

Beam halo events in data?

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DESY/UniHH Alignment meeting

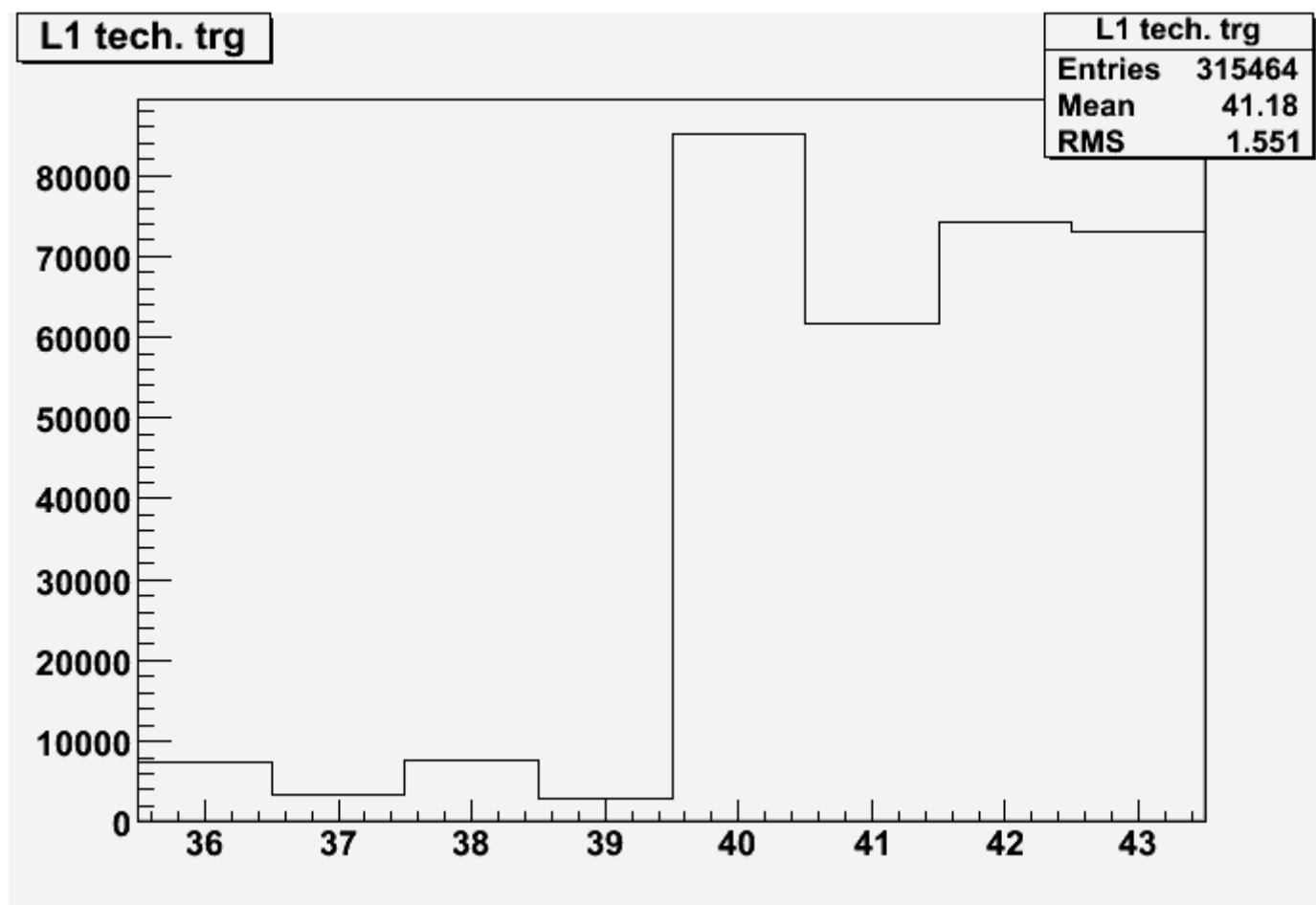
31/03/2010

Data sets

- Minimum Bias (352 reprocessing):
 - /MinimumBias/BeamCommissioning09-StreamTkAlMinBias-Mar3rdReReco_v2/ALCARECO.
- Beam Halo (352 reprocessing):
 - /Cosmics/BeamCommissioning09-TkAlBeamHalo-Mar3rdReReco_v1/ALCARECO;
 - the corresponding RECO files.
- The distribution of L1 technical bits is shown in the following pages.

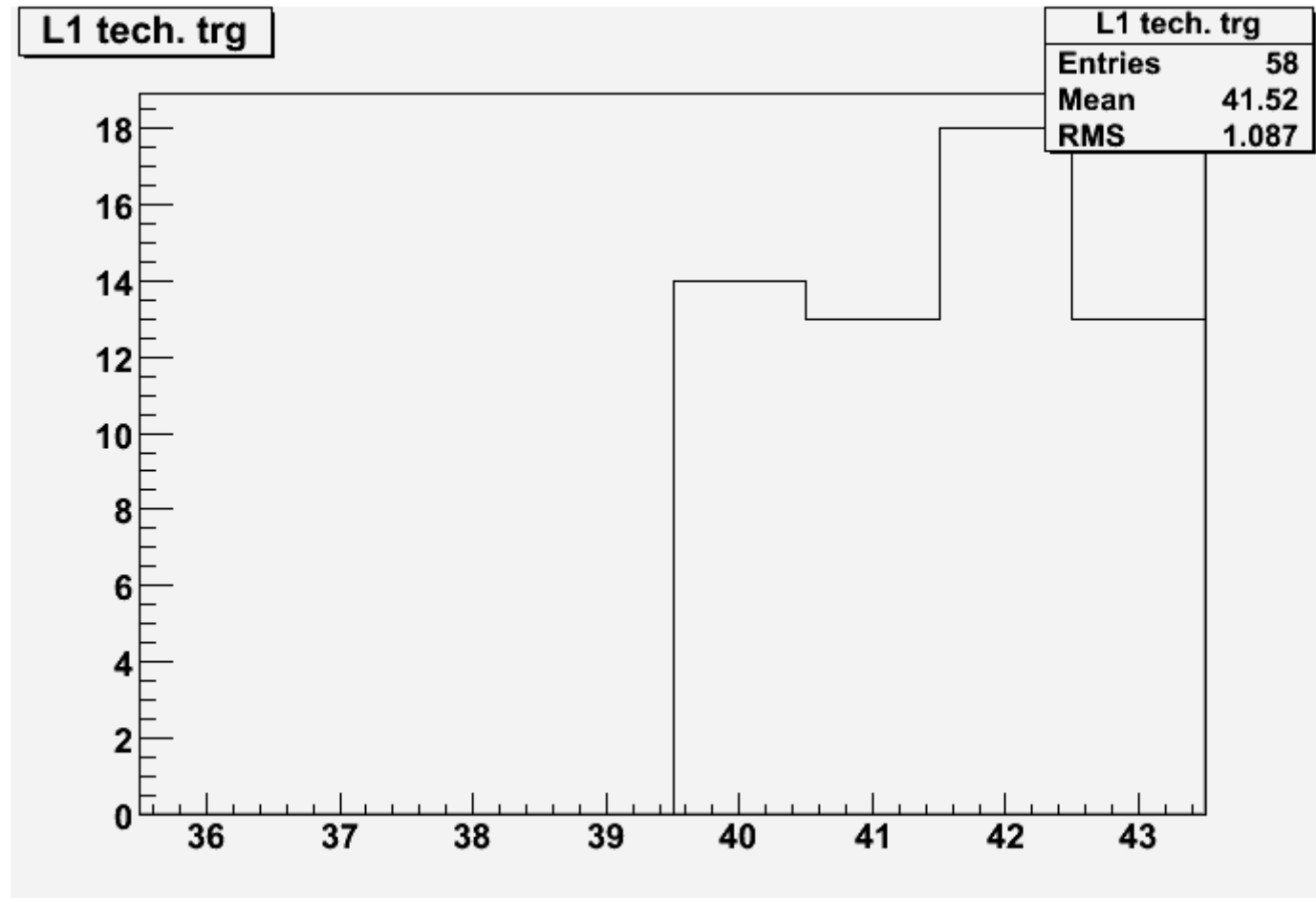
MinBias ALCARECO

- Run 124230: 111622 evts, ~25k BH triggers
- (630868 ALCARECOTkAIMinBias trks)



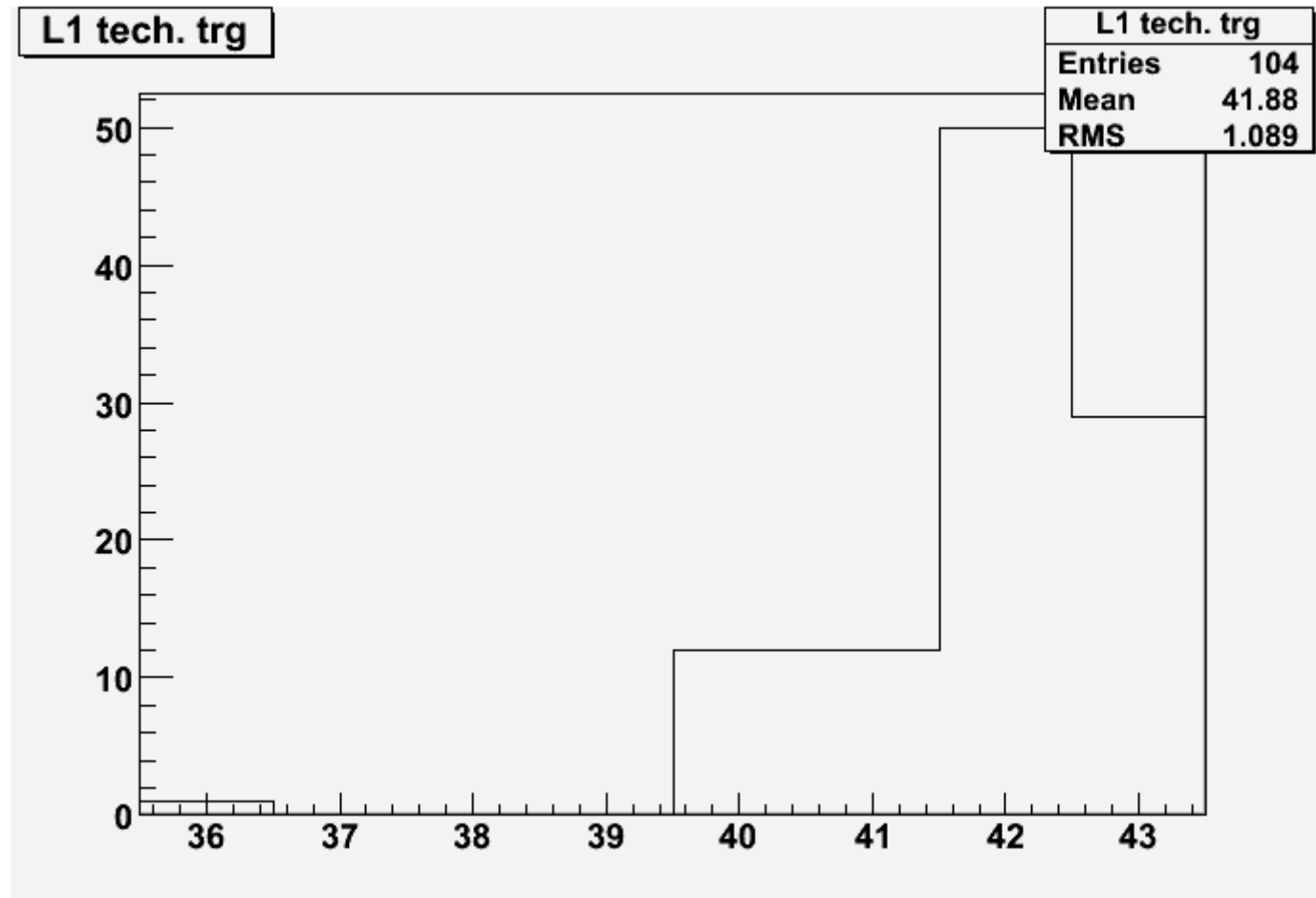
Beam Halo, ALCARECO

- Run 124230: 2527 evts, no BH triggers
- (13360 ALCARECOTkAlBeamHalo trks)



Beam Halo, RECO

- Runs 119580-124056: 11773 evts, 1 BH trigger
- (73795 ctfWithMaterialTracksBeamHaloMuon trks)



Investigations by Ernesto - 1

- 2009 collisions (eg run 124230):
 - the HLT menu used is /cdaq/physics/firstCollisions09/v1.8/HLT/V1
 - <https://twiki.cern.ch/twiki/bin/view/CMS/Data09Menus>
 - the paths entering in the 'Cosmics' dataset were
 - `Cosmics = cms.vstring('HLT_L1MuOpen_NoBPTX',
'HLT_TkMu3_NoVertex', 'HLT_L2Mu0_NoVertex',
'HLT_TrackerCosmics', 'HLT_RPCBarrelCosmics',
'HLT_CSCBeamHaloRing2or3', 'HLT_CSCBeamHaloOverlapRing2',
'HLT_CSCBeamHaloOverlapRing1', 'HLT_CSCBeamHalo'),`
 - So the HLT_L1_BSC path is indeed absent from 'Cosmics' while is present in 'MinimumBias'

Investigations by Ernesto - 2

- 2010 data (eg run 132440):
 - the HLT menu is /cdaq/physics/firstCollisions10/v2.0/HLT_7TeV/V5
 - <https://twiki.cern.ch/twiki/bin/view/CMS/Data2010HLTMenus>
 - again the HLT_L1_BSC path is absent from 'Cosmics'
- Discussion just started on how to include the HLT_L1_BSC to the Cosmics PD.