

# Beam SubGroup Tasks

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# Current Efforts

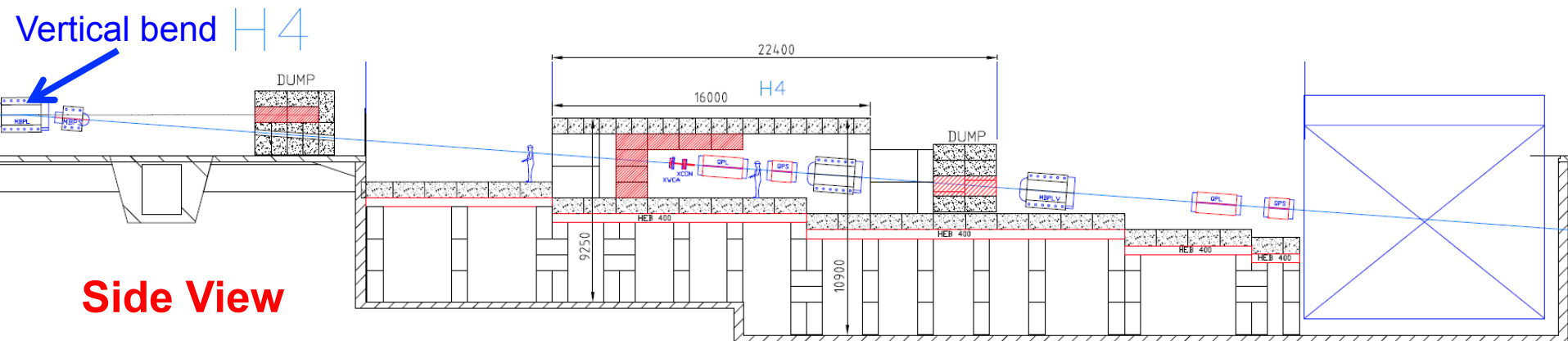
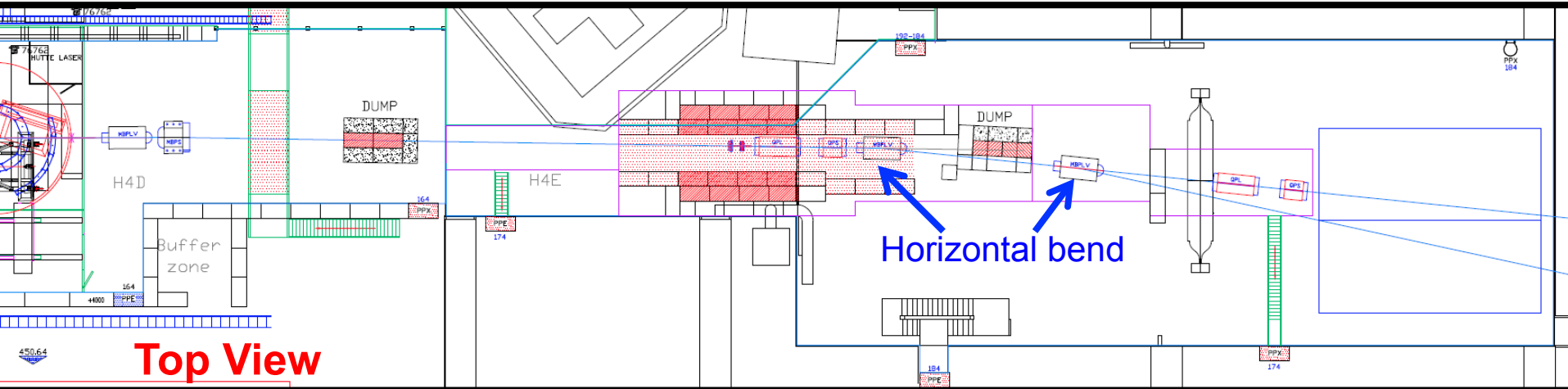
## H4 Beamline:

- Ilias Efthymiopoulos., Cheng-Ju, + CERN beam group
- Beamline layout
- Simulation studies
- Mostly driven by CERN

## Beam Window:

- Tim Loew, C.-J. L., David M., Kam-Biu Luk, and Herb Steiner
- Conceptual design
- Cost estimates (for CD reviews)

# Preliminary H4ext Beam Line Layout

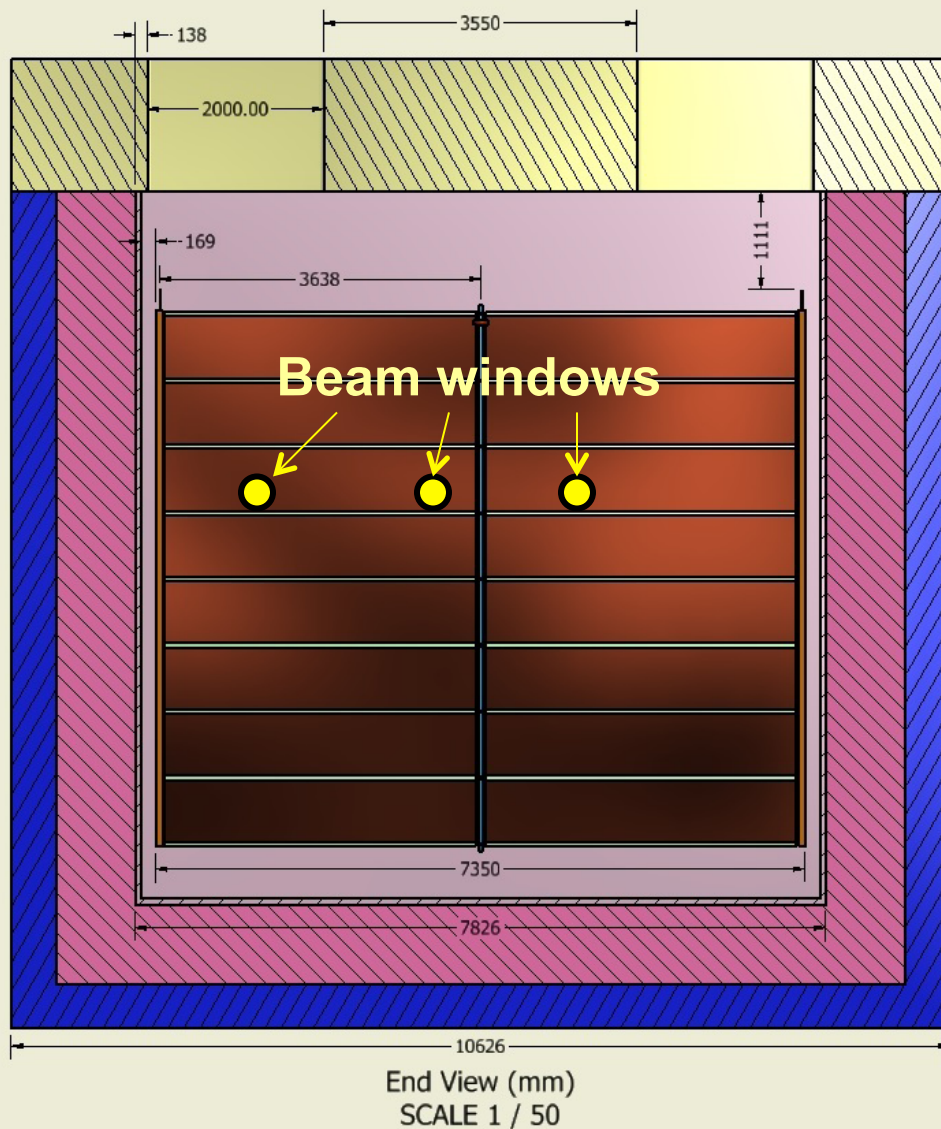


# Beam Window Status

- Multiple modular windows (~20cm in diameter) instead of a single monolithic window. Unused windows will be capped for safety
- Tim has one round of email exchanges with the membrane cryostat vendor (GTT) on his conceptual design

*“This looks nice and your idea smart. As discussed we don't see any issue on wall crossing. The final design will be made during the project. Your concept seems acceptable as first review.”*
- Baseline design includes three windows
- Collecting design/safety requirements (needs input from CERN)

# Beam Windows Locations



**Need to finalize the location of the windows**

**Do we need more than three windows?**

# Tasks for the next 6-9 Months

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## H4 Beamline:

- Preliminary end-to-end beam line layout
- Full simulation to quantify rates and backgrounds
- Integrate with cryostat group
- Schedule driven by the CERN group
- Adequate FTE on the DUNE side, however, may benefit from having an additional DUNE member based at CERN/Europe to coordinate some of the efforts with CERN

# Tasks for the next 6-9 Months

## Beam Window:

- Oct 2015 - Preliminary design (Tim Loew)
- Dec 2015 - Final design (Tim Loew)
- Finalize the # of windows to install and locations (Cheng-Ju et al.)
- GEANT4 model of the beam window and beam instrumentations (need a student or postdoc)

## Beam Instrumentations (not much activities, could benefit from additional FTE):

- Define requirements for position detectors and threshold Cherenkov counters
- Work with CERN instrumentation group on the design
- Beam halo detector (subset of muon detector?)
- Integrate beam monitor data in DAQ