

# **TGC detectors for ATLAS-EIL4**

**request for test beam in GIF++**

# The EIL4 system in ATLAS

- Muon system
- 2 kinds of TGC wire chambers
- Currently doublets
- Size ~160cm x 85cm
- Readout channels: 32 cathode strips, 16 wire anodes
- Trigger regions: 8 strips, 4 wire groups

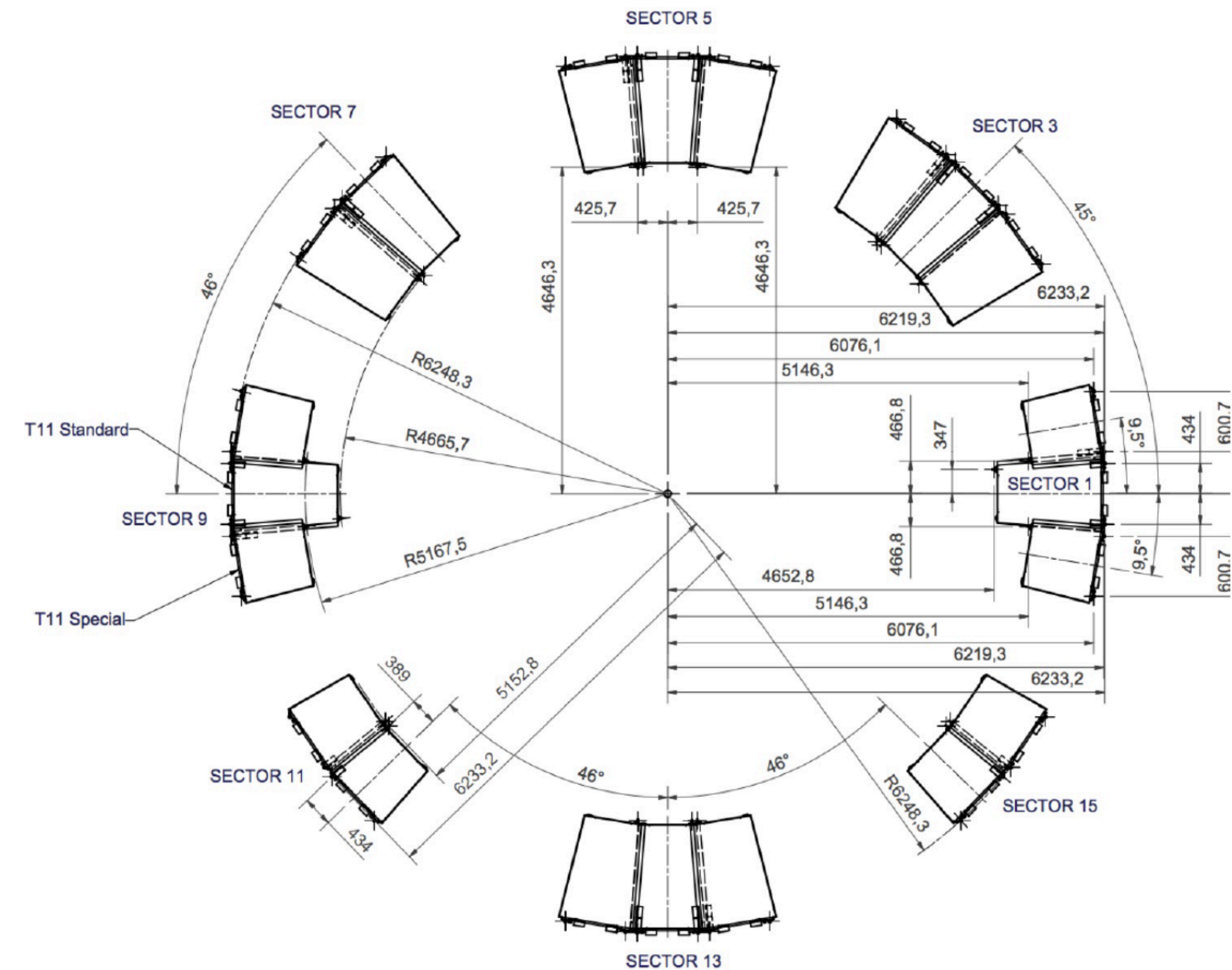
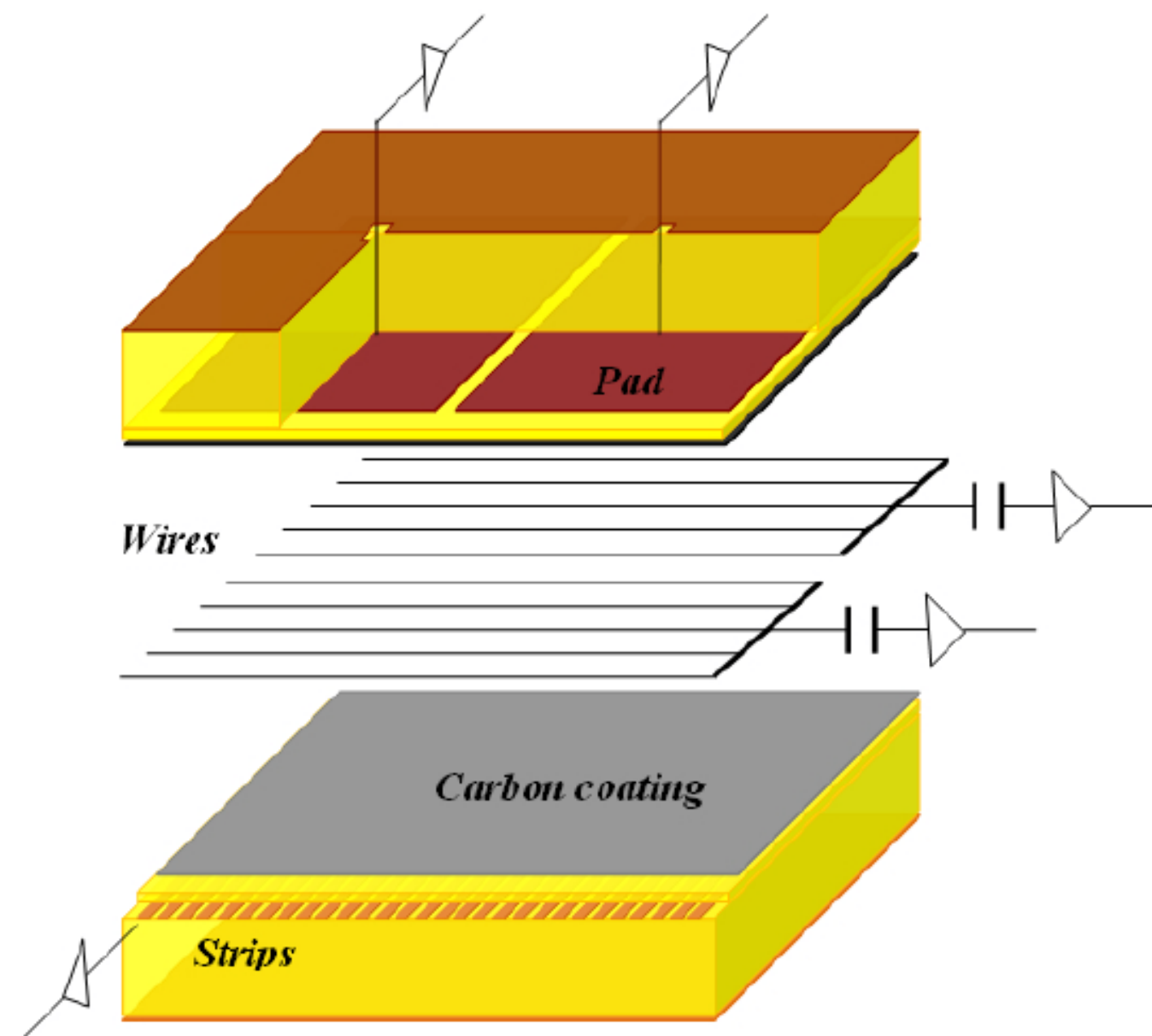


Figure 7.6: The TGC EIL4 system layout.

# The detector upgrade

Expected rate: 450Hz/cm<sup>2</sup> at a luminosity of 7.5x10<sup>34</sup> cm<sup>-2</sup> s<sup>-1</sup>

- Upgrade to triplets to improve trigger
- Improved wire channels granularity
- Same detector envelope. Challenging!
- Same TGC detector scheme
- Same TGC readout front-end

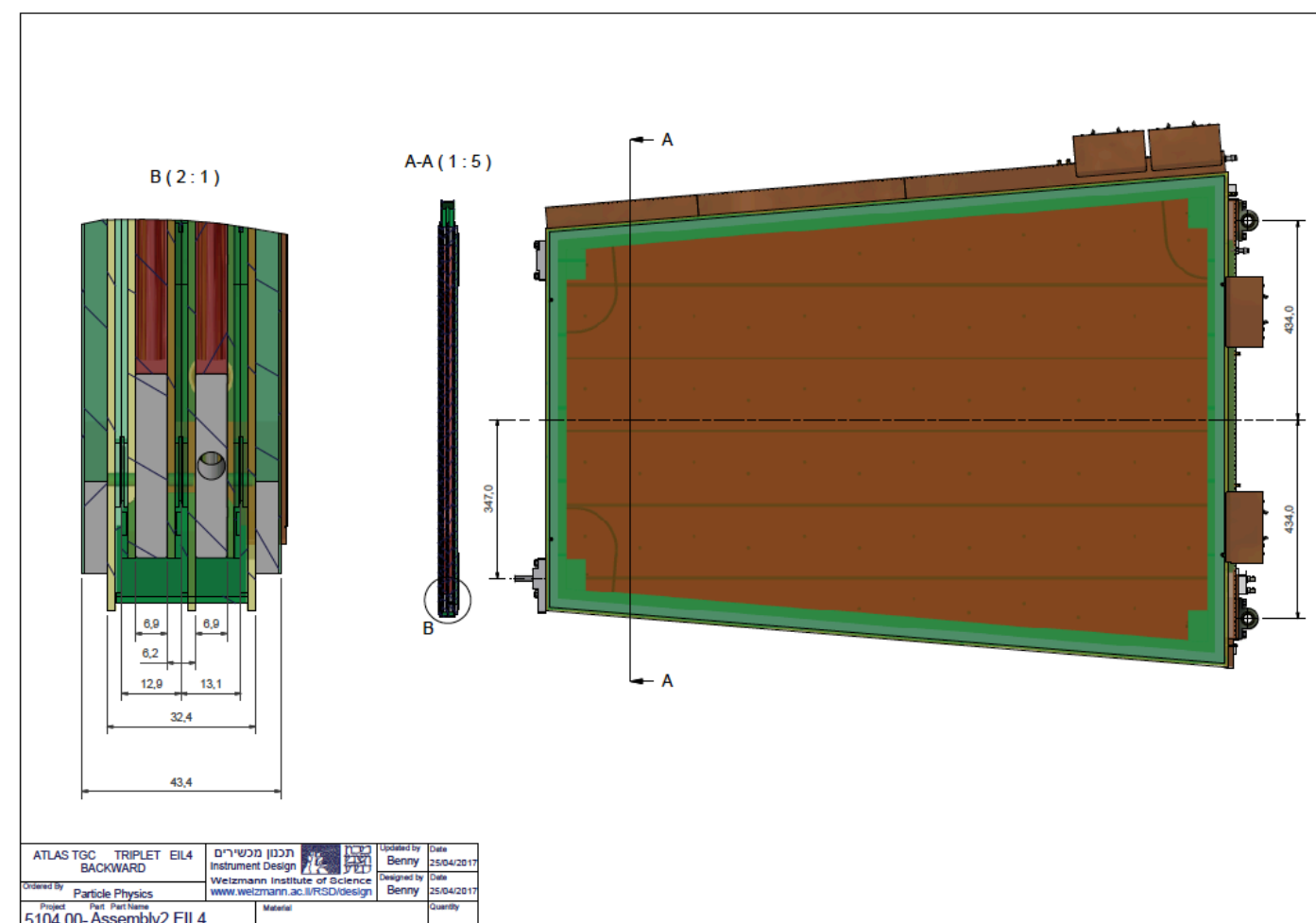
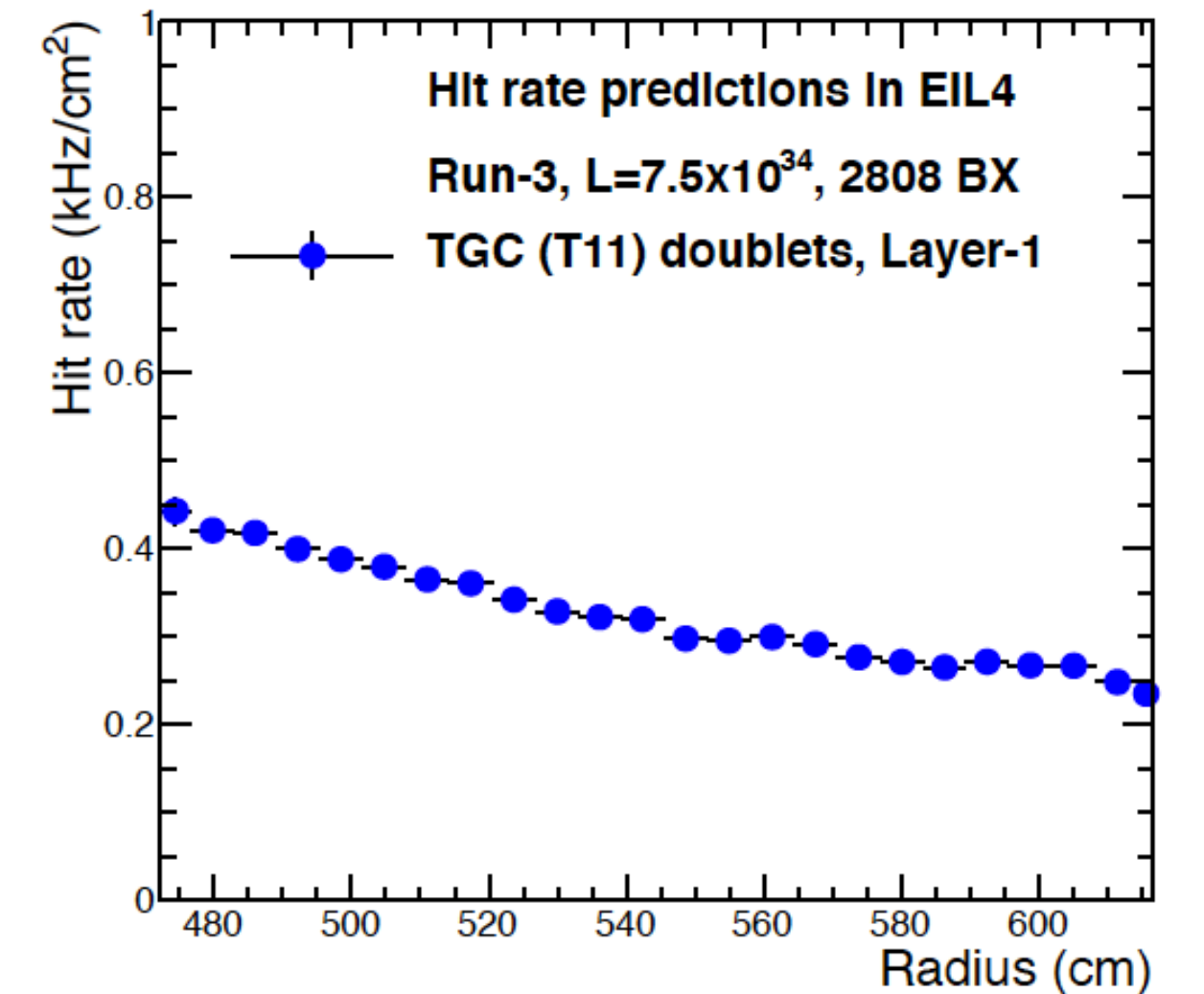
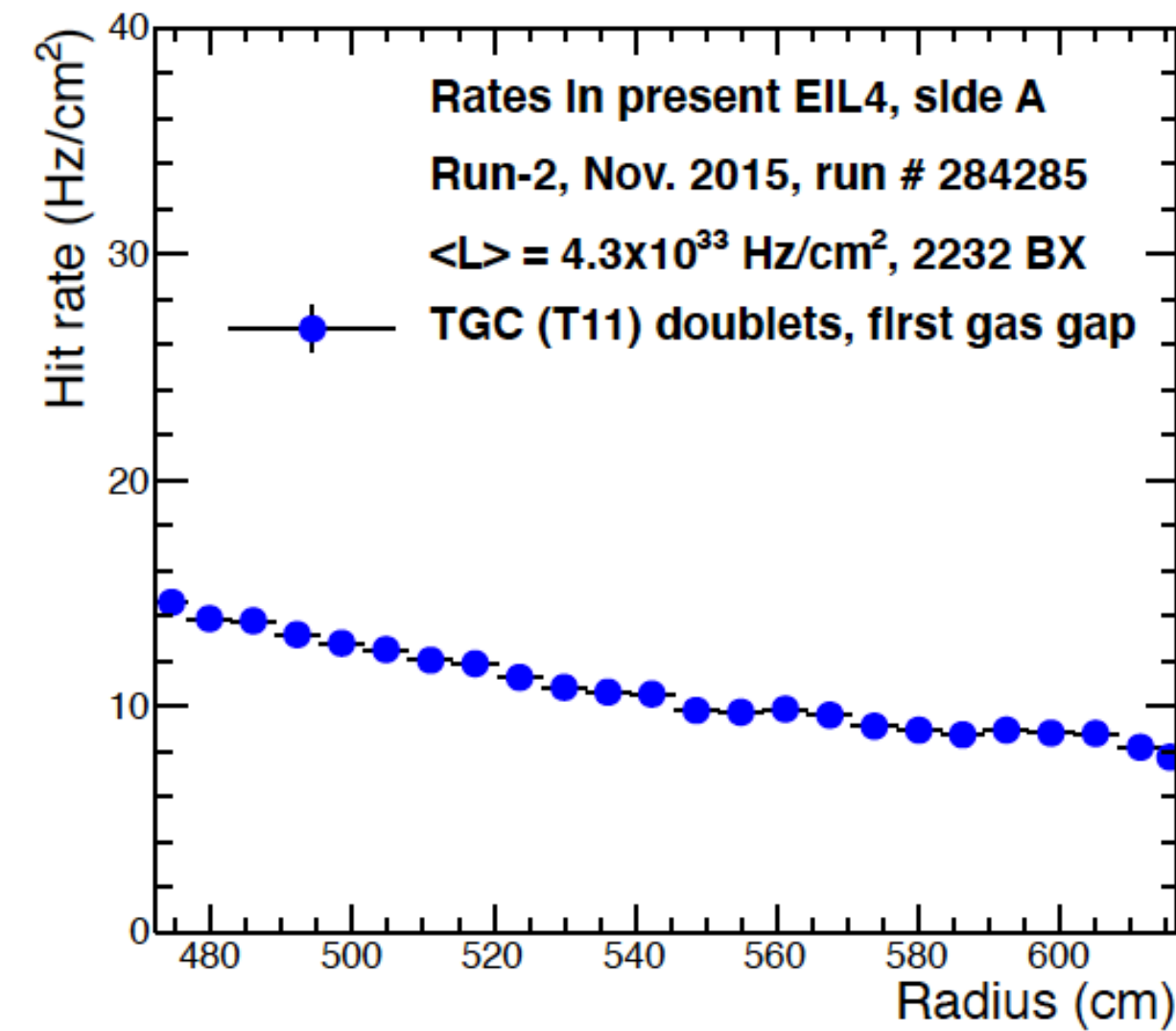


Figure 7.8: Drawings of new TGC triplets to replace the T11-standard chamber doublets.

# Requirements

- Photon rate 450Hz/cm<sup>2</sup>
- no beam
- 2 chambers
- size 160cm x 85cm + support frame
- period: 2 weeks beginning mid-January

**Thank you**