

EPIC detector calorimeter studies - DD4hep and eicrecon -

**EPIC Calo Meeting
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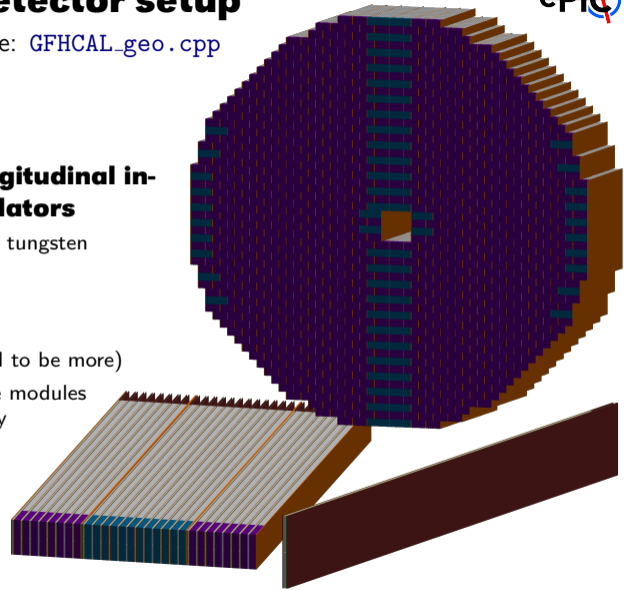


gFHCAL detector setup

source code here: [GFHCAL_geo.cpp](#)

Alternative forward HCal design with longitudinal instead of transverse absorbers and scintillators

- Longitudinal absorber plates 120cm steel and 10cm tungsten
→ 16.8mm thickness
- Longitudinal 0.4x5x5cm³ Scintillator tiles
- Removable Scintillator+pcb mini frames
→ 1mm PCB space in current simulation (will need to be more)
- Detector made of 20x10cm and 30x10cm front face modules
→ violet and cyan colors in right figure, respectively



Preliminary energy resolutions

EICrecon code here: calo_studiesProcessor.cc

- Energy resolution determined from standalone single particle simulations
 - fixed energies simulated over full gFHCAL acceptance
- No clusterizer used
 - simple summation of deposited energies in scintillators
- Resolutions worse compared to LFHCAL (but still preliminary!)

