

Track to Slat Matching

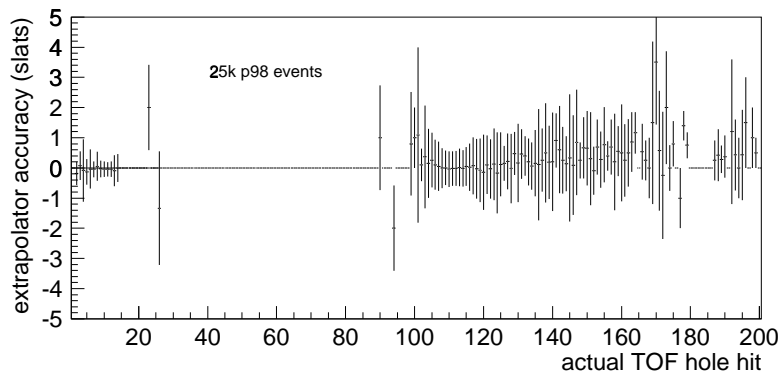
DDC track's flight-time measurement is obtained from the TOF slat that is correctly identified offline as the slat struck by this track

In the E896 geometry, track-to-slat association complicated by:

- long distance (~ 2 m) between DDC and TOF
- strongly varying magnetic fields near DDC

To test extrapolation software, used secondary (single-hadron) beam without “target”:

- exactly one clean DDC track, one struck TOF slat per event
- magnets adjusted to scan wall with trackable hadrons



Extrap. uncertainty ~ 2 cm, consistent with expectations

In central Au+Au events, ~ 5 -10 DDC tracks, ~ 20 -30 struck TOF slats:

- many “lit” slats in neighborhood of extrapolated track
- need additional variable to unambiguously match track with slat

For each struck slat in neighborhood of extrapolated track, compare slat's TDC difference (bottom minus top)

with extrapolated track's vertical coordinate at this slat

Track is matched to slat where “TOF y” is consistent with “tracking y”

