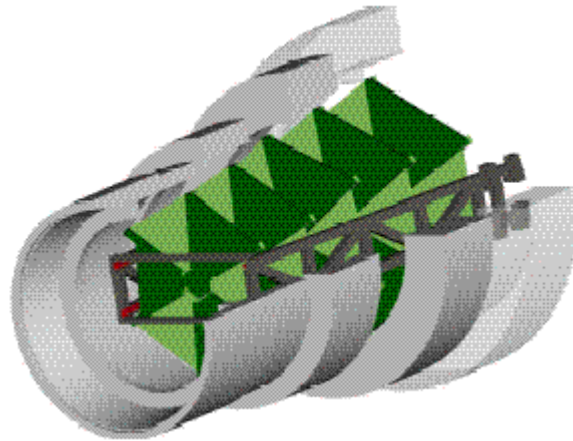


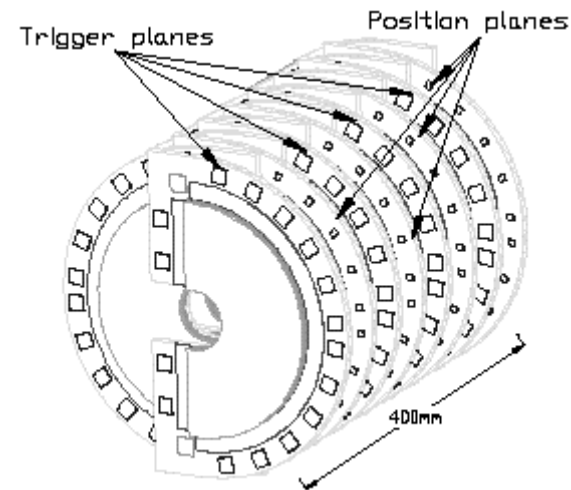
TOTEM telescopes

T1: CSCs



$7.5 \text{ m} < z < 10.5$

T2: GEMs



$z \sim 13.5 \text{ m}$



Simulation for TDR



- OSCAR simulation has been used to generate the results which are published in the TOTEM TDR ([CERN-LHCC-2004-002](#))
- Minimum bias, diffractive and beam-gas events have been fully simulated (with beam-pipe, T1 and T2)
- Hits are still retrieved by hbook nt-ples (analysis not yet in ORCA)



Geometry description



- T1 telescope: description of the CSC support and sensitive area. No description of single strip/wire.
- To do: detailed internal structure.
- T2 telescope: a scheme of a silicon T2.
- To do: description of the GEM T2.



Status of the code

- No new code since November: all efforts concentrated in finalizing the TOTEM TDR
- Code copied in the repository inside new package:
OSCAR/TotemSim
- Geometry xml files copied inside new package
Geometry/Forward
- File with rotations copied inside Geometry/Rotations
- Very short and preliminary description of the code available at
www.ge.infn.it/~ferro/Totem/simulation.html



Using the code

- The code can be used adding *TotemSD* and *TotemNumberingScheme* to the Buildfile
- Modifying cms.xml taking into account that the Totem G4 volume is at the moment a *child* of CMSE *mother*.
- Modifying configuration.xml



Future plans (code)



- Geometry
 - Implement GEM T2 description
 - Implement detailed description of inner structure of T1
- OSCAR
 - Cleaning up the existing code
 - Digitization
 - Analysis with ORCA



Future plans (studies)



- Perform a reliable simulation in the very forward (T2) region. Still OSCAR (2.4.0) crashes (segmentation fault) if low physics cuts are set for the Beam-pipe steel in that region. Very important for us to understand why there is this segmentation fault (not yet deeply investigated).
- Simulate events in a “forward-full” scenario (T1 + T2 + BP + Forward Calo + shield + CASTOR(?))
- Simulate events with a reliable B field on.
- Generate and simulate physics channels whose study can take advantages from T1 and (above all) T2 detector.