

Last week operations

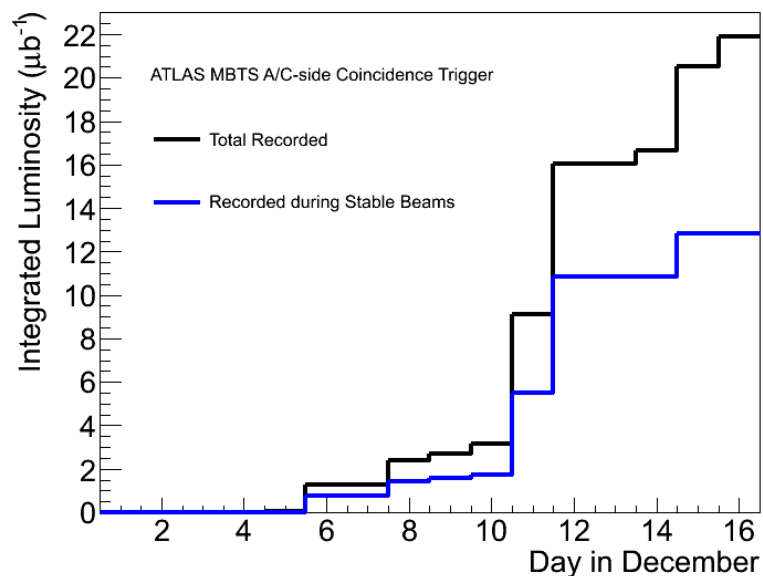
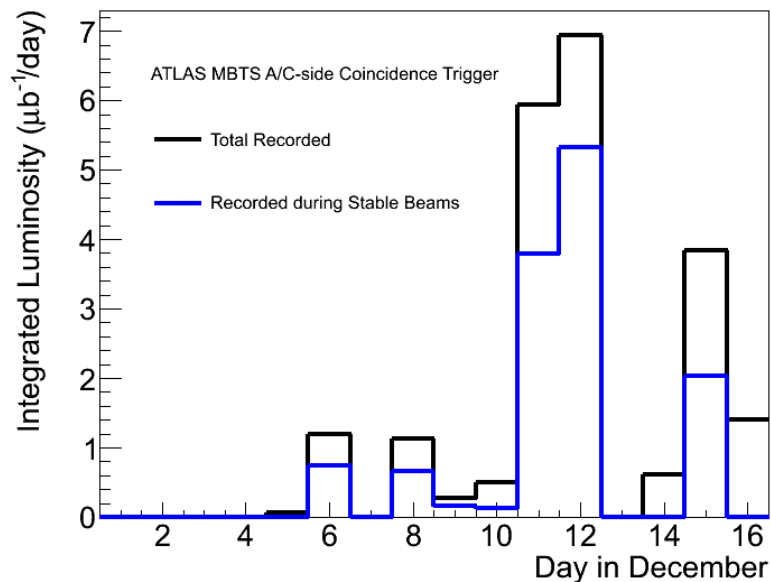
Claudia Gemme

Genova meeting – 17.12.2009

Data taking summaries



- Un sommario di data taking e' disponibile in <https://atlas.web.cern.ch/Atlas/GROUPS/DATAPREPARATION/>
- Piu' dettagli (DQ, LHC conditions, magnet, beam spot, etc..) nella run query: <http://atlas-runquery.cern.ch/>
- Informazioni sui run piu' interessanti sono state raccolte qui: <https://twiki.cern.ch/twiki/bin/view/AtlasProtected/InterestingRuns2009#Summary>





Summary

Here is the summary of all the collision data we have taken:

Quantity	Overall	With Stable Beams
Number of collision candidates at 900 GeV	917,000	538,000
Number of collision candidates at 2.38 TeV	34,000	0
Integrated Luminosity	20 ub^{-1}	12 ub^{-1}
Peak luminosity	$7 \times 10^{26} \text{cm}^{-2} \text{s}^{-1}$	n.a.

The collision candidates are defined as the events collected by the L1_MBTS_1_1 trigger. The efficiency of this trigger for inelastic events (ND+SD+DD) is about 85%. The background contamination has been estimated to be about 10% integrated over all runs.

The luminosity has an currently an uncertainty of up to 30%. It is estimated by using LAr timing to reject background and using efficiencies as determined by Pythia MC. This method has been demonstrated to be consistent with methods based on the MBTS trigger (when subtracting backgrounds) and LUCID on individual runs.

900 GeV



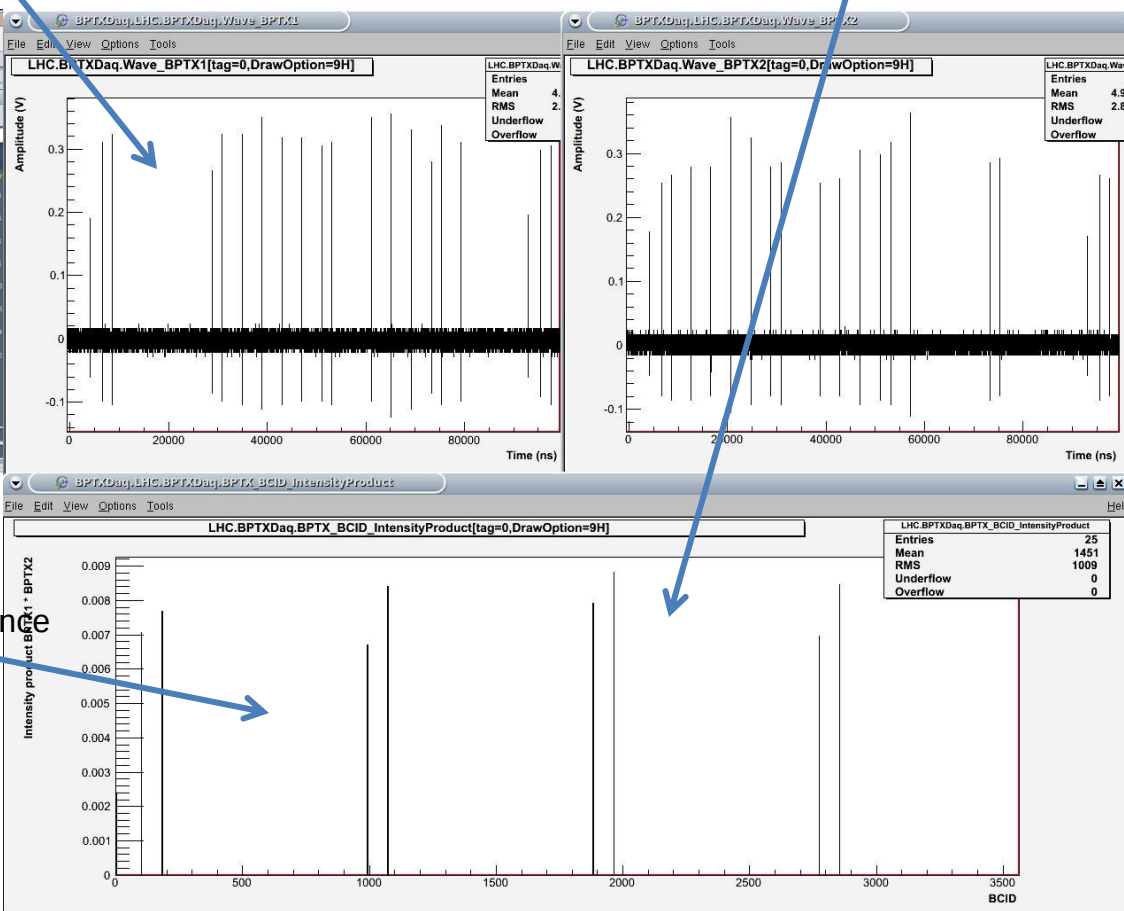
- In totale 540k eventi in 'STABLE Beam' triggerati da L1_MBTS_1_1_col (da scalare di $\sim 20\%$ per ottenere il numero di collisioni)
- Test ad alta intensita' 16x16 bunches, 1x10¹⁰ p/bunch di cui 8 intergenti in P1

Beam intensities

filling

pilot

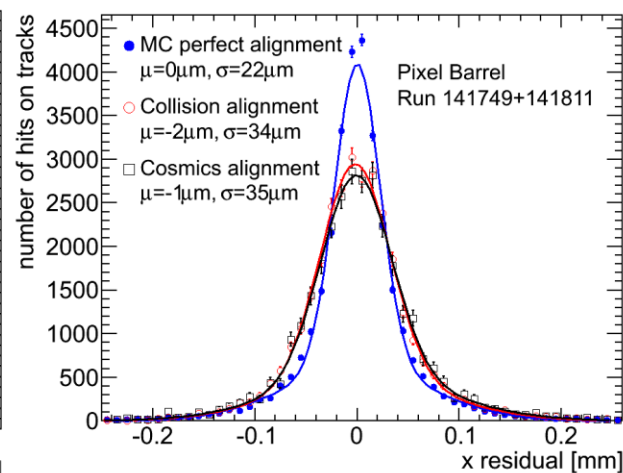
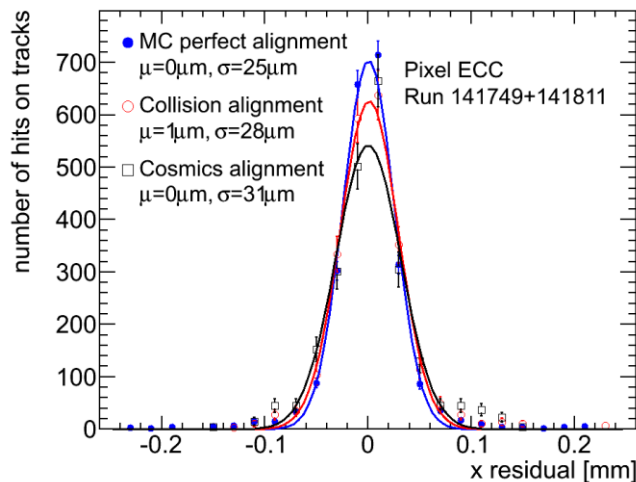
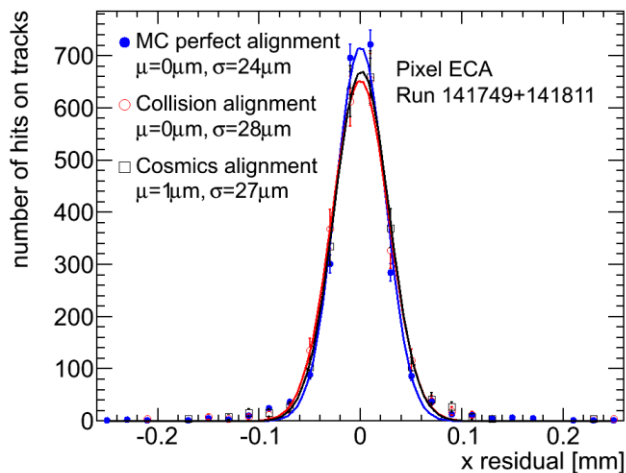
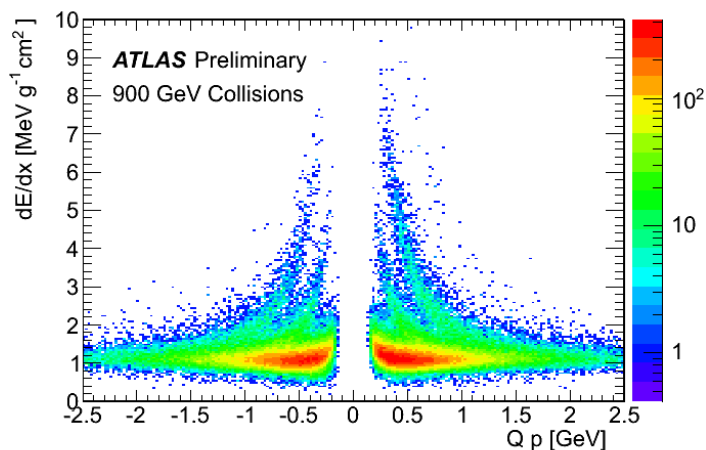
Trigger rate in
MBTS Coincidence



Pixels



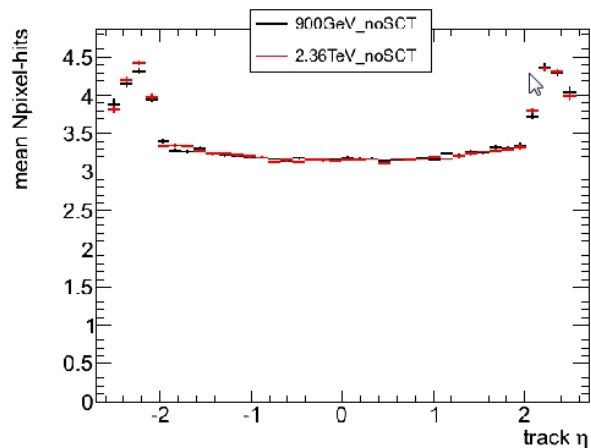
- Analysis on going to compare Bon, Boff cluster properties.
- Next days final run of calibrations, including tuning at 3000e



2.36 TeV



- 3 hours of collisions at $\sqrt{s}=2.36$ TeV (w/o stable beam flag) on Monday
 - 12k events recorded
 - Trigger rate $\sim 1\text{Hz}$, one pilot bunch/beam only
 - One hour with Pixel detector on (SCT@20V)
- ~ 40 min of quiet beam at 2 TeV also on Wednesday morning
 - Muons and Pixel on for a small amount of period
- First comparison between
 - 2.36 TeV: run 142308, LB 340-369
 - 900 GeV: run 142383, LB 251-259
 - SCT information still to be added (they were at 20V so partially efficient but not OFF)



Selected tracks vs eta:

