

**BGO revisited**  
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# Runs, conditions, cuts

- **Pions 200 GeV**

runs 1613-1642

OSC1-ADC26 (Left, thin side) HV@1500 : Yellow filter

OSC2-ADC25 (Right, thick side) HV@1800: UV filter

OSC scale = 2ns/sample

- **Electrons 50 GeV**

runs 1681-1705

as above but HVLeft@1300 HVRight@1700

gate width closes 10ns after pulse start

## Cuts:

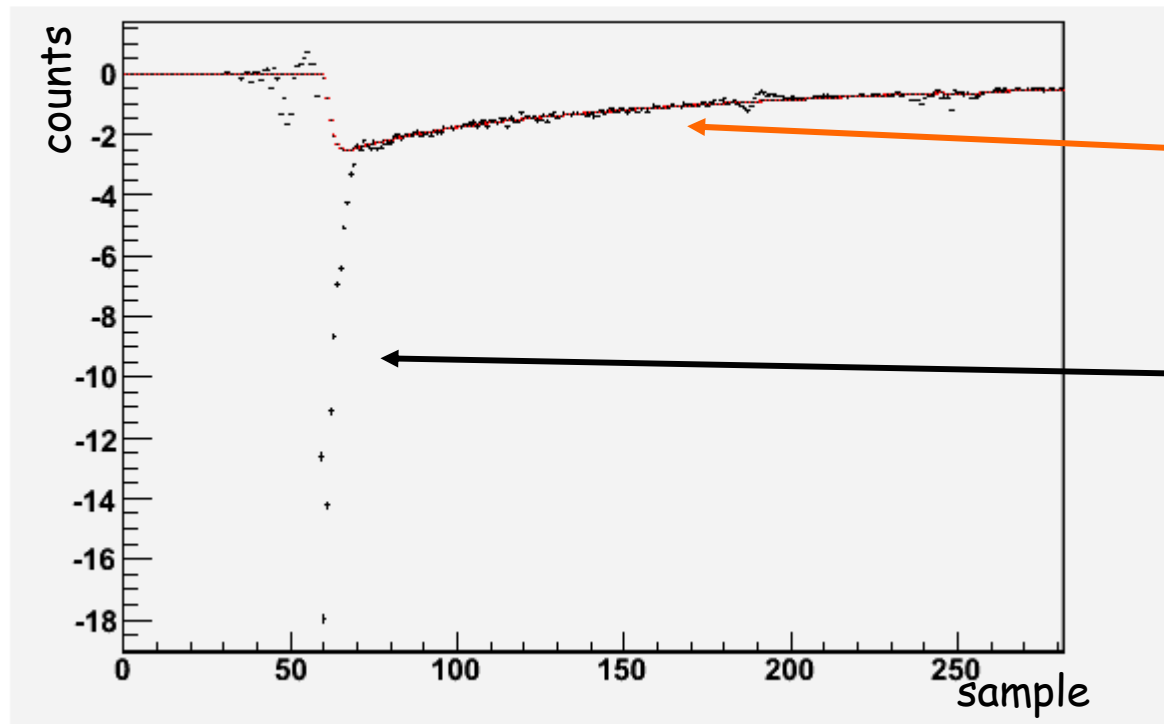
remove events with clipped OSC signals

$2\sigma$  window in the beam chamber distributions

# Pions

# Subtraction of residual scintillation component

- Look only to UV side
- Subtract scintillation using shape of yellow side at  $0^\circ$  from electron run for all angles
- Yellow side of pions runs always shows signs of saturations

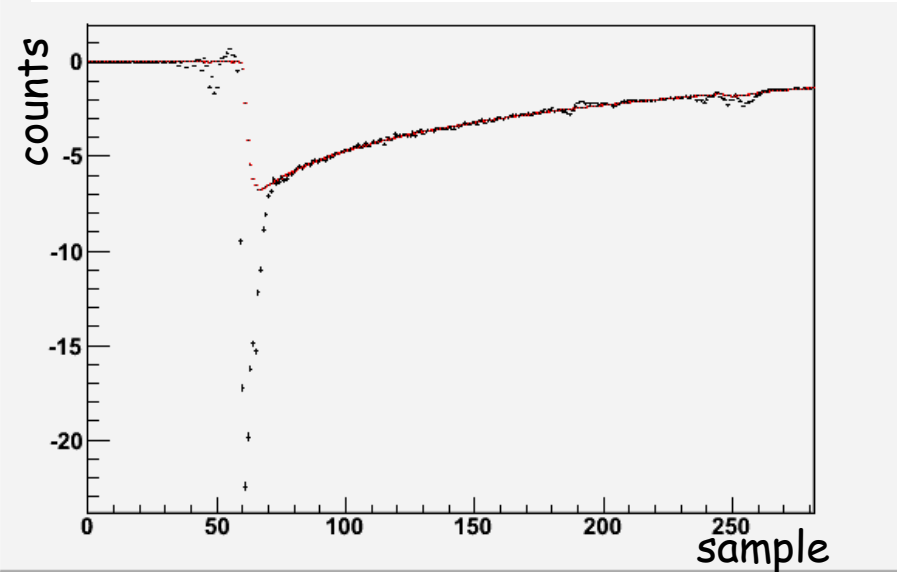


Yellow side from  $0^\circ$  electron run, scaled to the same integral in range [100,150]

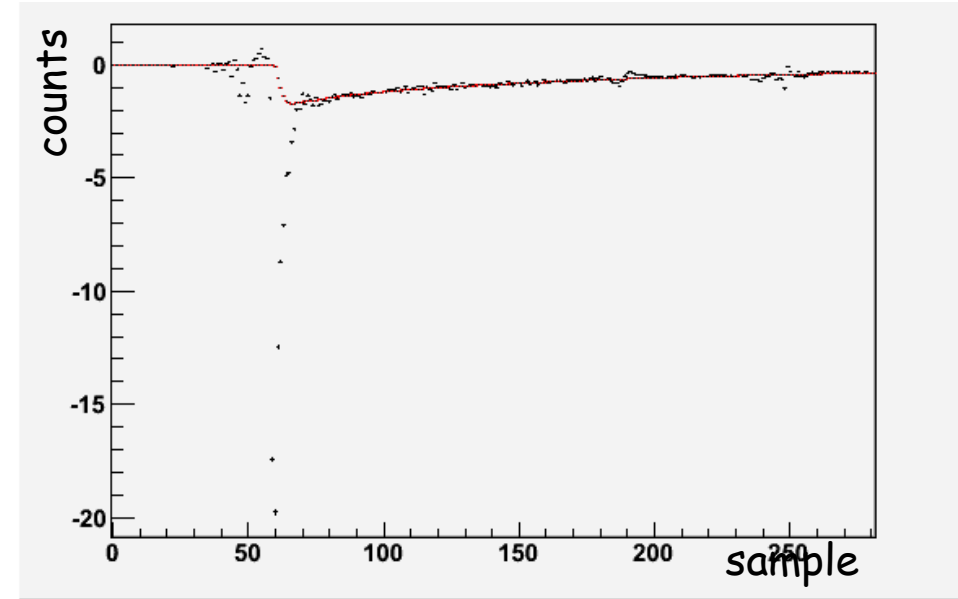
UV side pions at  $0^\circ$

# Subtraction of residual scintillation component(II)

$\Theta = -60^\circ$

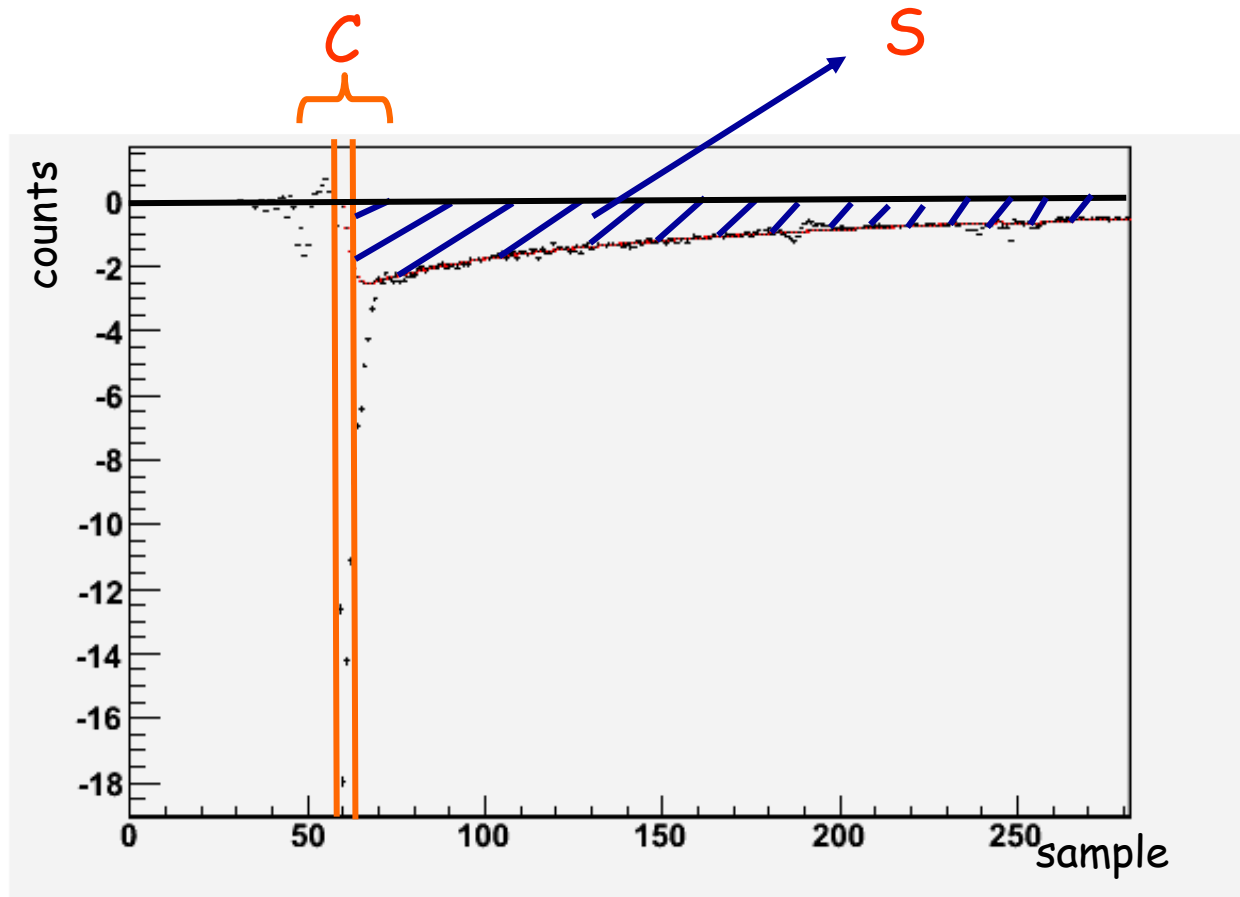


$\Theta = +30^\circ$



# C/S vs $\theta$

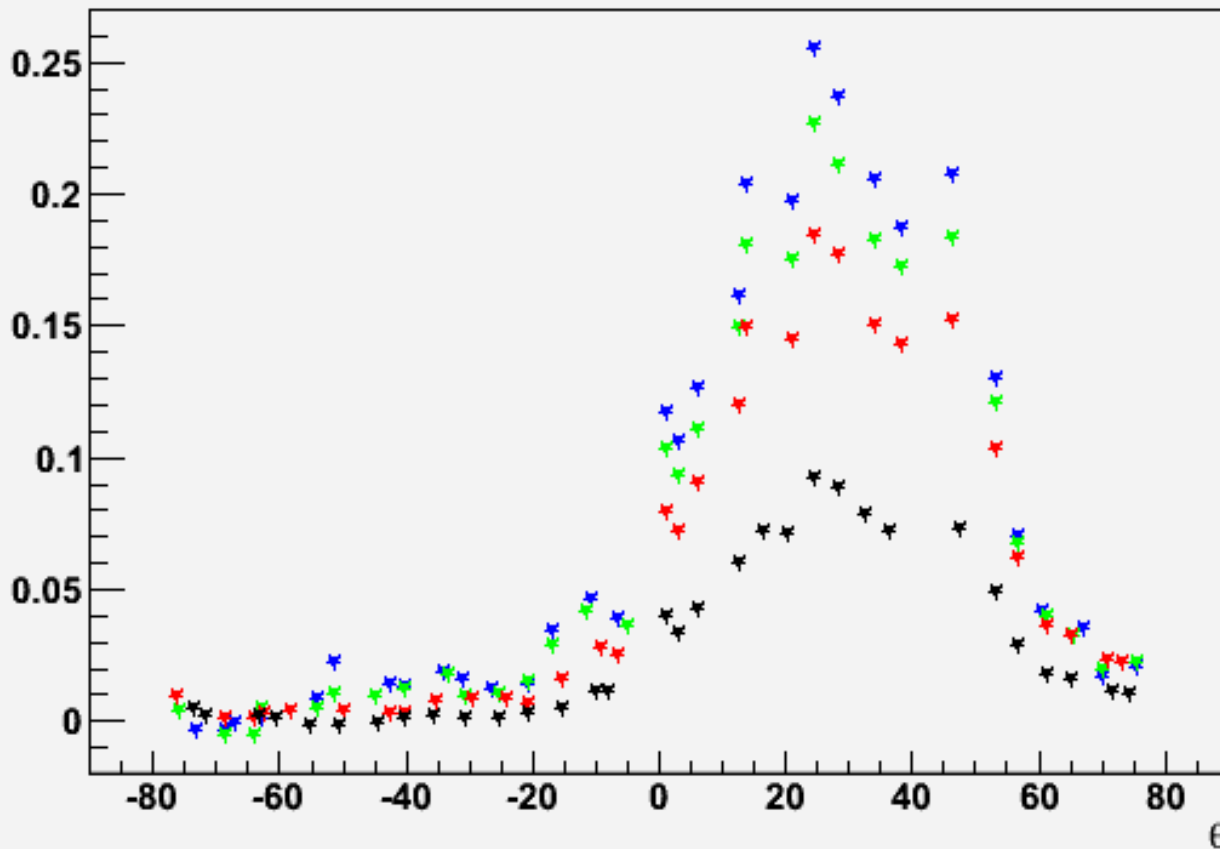
the C/S computed as **integral of (scintillation-subtracted) UV side in first N ns** over the total scintillation on the UV side



# C/S vs $\theta$

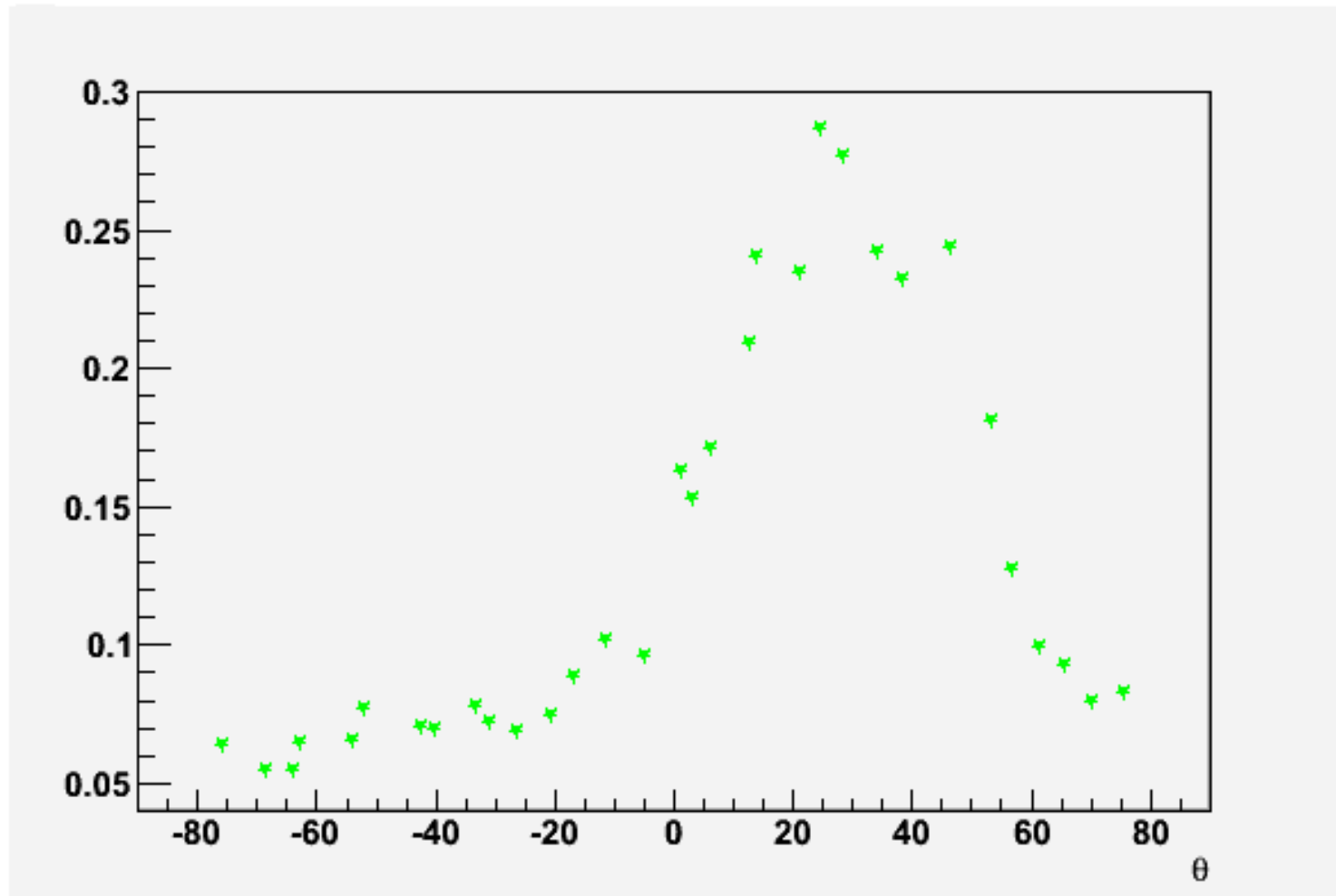
- From the *average* signal distributions:

Blue=10ns  
Green=8ns  
Red=6ns  
Black=4ns



## C/S vs $\theta$ (II)

- From the *average* signal distributions  $C$  integrated for 8ns:

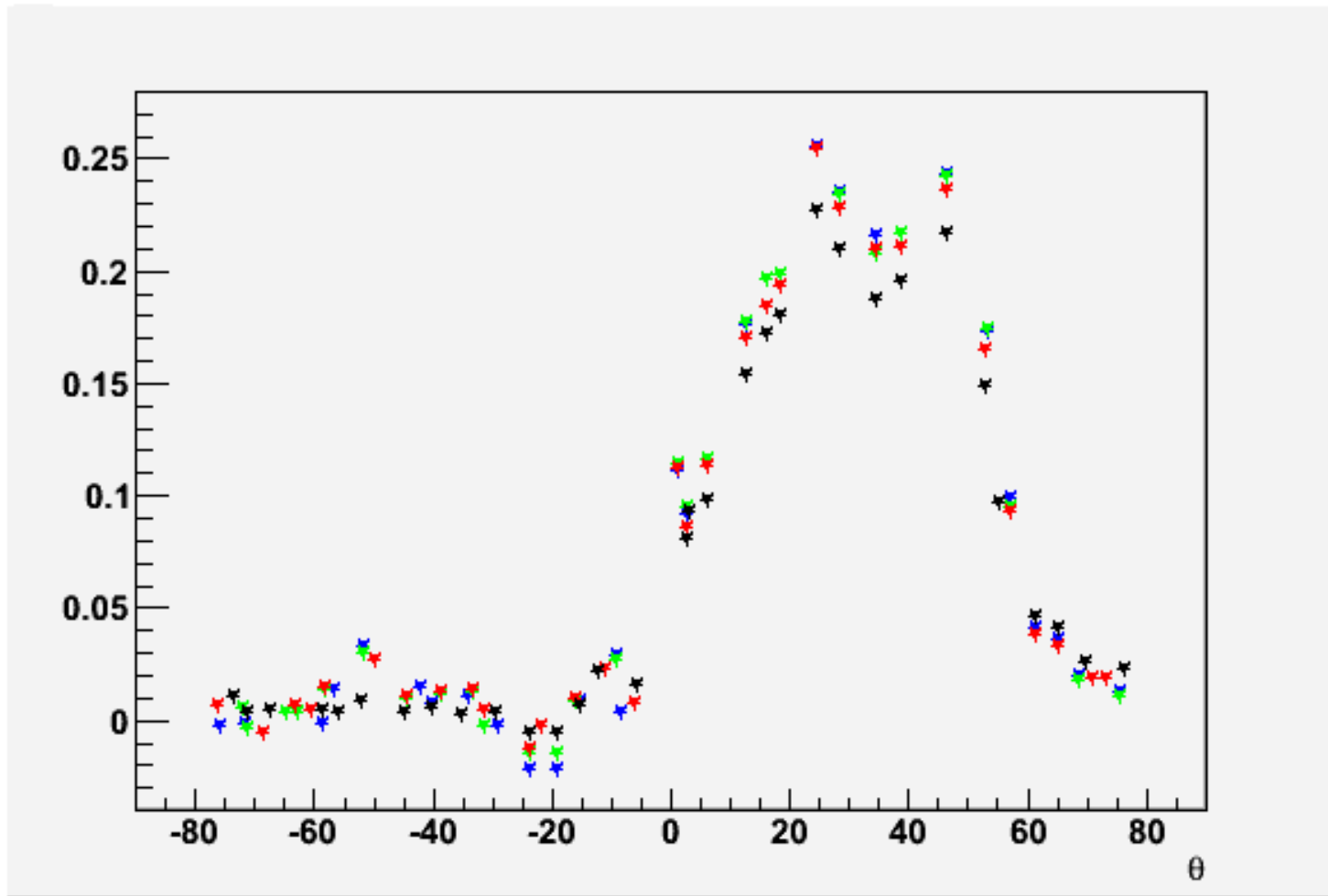




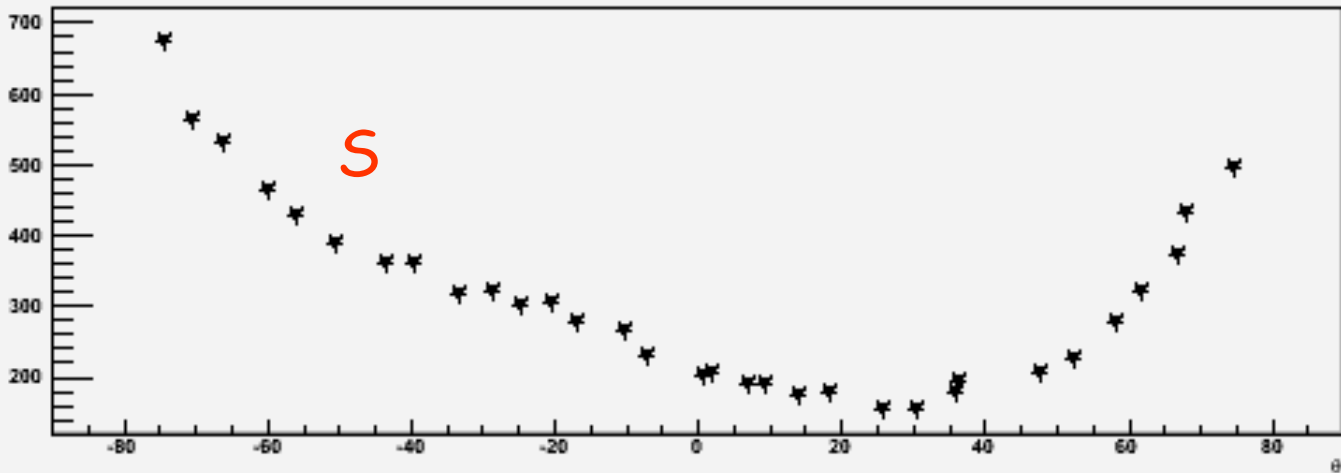
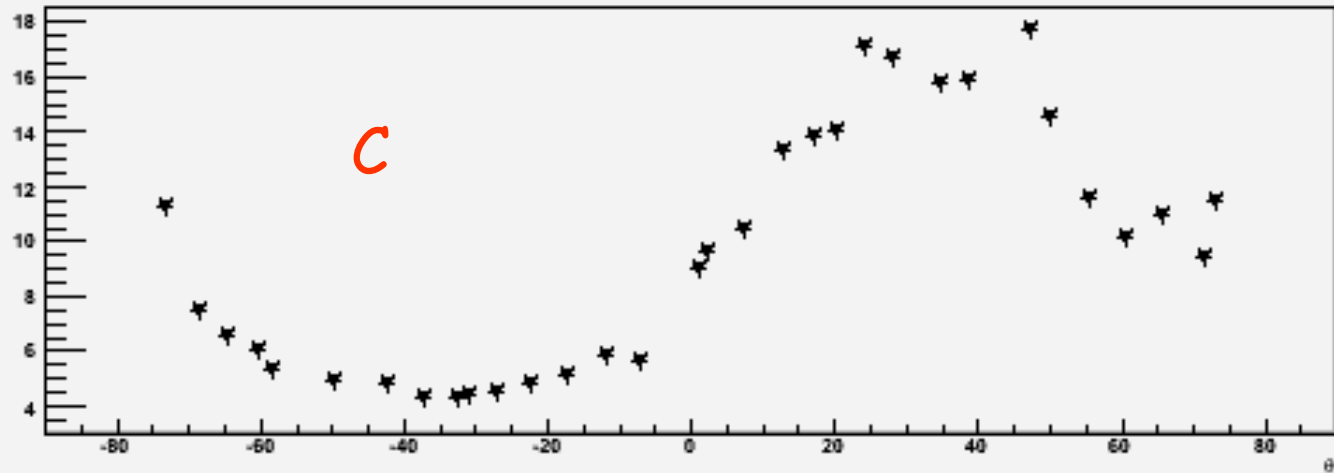
# C/S vs $\theta$

- From the event by event signal distributions:

Blue=10ns  
Green=8ns  
Red=6ns  
Black=4ns



# Total integrated C and S vs $\theta$

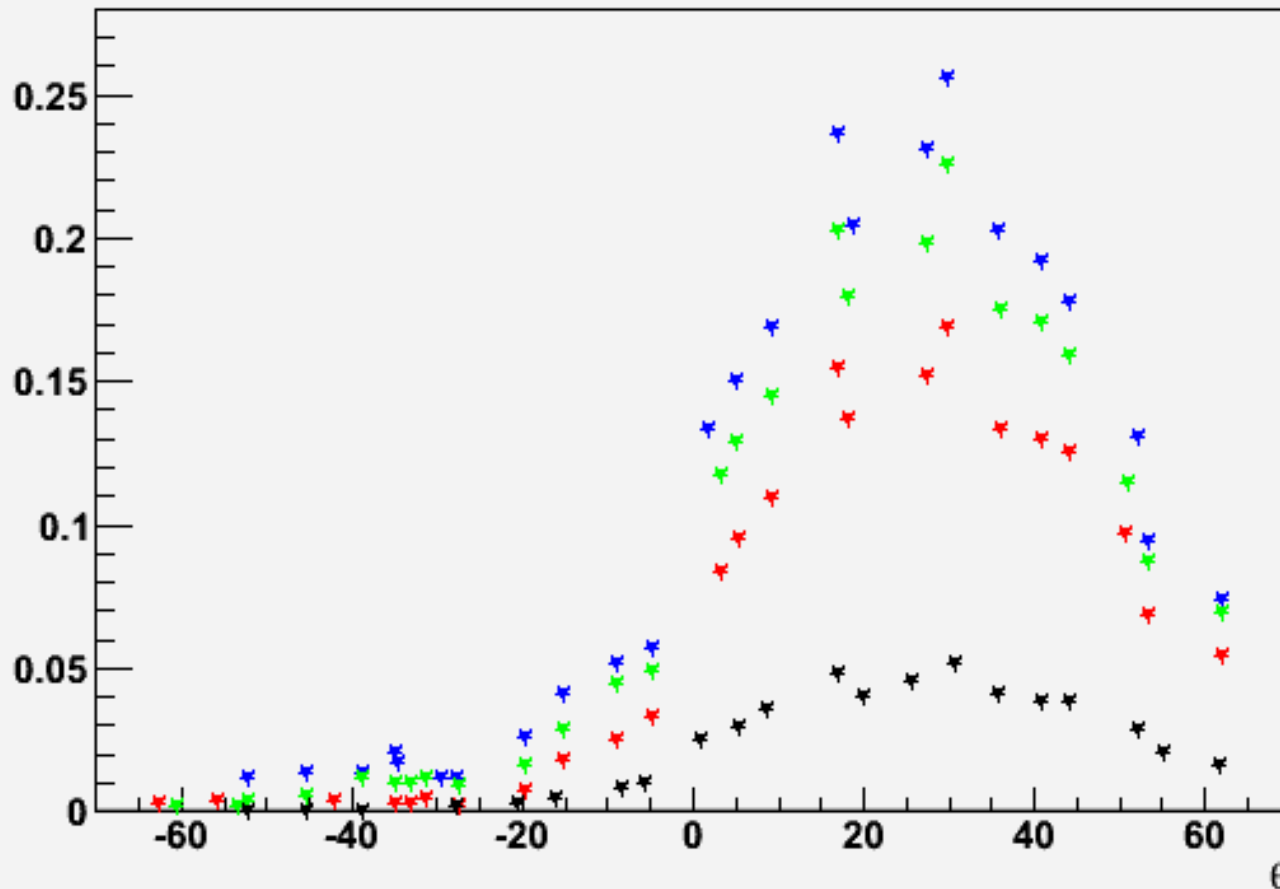


# Electrons

# C/S vs $\theta$

- From the *average* signal distributions:

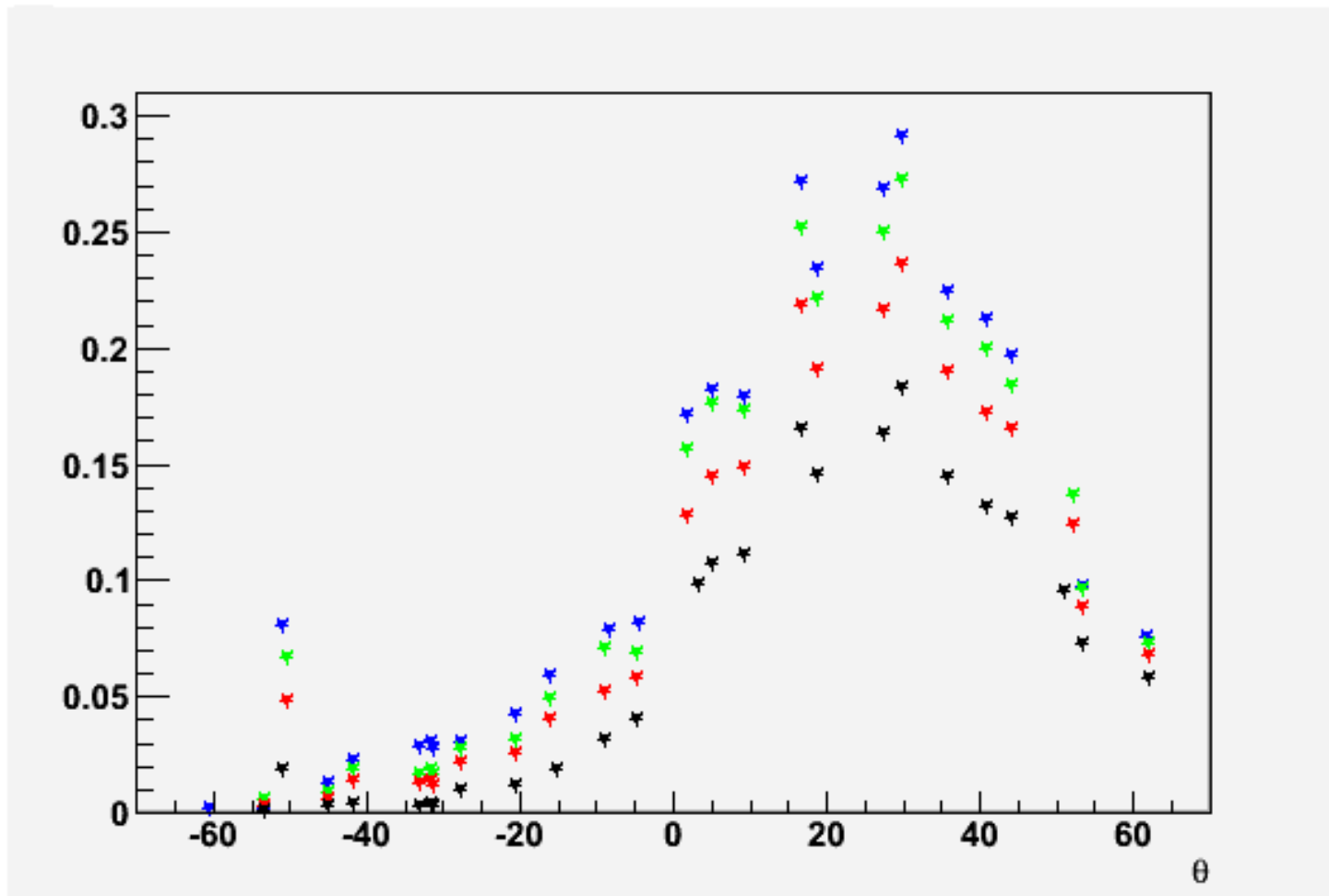
Blue=10ns  
Green=8ns  
Red=6ns  
Black=4ns



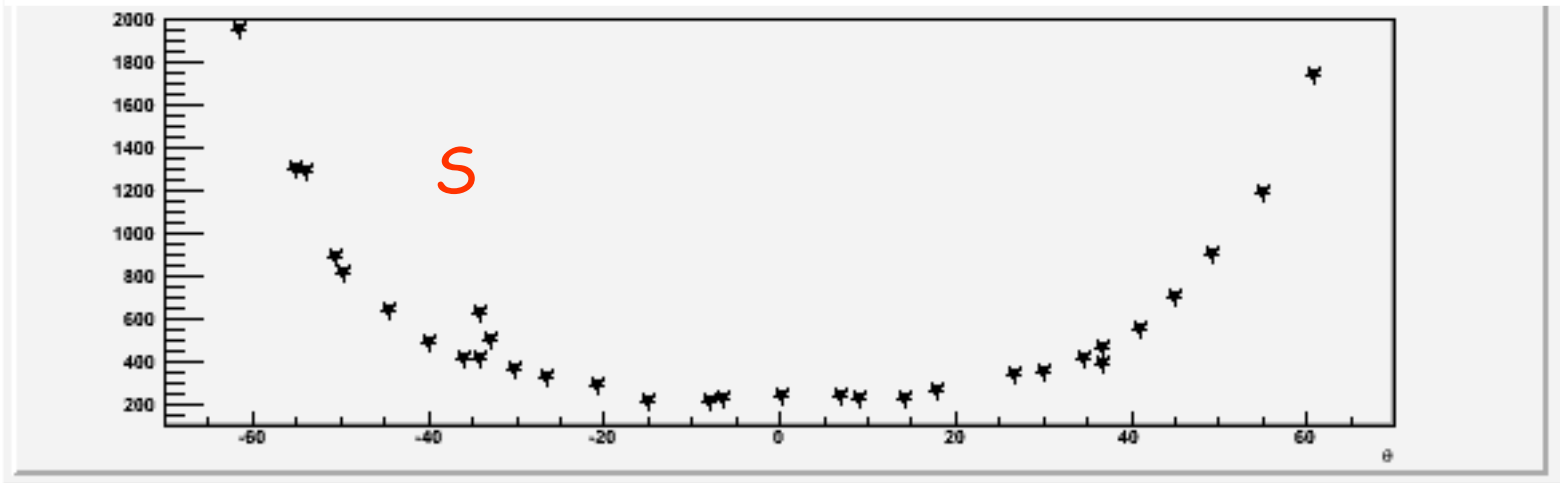
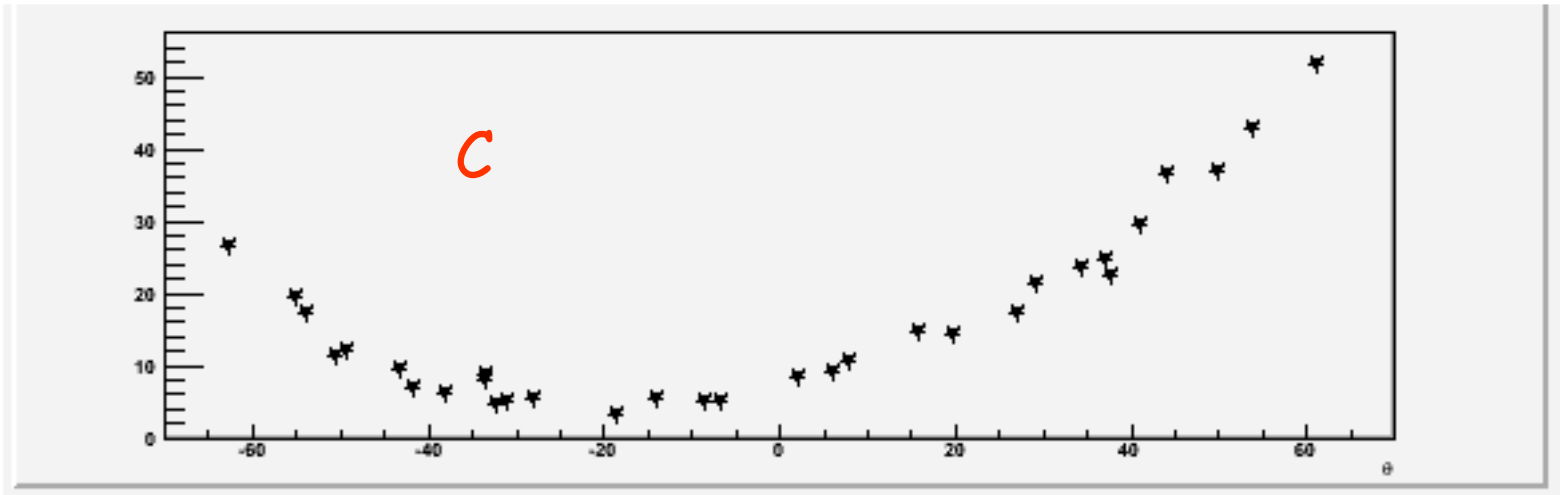
# C/S vs $\theta$

- From the event by event signal distributions:

Blue=10ns  
Green=8ns  
Red=6ns  
Black=4ns



# Total integrated C and S vs $\theta$



# Summary and to do

- Improved  $C/S$  measurement with subtraction of scintillation under the Cherenkov peak implemented, using scintillation shape from non saturated yellow side
- Results not very different from non-subtracted charge ratios shown last time
- Same  $C/S$  observed for pion and electron as a function of  $\theta$
- Still to be done; accurate study of  $C/S$  uncertainty when computed event by event