

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)*

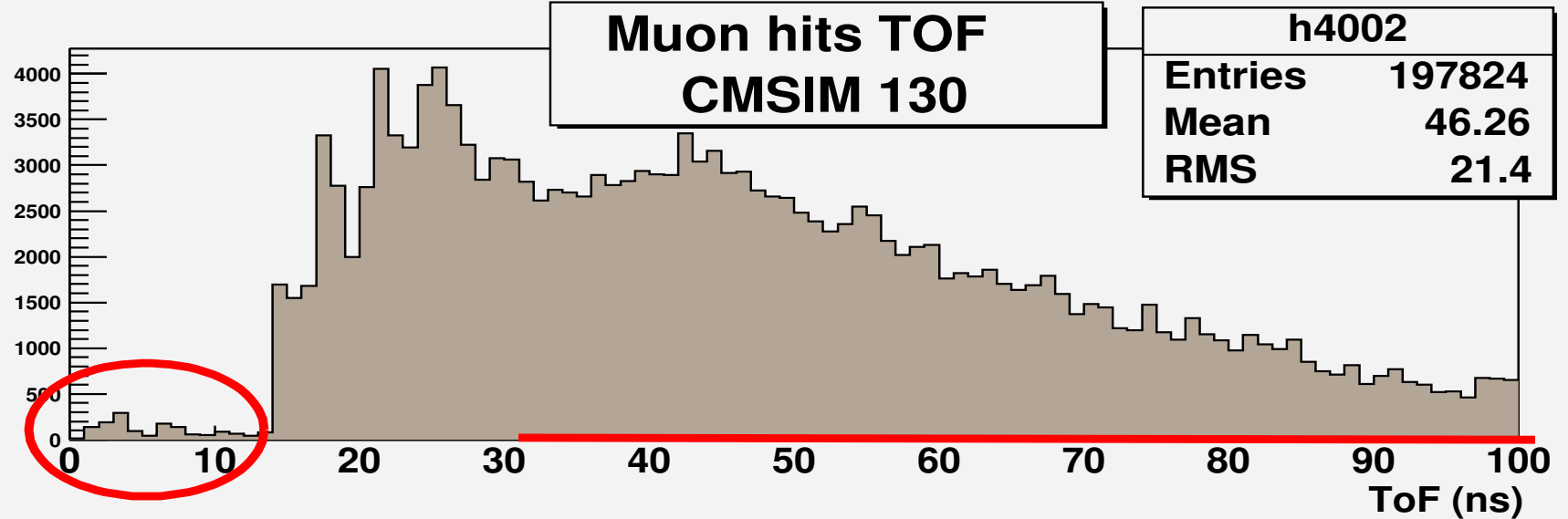
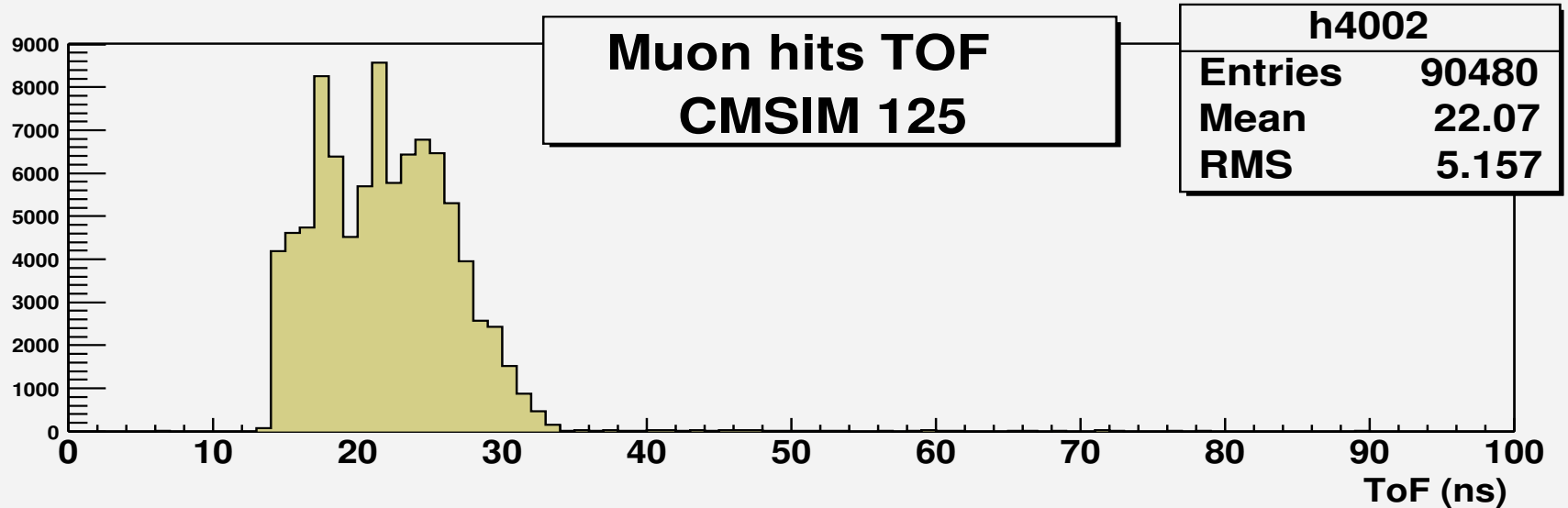
Muon status in ORCA 720:

- ▶ 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 ($\sim 10^6 \text{ ns}$) 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 $\sim 4 \div 10 \text{ m}$, so TOF should be $\sim 12 \div 30 \text{ ns}$ with possible tails for looping particles, back scattering or whatever,
- ▶ In cmsim 130 we have SimHits with $\text{TOF} < 10 \text{ ns}$ (!!!) 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?)