

Schedule for a new alignment

Target: beginning of November. Which of these are possible in 2 months?



- ▶ Endcap disk alignment with collisions muons
 - ▶ study of residuals versus momentum (partly done)
 - ▶ understand fitter (the differences we see ought to be statistical: what's wrong with the statistics of the fit?)
 - ▶ currently waiting for re-processed collisions dataset. . .
- ▶ Chamber alignment with low-momentum cosmics
 - ▶ study of residuals versus momentum
 - ▶ should add $|p|$ -dependence to the fit: Gaussian $\sigma \rightarrow \sigma/|p|$
- ▶ Chamber alignment with low-momentum collisions
 - ▶ need at least $\mathcal{O}(10 \text{ pb}^{-1})$ (not far in the future. . .)
 - ▶ study of low- $|p|$ cosmics residuals vs. low- $|p|$ collisions residuals
 - ▶ compare collisions alignment in endcap with beam-halo and disk-shifts: that is, CSC chamber-level alignment ought to agree with the prior geometry within quoted uncertainties
- ▶ Understand residuals inside of a chamber: if it's due to trigger bias and trigger bias can only be excluded by asking for a second muon, we'll need *a lot* more data to do a standard alignment