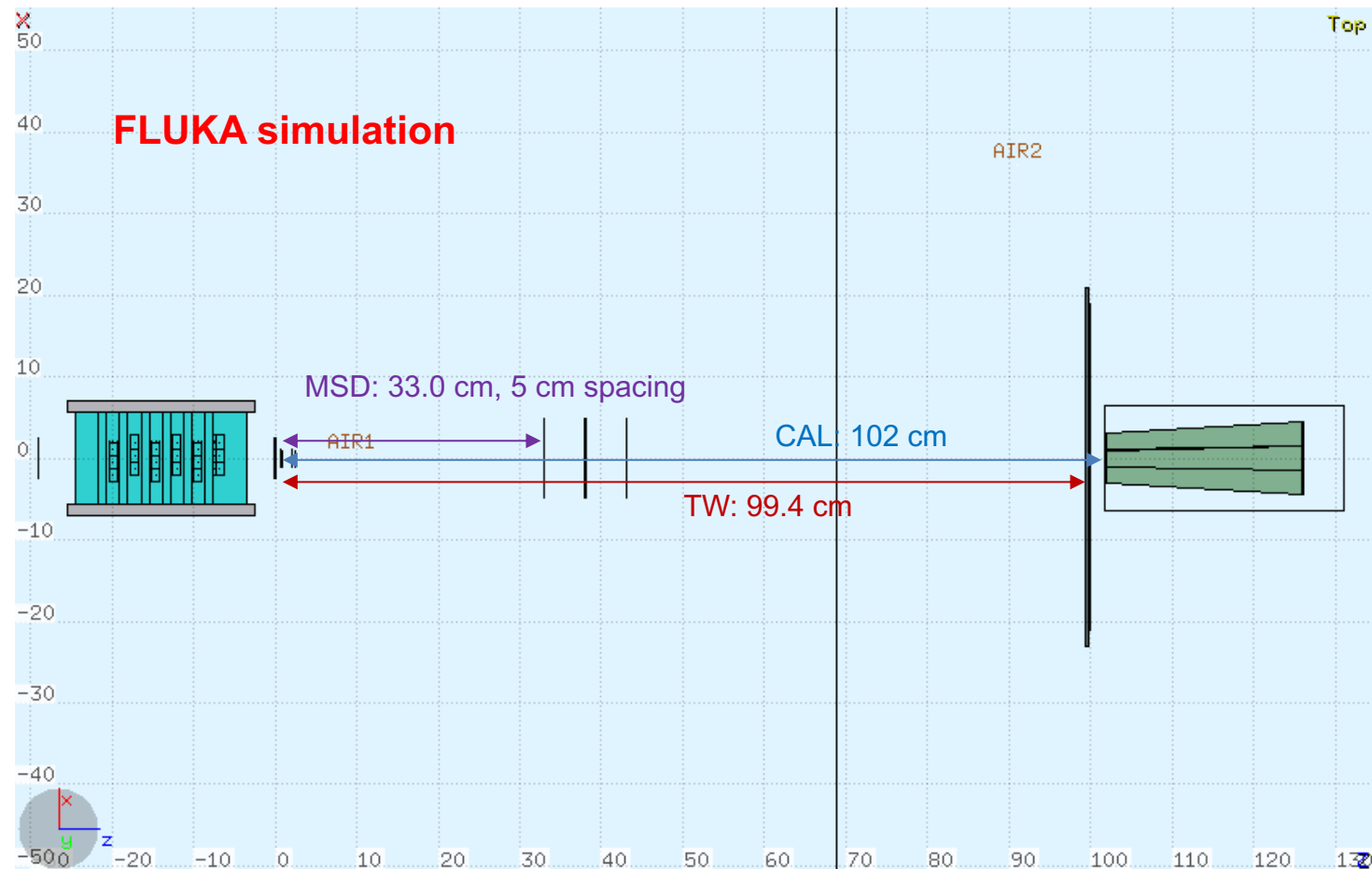


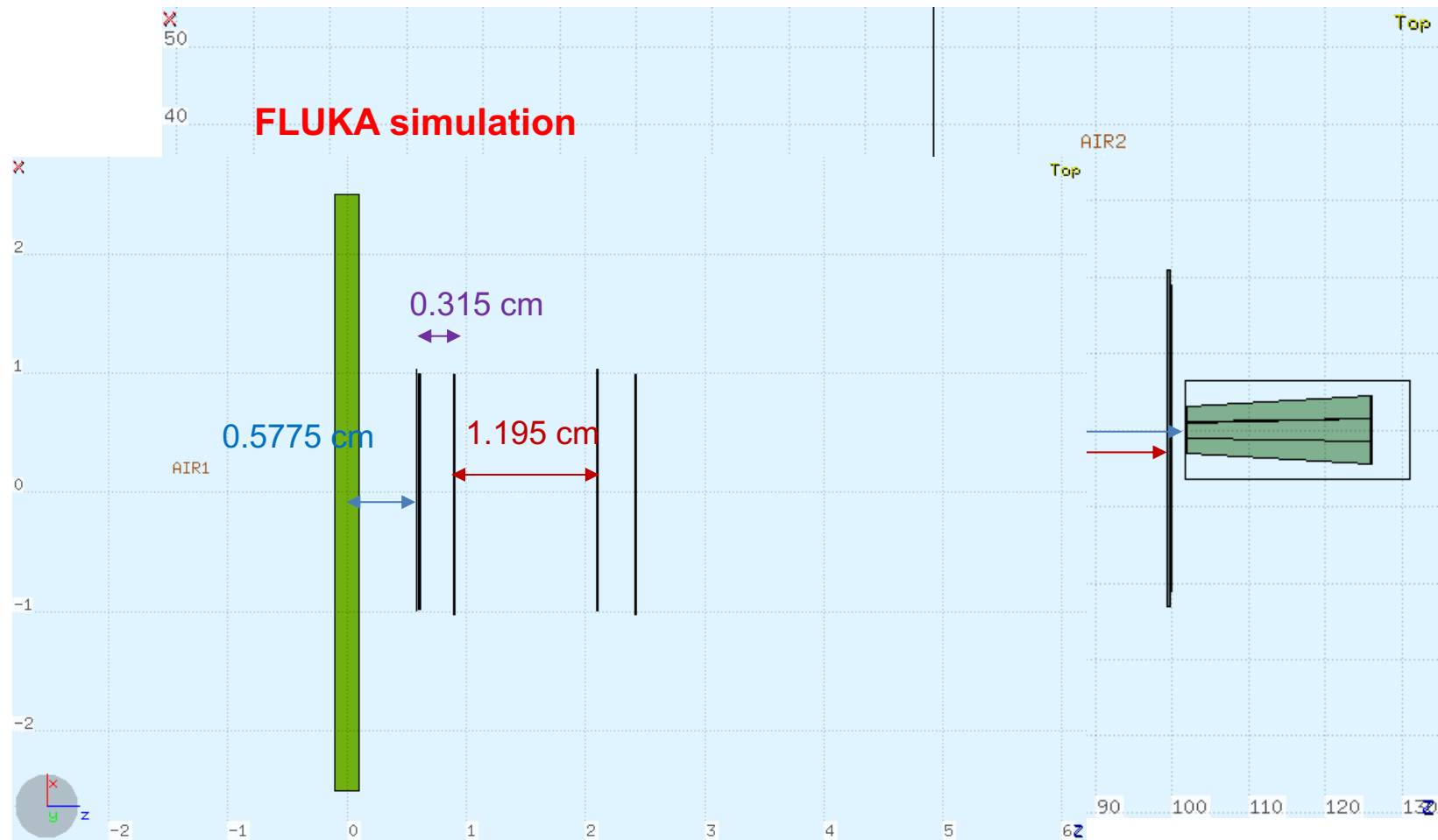
# Production of simulated data for the CNAO2020 campaign

*G.B. S.M.*

# Geometry: campaign CNAO2020



# Geometry: campaign CNAO2020



# Available files

/gpfs\_data/local/foot/Simulation/CNAO2020

$^{12}\text{C}$  at 200 MeV/u on C (5 mm  $\rho=1.83$  g/cm<sup>3</sup>):

12C\_C\_200\_1.root  $10^7$  primaries, 284246 events on file

$^{12}\text{C}$  at 200 MeV/u on C<sub>2</sub>H<sub>4</sub> (5 mm  $\rho=0.94$  g/cm<sup>3</sup>):

12C\_C2H4\_200\_1.root  $10^7$  primaries, 198215 events

12C\_C2H4\_200\_2.root  $10^7$  primaries, 197621 events

# CNAO2020 Campaign

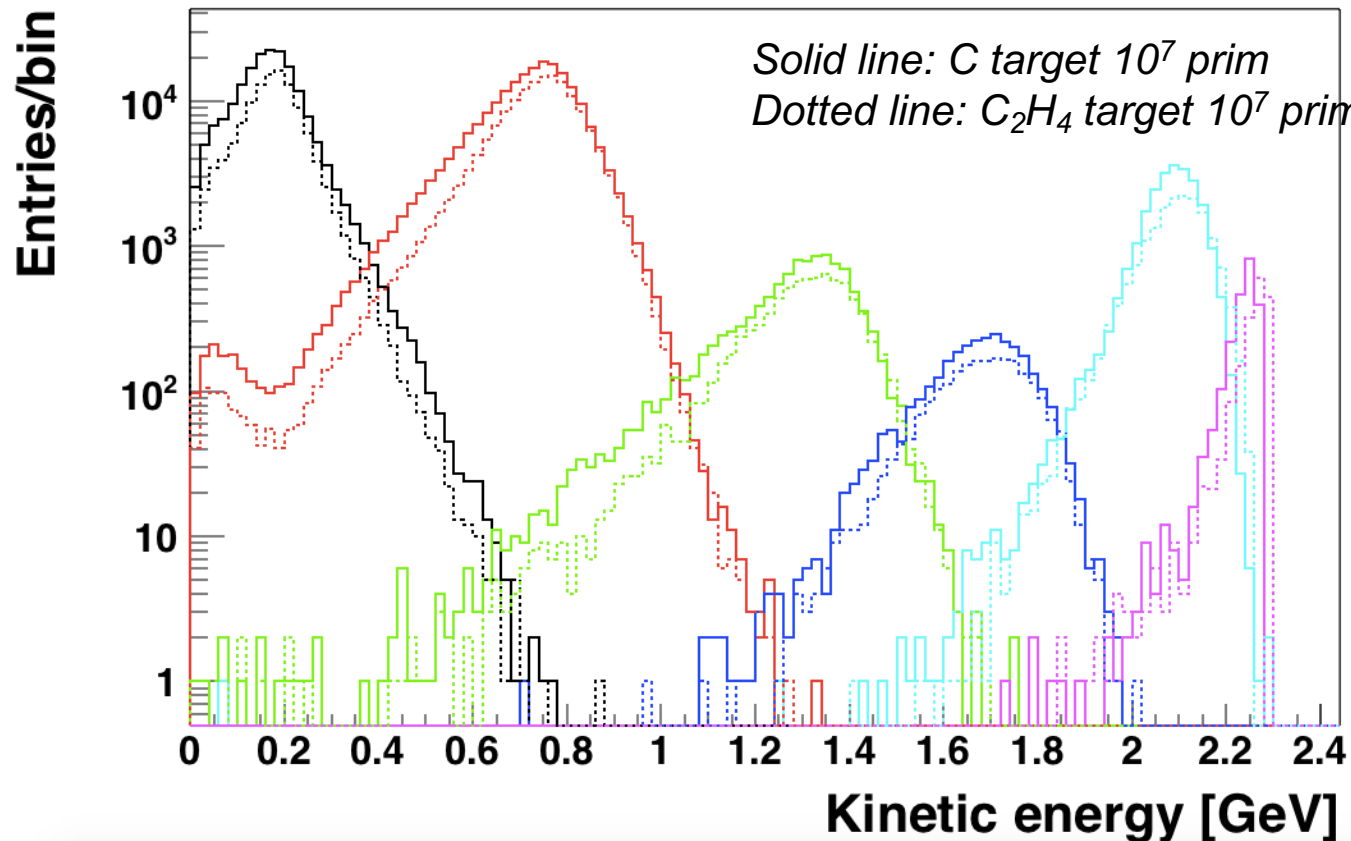
In both *master* and *newgeom* branches of SHOE the campaign switch **CNAO2020** is available

For example, MC data should be readout using:

*yourpath/bin/DecodeMC -exp CNAO2020 -run 1*

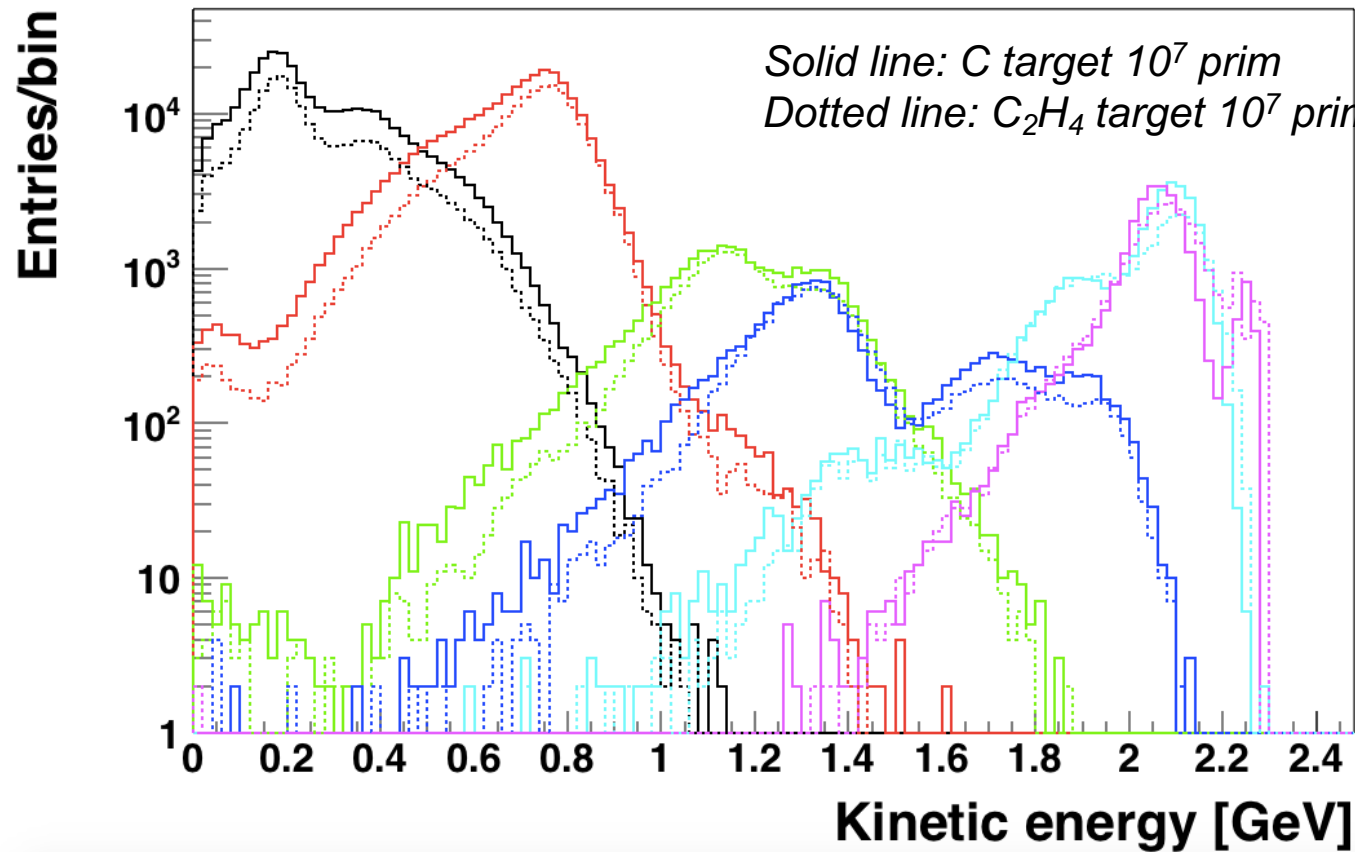
# Preliminary checks

dN/dE for fragments of different Z (**1<sup>st</sup> generation**) arriving at TW



# Preliminary checks

$dN/dE$  for fragments of different  $Z$  (**All generations**) arriving at TW



Plot by A.C. Kraan

# Preliminary checks: re-interactions

In ~4.4% of events there is at least one secondary fragment interacting on VTX

In ~1.5% of events there is at least one secondary fragment interacting on MSD

In ~5.9% of events there is at least one secondary fragment interacting on SCN

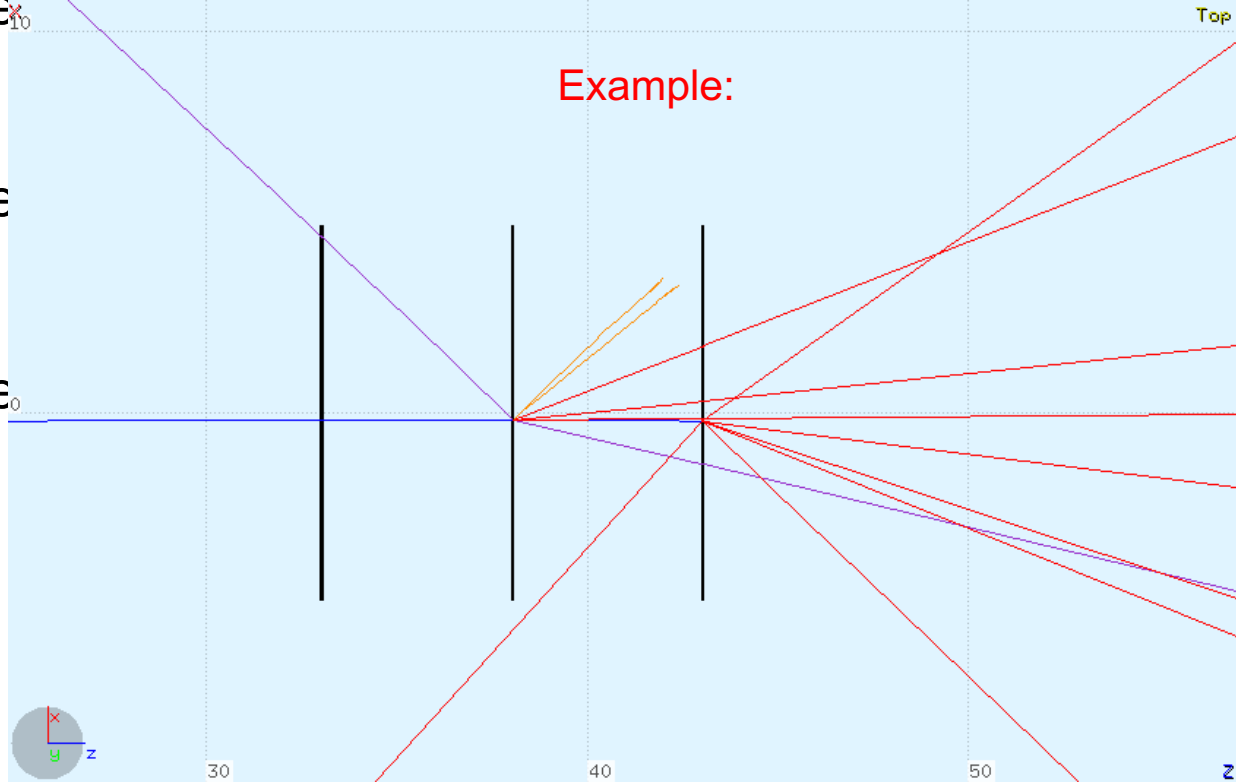


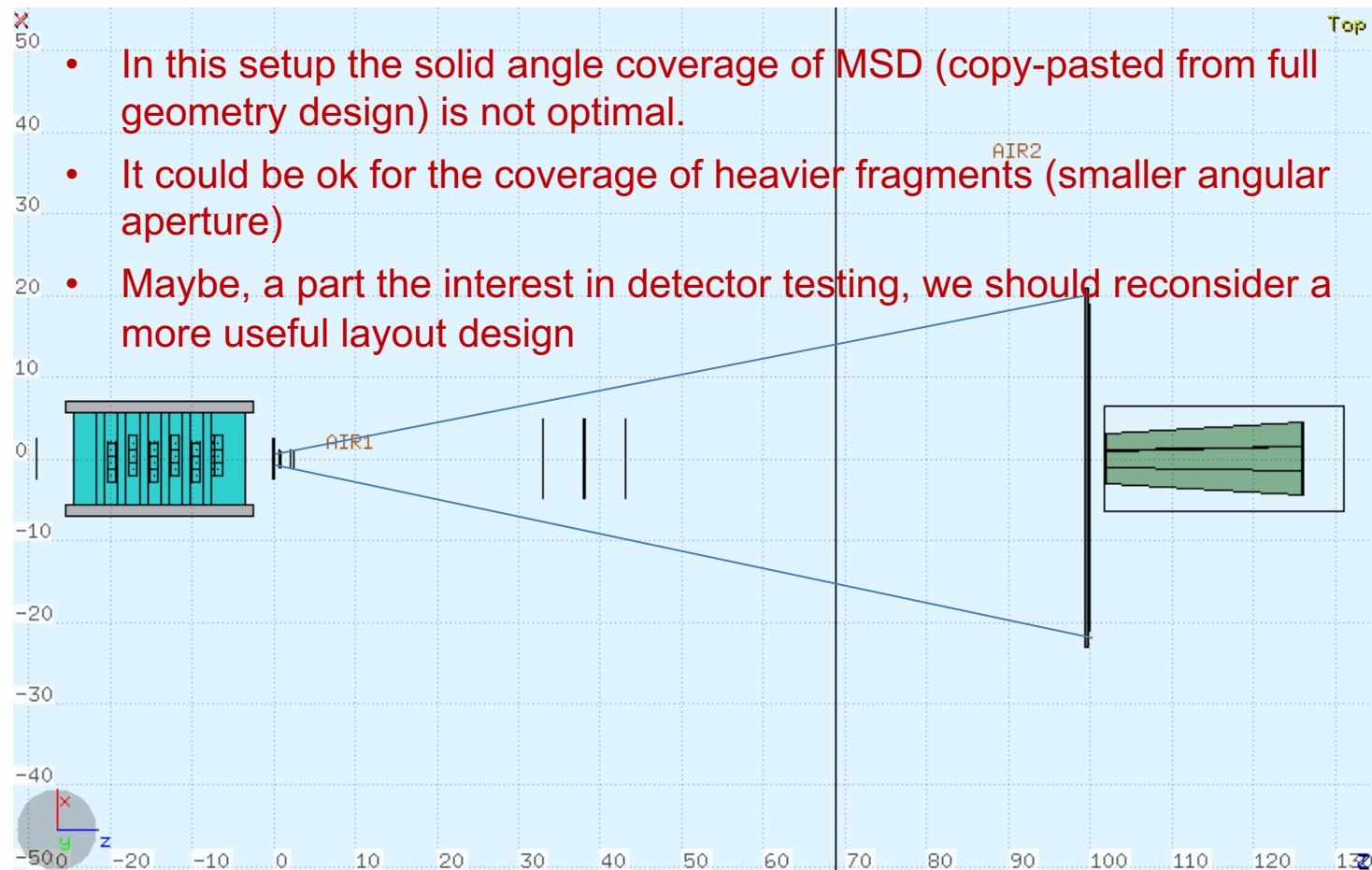
# Preliminary checks: re-interactions

In  $\sim 4.4\%$  of events there is at least one secondary fragment interacting on VTX

In  $\sim 1.5\%$  of events there is at least one secondary fragment interacting on MSD

In  $\sim 5.9\%$  of events there is at least one secondary fragment interacting on SCN





# Conclusions and to-do list

All interested people is invited to perform detailed checks and analyses

Should we rethink the layout?

Other simulation runs can be produced if needed:

- More statistics
- «Untriggered» production
- ...

We are assisting the Calo group to run optical simulation in BGO crystals

A meeting with people interested in neutron detection has still to be organized in view of the addition of other detector elements