



Silicon tracking on cosmic data

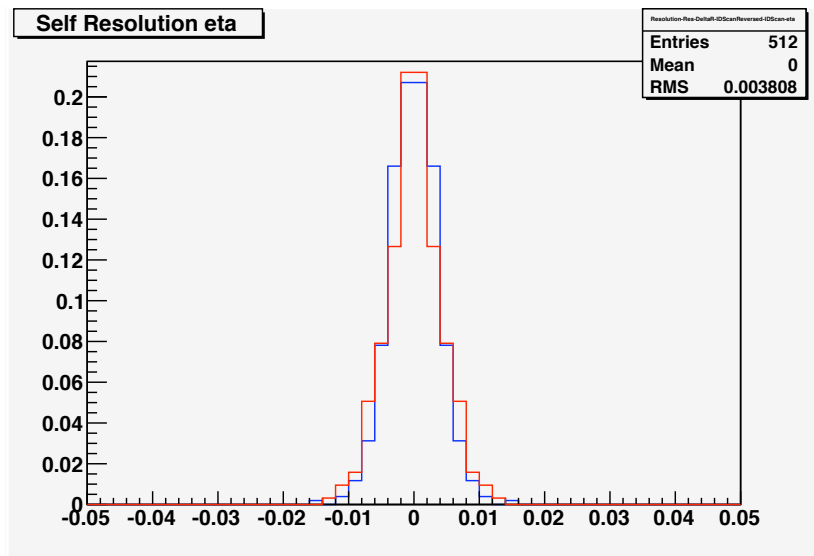
ID meeting - September 22, 2009

Andrea Coccaro, Fabrizio Parodi, Carlo Schiavi

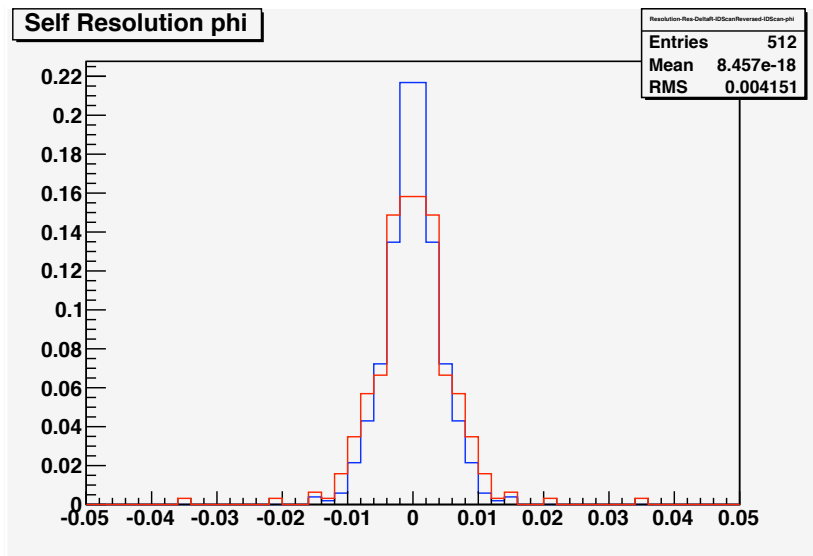
Intro

- ▶ Continued the analysis of 2009 runs with TrigInDetAnalysis + ESD: 121330 (Pixel+SCT), IDCosmic with r733 tag
- ▶ First test of “tag-and-probe” resolution and pull extraction
- ▶ Analyzed only collision-like tracks: d0 within 1cm and at least 4 SP and at least 5GeV
- ▶ SiTrack:red - IDScan:blue

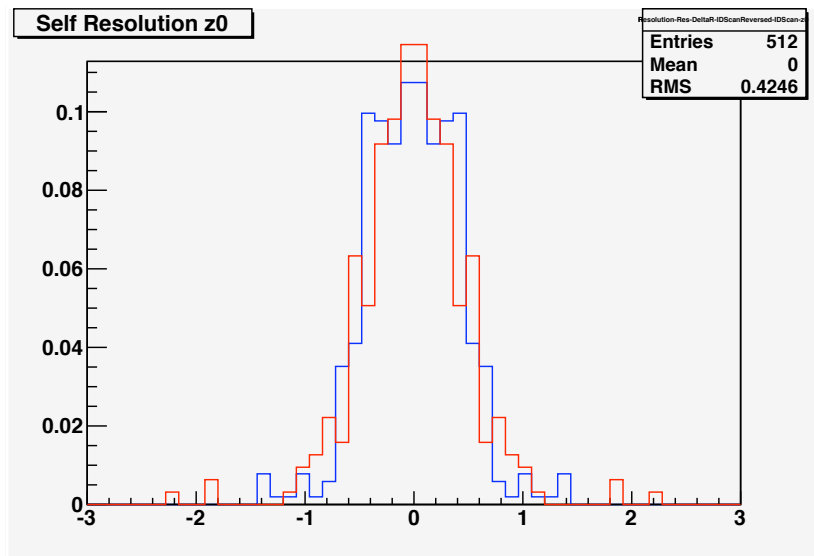
Resolutions



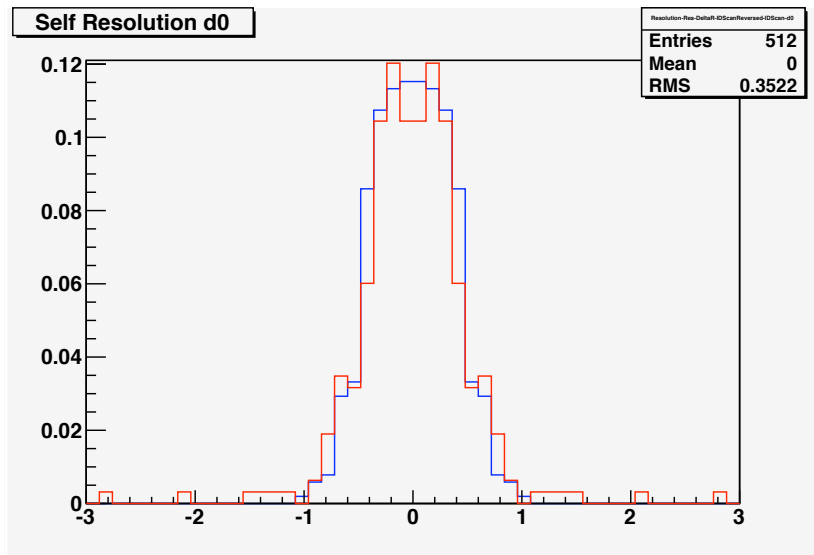
Resolutions



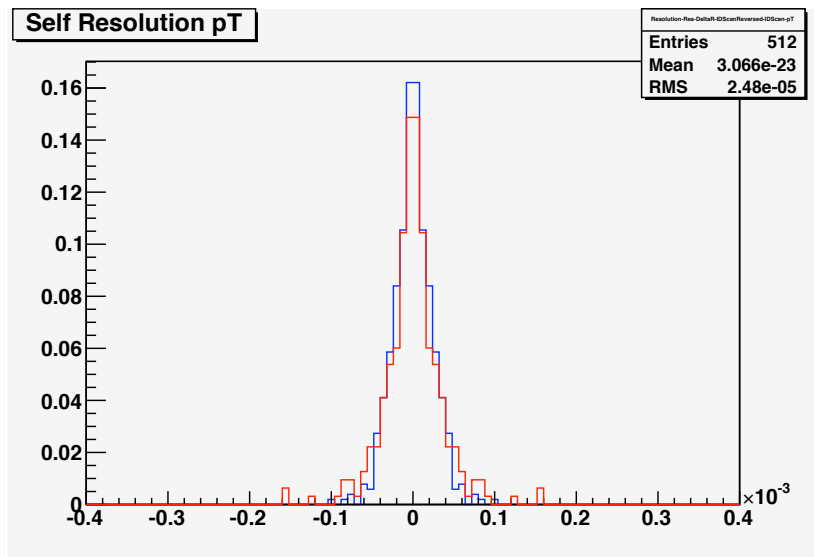
Resolutions



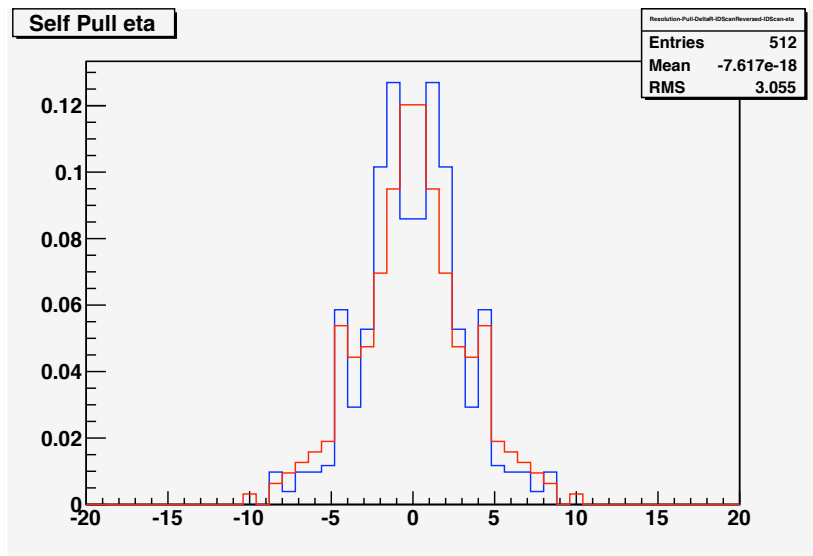
Resolutions

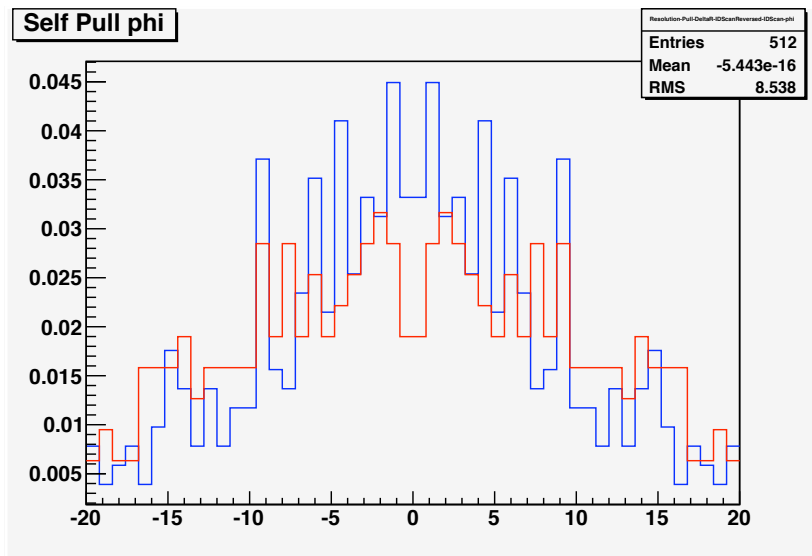


Resolutions

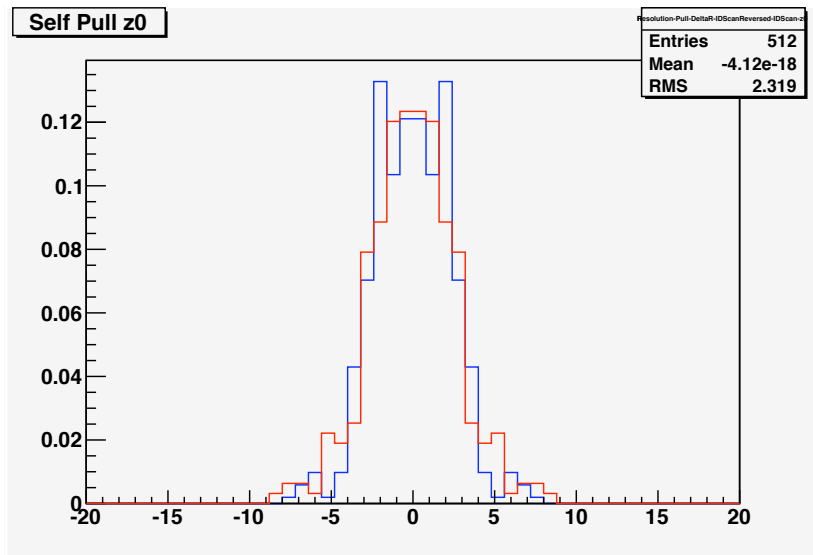


Pulls

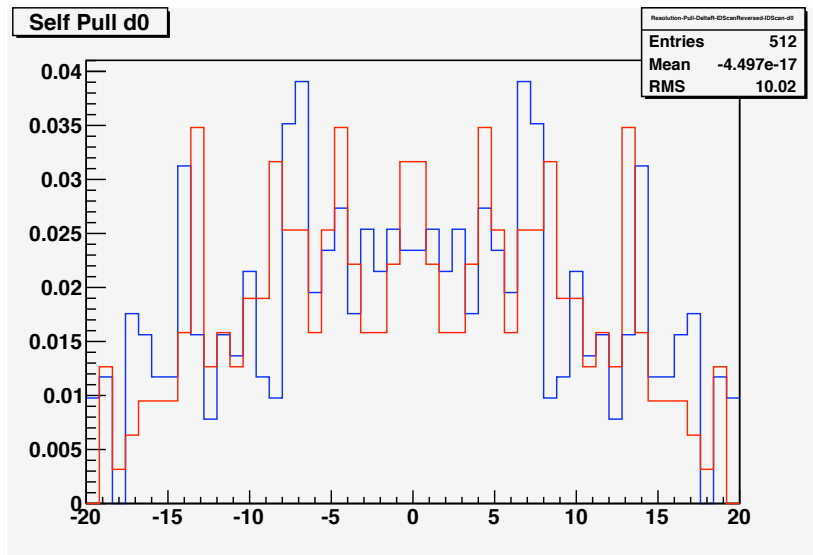




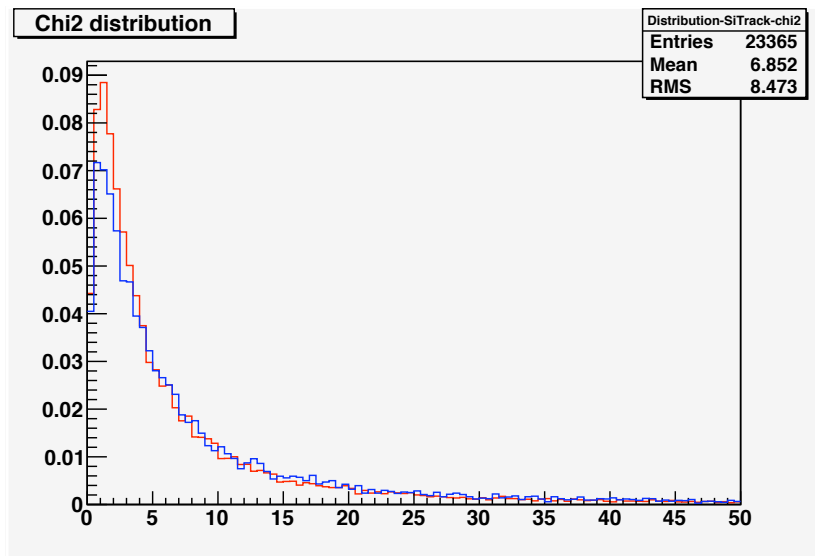
Pulls



Pulls



Chi2



Summary and outlook

- ▶ resolutions much worse than expected (e.g. d_0 is around 30 microns on MC)
- ▶ pulls are very bad, especially for r - ϕ variables, indicating error underestimation
- ▶ first investigation of error estimates shows they are more or less matching the expected resolution...
- ▶ these could all be consequence of underestimated SP position errors (e.g. no error scaling for misalignment), but...
- ▶ surprisingly enough, the chi squared distribution seems to peak around 1, even if with large tails!
- ▶ more detailed investigations will follow, to correlate resolution with number of SP, track parameters, etc...