First look at new beam-halo data

Jim Pivarski

Alexei Safonov

Texas A&M University

Károly Banicz

US-CMS

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Summary (sorry, no plots)

- Data taken Sep 10–12, mostly all in one good run (62232 9-minute fill), but 62296 and 62311 also substantial
- Few complete ($>$ few hundred hits per chamber) rings in whole dataset: ME+2/1, +3/2, -2/1, -2/2, -3/1
- In 62232, only ME+2/1, -2/1, and -3/1

Closure problems

- "Closure" $= \sum_{\text{chambers}}$ residuals mean (indep. of misalignment)
- MC: ME+2/1, +2/2, +3/1, +3/2, $-$2/1, $-$2/2, $-$3/1, $-$3/2: -0.14, -0.62, 0.09, 0.07, 0.01, -0.08, -0.03, -0.22 cm (inc)
- Cosmic rays: ME+2/1, +2/2, +3/2: -1.13, 0.63, 0.31 cm (inc)
- Beam-halo: ME+2/1, $-$2/1, $-$3/1: -1.01, 4.25, -3.74 cm (inc) and 2.00, -4.47, 3.92 (dec)

- If anything, prompt AlCaReco is too prompt!
  We had the Sep 12 data on Sep 12!
- The "15 broken CSC chambers" people talk about could mean that alignment procedure is only fully applicable (with closure cross-check) on a few rings
- But some chambers came back on later runs: we just need a lot of data on a day when the chambers are healthy
- Closure problems are now seen in data only, *not* MC, so that should be a strong clue to the solution of the problem (and we might diagnose a problem with the detector, beyond alignment)
- Are the residuals distributions double-peaked or something pathological like that? I still need to check.