



CSCTF Status

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- New keys with new Halo cut and ghost cancellation logic
- Timing
- SP swapping
- Online software
- Conclusion

New CSCTF keys since 19 April

- We created new configuration keys for the CSCTF with modified halo cuts to reduce fake caused by collision muons. Improve ghost cancellation logic to avoid double trigger. Halo trigger delayed 2 bx.

New keys:

CSCTF COSMIC KEYS

- * COSMIC - ALL CSC:
 - o 110410. All CSC triggering, single + coincidence trigger.
Expected rate on cosmics: ~60 Hz.
- * COSMIC-BOTTOM ONLY-SINGLES ONLY ME1:
 - o 120410. CSC bottom only sectors (4,5,6 for both endcaps) triggering, coincidence + singles only in ME1 trigger.

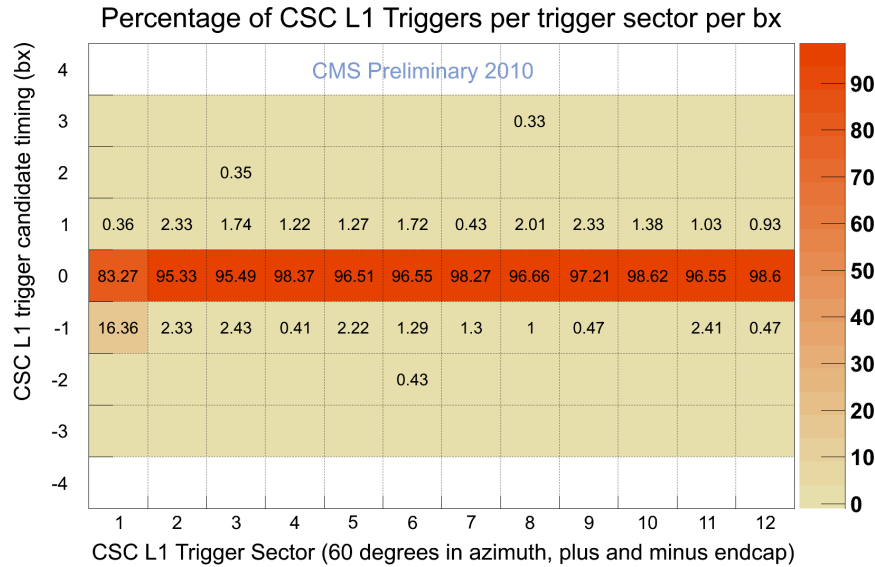
CSCTF COLLISIONS/CIRCULATING BEAM(S) KEYS

- * COLLISIONS-STARTUP/CIRCULATING BEAM(S)/BEAM SPLASH :
 - o 130410. All CSC triggering, coincidence + singles only in ME1.
Expected rate on cosmics: 25-30 Hz.
- * COLLISIONS-NO SINGLES :
 - o 140410. All CSC triggering, only coincidence triggers.
Expected rate on cosmics: 7-10 Hz.

The twiki page is updated

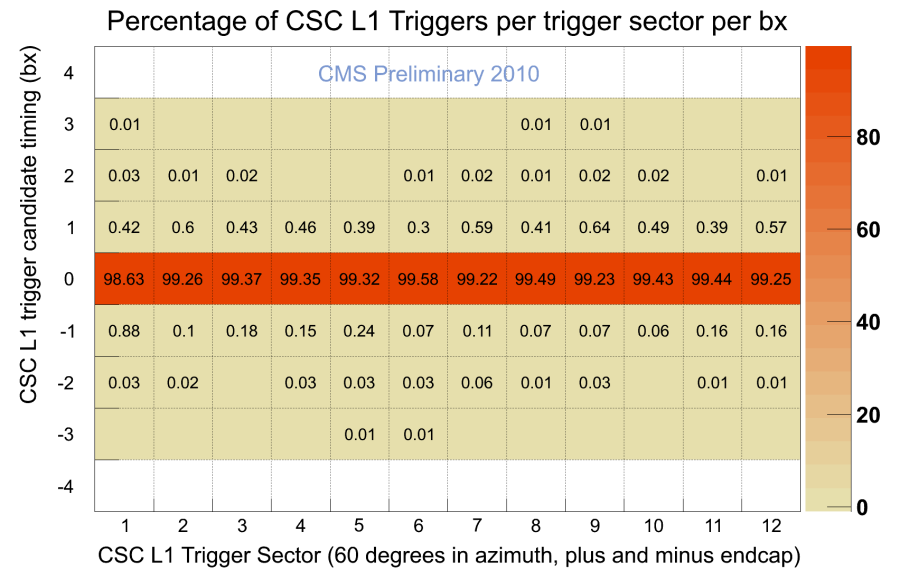
<https://twiki.cern.ch/twiki/bin/view/CMS/OnlineWBL1TriggerKeysStartup2010#CSCTF>

Timing



Before Timing Scan

After Timing Scan



- ✓ After timing scan we have less than 1% prefiring for all SPs
- ✓ This plots were aproved 11 May at Run meeting

SP swapping

- ✓ 9 of May we swapped SP9 at Point 5 due to high rate at it.
In the end it is appeared that problem was in TMB
but it was good test to know how much time does it take:
- ~1/2 H to take new SP at 904 and bring it to Point 5
 - ~ 1 H to change SP at Point 5: disconnect, connect all links and check connection
 - ~ 1 H to download firmware at SPs which lost during Power off/on

So in average it could take about 2.5-3 H to change SP at Point5

Online software

Work in progress:

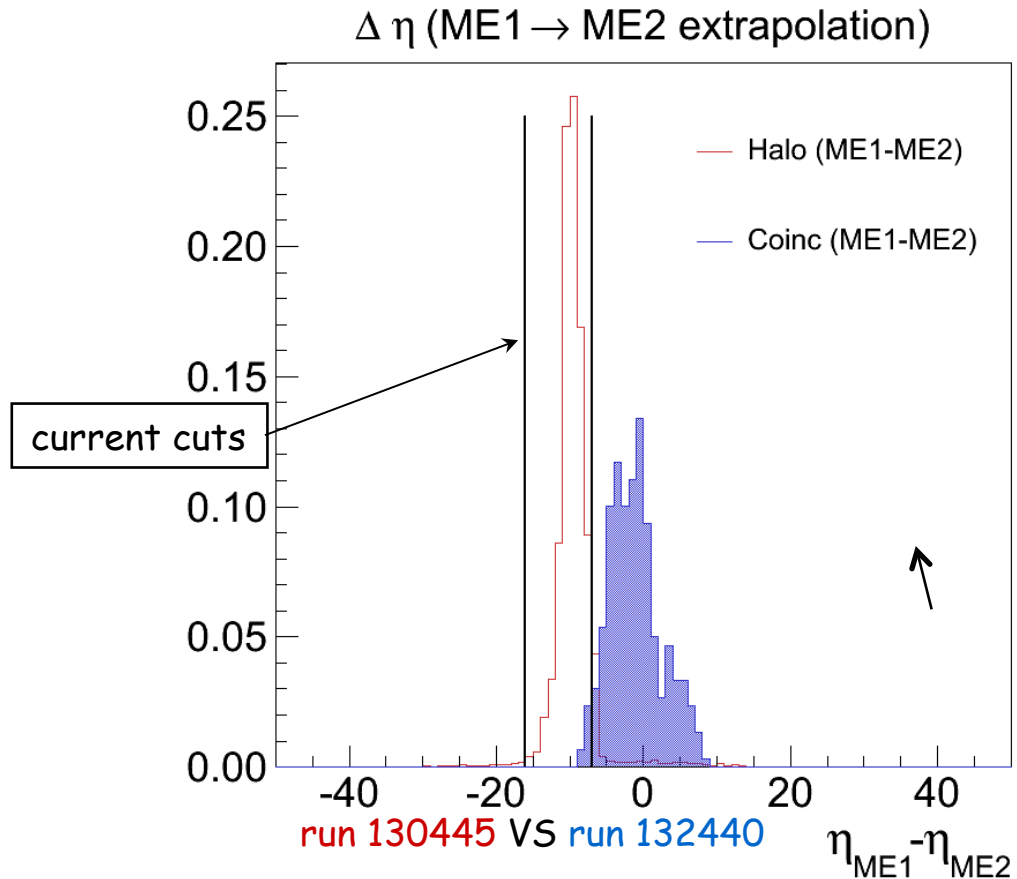
- ✓ In the end of April we lost firmware at SP9 and this error was not reported by our software
->
developing code to monitor the CSCTF firmware losses and report an alarm in case (Khristian Kotov)
- ✓ CELL crashes: they seem to be due to the version of root in the .cms cluster and they come from the panel in our cell (Khristian Kotov)
- ✓ Improve Sector Receiver LUTs to have agreement between data and Emulator. We have disagreement in Data-Emulator for singles now. (Joe Gartner and Khristian Kotov)

Conclusion

- New CSCTF keys was created and upload at Point 5 with modified halo cuts and ghost cancellation logic
- Timing scan at P5 improve results for all SP
- plan for the short term:
update soft ware (firmware monitoring, Cell and Emulator)

Back up slides

Collision Muons Candidates Triggered As Halo



- Halo extrapolation cuts are currently wide open to increase acceptance \rightarrow useful for alignment and preliminary timing studies
- Some collision muons pass these cuts in ME1 \rightarrow ME2 extrapolation
- The halo is currently delayed 2 BXs, so these triggers are reported 2 BX later
- It is happening in $< 1\%$ of the cases (the fraction is actually small)
- Can be further improved by changing the cuts

Spare Status

- SP boards: 4 spares in 904 (we have 12 working in P5, so this corresponds to 33% of the crate) + 2 spares in UF
- MS: 2 spares in 904 (1 mounted in P5)
- CCB: several (6 to 10) in 904 (one mounted in P5)
- TF DDU: 2 in 904 (one mounted in P5)

Most of the spares are in 904 and all the CSCTF experts have access to them