

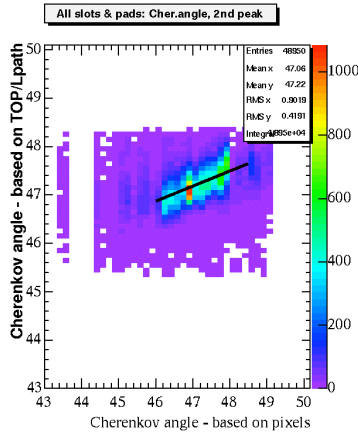
# Compare runs 12b and 22

- After tuning of time epsilons
- All constants from Geant 4 MC
- “Good run”
- Dynamical correction of hodoscope pedestals

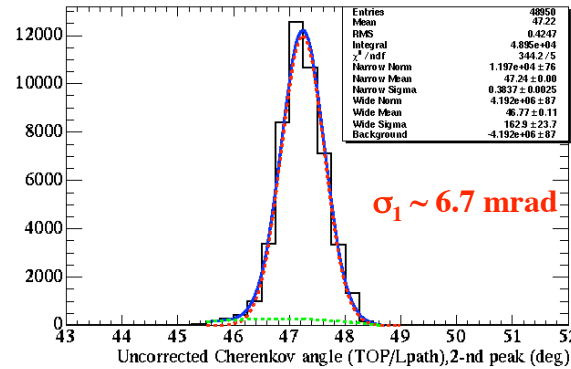
# Cherenkov angle resolution based on TOP - Assume: $\beta = 1$

## 1) Run 12b, pos. 1, the 2-nd peak (Ivan's $k_i$ constants):

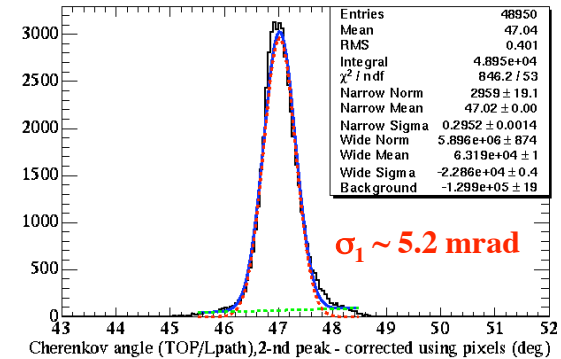
Use epsilon time offsets:



Raw

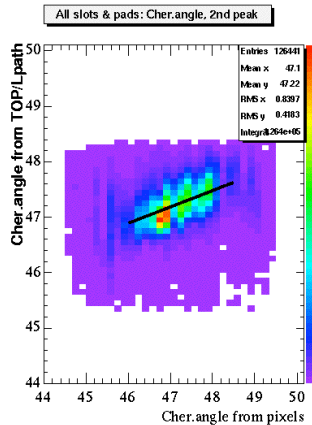


Chromatic correction using pixels (actual fit to data)

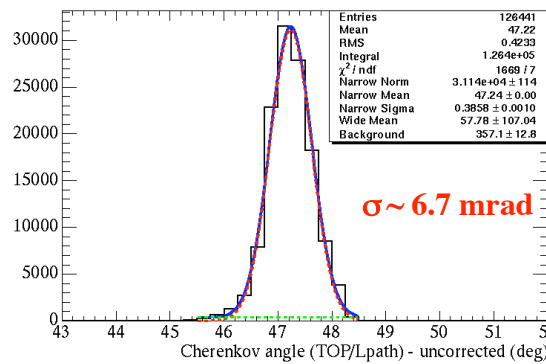


## 2) Run 22, pos. 1, the 2-nd peak (Joe's $k_i$ MC constants):

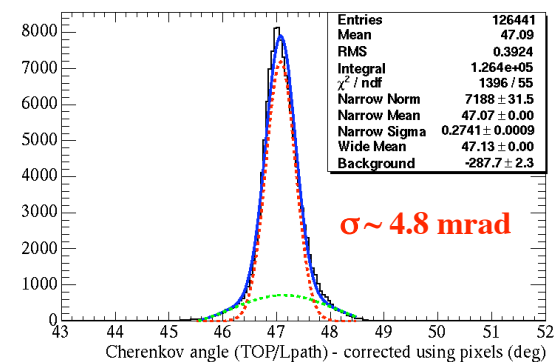
Time epsilon offsets from MC:



Cher.angle (TOP/Lpath), 2nd peak - chromatic correction off



Cherenkov angle (TOP/Lpath), 2nd peak, chromatic correction on

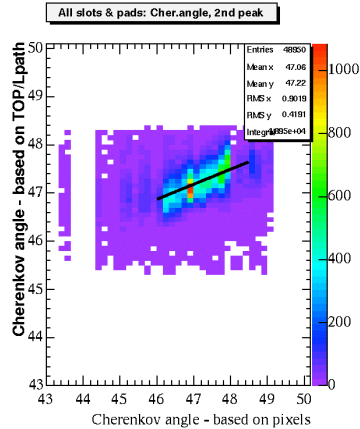


- Chromatic correction using the empirical correlation (data-driven shape).

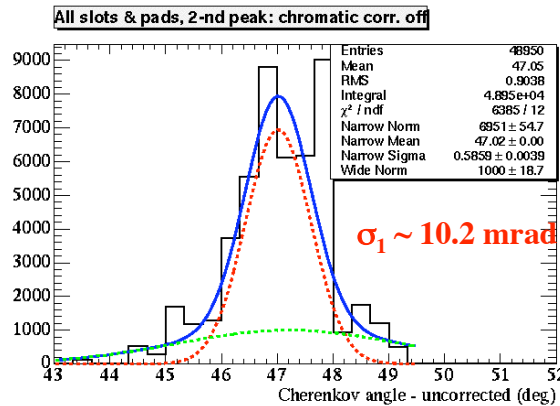
# Cherenkov angle resolution based on pixels - Assume: $\beta = 1$

## 1) Run 12b, pos. 1, the 2-nd peak (Ivan's $k_i$ constants):

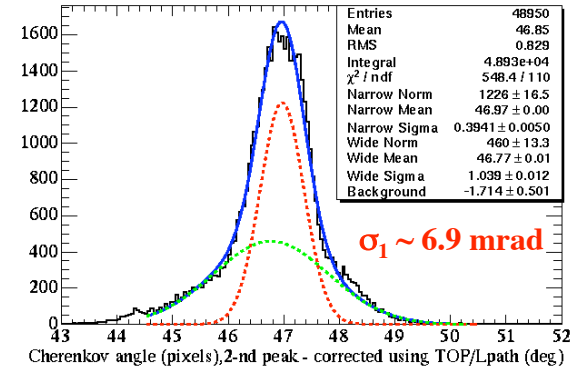
Use epsilon time offsets:



Raw

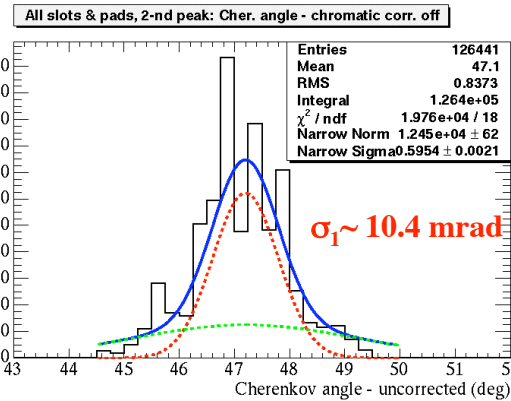
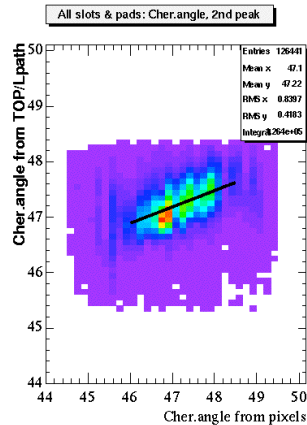


Chromatic correction using TOP

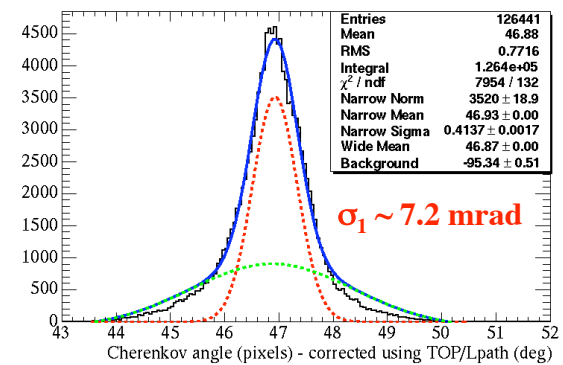


## 2) Run 22, pos. 1, the 2-nd peak (Joe's $k_i$ MC constants):

Time epsilon offsets from MC:



Cherenkov angle (pixels), 2nd peak, chromatic correction on

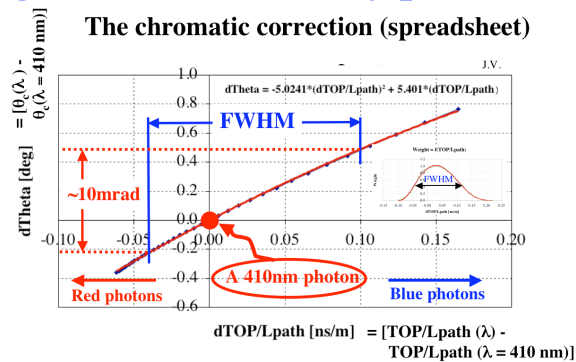


- Chromatic correction using the theoretical correlation ( $45^\circ$  angle).

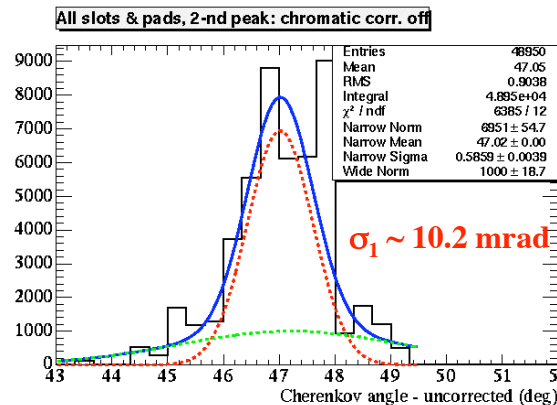
# Cherenkov angle resolution based on pixels

## 1) Run 12b, pos. 1, the 2-nd peak (Ivan's $k_i$ constants):

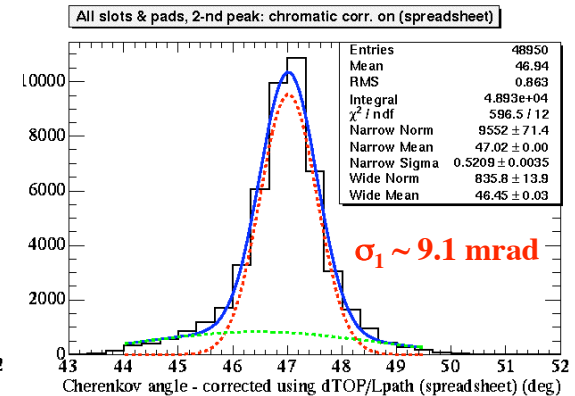
Fit a quadratic curve over an entire region of the efficiency profile:



Raw



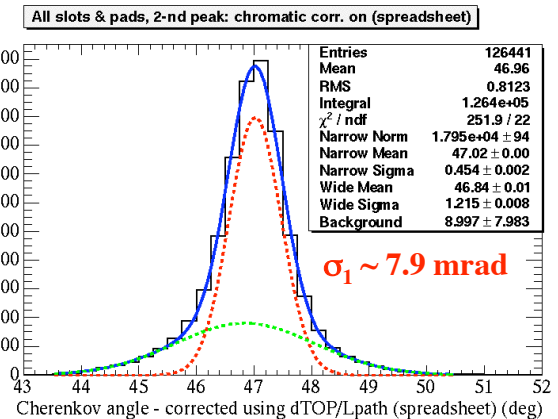
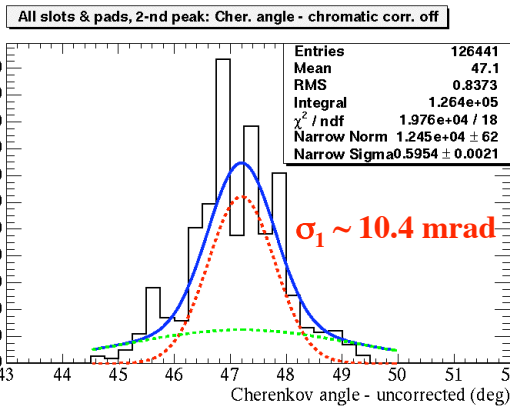
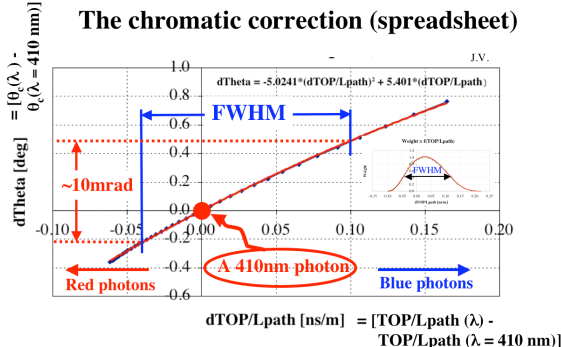
Chromatic correction using TOP/Lpath (Spreadsheet)



## 2) Run 22, pos. 1, the 2-nd peak (Joe's $k_i$ MC constants):

Time epsilon offsets from MC:

Fit a quadratic curve over an entire region of the efficiency profile:

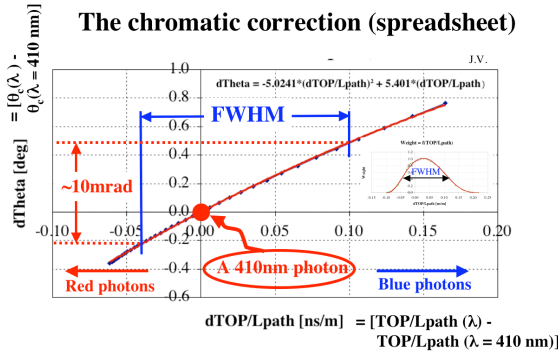


- Chromatic correction using the theoretical correlation (refraction index-driven).

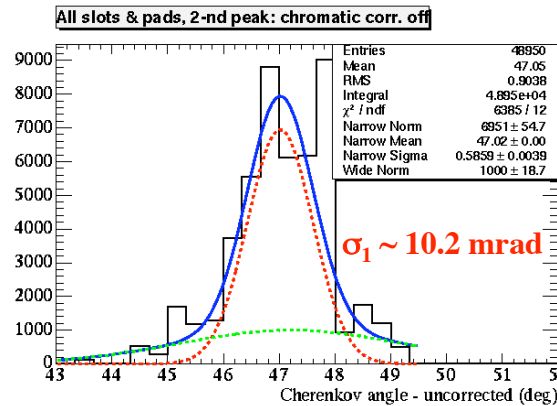
# Cherenkov angle resolution based on pixels

## 1) Run 12b, pos. 1, the 2-nd peak (Ivan's $k_i$ constants):

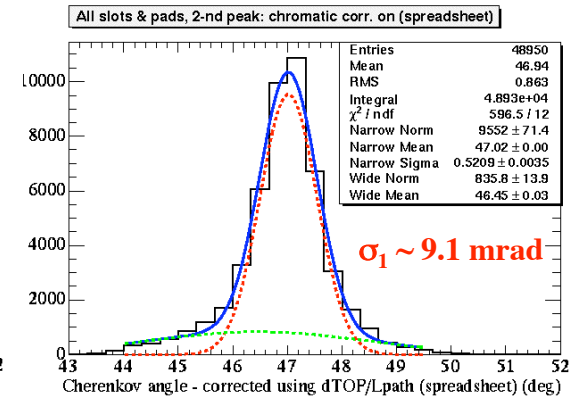
Fit a quadratic curve over an entire region of the efficiency profile:



Raw

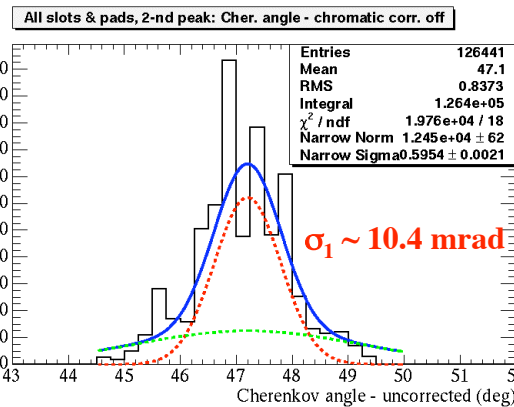
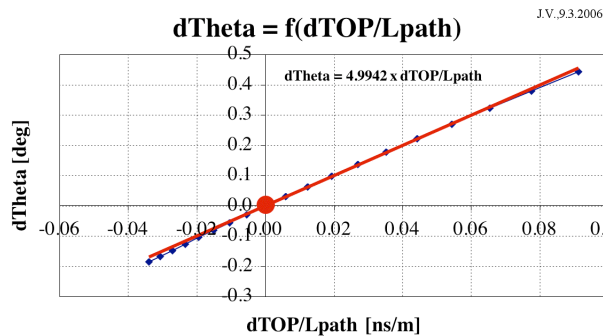


Chromatic correction using TOP/Lpath (Spreadsheet)

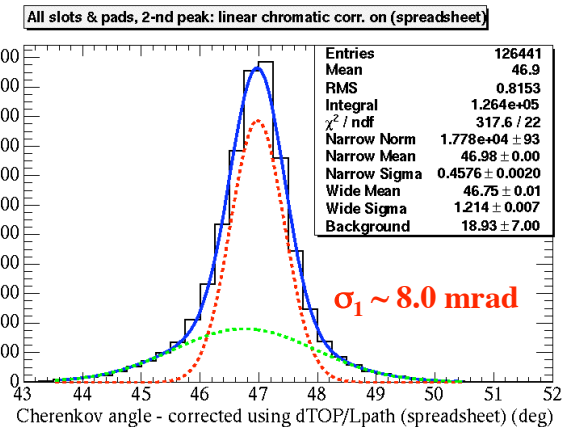


## 2) Run 22, pos. 1, the 2-nd peak (Joe's $k_i$ MC constants):

Fit a linear curve over a FWHM region of the efficiency profile:



Time epsilon offsets from MC:

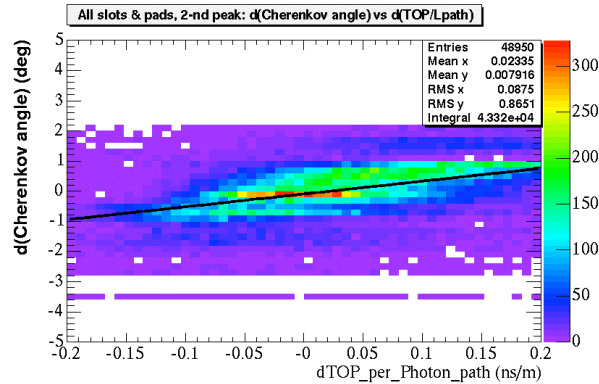


- Chromatic correction using the theoretical correlation (refraction index-driven).

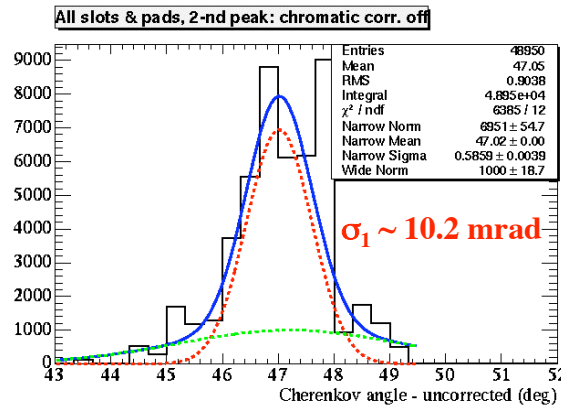
# Cherenkov angle resolution based on pixels

## 1) Run 12b, pos. 1, the 2-nd peak (Ivan's $k_i$ constants):

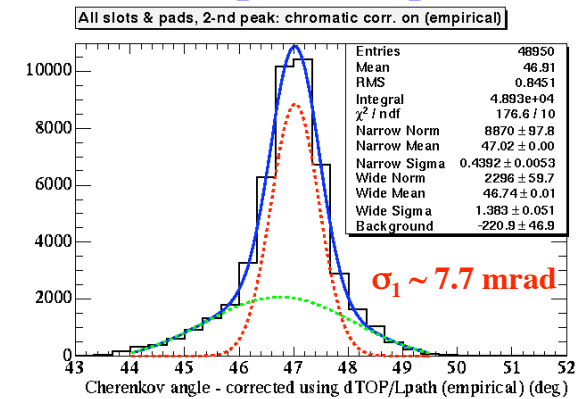
Use epsilon time offsets:



Raw

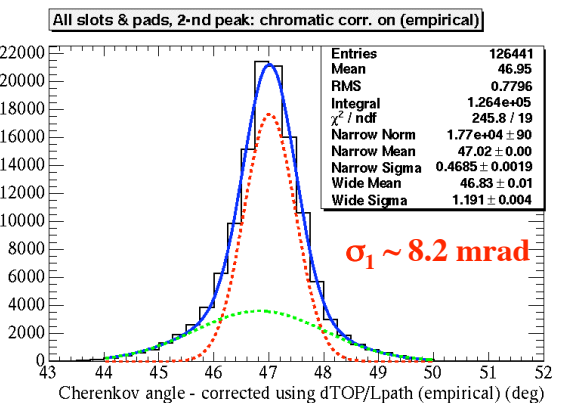
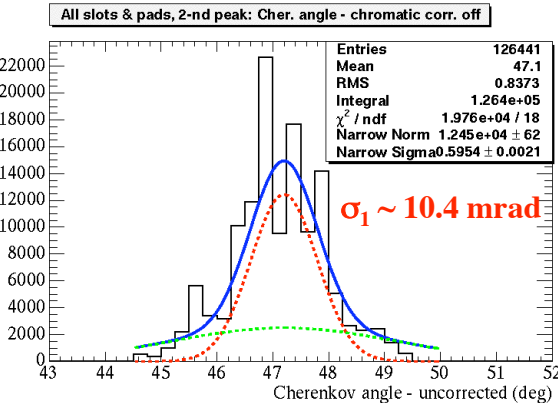
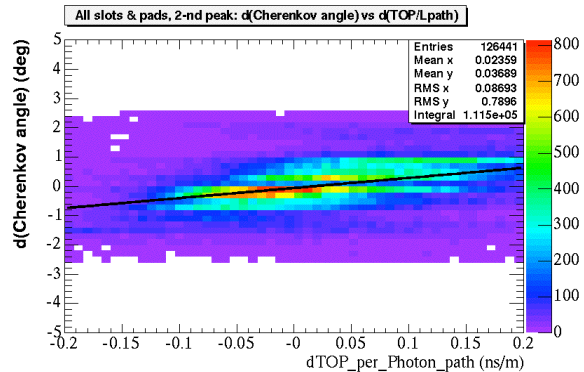


Chromatic correction  
TOP/Lpath (Empirical)



## 2) Run 22, pos. 1, the 2-nd peak (Joe's $k_i$ MC constants):

Time epsilon offsets from MC:



- Chromatic correction using the **empirical** correlation (data-driven shape).