

BigBite Analysis

BB Bad Shower Events and BB Cer Photo-Electron Shifts

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Outline

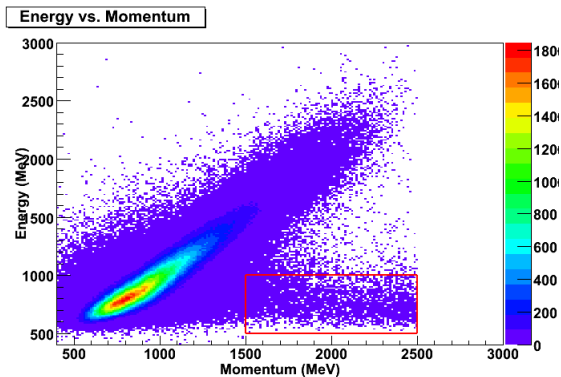
1 Bad Shower Events

2 BB Čerenkov Peds

3 For Next Meeting

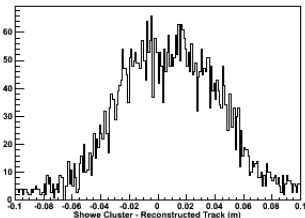
4-pass Shower Calibration: Energy and Momentum

- Select 'bad' events and see how the difference of shower cluster - reconstructed tracks look

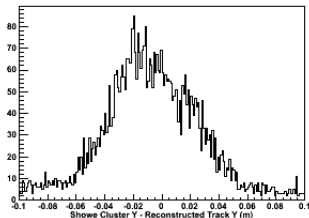


Track Matching

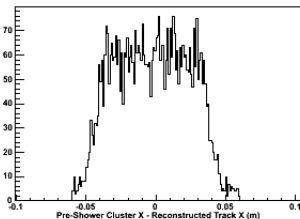
Difference of Shower Cluster and Reconstructed Track



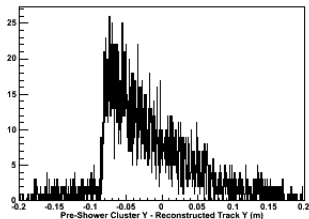
Difference of Shower Cluster Y and Reconstructed Track Y



Difference of Pre-Shower Cluster X and Reconstructed Track X



Difference of Pre-Shower Cluster Y and Reconstructed Track Y



'Bad Shower Events in Beam-Side BB Čerenkov

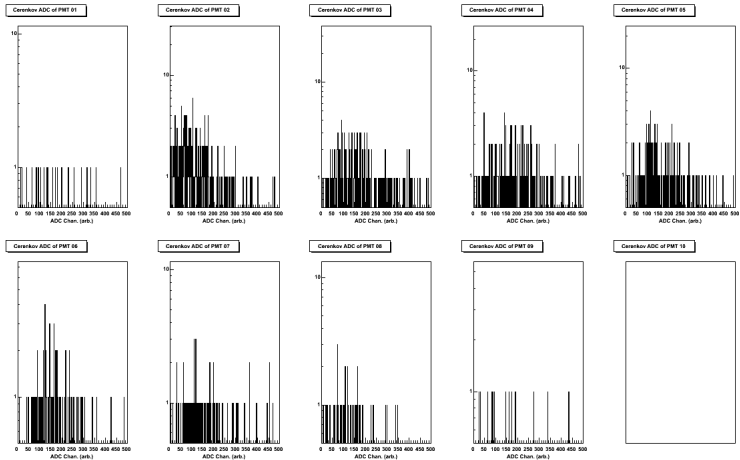


Figure: Beam-line side ADC

'Bad Shower Events in RHRS BB Čerenkov

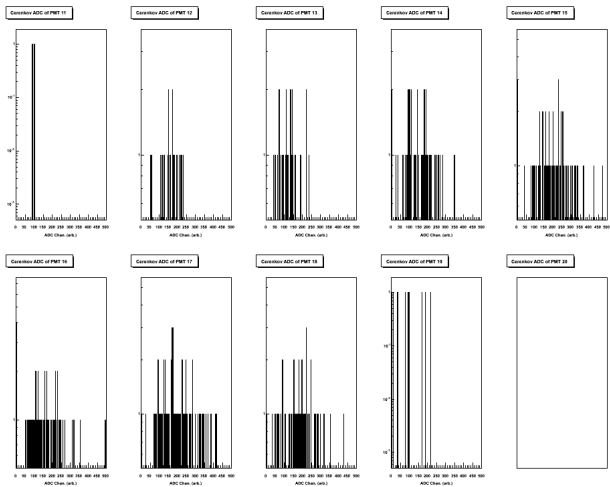
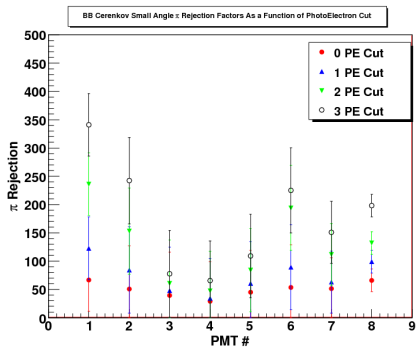


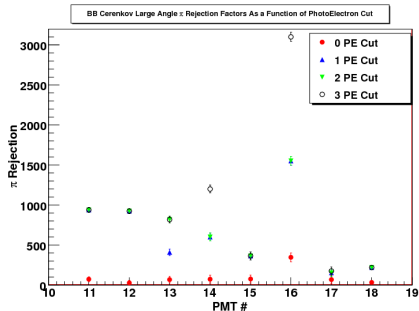
Figure: RHRS side ADC

Čerenkov PMT Pion Rejection

Beam-Side

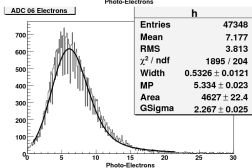
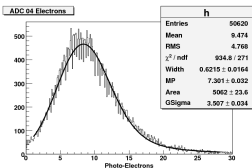
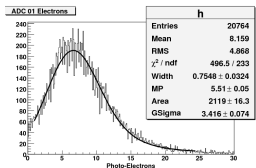


RHRS-Side

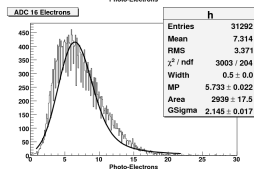
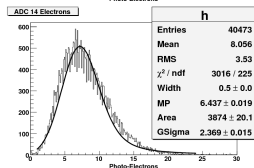
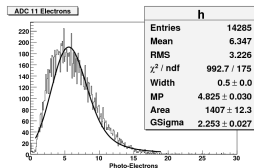


BB Čerenkov Moving Photo-Electron Mean

Beam-Side

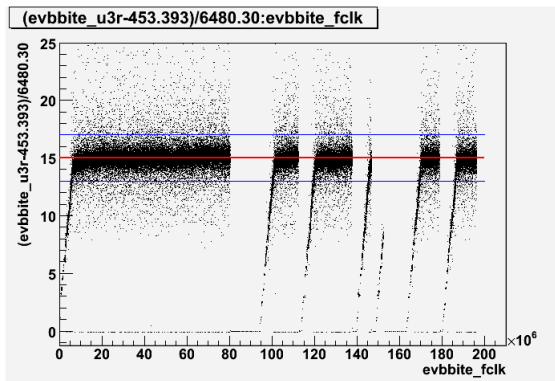


RHRS-Side



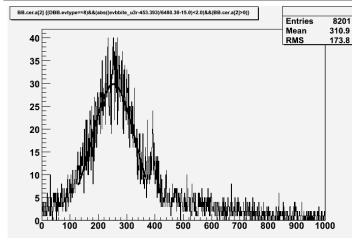
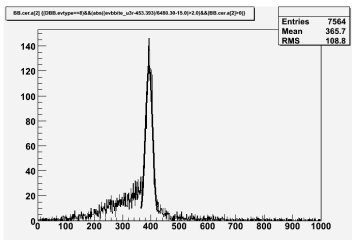
Moving BB Čerenkov Peds

- Ped on beam line side moves with current

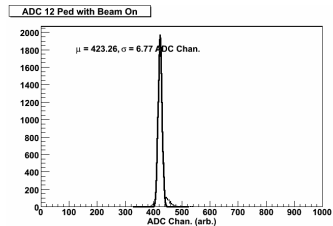
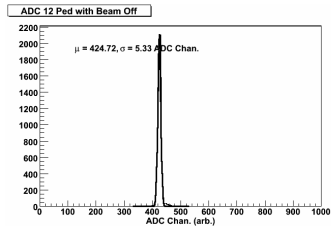


BB Čerenkov Peds w/wo Beam

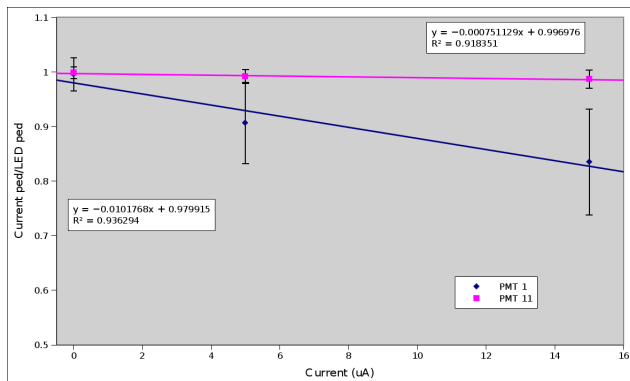
Beam-Side



RHRS-Side

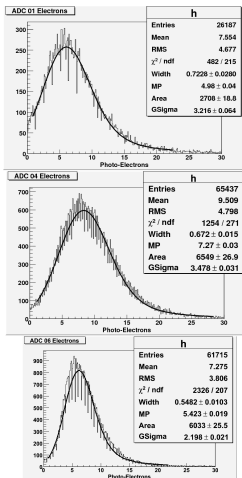


PMT 01 and PMT 11 Comparison as Function of Current

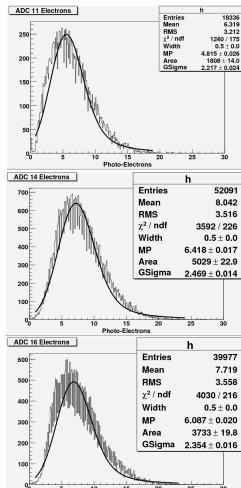


BB Čerenkov Moving Photo-Electron Mean (Correct Calibrations)

Beam-Side



RHRS-Side



Summary

- Beam side peds shift with beam
- I have already made corrections due to the ped shift based on end of run current Halog
- All peds agree to within 20 ADC channels
- Could use beam trip cut to select current, values for each PMT consistent at same current

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For Next Meeting...

- Tweak the peds/fix the pe calibration coefficients
- Plot ped values as a function of current (0,5 and 15 uA runs should be easy to find)
- Look at pion rejections for higher pe cut >3 ?