Double DVCS detector configurations

DDVCS meeting
04/21/2015

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CLEO muon detector

- Streamer chamber
- 2352 counters
- 5472 strips
- Total of 7824 channels
- Readout using DREAM or MAROC
  - 7824 / 64 = 122 chips ~ 50 K$
  - 16 boards = 40 K$
  - Cables 20 K$

- Trigger using VETROC
  - 7824 /128 = 62 boards =300 K$
  - 4 VXS crates = 60 K$
  - 4 CTP = 20 K$
  - 1 GTP = 7 K$
  - 1TS = 5 K$
  - About 400 K$

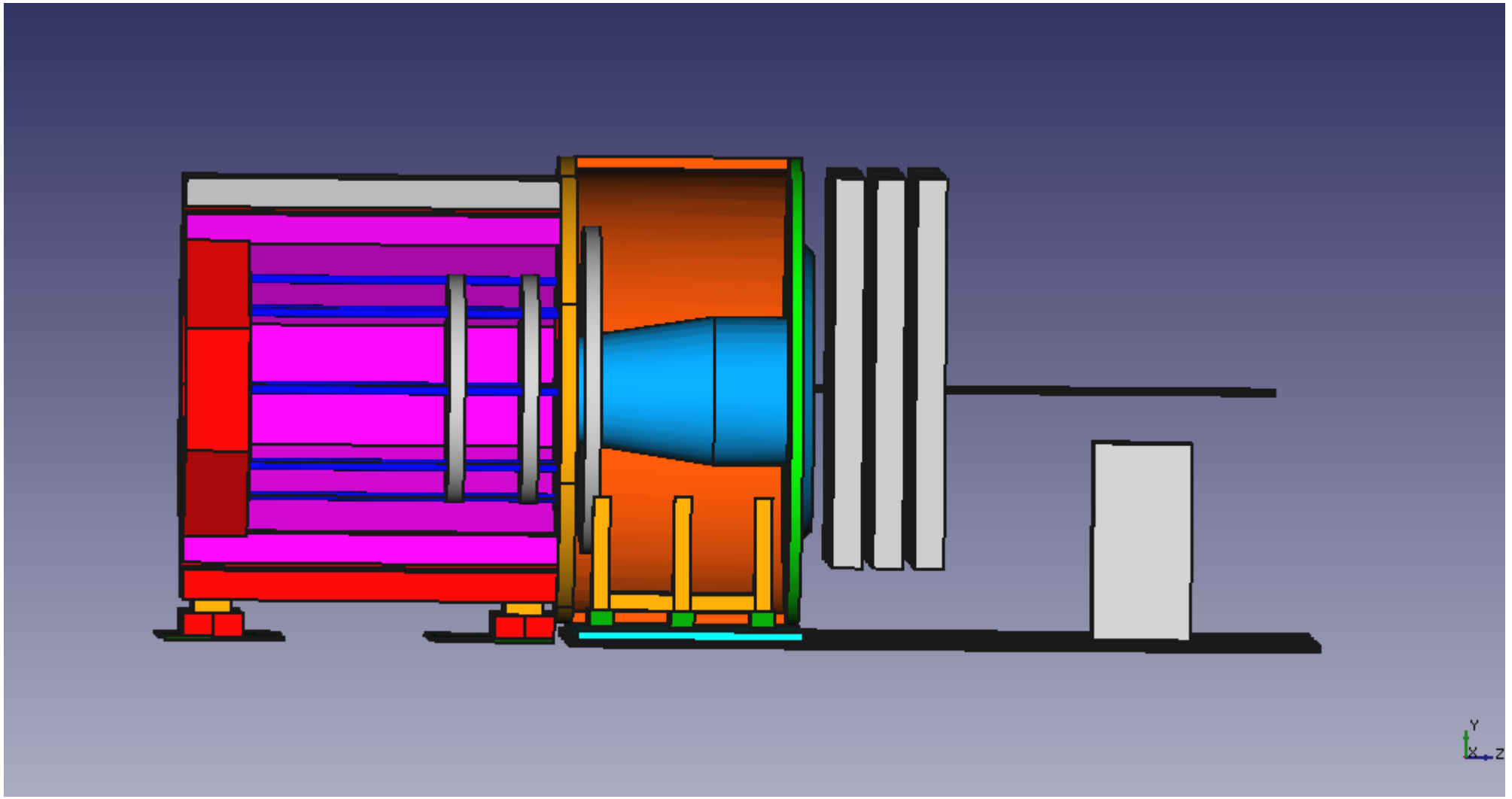
CLEO iron

- 3rd layer not used
- 8 slab of iron in two pieces : about 2m x 5m
- 16 trucks for iron
- 4 trucks for chambers
- about 1800 $ a truck
- About 36 K$

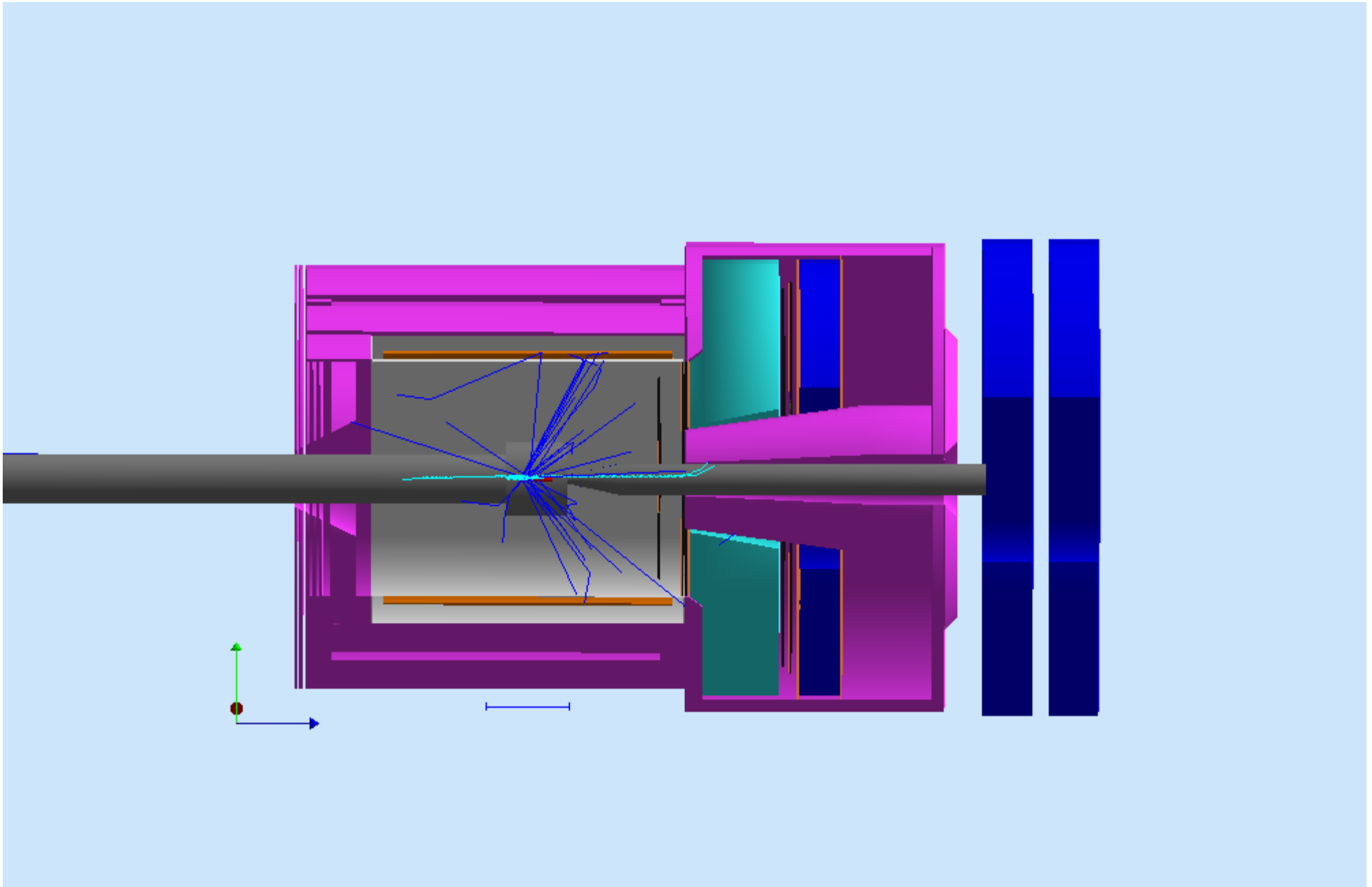
Parasitic measurement

- Add muon detector in Yoke
- Use 3rd layer for forward muon detector
- Jpsi/setup
- Transversity setup
- PVDIS setup

J/Psi setup



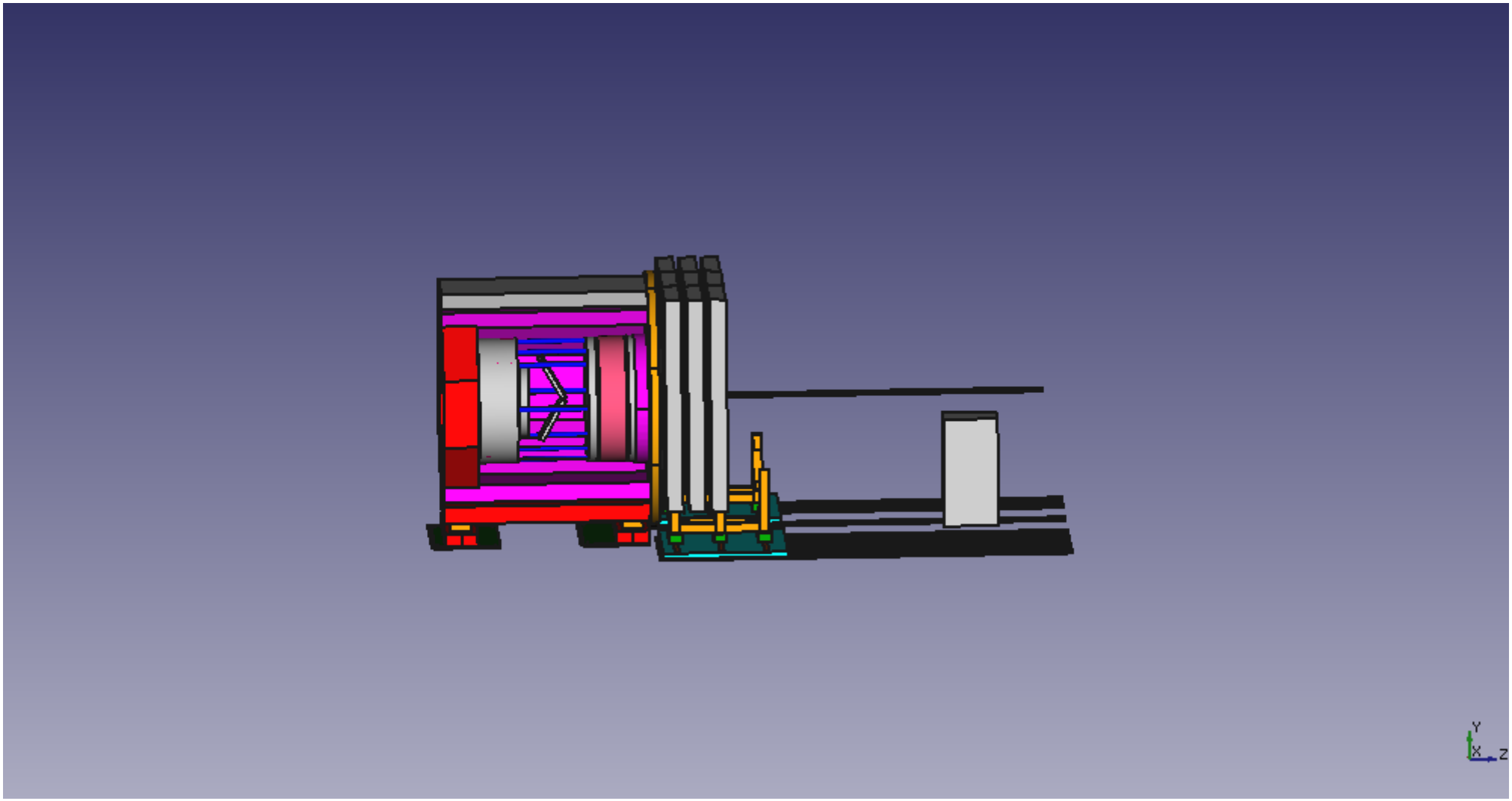
PVDIS setup



Dedicated setup

- Replace Gas Cerenkov by HBD
- Muon detector and calorimeter closer
- Micromegas barrel tracker
- GEM tracker
- Scifi barrel calorimeter
- HBD barrel Cerenkov
- Micromegas 2D 2 planes for forward muon

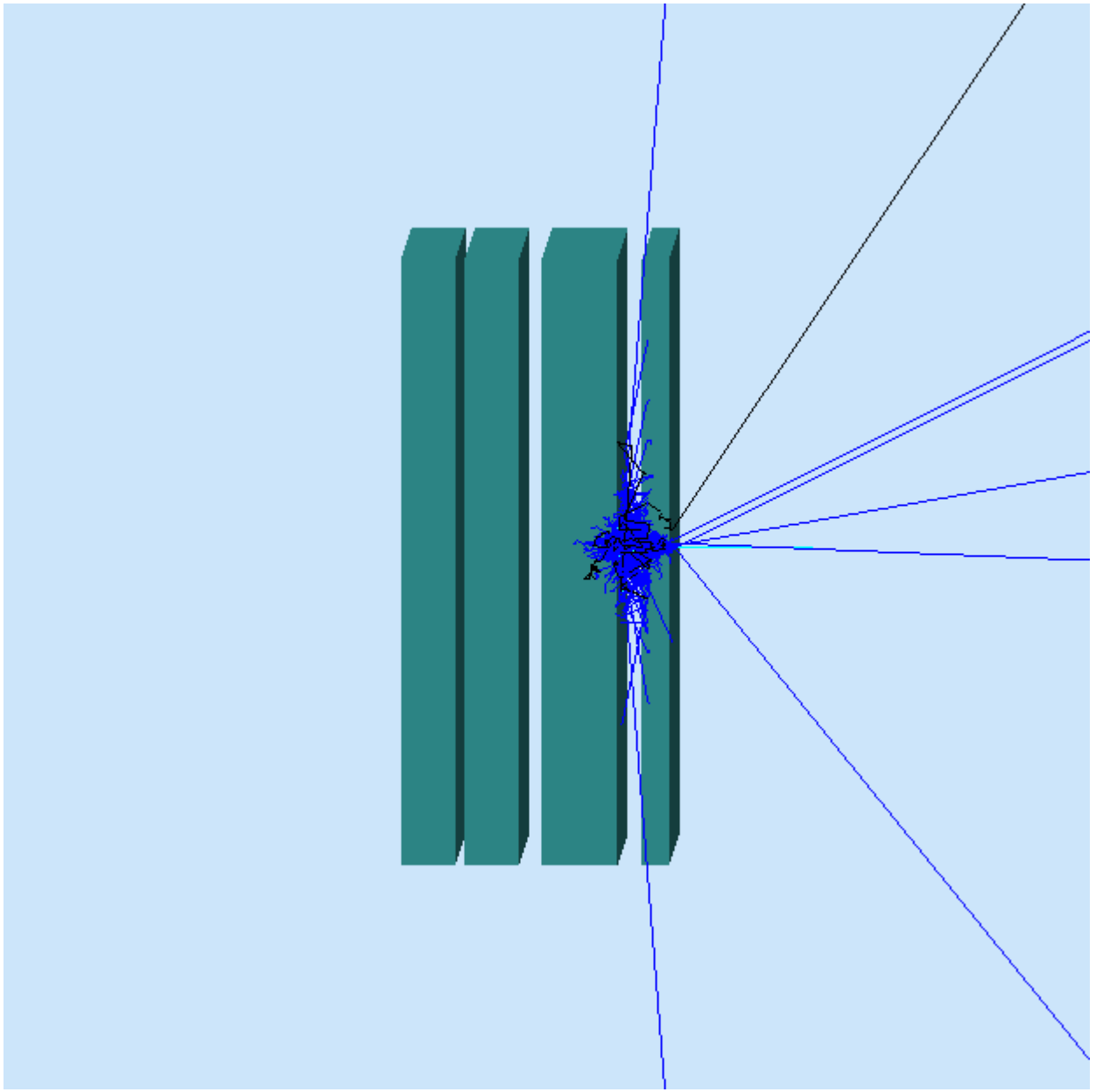
Dedicated



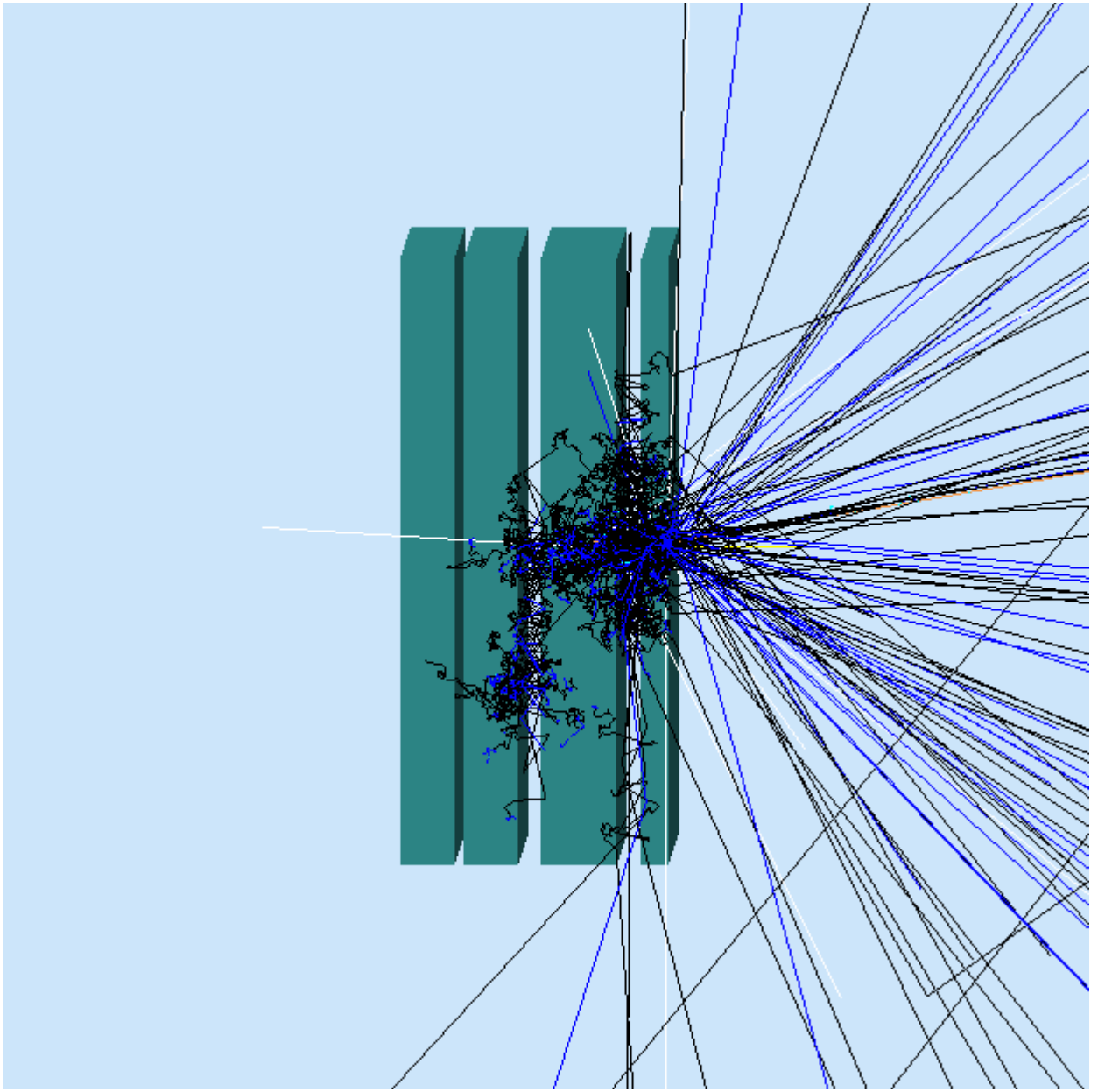
Quick test absorber

- Electrons and photons stop in 36 cm of iron (cannot put calorimeter behing if want electrons)
- Pions stops in first 2 layers most of the time

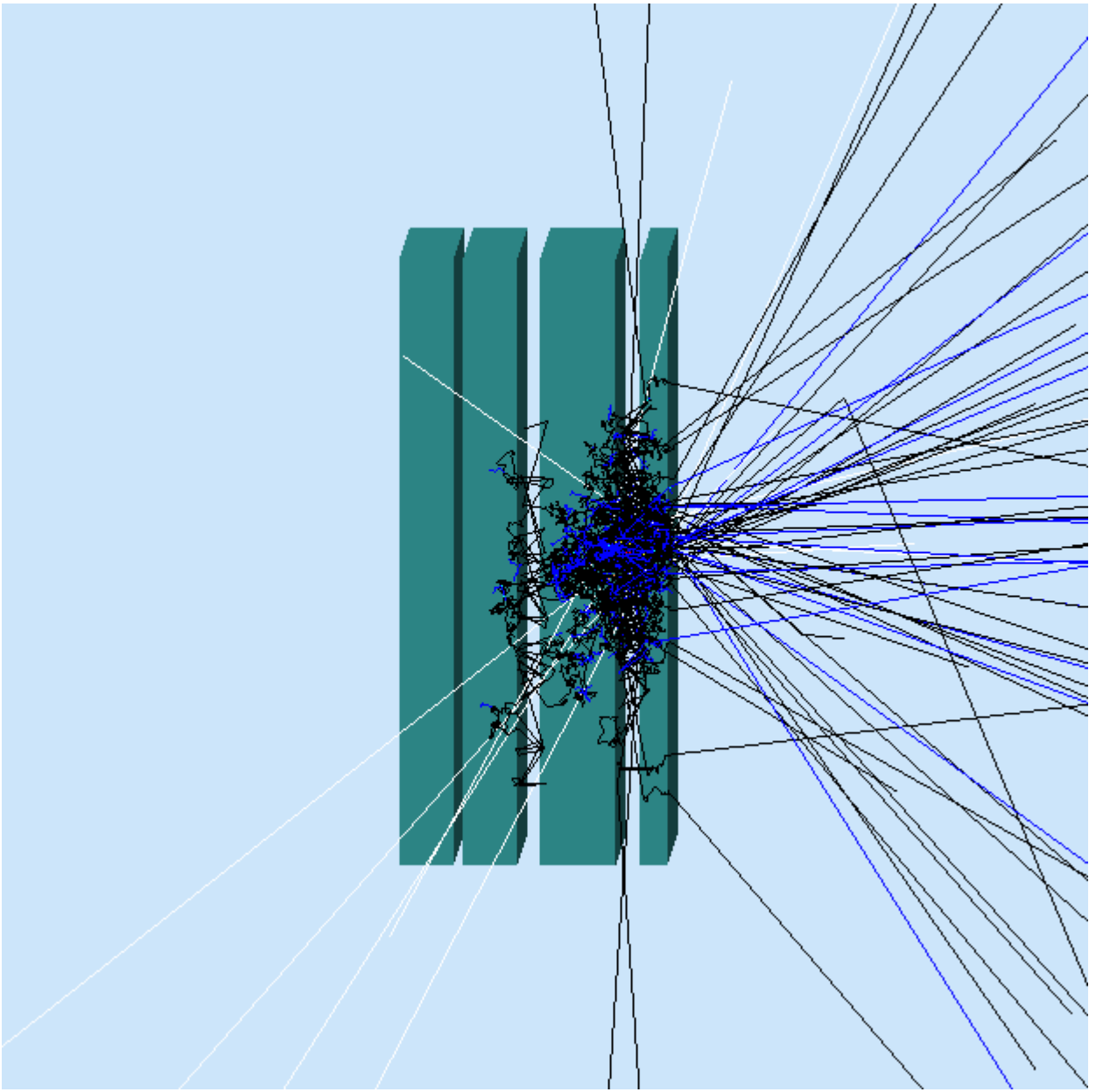
Electron 11 GeV



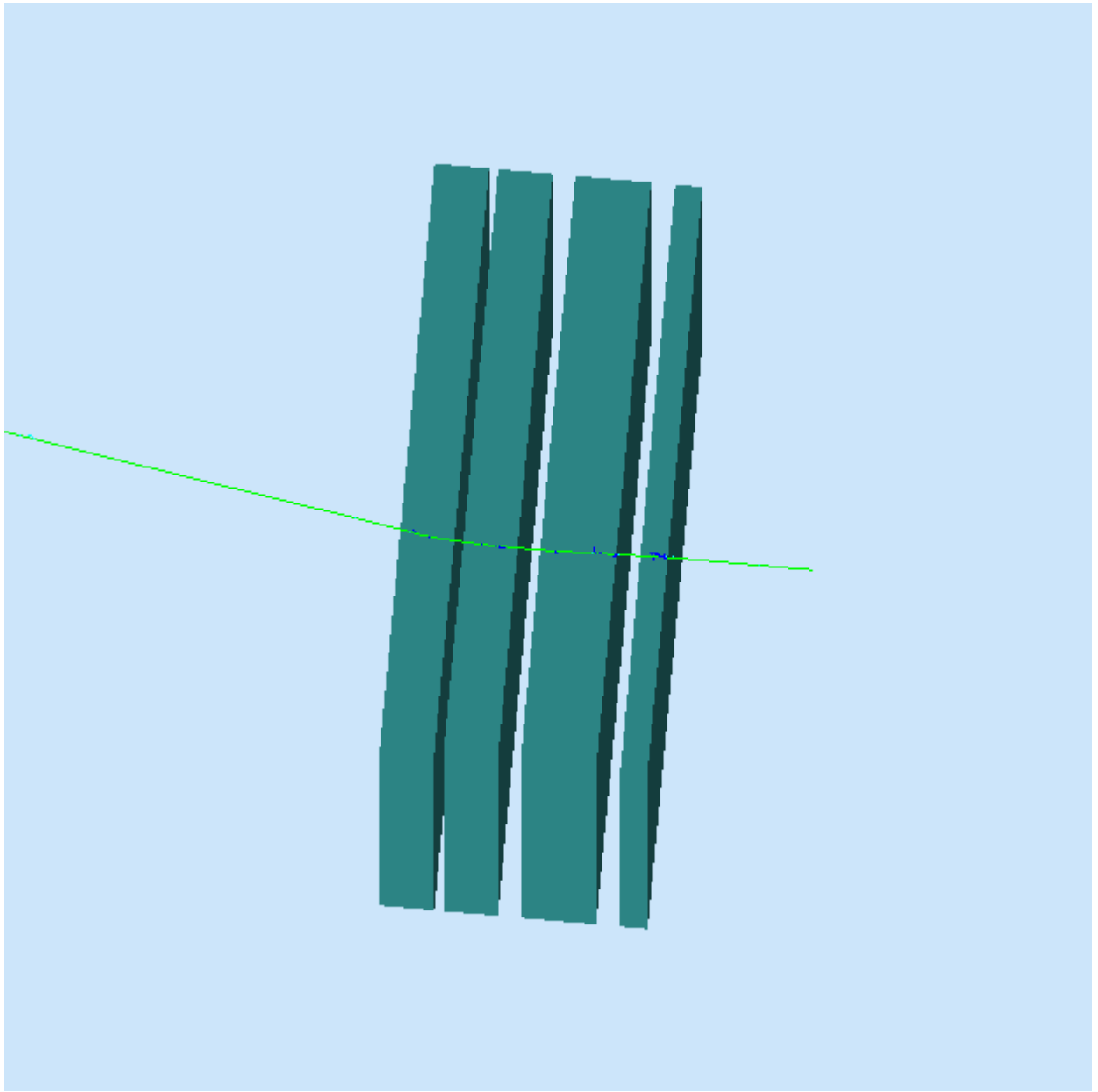
Pion 11 GeV



Neutron 11 GeV



Muon 2 GeV



To do list

- Muon trigger rate
- Pion misidentification
- Chamber occupancy
- GEM occupancy
- Option trigger only large angle calorimeter
- Move target
- Charge division