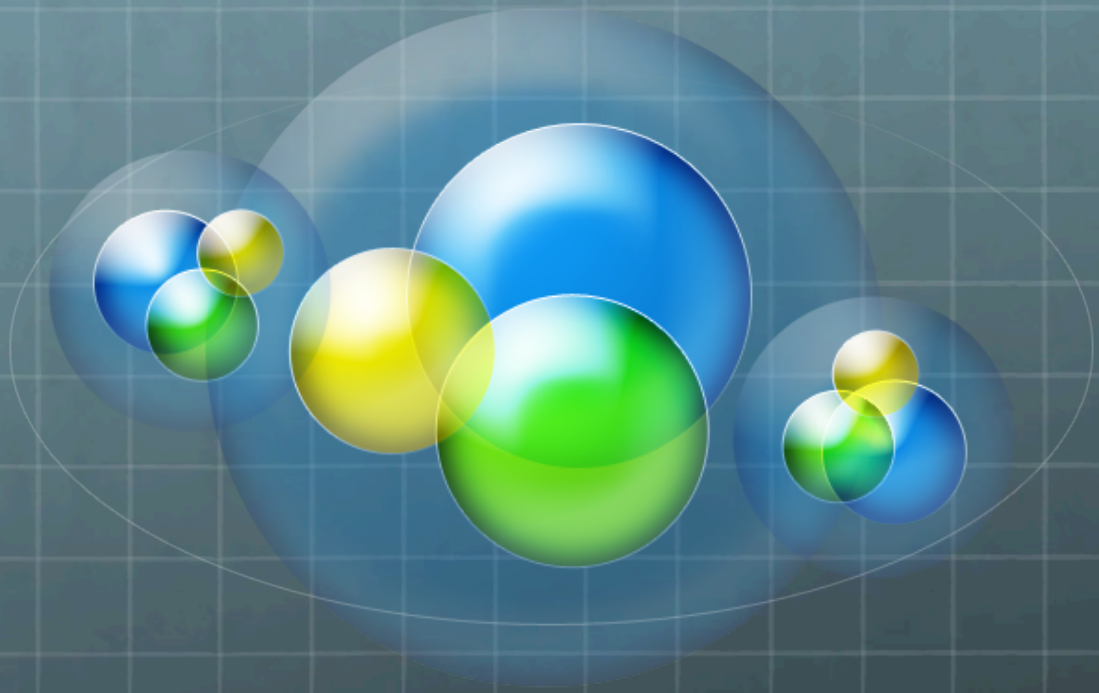


GlueX DIRC Commissioning Analyses

A.A

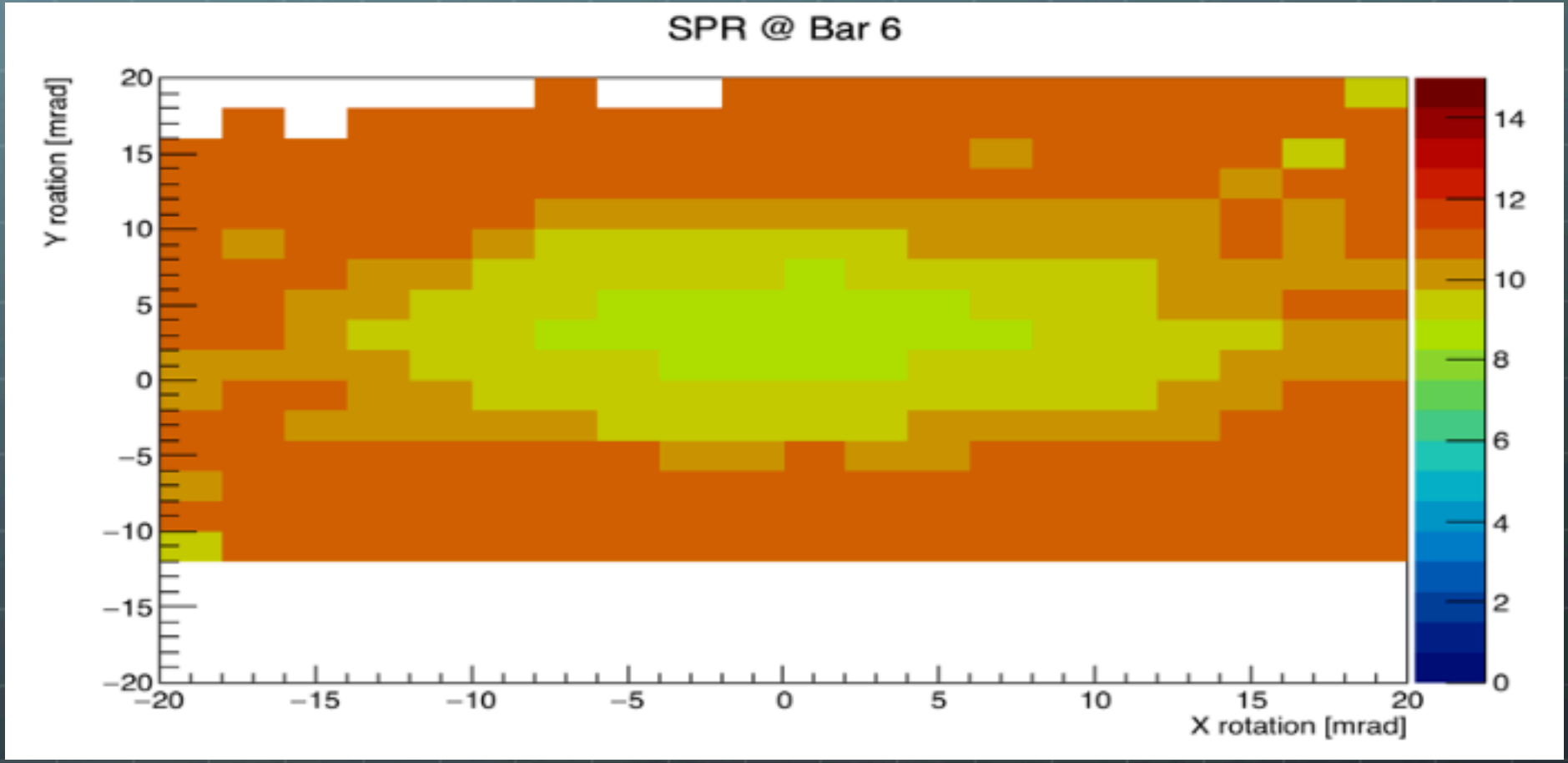
1 Aug 2019

Weekly DIRC Meeting

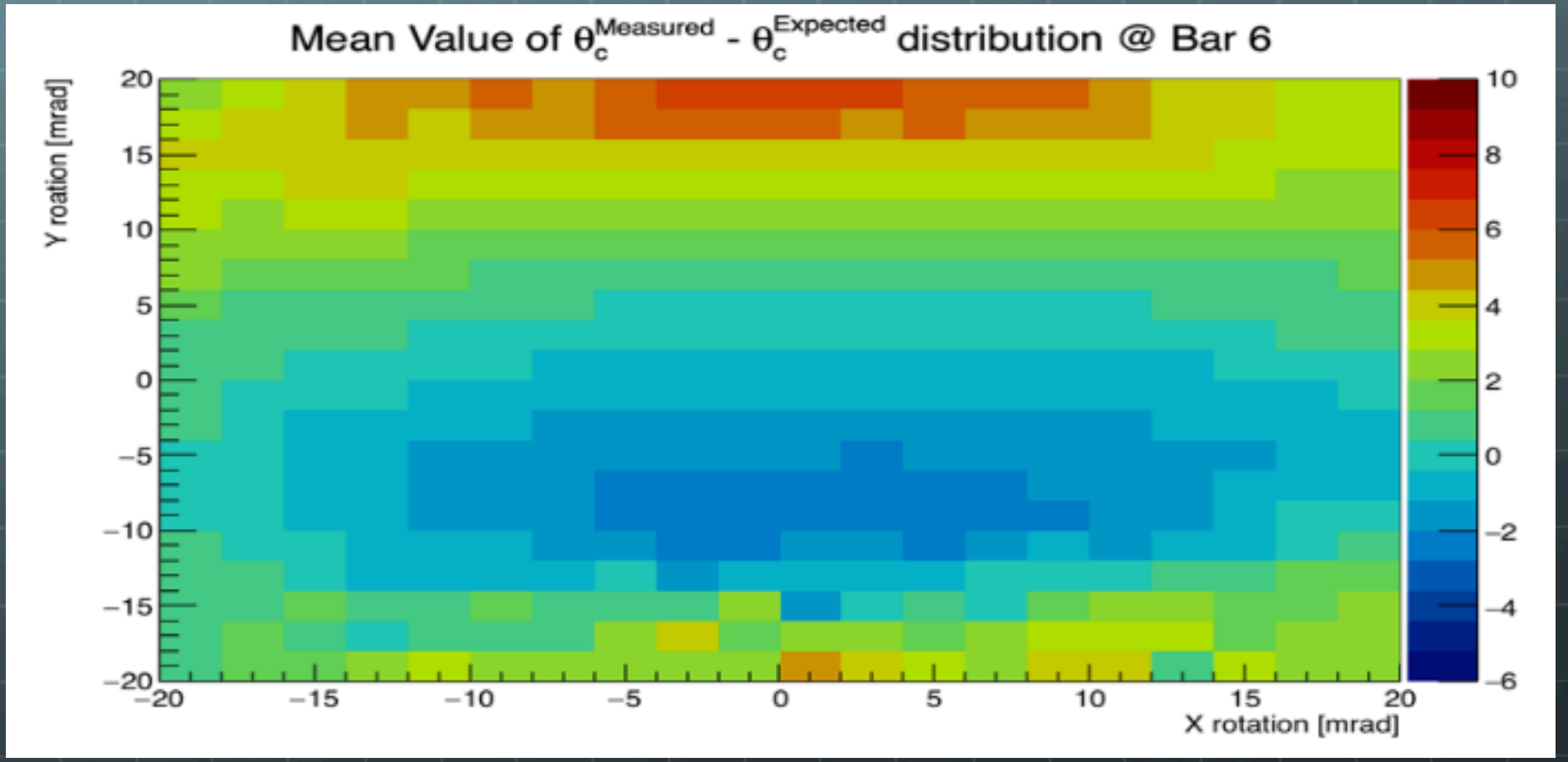
Outline

- Momentum Direction Correction (SPR method)
- Correction Comparisons
  - Cherenkov Shift (D/R/All)
  - Correlation between photon time and Cherenkov Shift
  - SPR (D/R/All)
  - Correlation between photon time and SPR
- Next Step

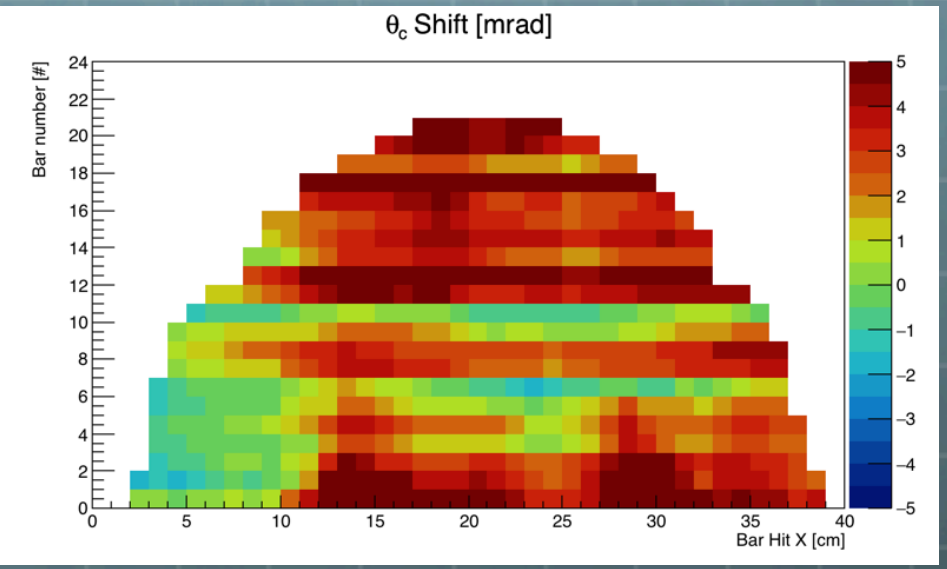
Per track SPR



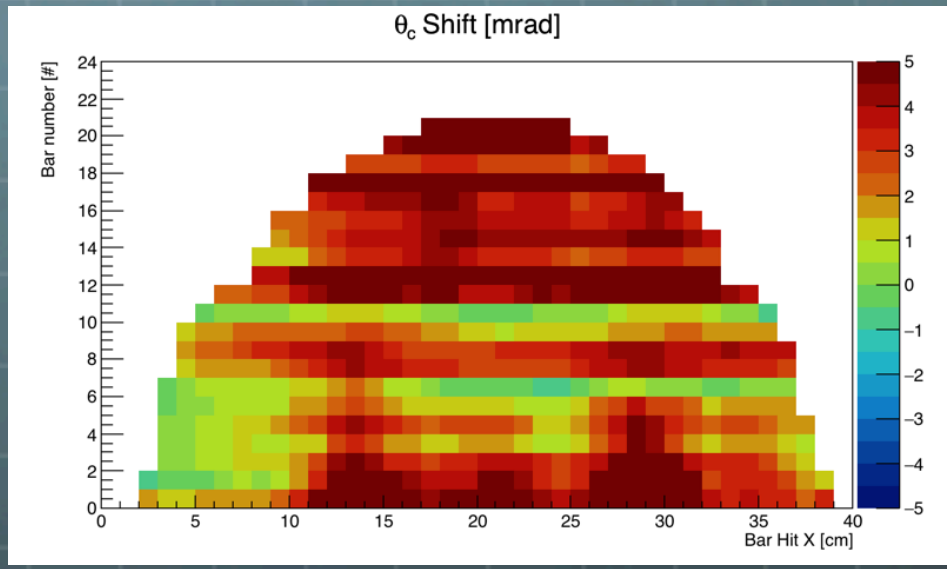
Per track Cherenkov Shift



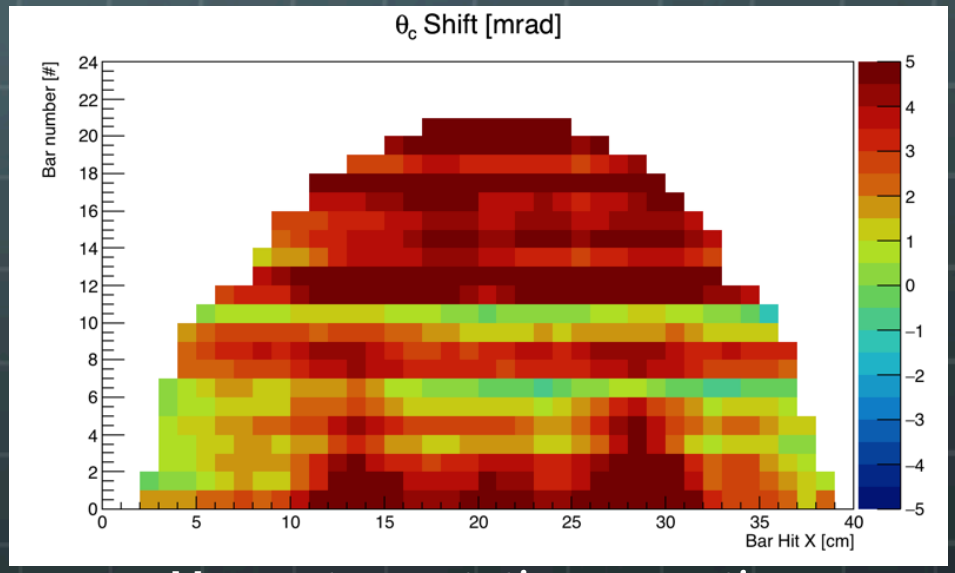
Shift Survey Correction Study



without correction

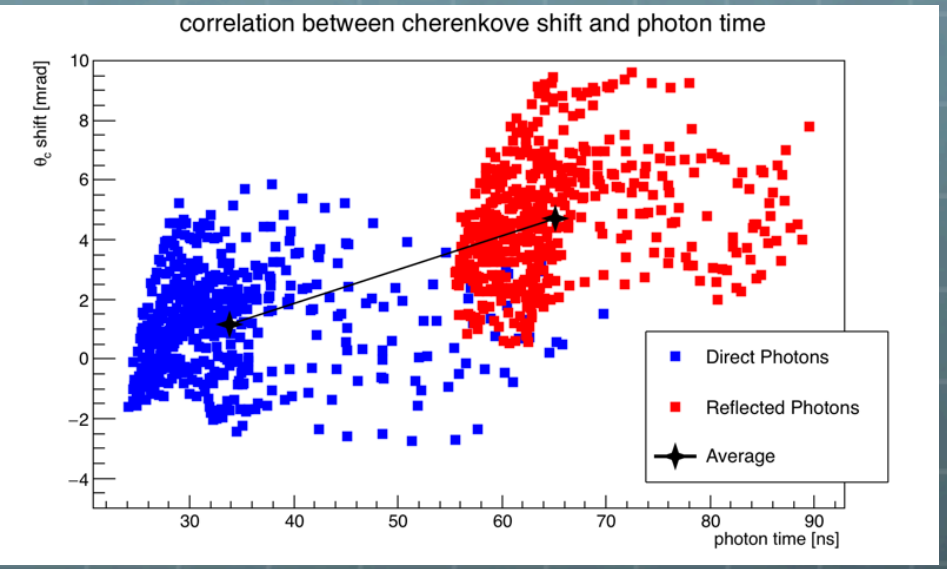


survey correction



Momentum rotation correction

Cherenkov Shift vs photon time



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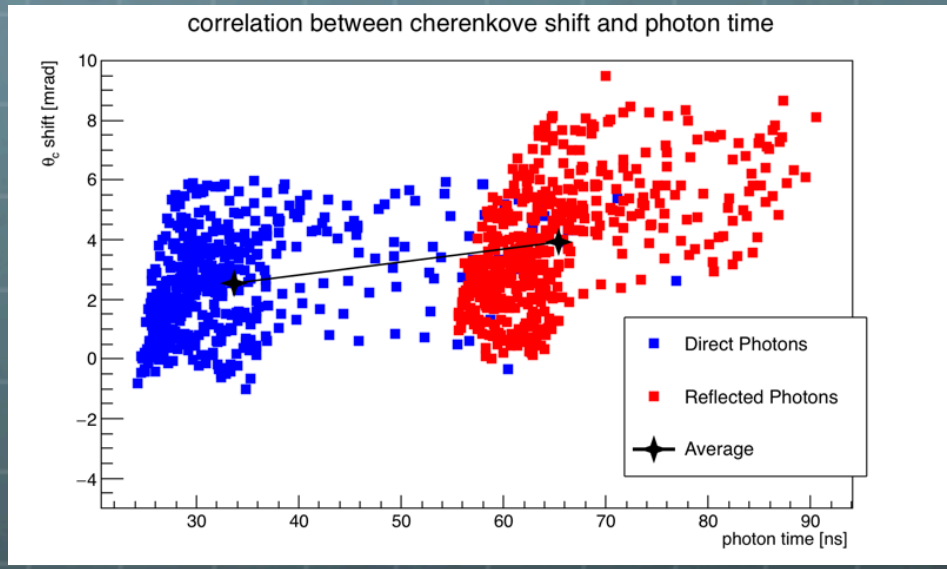
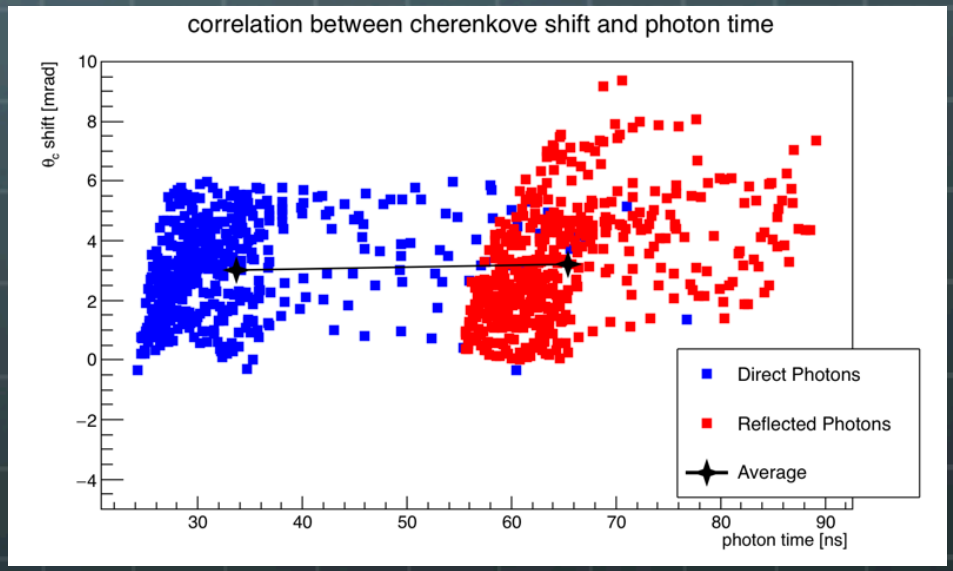
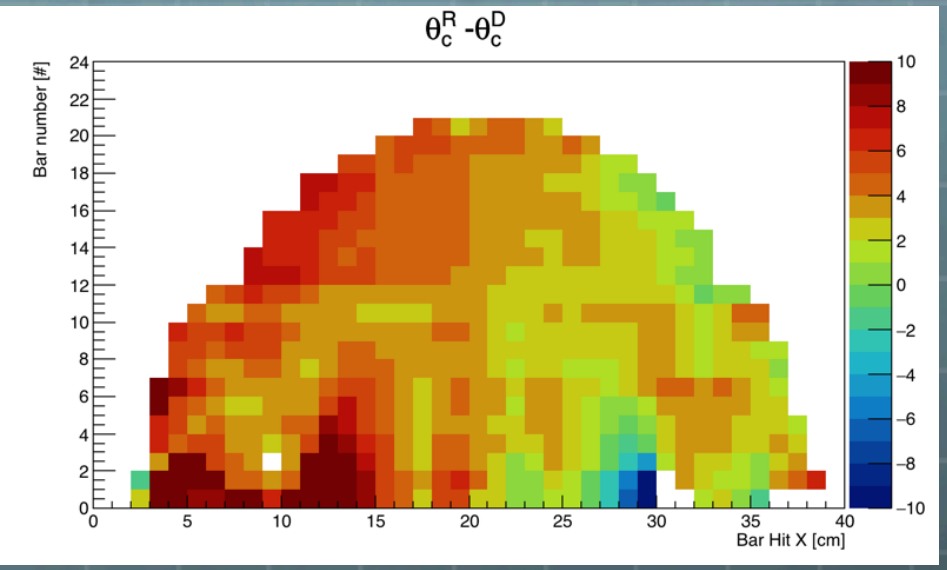


survey correction

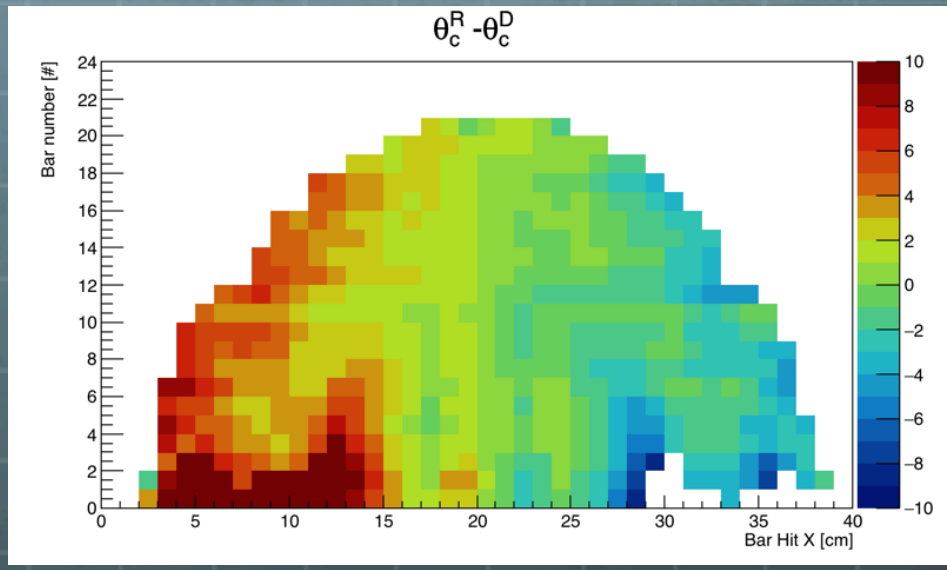


Momentum rotation correction

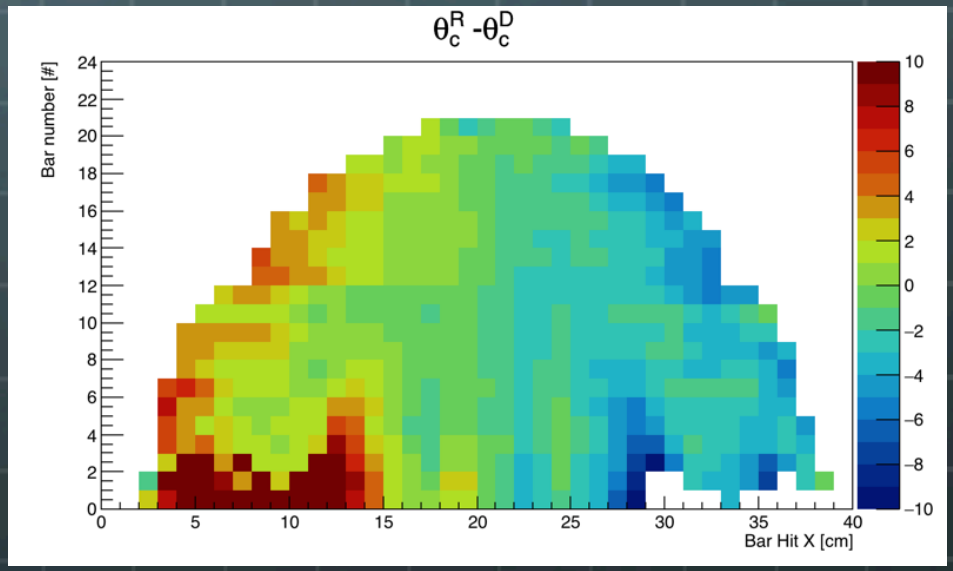
Cherenkov Reflected - Direct



without correction

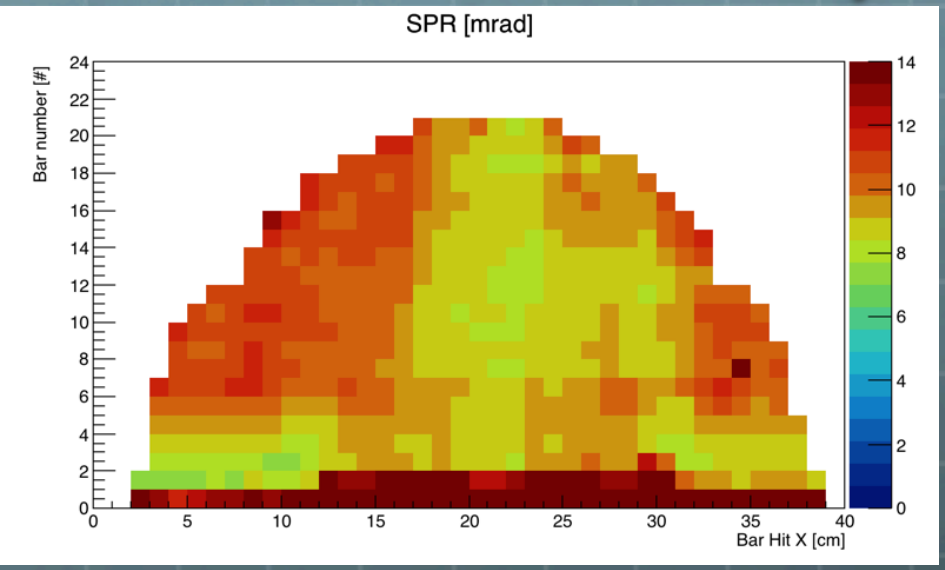


survey correction

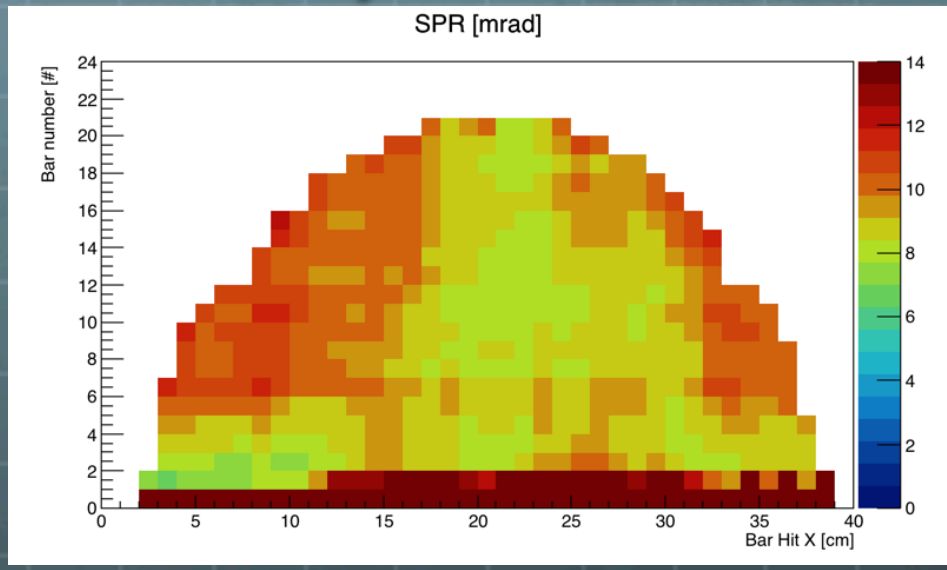


Momentum rotation correction

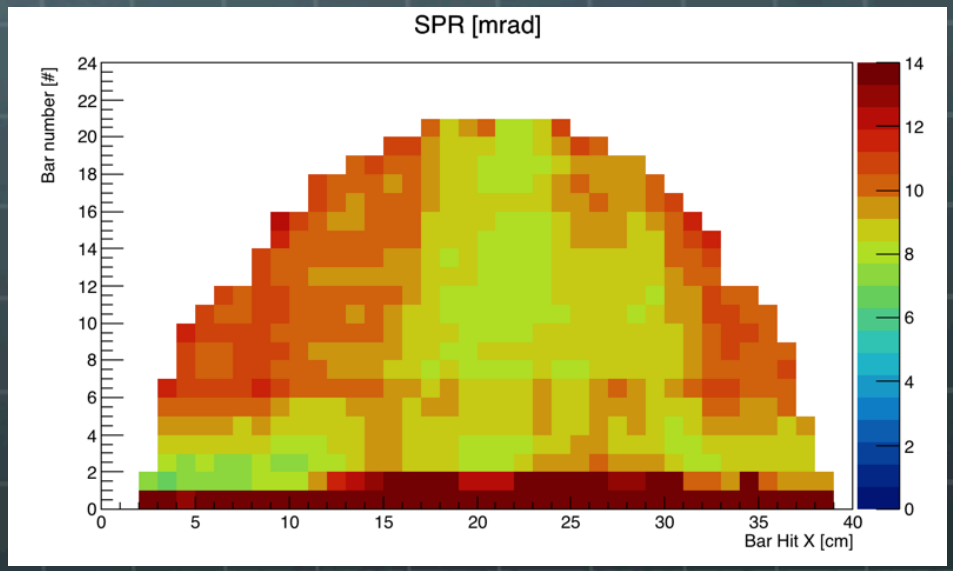
SPR Survey Correction Study



without correction

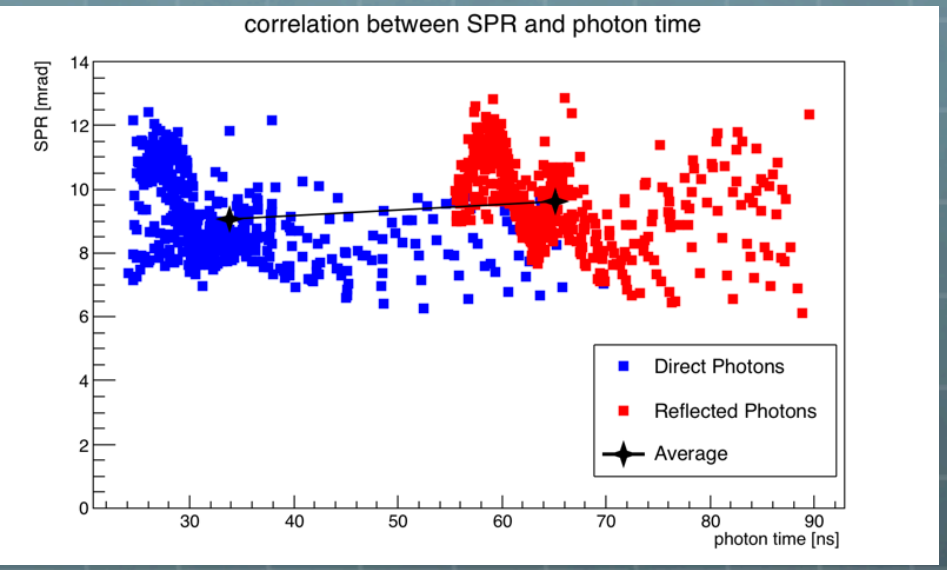


survey correction

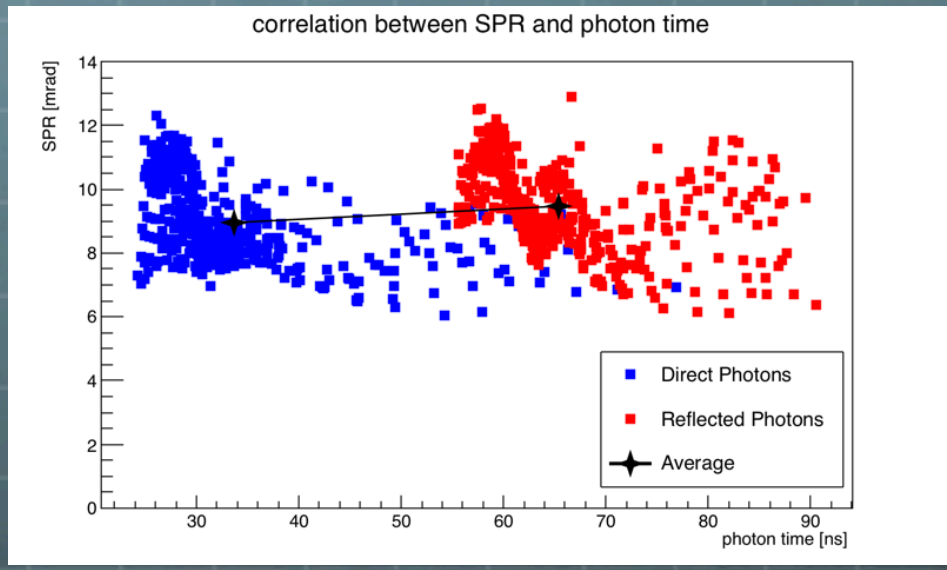


Momentum rotation correction

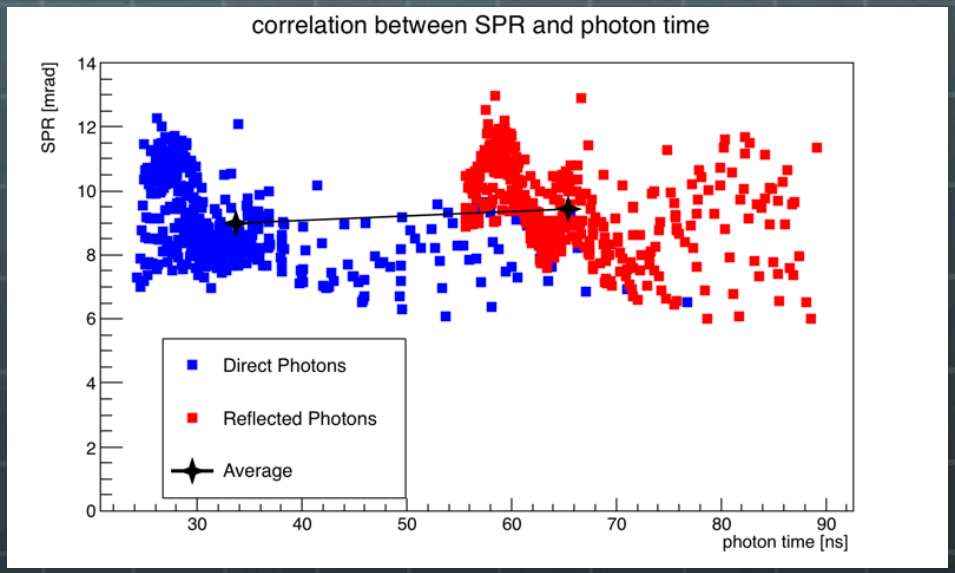
SPR & Photon Time



without correction

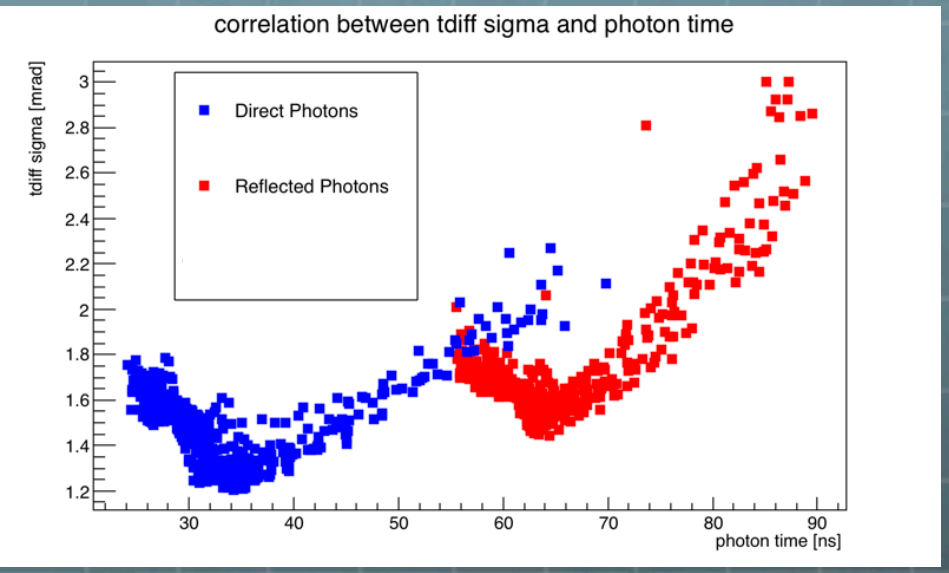


survey correction

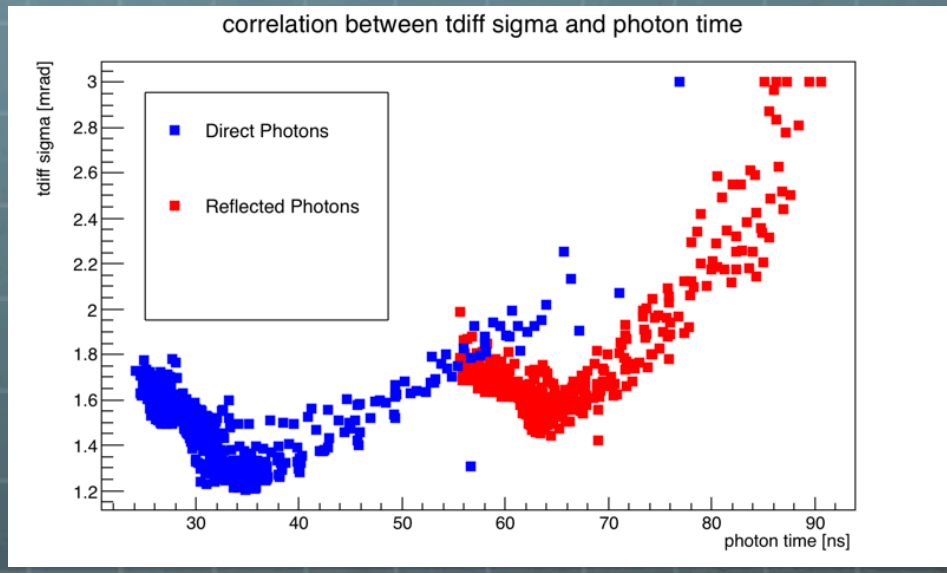


Momentum rotation correction

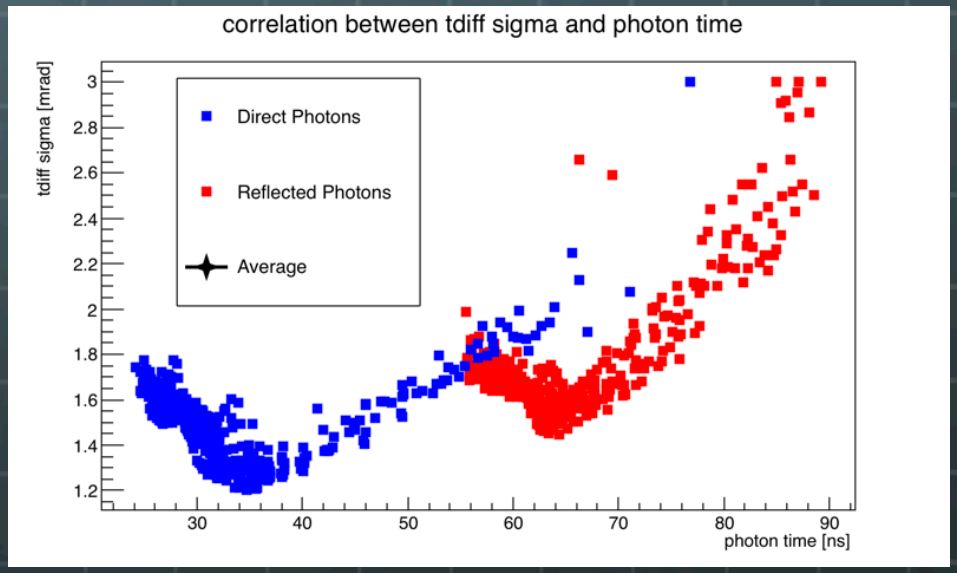
Time Difference Sigma vs Photon Time



without correction



survey correction



Momentum rotation correction

Next Step

- Apply Momentum Direction Correction
- Apply Cherenkov angle Correction [per Bar per X bin per Direct/Reflected flag] since no correlation between the shift neither (yield nor SPR nor momentum)
- Calculate Separation power
- Calculate Tracking Resolution Map