

# RPROM Meeting,

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## Muon status for ORCA 720 and plan

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### Summary:

- ▶ News for ORCA 720,
- ▶ SimHits problem,
- ▶ Short term plan,

You're looking at these slide because they are published in a portable format (pdf),  
if yours are not (e.g. ppt) I won't be able to do the same! *(slide viewable by anyone campaign)*

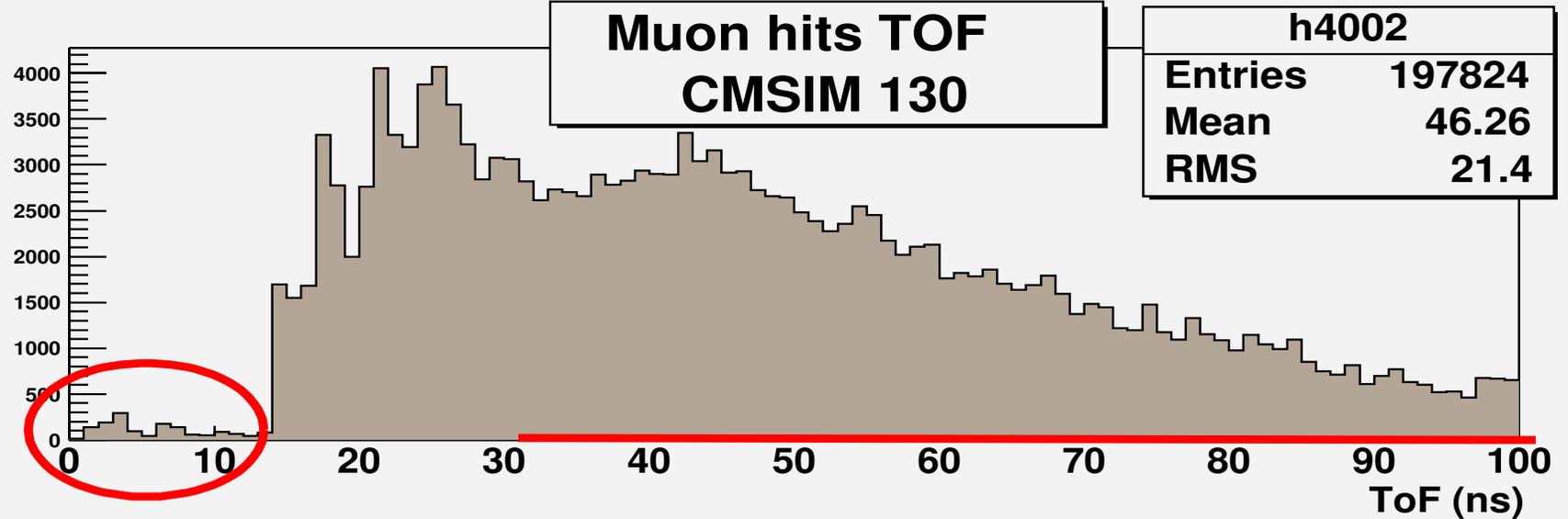
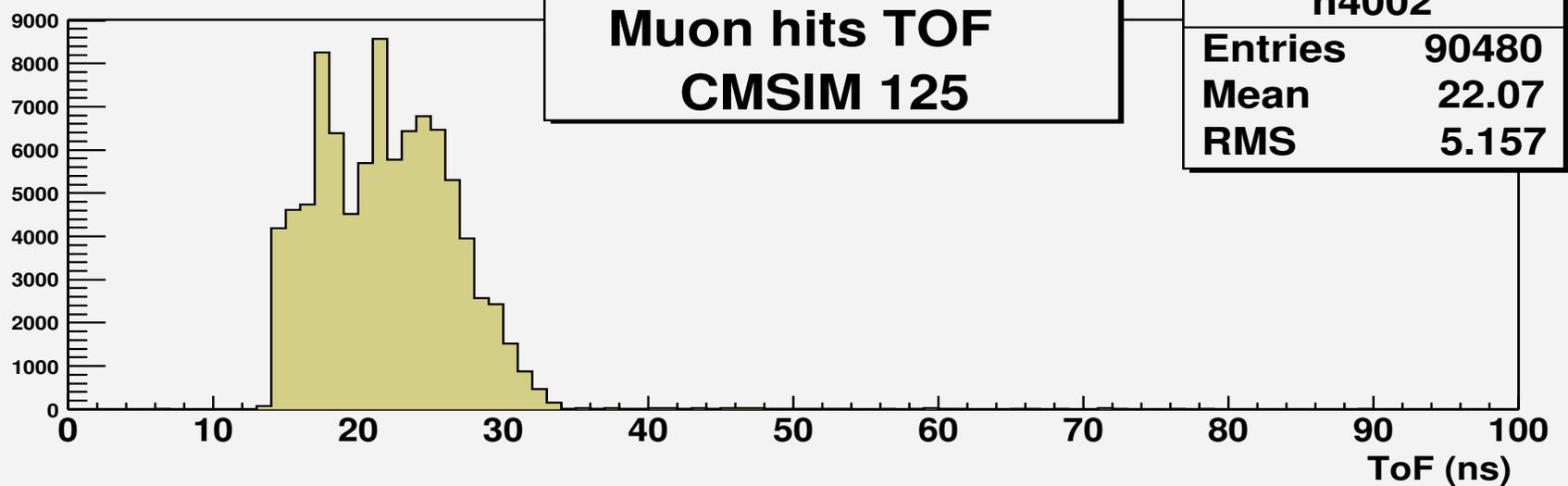
## Muon status in ORCA 720:

- ▶ Modification for gcc 3.2,
- ▶ DDD reading for CSC and RPC,
- ▶ Minor changes related to CommonReco navigation geometry: now works purely with DetLayer's composed of Det's and no longer requires DetLayer's of DetUnit's.,
- ▶ MEClusterizer: the "complete rewrite" of ORCA 630 is back in after being unintentionally left out of earlier ORCA 7 releases..
- ▶ MuEndChamber becomes a CompositeDet instead of a DetUnit
- ▶ New RadialStripTopology class to allow modelling of strips in endcap CSC's as purely radial (like the hardware) rather than the (still default) TrapezoidalStripTopology. Not thoroughly validated yet...

## Problem with DT Drift time:

- ▶ Large fraction of unphysical DT drift time ( $\sim 10^6 ns$ ) found with cmsim 130,
- ▶ Problem in treatment of negative drift times in DT digitizer, yielding those huge times,
- ▶ Origin of negative drift time due to SimHits with large and highly suspicious Time Of Flight from GEANT,
- ▶ Not present in SimHits from cmsim125,
- ▶ Distance of DT's from IP  $\sim 4 \div 10 m$ , so TOF should be  $\sim 12 \div 30 ns$  with possible tails for looping particles, back scattering or whatever,
- ▶ In cmsim 130 we have SimHits with TOF  $< 10 ns$  (!!!) and lots with very high TOF (next slide for a plot),

## DT SimHits TOF distribution:



## Future Plan short term:

- ▶ DT DDD and new geometry framework
- ▶ Already committed in CVS (no tag so far),
- ▶ I'm writing OVAL tests, documentation and commented examples,
- ▶ New Readout from Giacomo already included and tested,
- ▶ Possible problem with DetUnit sorting which must be externally guaranteed: not critical
- ▶ New package **MuonAlignement**, code for mis-alignment already committed by Celso: need Doxygenation.
- ▶ All this will go in next release (730?)