C}$  beam, 250 MeV/u, 10000 events  
Gaussian shape, FWHM 1 cm  
@-30 cm in z coord.

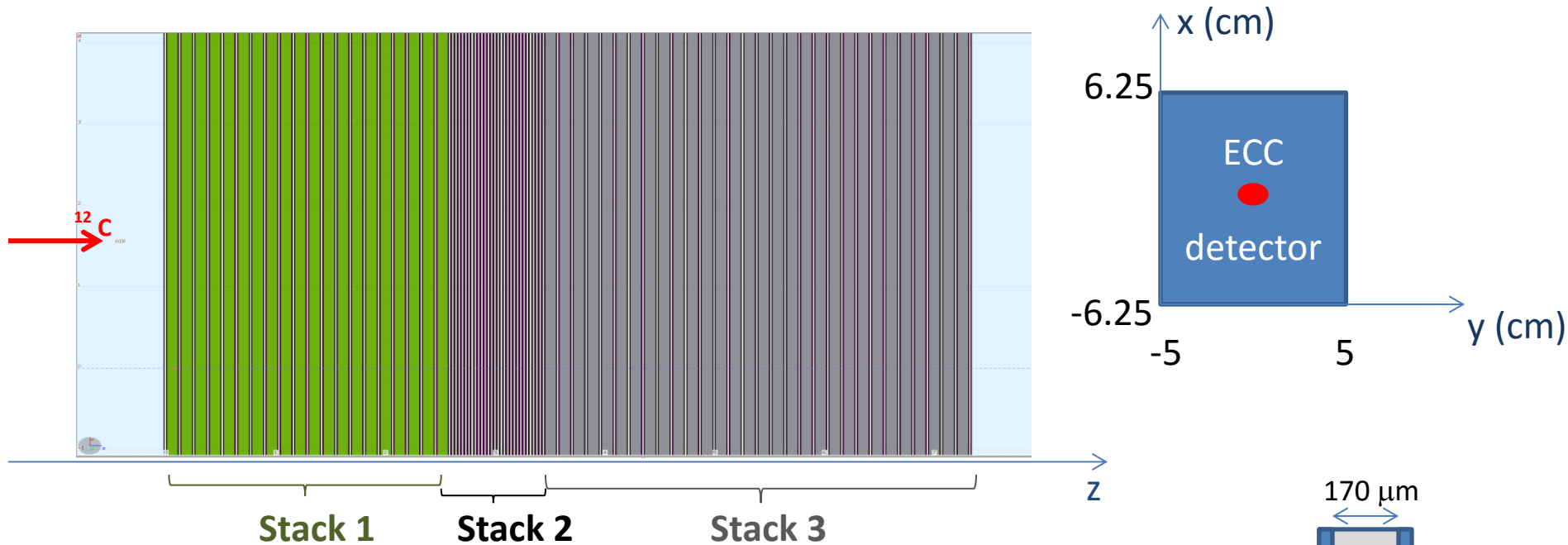


SC and BM simulated as for FOOT “standard” set-up

# Simulation: ECC detector set up



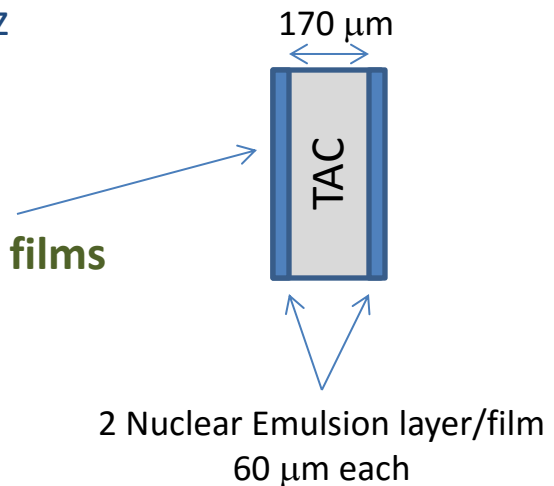
# Simulation: ECC detector set up



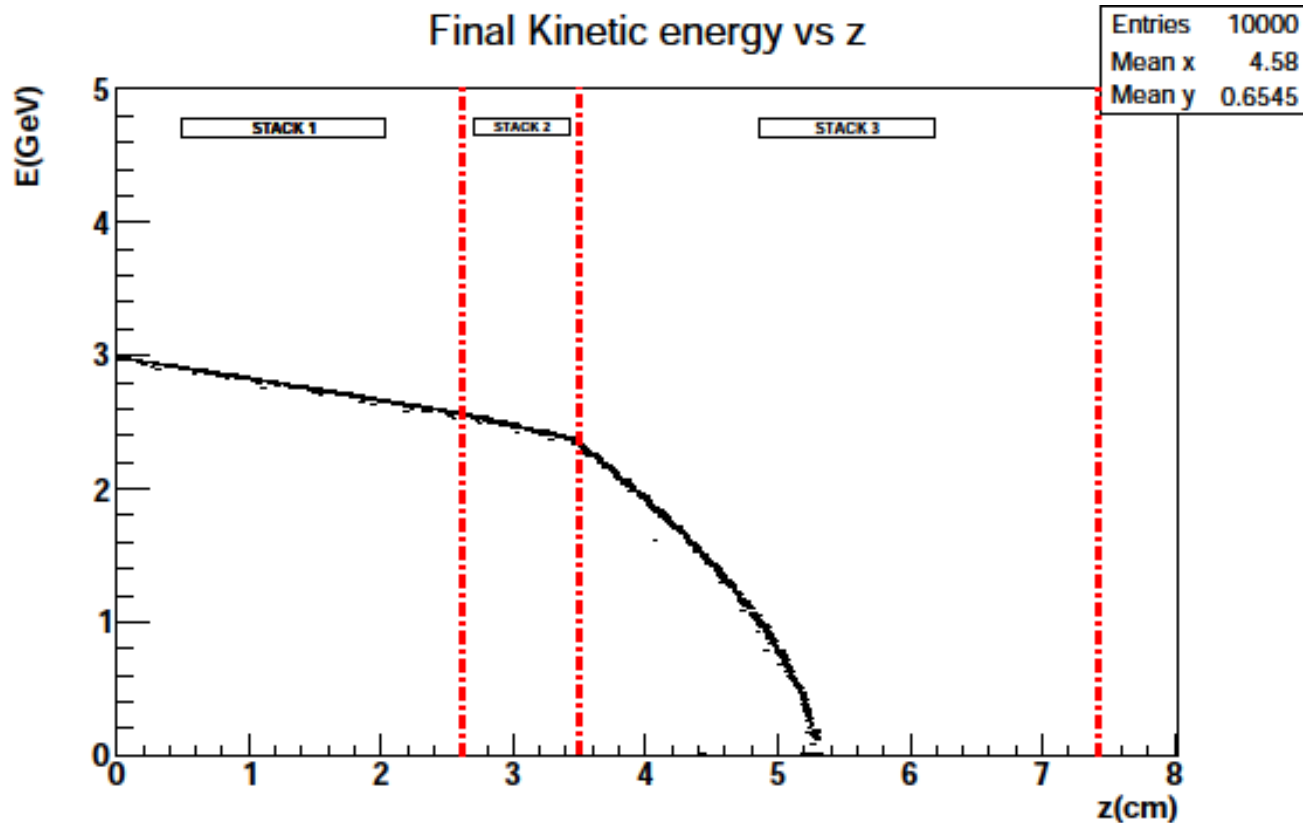
**Stack 1: 20 PMMA/LEXAN target foils, 1 mm-thick + 21 Emulsion films**

**Stack 2: 30 Emulsion films**

**Stack 3: 30 Pb plates, 1 mm-thick + 31 Emulsion films**

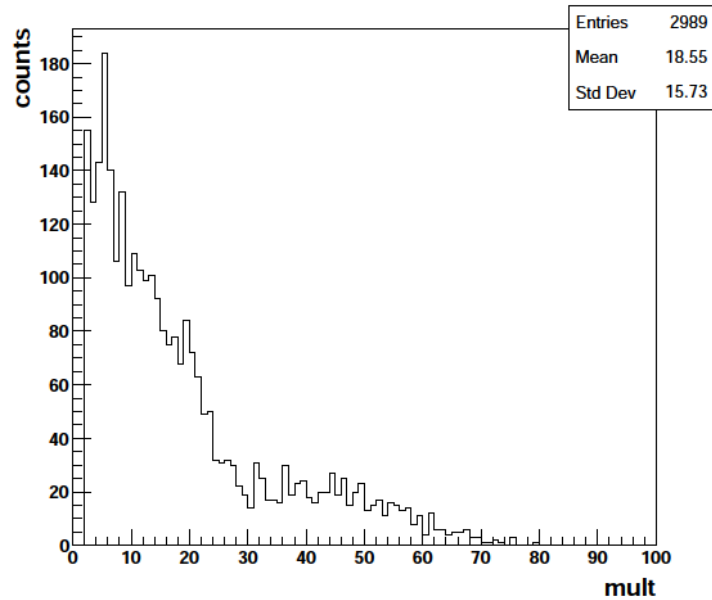


# Beam particles characterisation

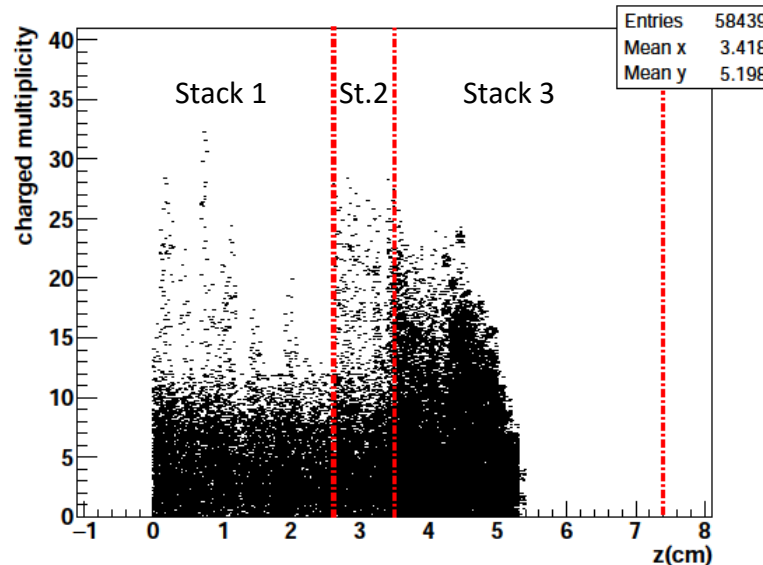
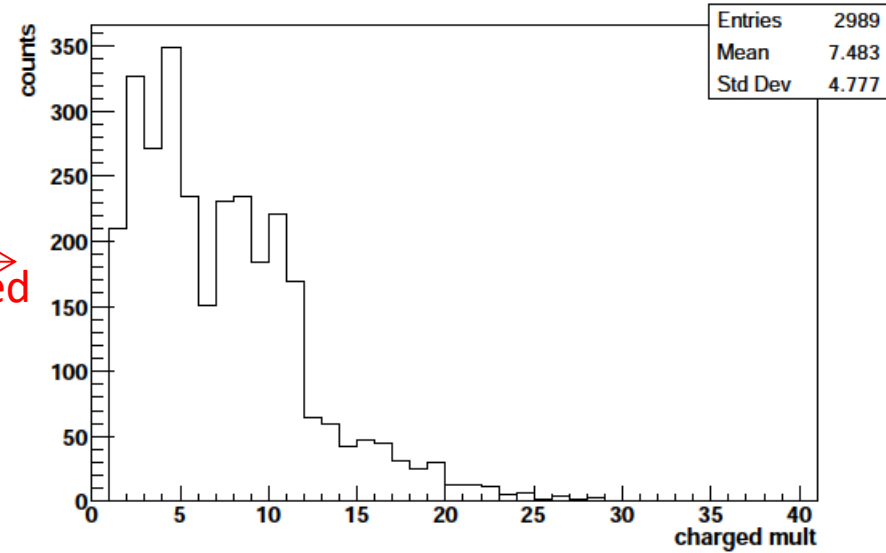


n 12C abs. before ECC det.	= 41	(0.41 +- 0.06)%
n 12C abs. in <b>STACK1</b>	= 1249	(12.49 +- 0.33)%
n 12C abs. in <b>STACK2</b>	= 436	(4.36 +- 0.20)%
n 12C abs. in <b>STACK3</b>	= 8274	(82.74 +- 0.38)% → 7011 (70.11 +- 0.46)% in the Bragg p.
n 12C out of ECC det.	= 41	→ all before ECC det.

# Multiplicity for beam particles' interactions/fragmentations



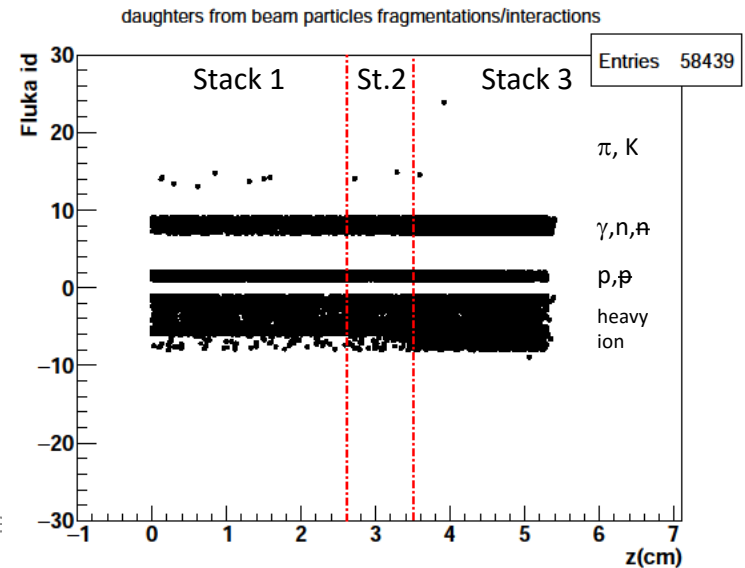
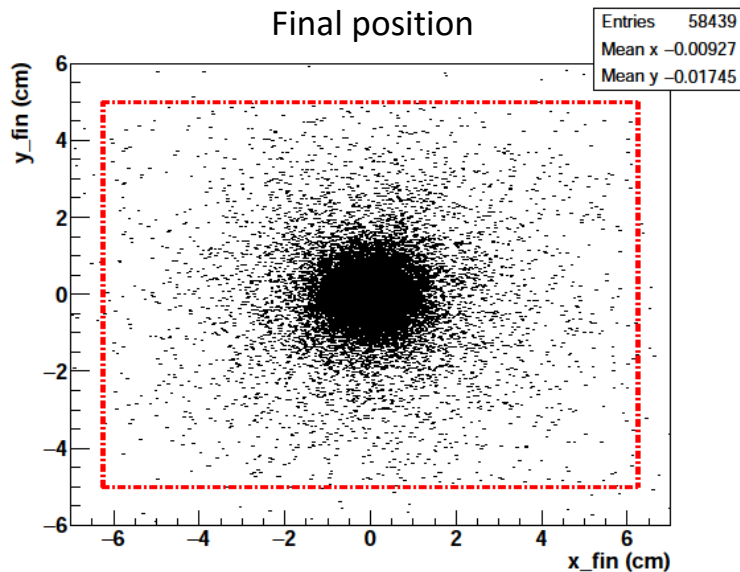
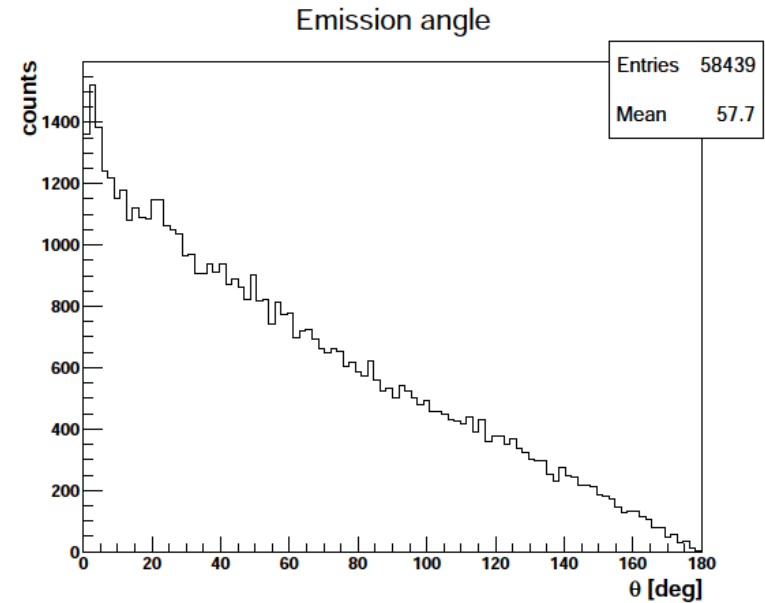
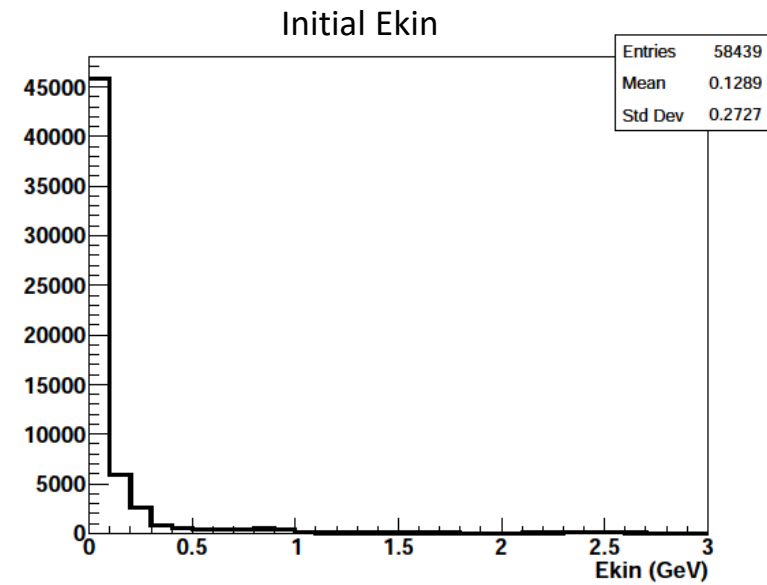
Neutrals and  
e+/e- excluded



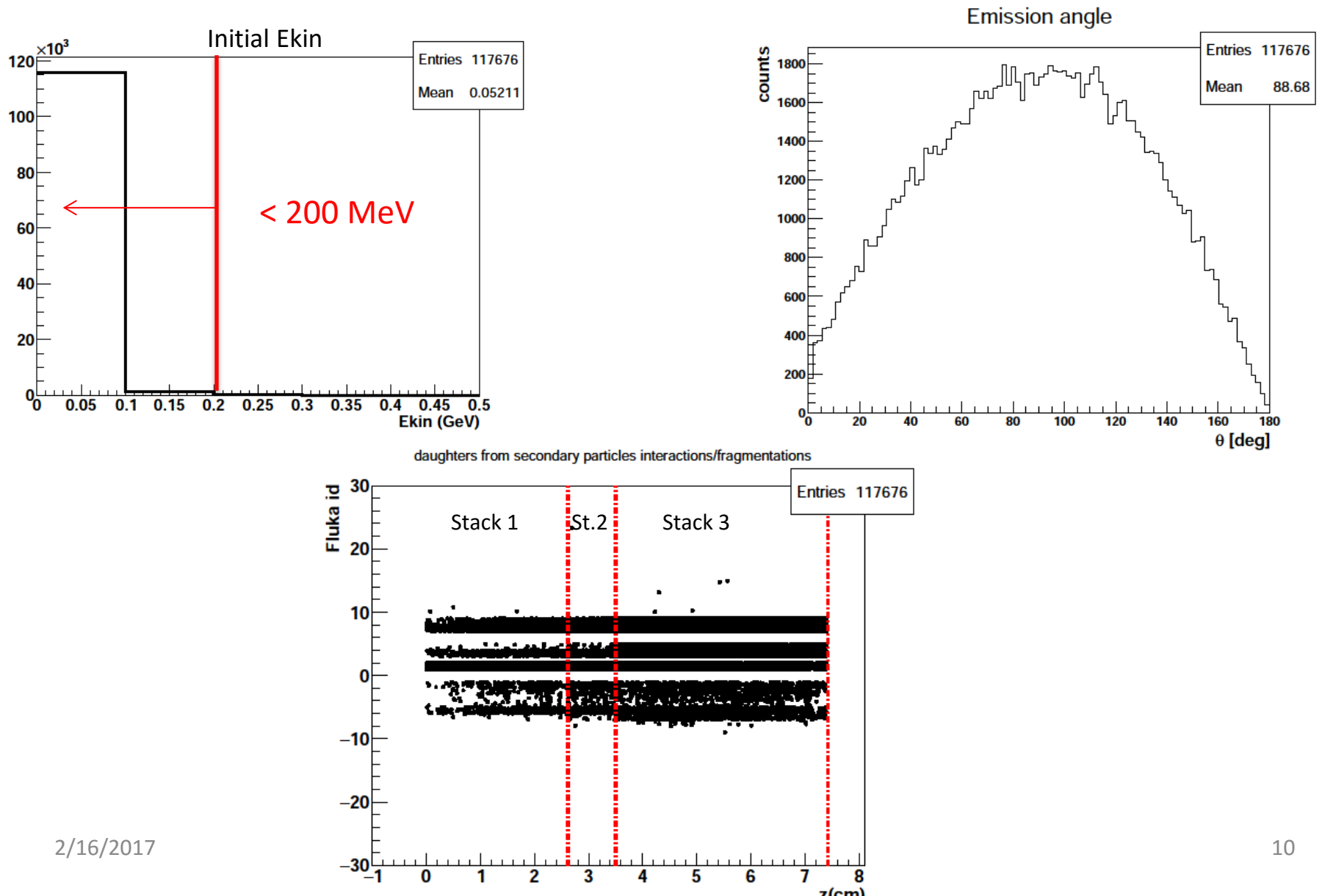


# Secondaries from $^{12}\text{C}$ beam particles

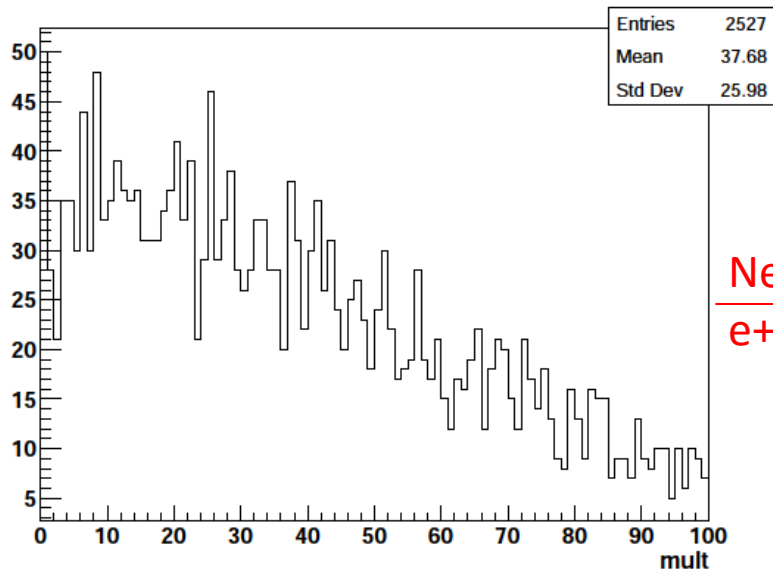
[Contained inside the ECC detector]



# Daughters from other particles than $^{12}\text{C}$



# Daughters from other particles than $^{12}\text{C}$ : multiplicity



Neutrals and  $e^+/e^-$  excluded  $\rightarrow$

