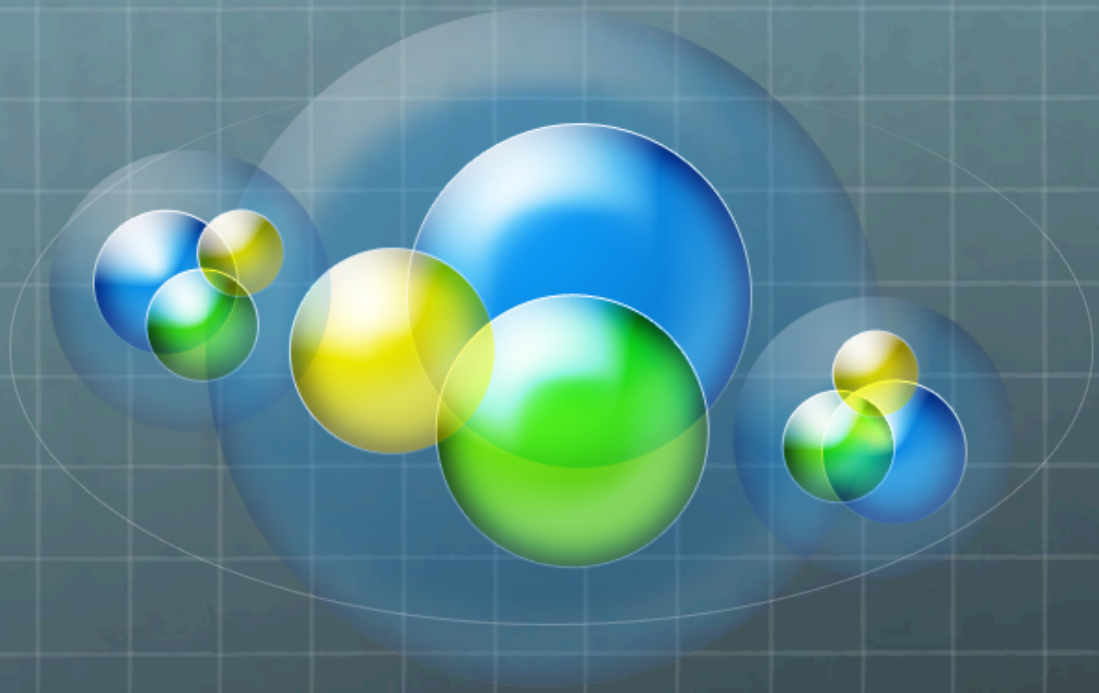


GlueX DIRC Commissioning Analyses

A.A

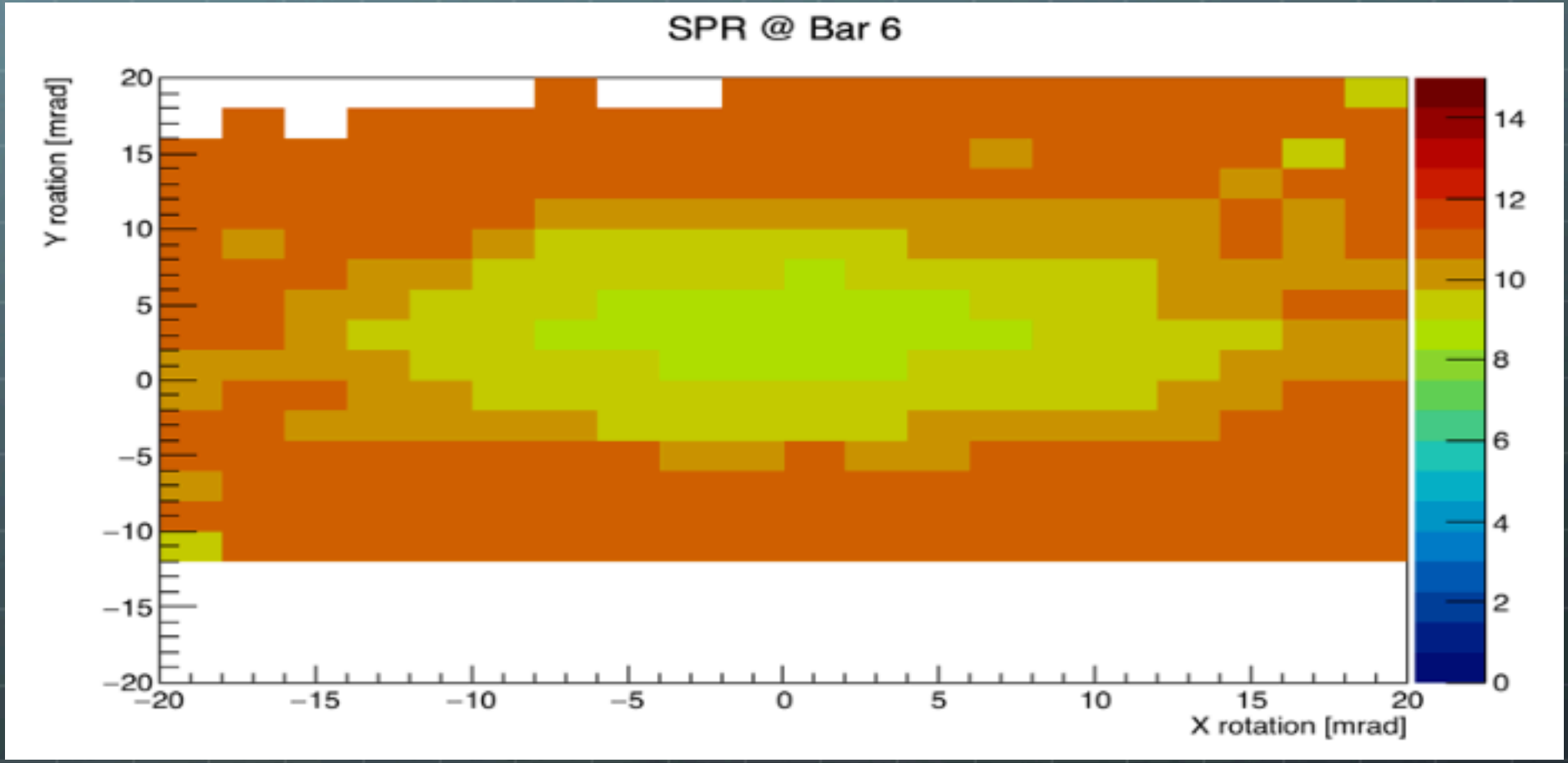
25 Jul 2019

Weekly DIRC Meeting

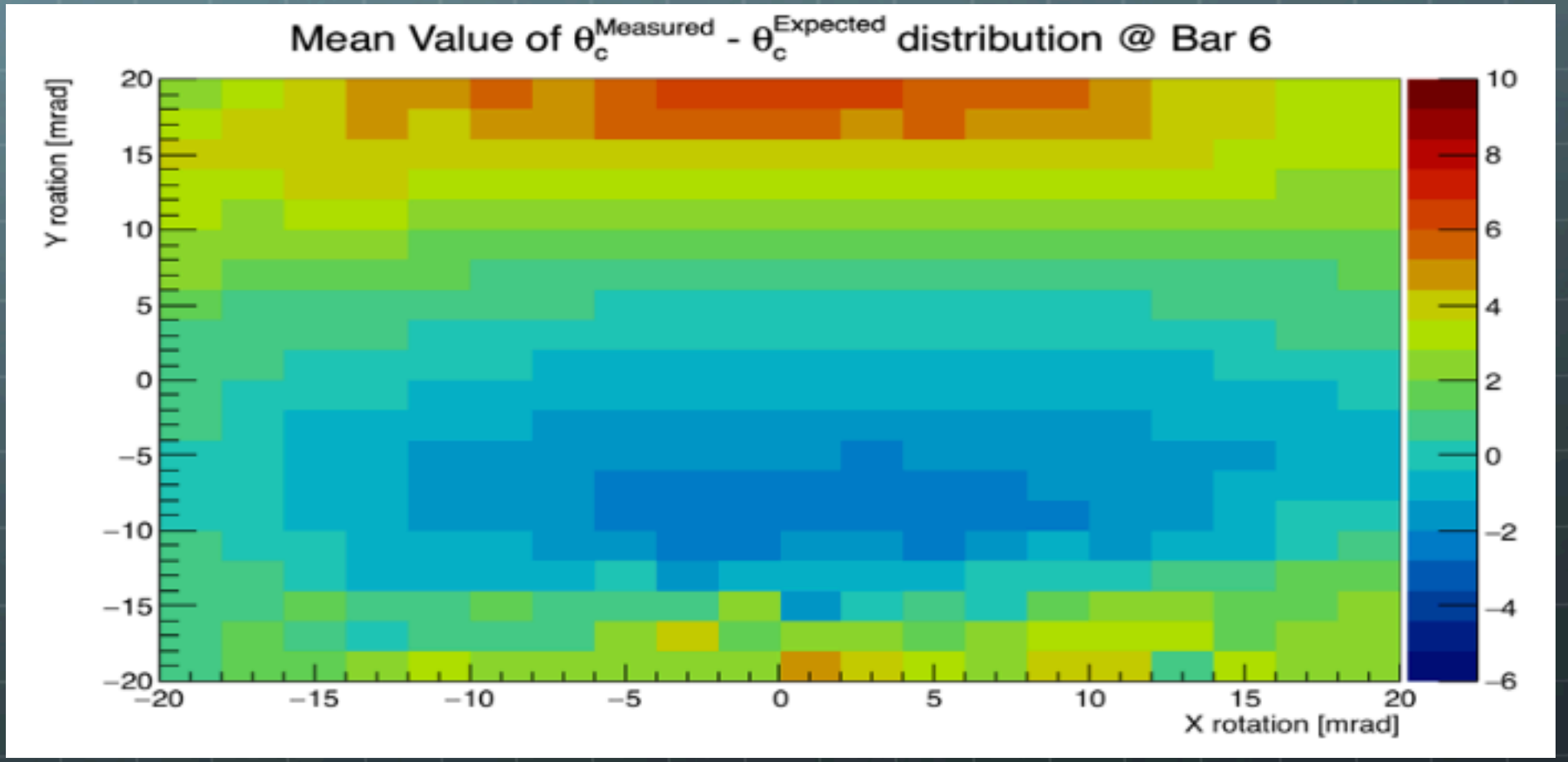
Outline

- Momentum Direction Correction (SPR method)
- Survey Correction Comparison (Justin's Survey)
  - Cherenkov Shift (D/R/All)
  - Correlation between photon time and Cherenkov Shift
  - SPR (D/R/All)
  - Correlation between photon time and SPR
- Next Step

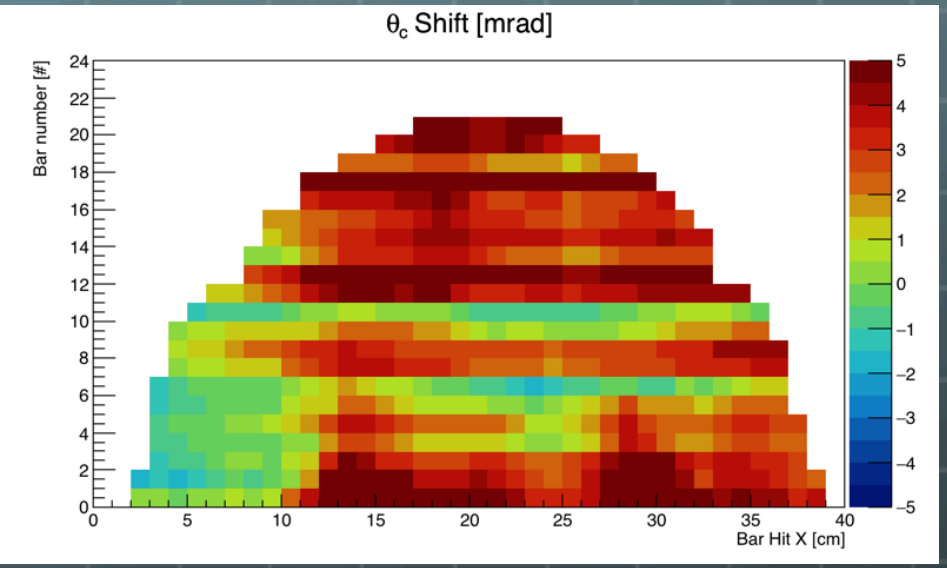
Per track SPR



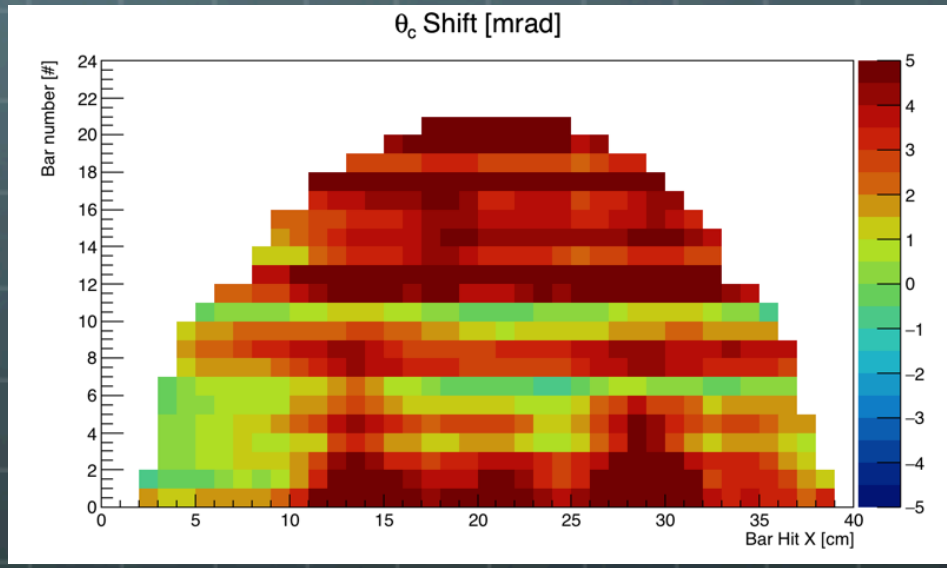
Per track Cherenkov Shift



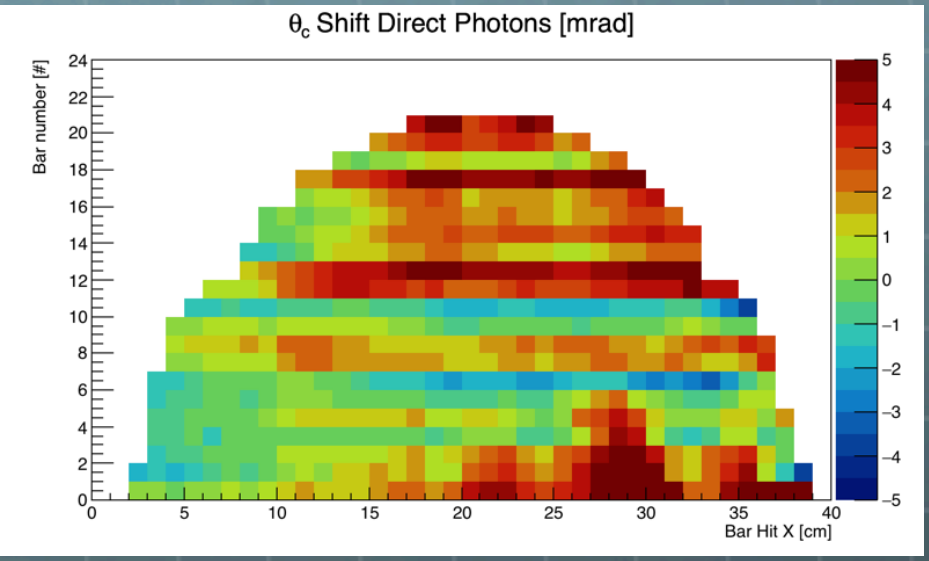
Shift Survey Correction Study

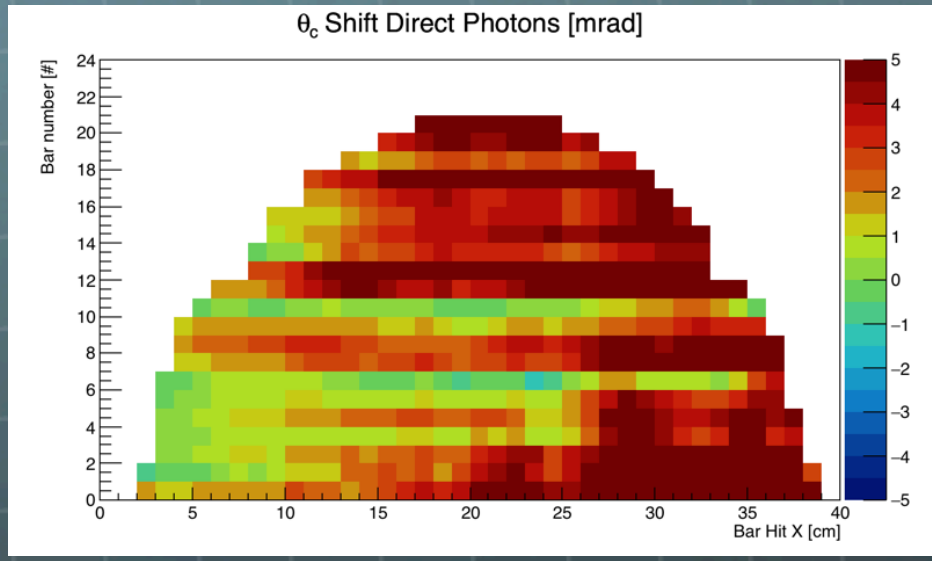


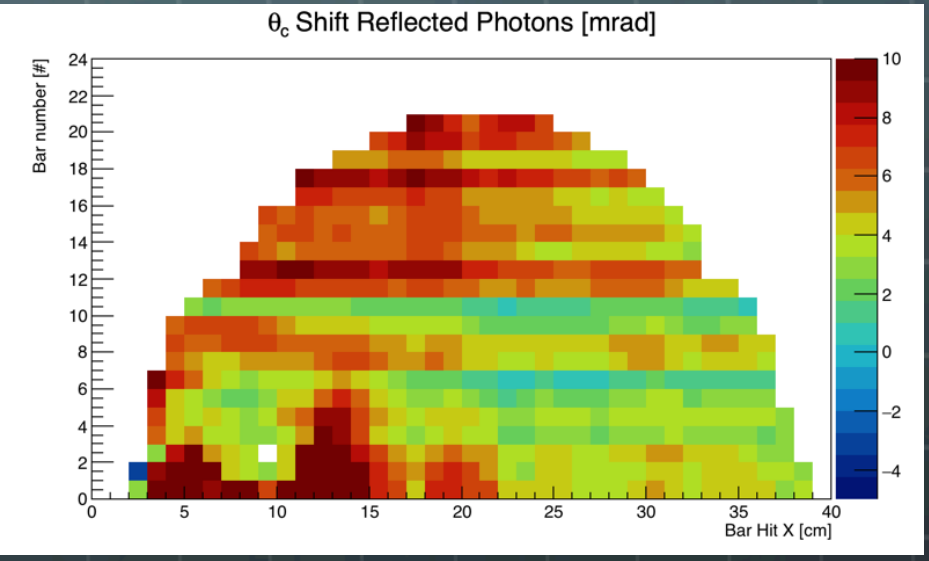
without correction

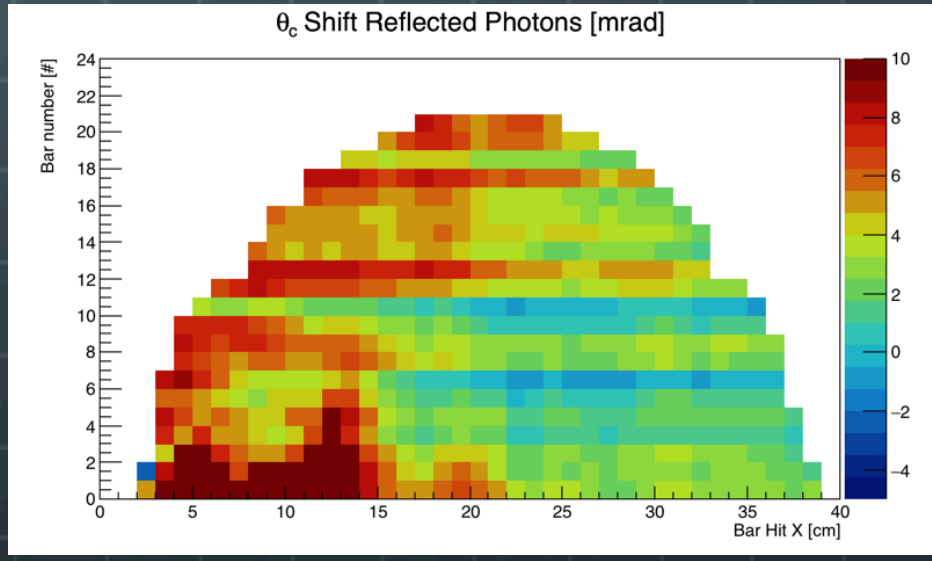


survey correction





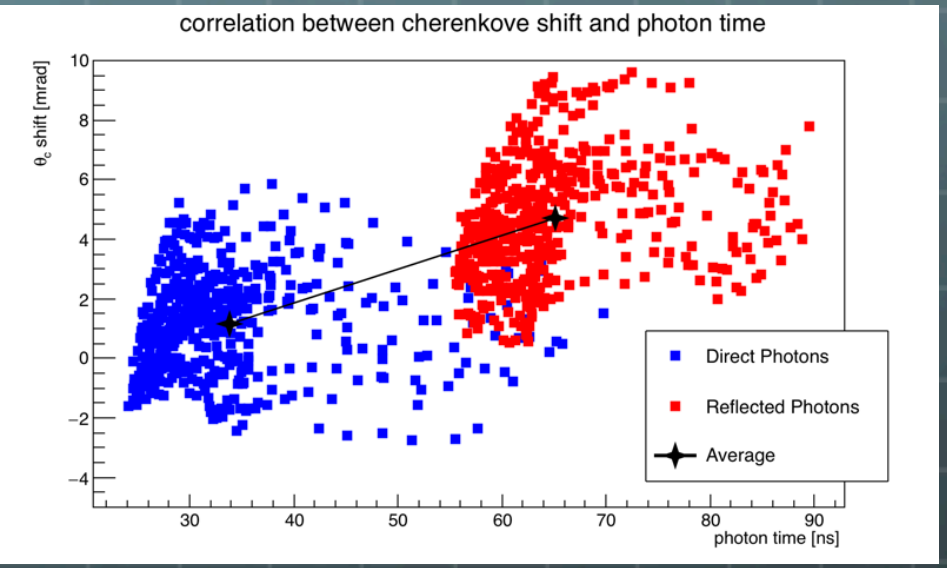




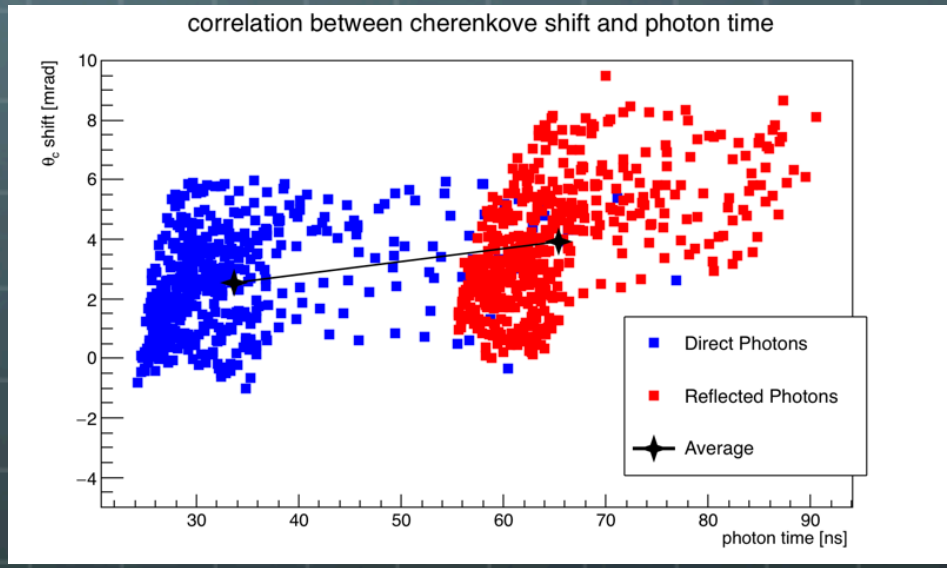
without correction

survey correction

Cherenkov Shift vs photon time

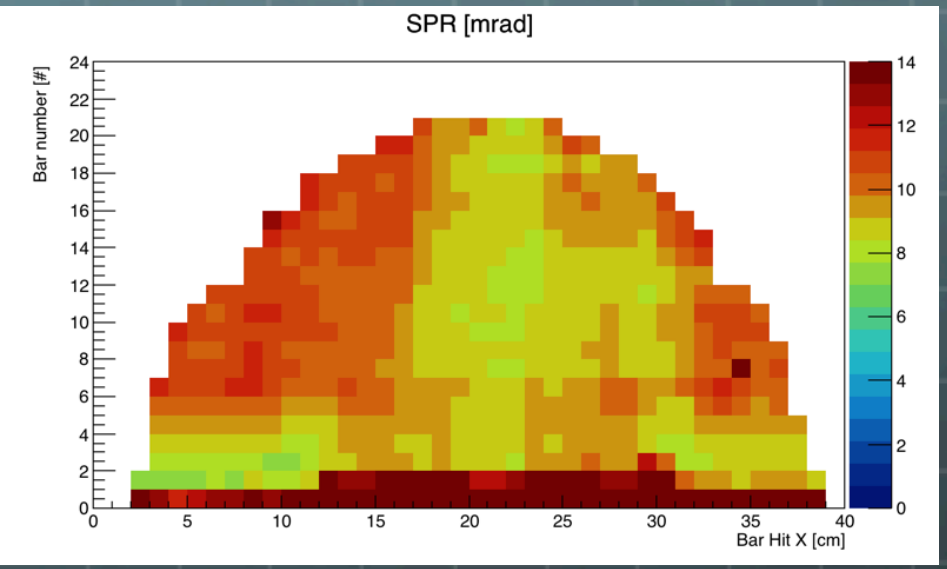


without correction



survey correction

SPR Survey Correction Study



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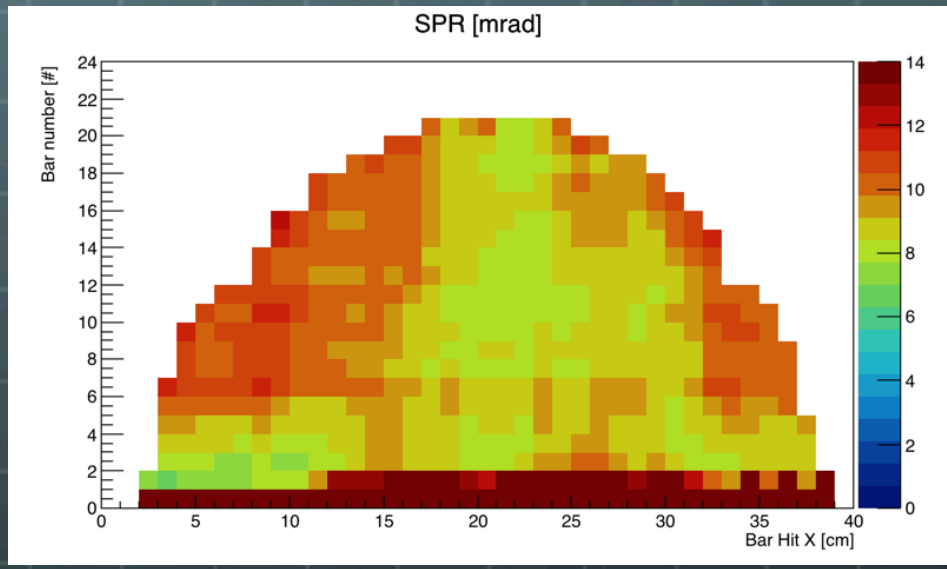
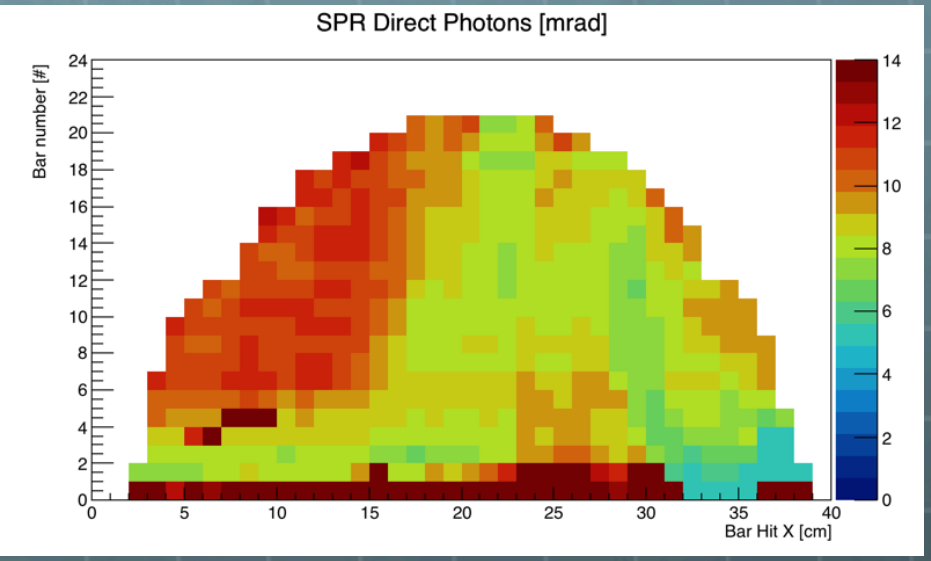
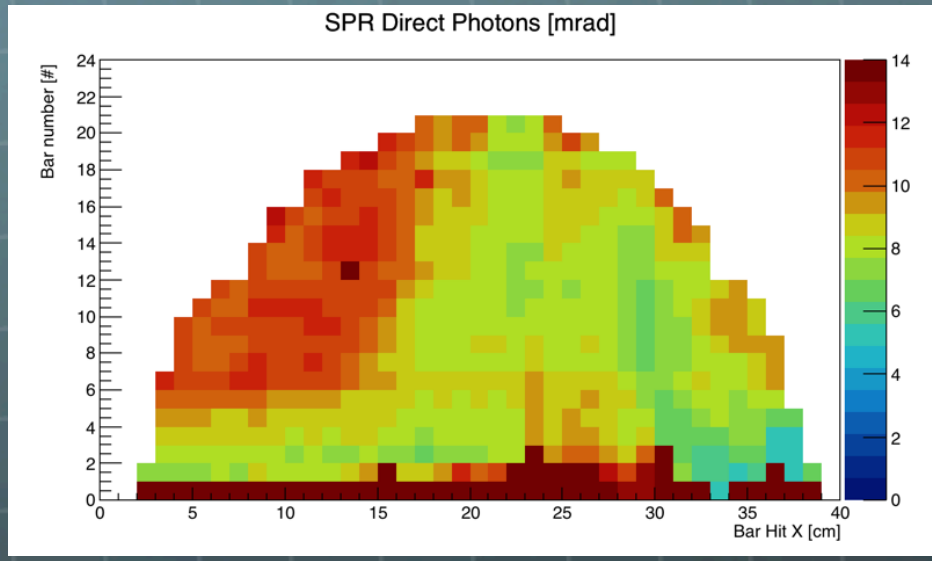
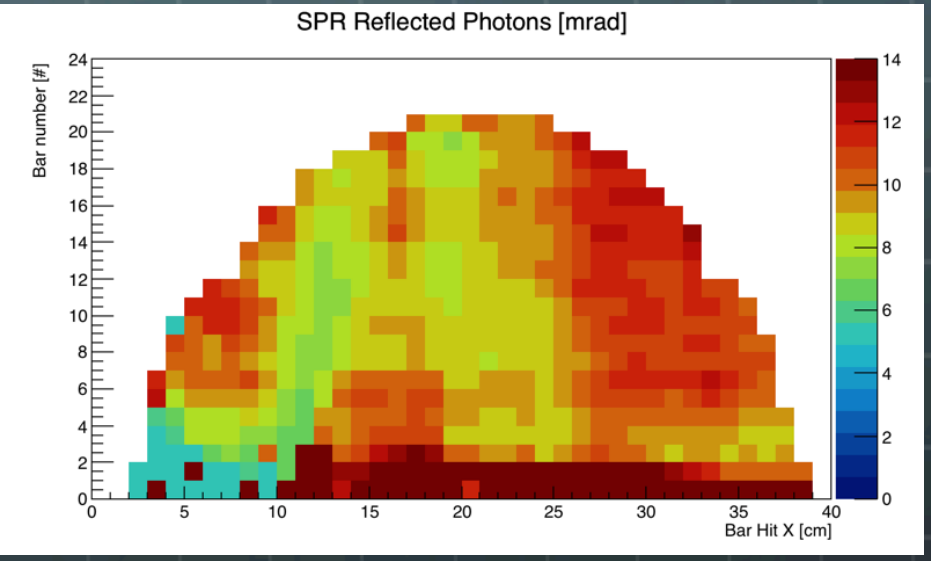
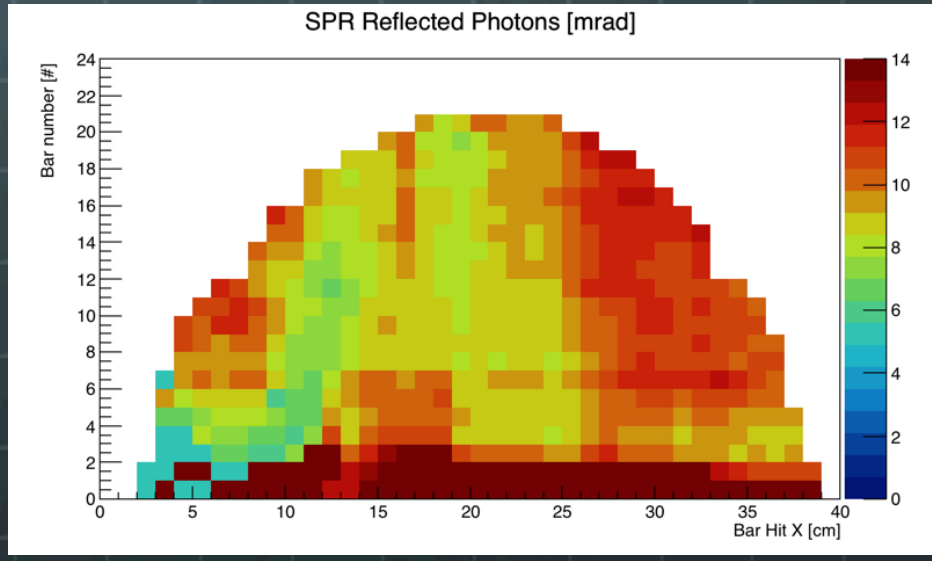


survey correction





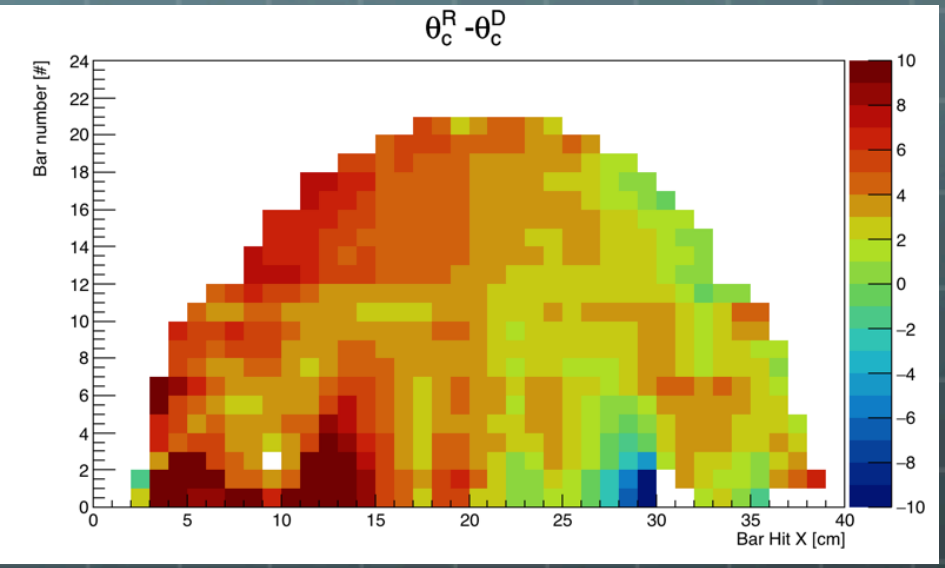




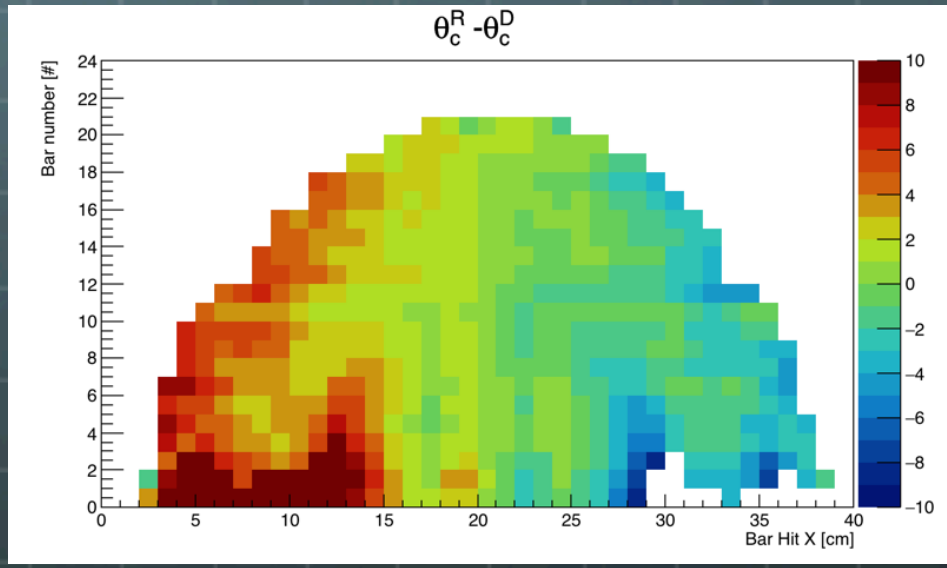
without correction

survey correction

Cherenkov Reflected - Direct

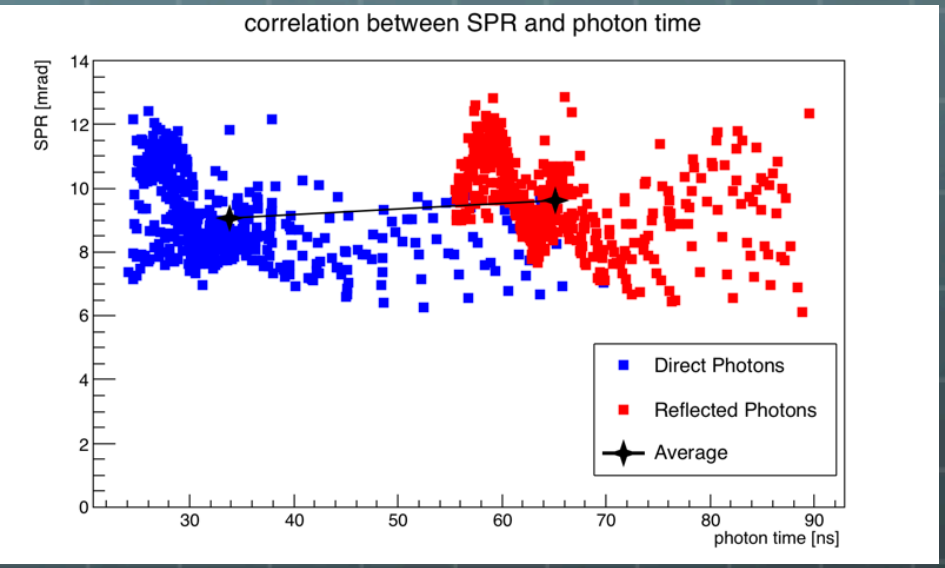


without correction



survey correction

SPR & Photon Time



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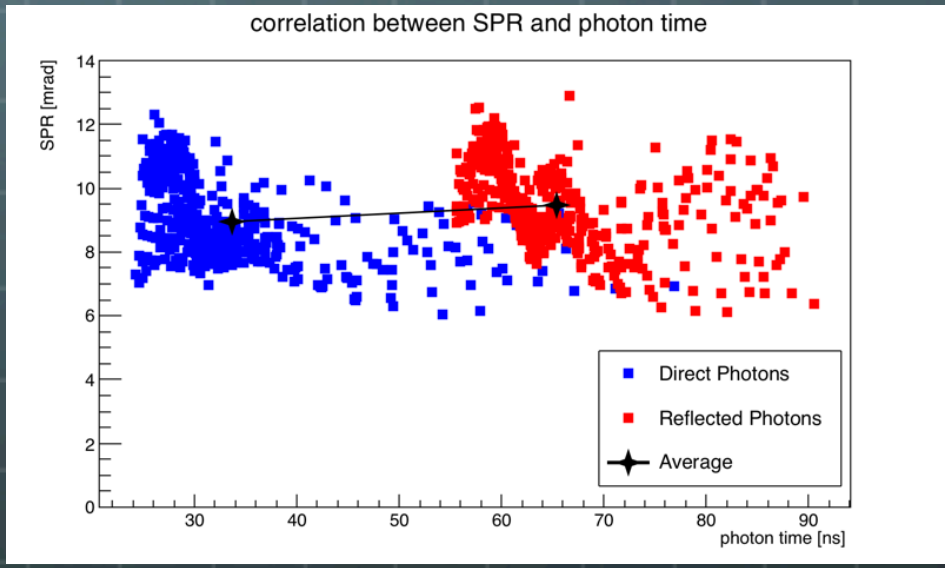
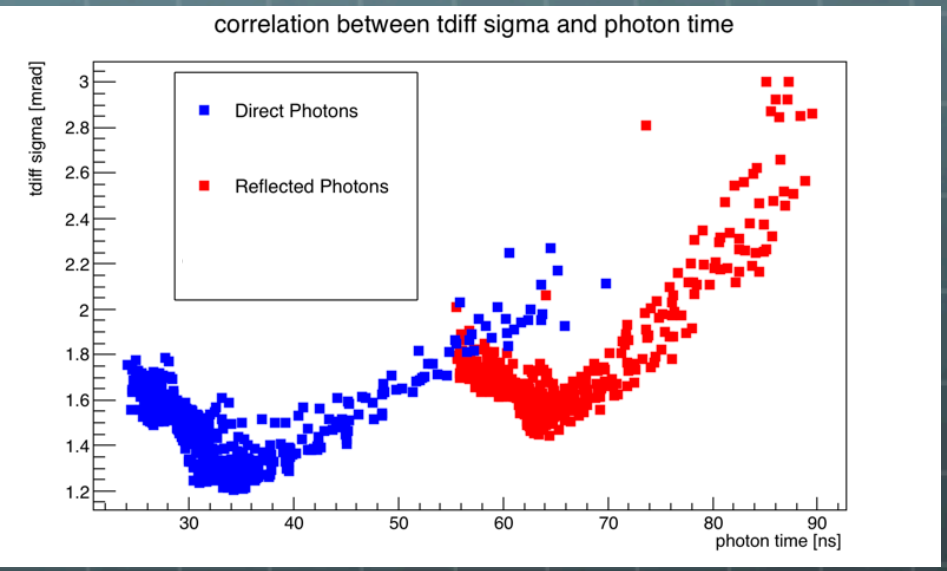


survey correction

Time Difference Sigma vs Photon Time



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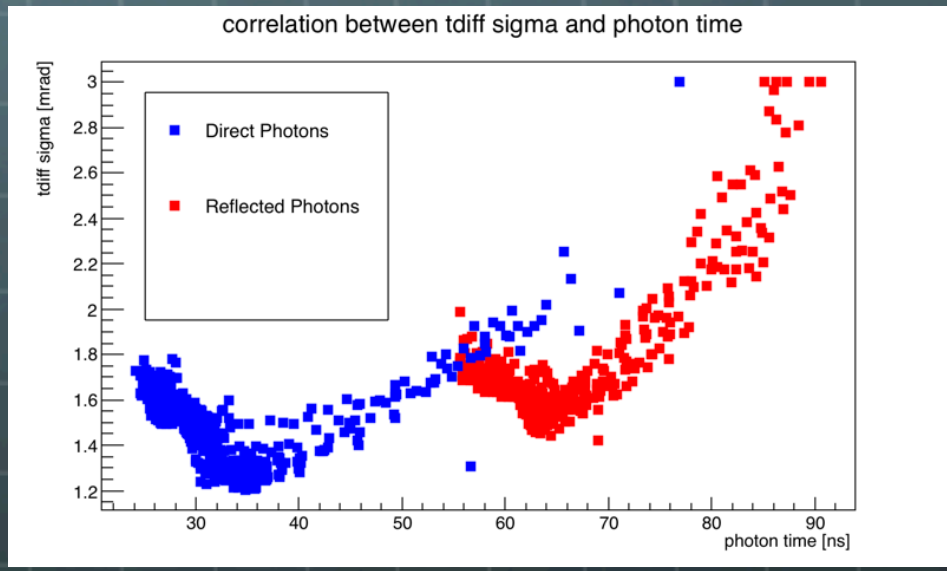


survey correction

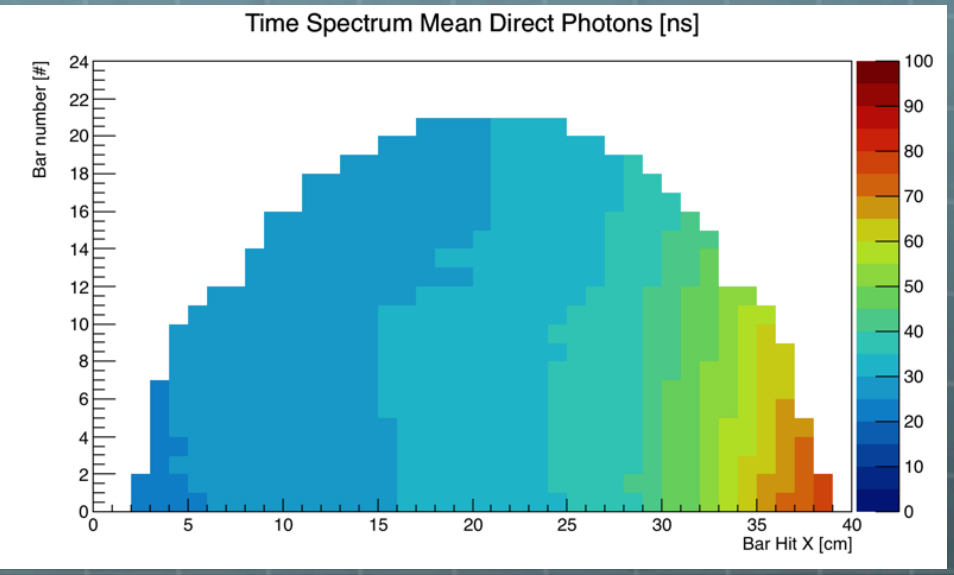
Momentum Direction Correction

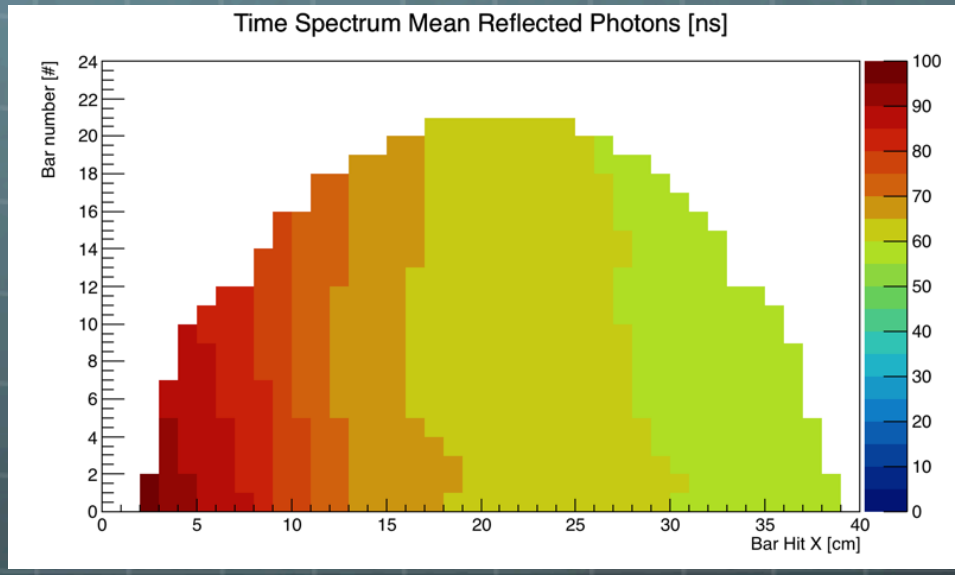
Next Step

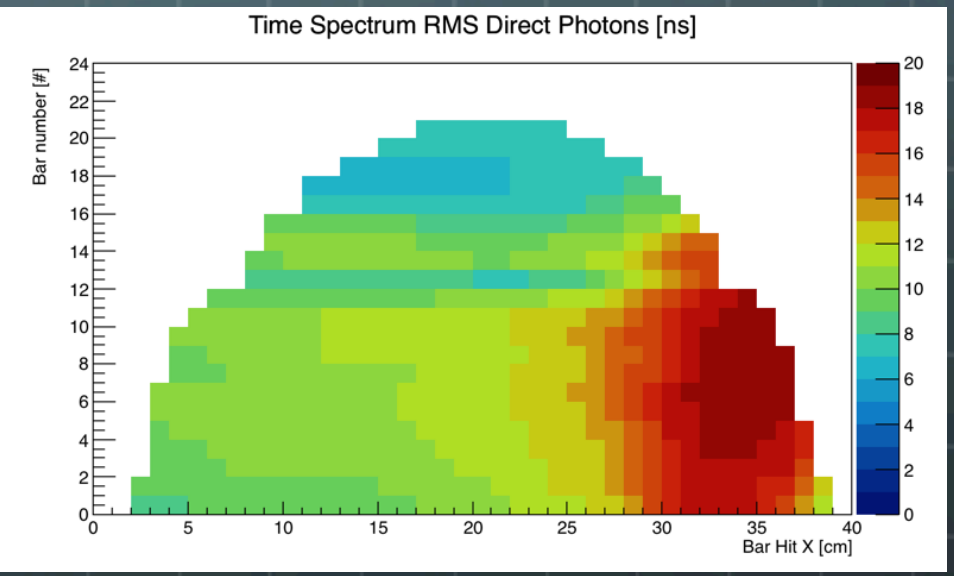
- Apply Momentum Direction Correction
- Apply Cherenkov angle Correction [per Bar per X bin per Direct/Reflected flag] since no correlation between the shift neither (yield nor SPR nor momentum)
- Calculate Separation power
- Calculate Tracking Resolution Map

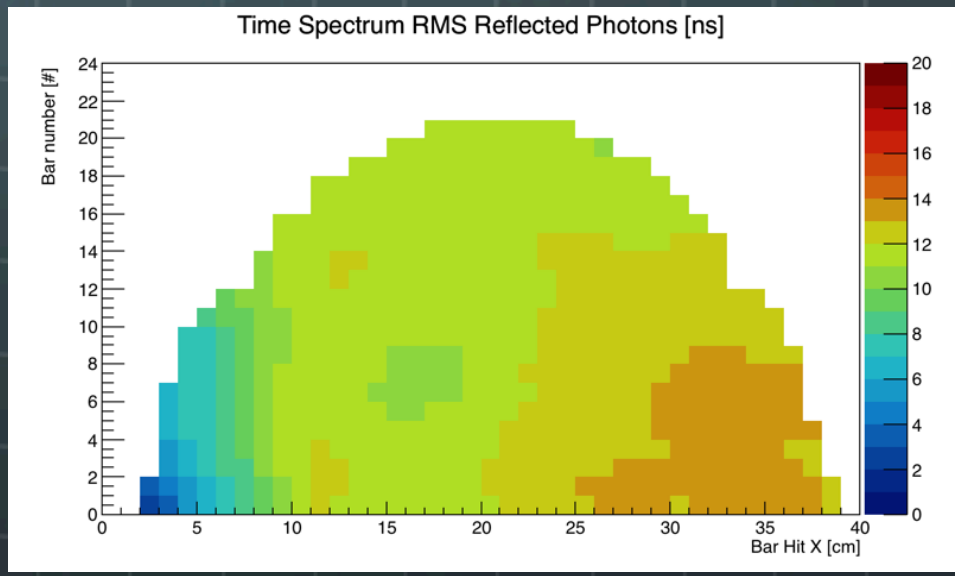
Backup Slides

Photon Time



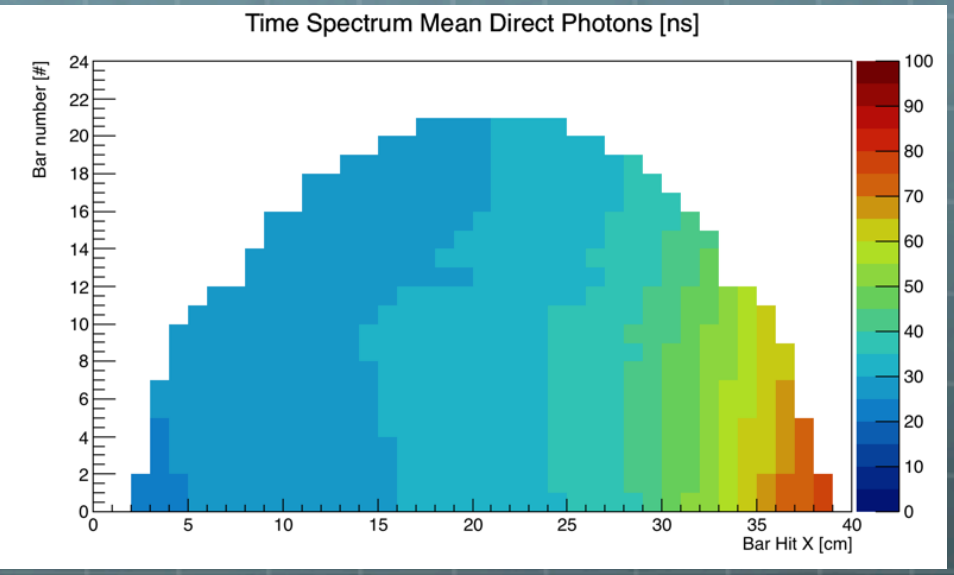


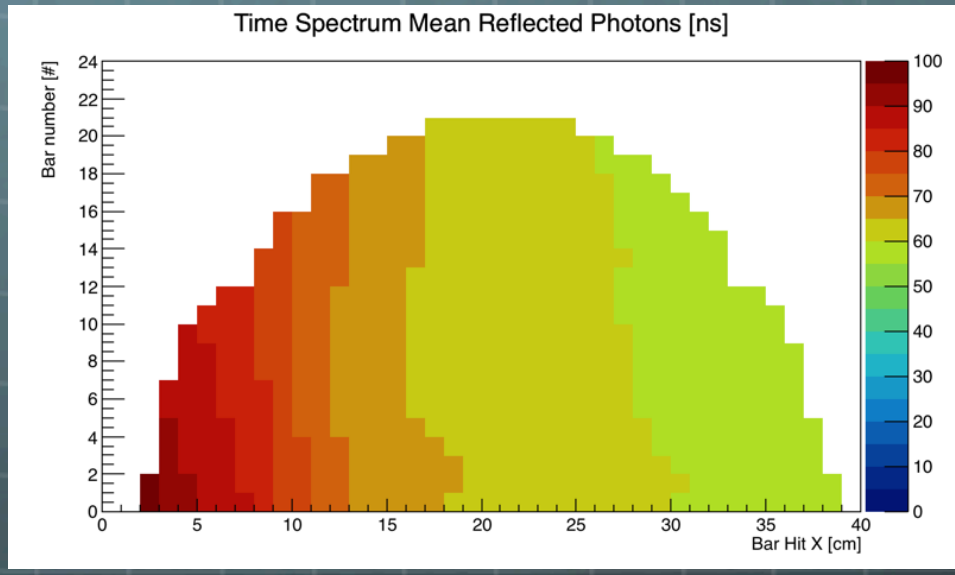


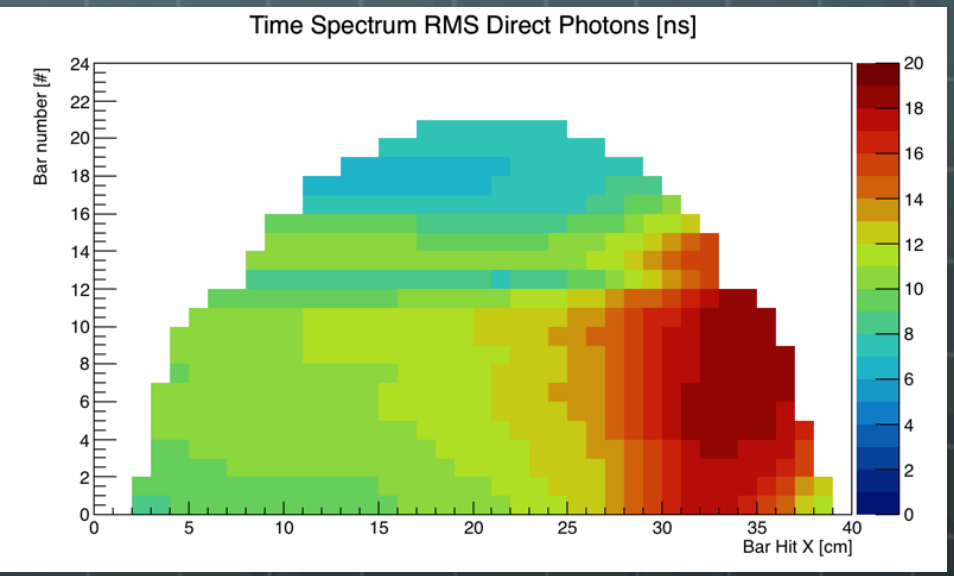


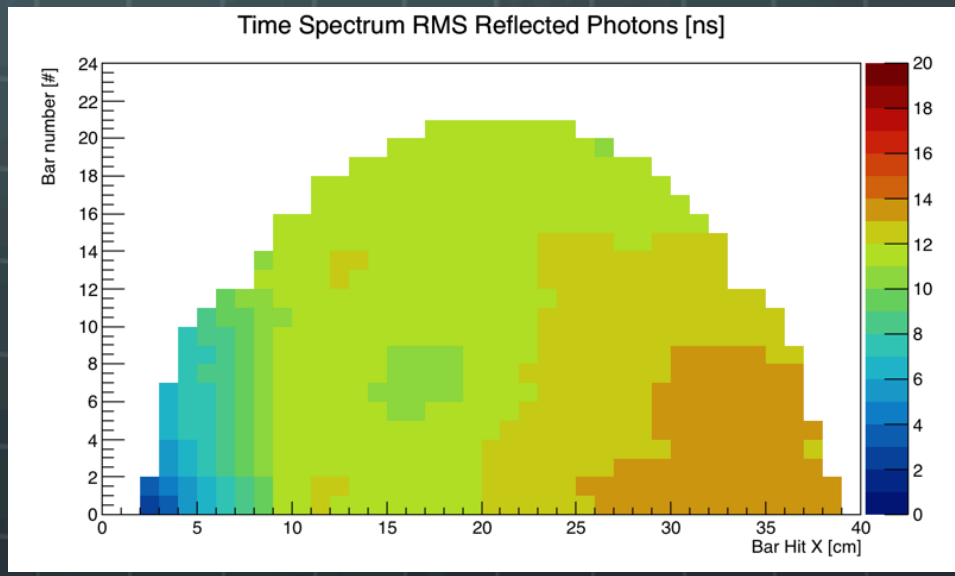
without correction

Photon Time









Survey correction