Analysis of runs 16-22

- Cherenkov angle resolution for various binning methods by Jose, Joe and Jerry

Cherenkov angle resolution for various binning methods



• Assumptions:

- a) Jose: show his IEEE data with 2.2 mrads/bin
- b) Jerry: 2.5 mrads/bin, apply a cut on the 2-nd peak to eliminate double hits
- c) Joe: Apply the bin averaging method both in data and in MC.

Slot 3 Cherenkov angle based on pixels - uncorrected

- Position 1, run 22, Slot 3, Jerry's analysis

- Double Gaussian fit; fix the 2-nd Gaussian sigma to 2.2°
- Fix mean of both Gaussians to 47.1°; vary norms 1 & 2
- Apply cut on data in the 2-nd peak if they arrive within an inte4rval <50ps, 1ns>



~2.5 mrad/bin



Slot 3 Cherenkov angle based on pixels - uncorrected







- Double Gaussian fit.
- Bin size: ~2.2 mrads/bin
- Float both normalizations, fix the mean values.
- Fix the 2-nd Gaussian sigma to 2.2°.

Slot 3 Cherenkov angle based on pixels - <u>uncorrected</u>

J.V.



Position 2 Slot3, Cher.angle, all pads, 1-stpeak: Chromatic correction off Entrie 47.11 0.4981 Mean RMS 10000 Integral 4.594e+04 5059 / 17 Narrow Norm 7569 ± 49.0 Narrow Sigma0.4202 ± 0.0020 8000 Wide Norm 138.6 ± 5.0 6000 4000 2000 93 47 48 -50 Cherenkov angle (deg) Slot 3, Cher.angle, all pads, 2-nd peak: Chromatic correction off Entries 21/30 Mean 47,24 RMS 0.6722 Integral 2.1766+04 χ^4 / ndf 1926 / 17 Narrow Norm 2666 ± 30.5 Narrow Sigma0.4631± 0.0044 4000 3500 3000 Wide Norm 227.1± 6.6 2500 2000 E 1500 E 1000 E 500 243 49 50 51 5: Cherenkov angle (deg) 48 **Position 6** Slot3. Cher.angle. all pads. 1-stpeak: Chromatic correction off 7000 r Mean RMS Integral x² / ndf 47.2 6000 E HMS 0.548 Integral 3.062e+04 χ² / ndf 2844 / 17 Narrow Norm 4830 ± 39.0 Narrow Sigma0.4327 ± 0.0027 5000 4000 F 3000 E 2000 1000 48 Cherenkov angle (deg) Slot 3, Cher.angle, all pads, 2-nd peak: Chromatic correction off 4000 戸 Entries 19689 Mean 4725 RMS 0.6301 Integral 1.969e+04 X² / ndf 1642 / 17 Narrow Norm 281443 :0.44 Narrow Sigma0.4476 ± 0.0041 Wide Norm 3500 3000 2500 Wide Norm 2000 F 1500 E 1000 500 44 45 47 48 49 50 51 5 Cherenkov angle (deg)





- Double Gaussian fit.
- Bin size: ~2.5 mrads/bin
- Float both normalizations, fix the mean values.
- Fix the 2-nd Gaussian sigma to 2.2°.

