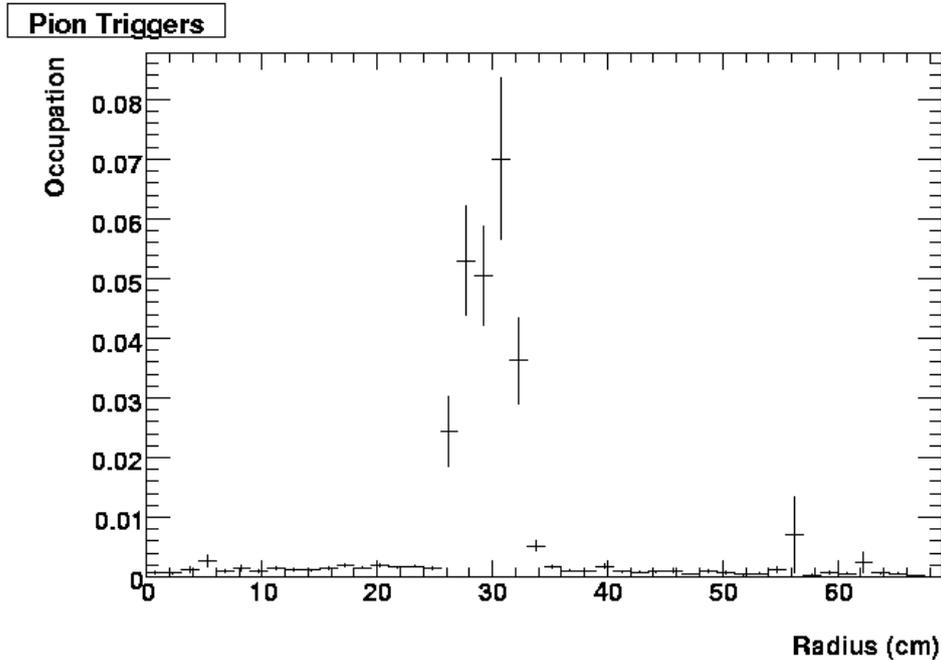
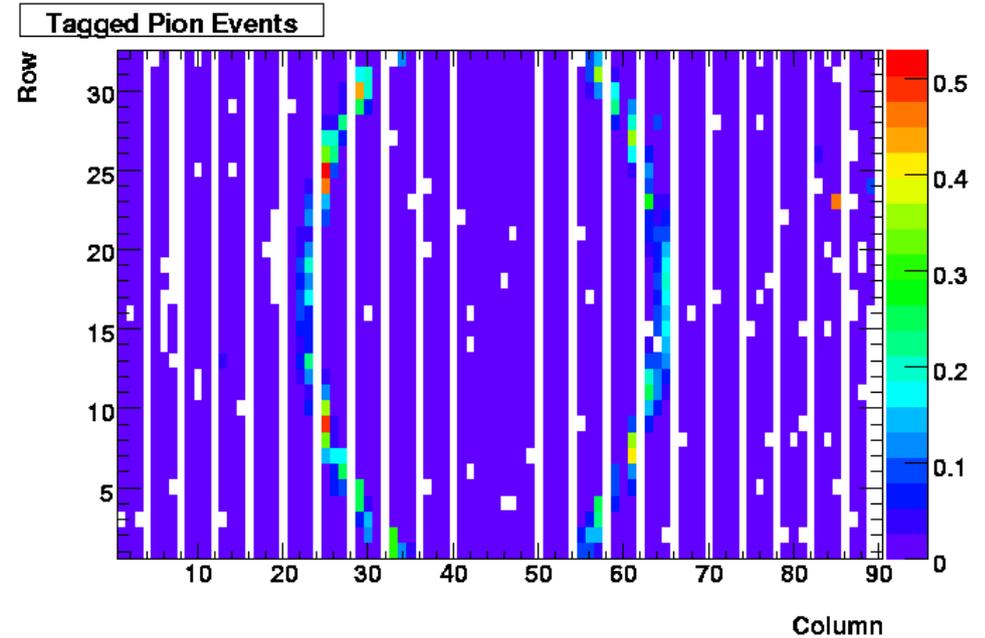
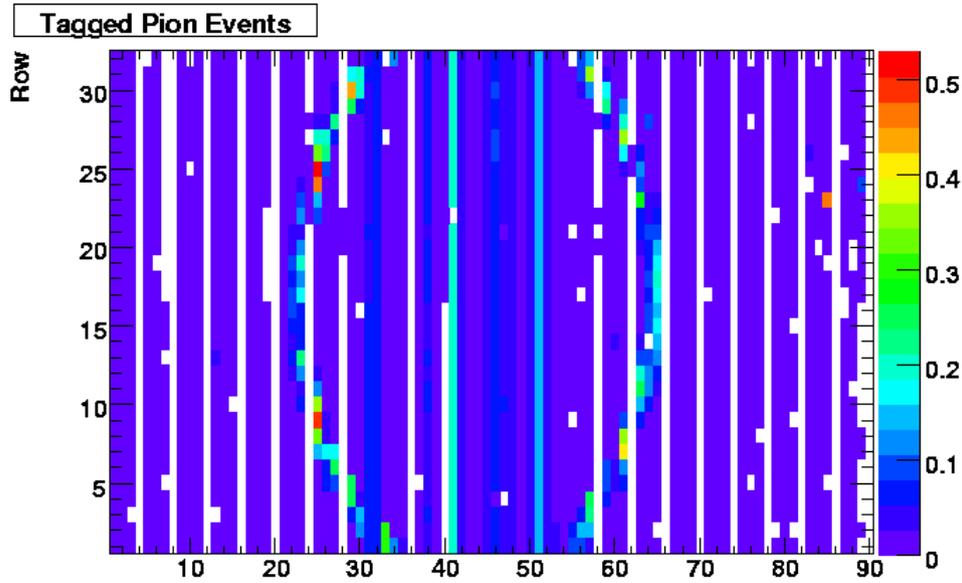


# Kaon Mass Data Hit Selection

Nick Graf  
March 30, 2006

# Pion Rings



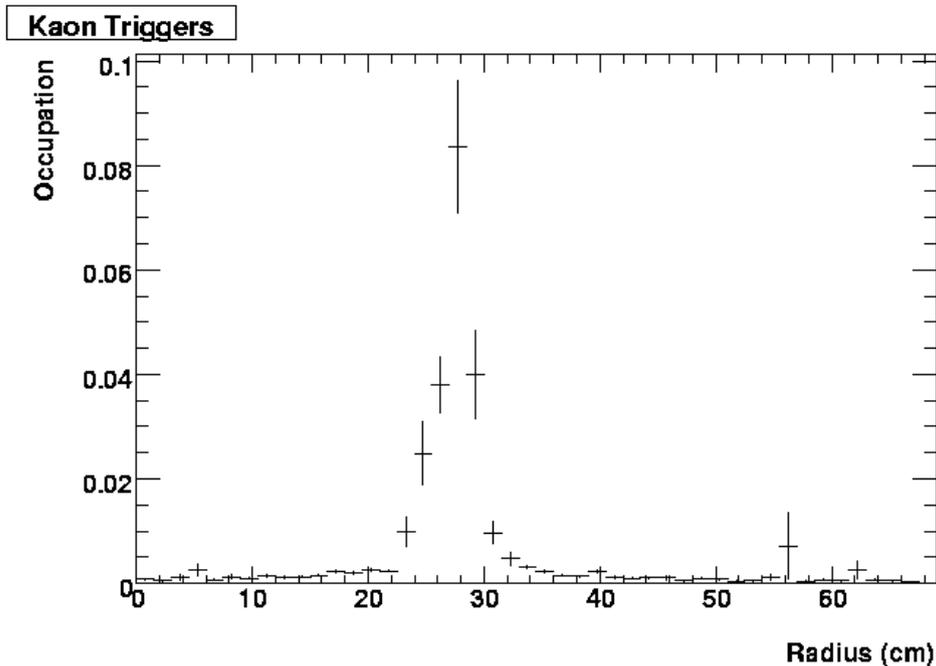
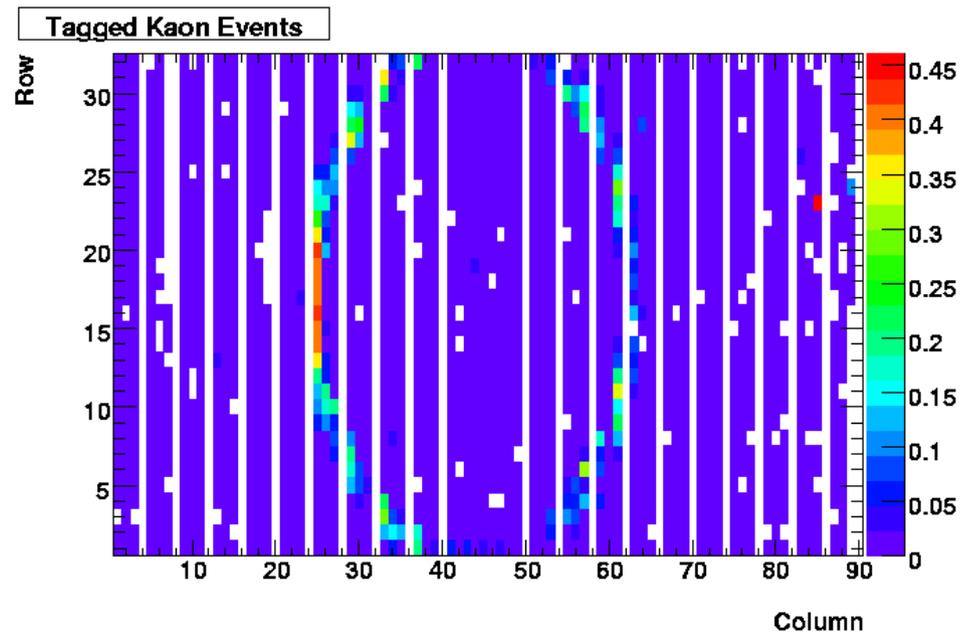
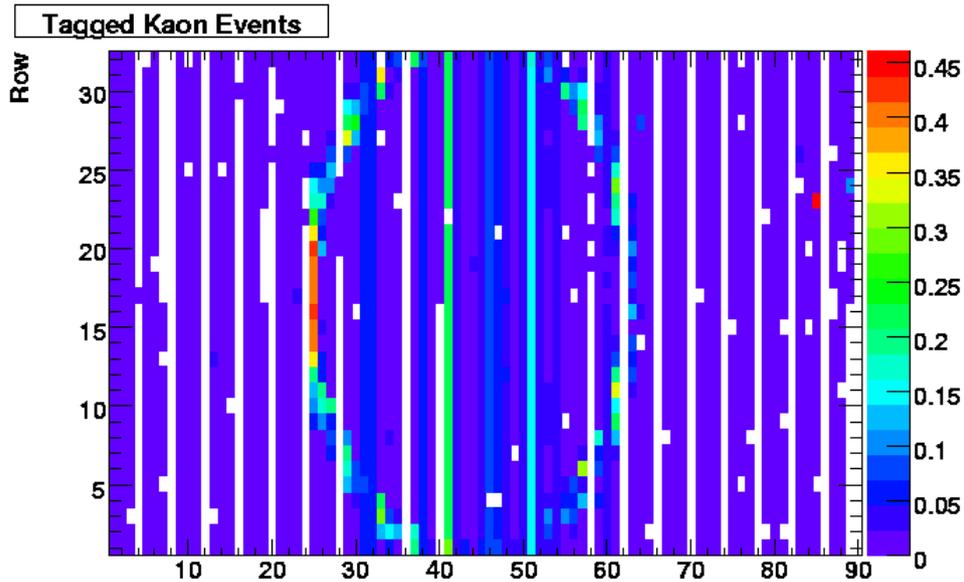
Upper Left: PMT occupation before removal of hot columns

Upper Right: PMT occupation after removal of hot columns

Left: Occupation vs. distance from average ring center

Select  $25 \text{ cm} < \text{pmt} < 35 \text{ cm}$

# Kaon Rings



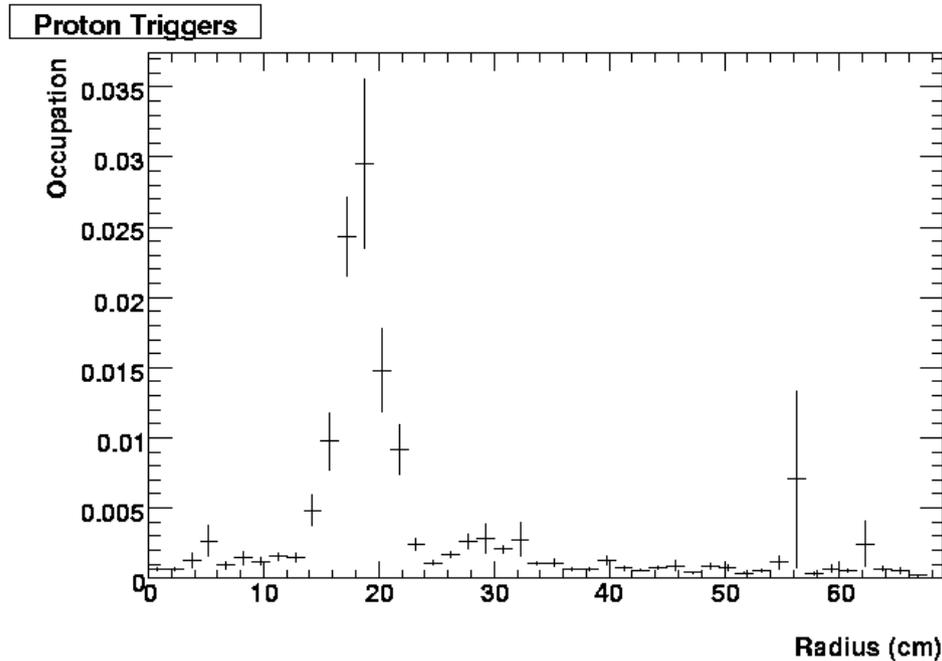
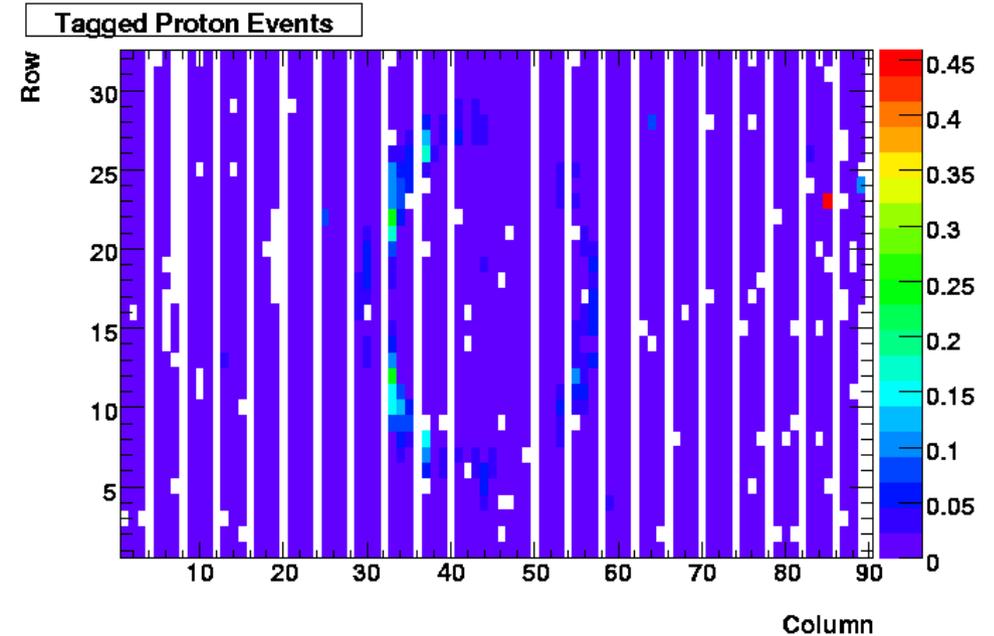
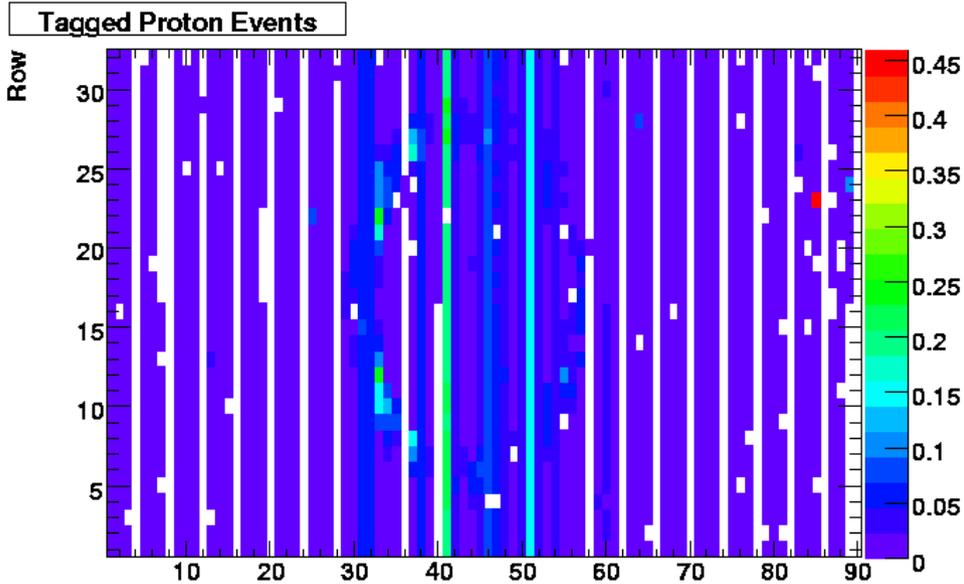
Upper Left: PMT occupation before removal of hot columns

Upper Right: PMT occupation after removal of hot columns

Left: Occupation vs. distance from average ring center

Select  $23 \text{ cm} < \text{pmt} < 35 \text{ cm}$

# Proton Hit Map



Upper Left: PMT occupation before removal of hot columns

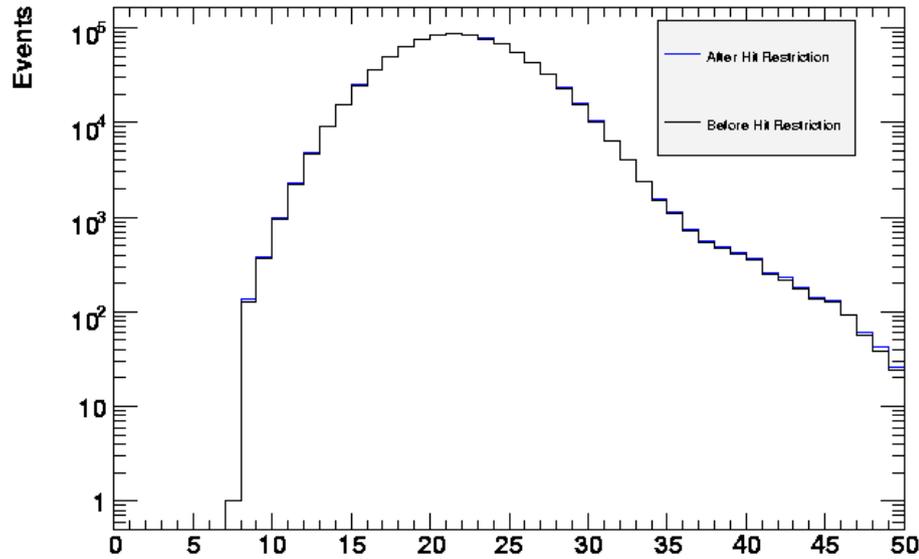
Upper Right: PMT occupation after removal of hot columns

Left: Occupation vs. distance from average ring center

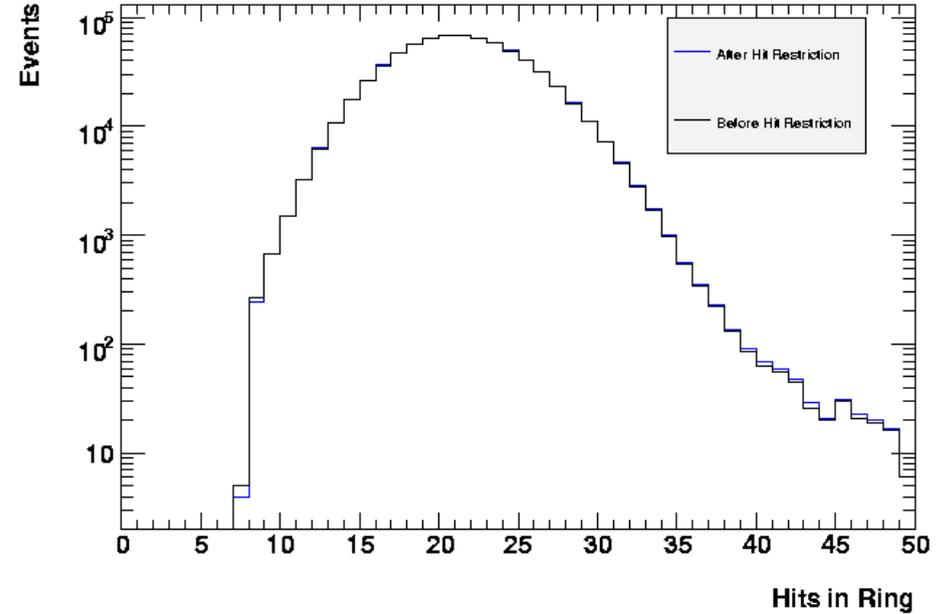
Select  $12 \text{ cm} < \text{pmt} < 24 \text{ cm}$

# Ring Hits Comparison

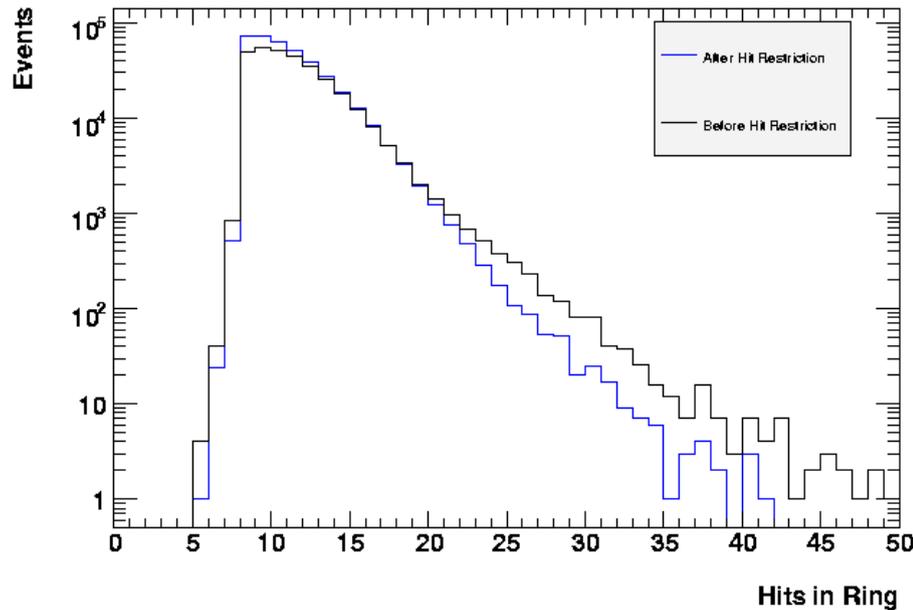
Pion Rings



Kaon Rings



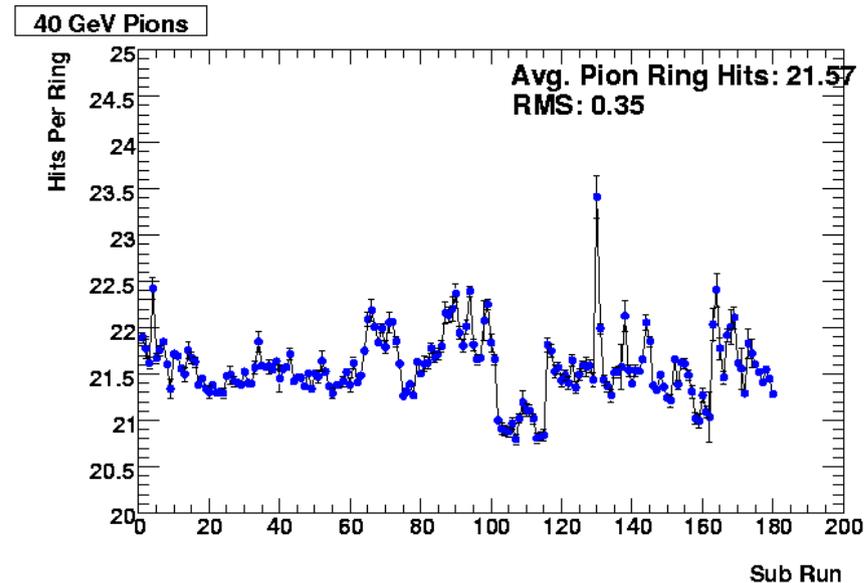
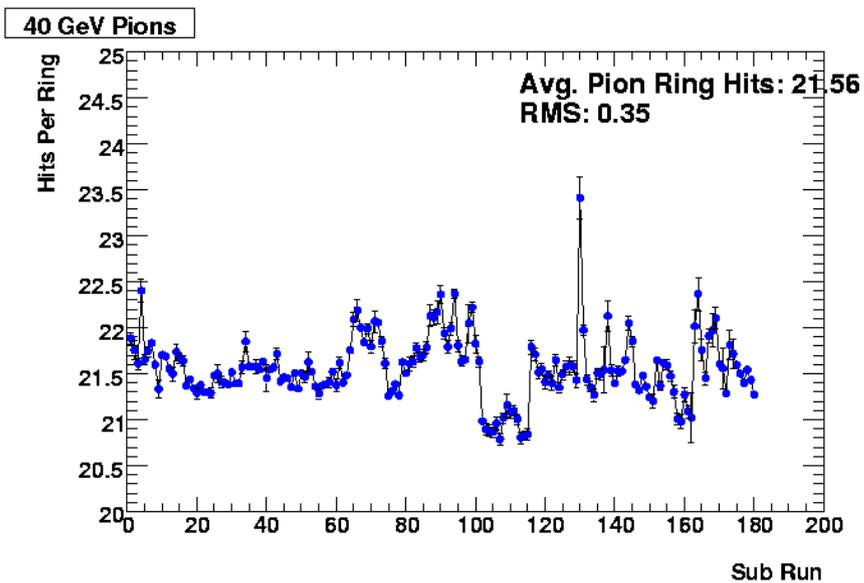
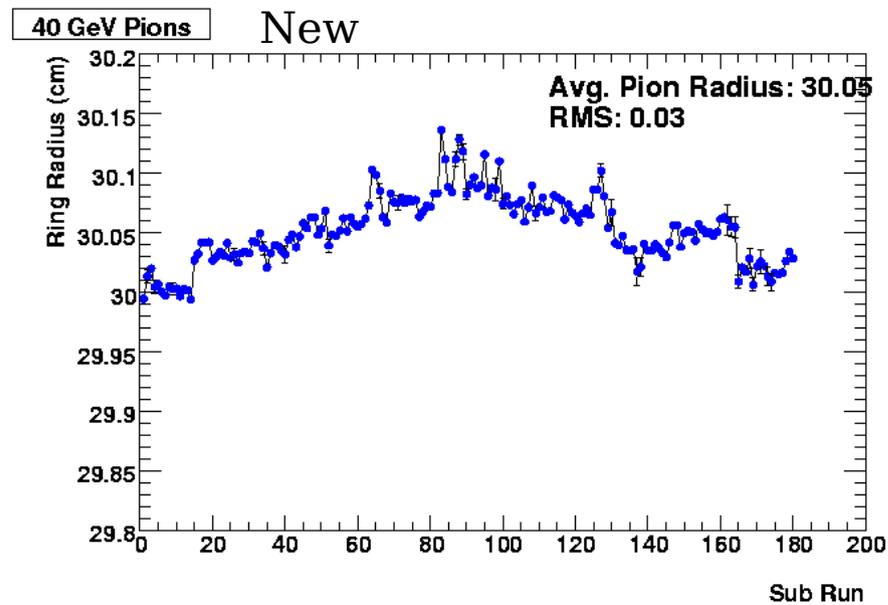
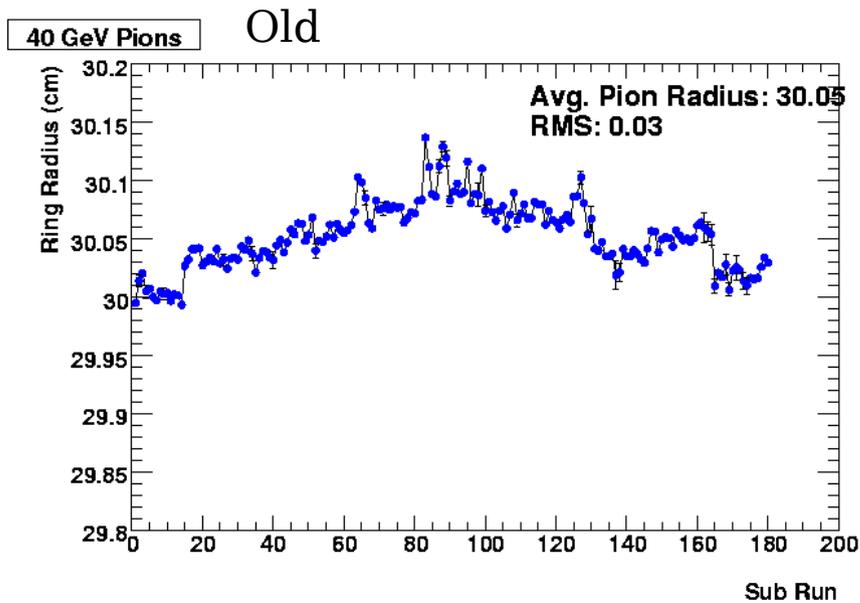
Proton Rings



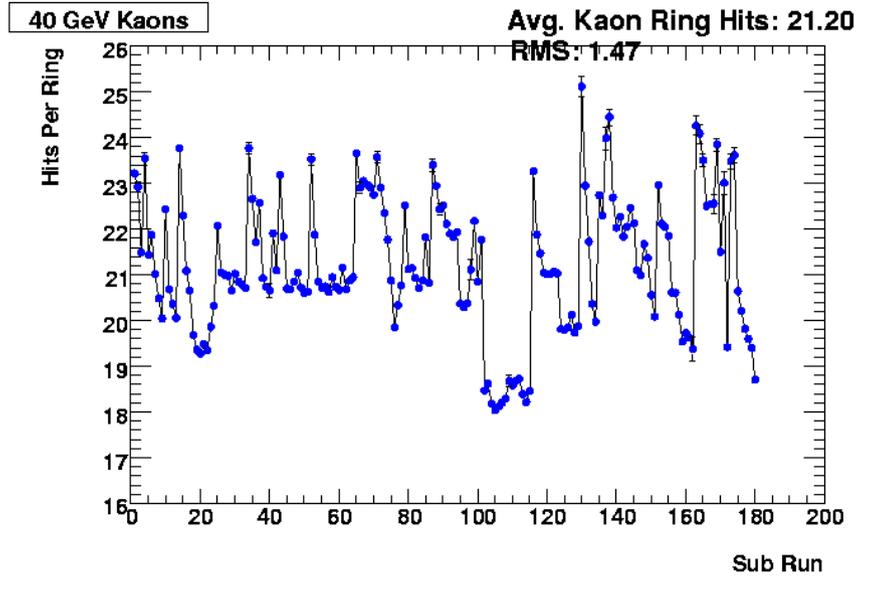
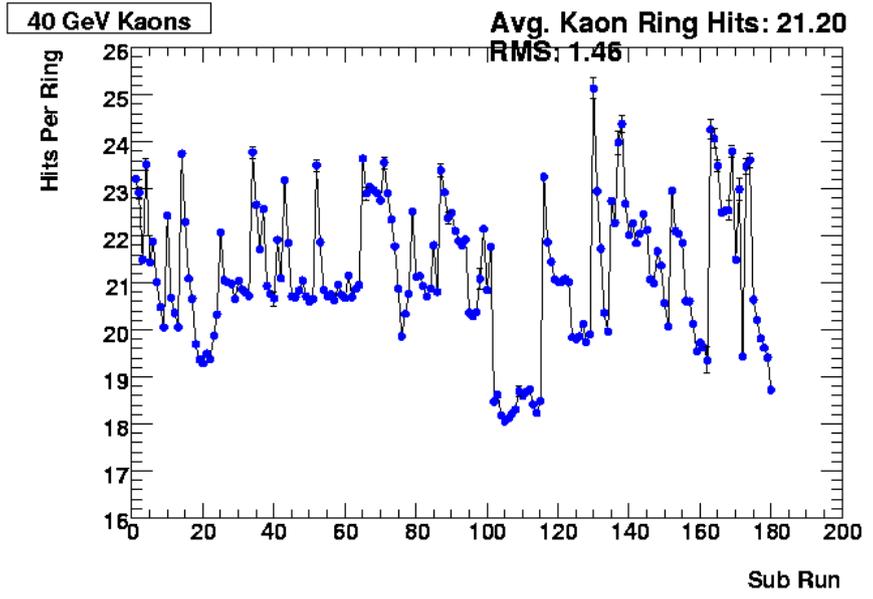
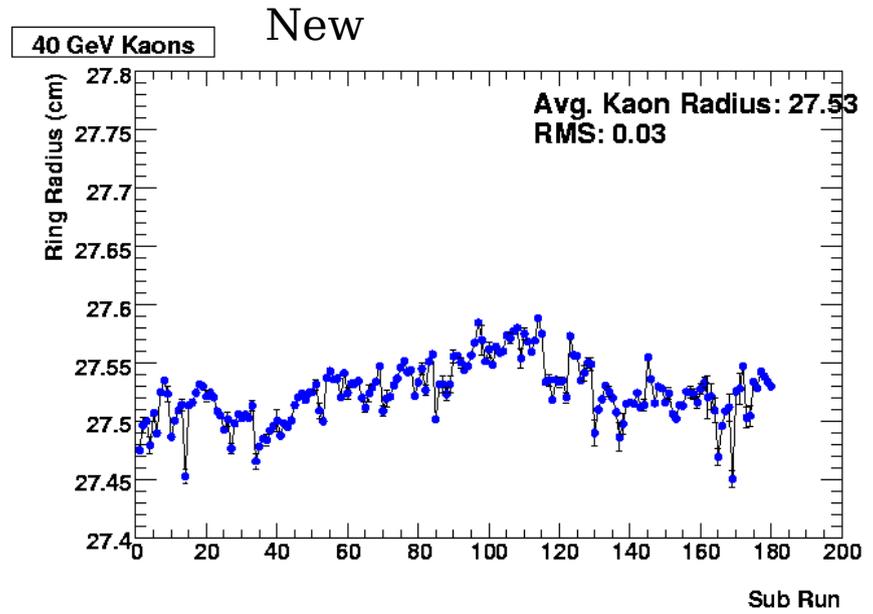
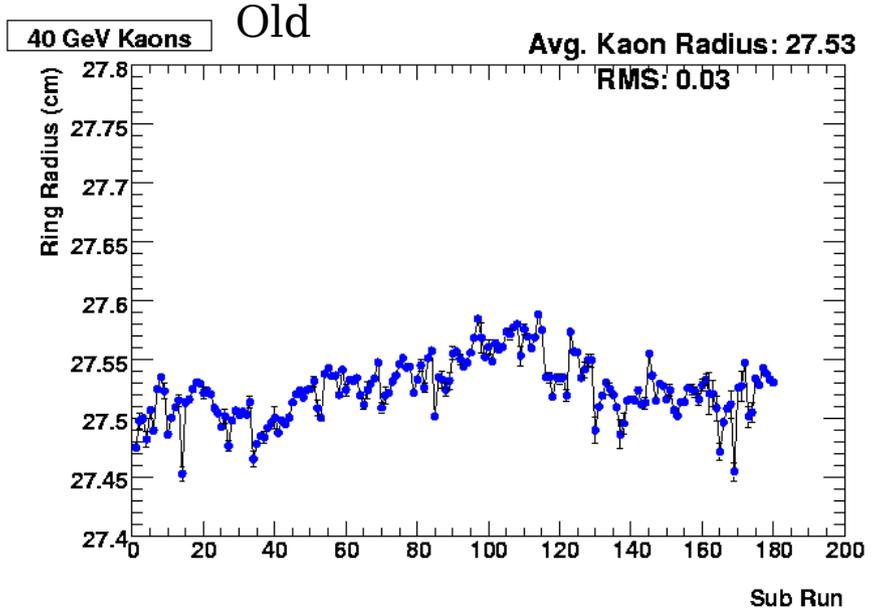
Before: 314,000 proton rings  
After: 384,000 proton rings

~ 0.5% increase in the number of pion/kaon events with one reconstructed ring.

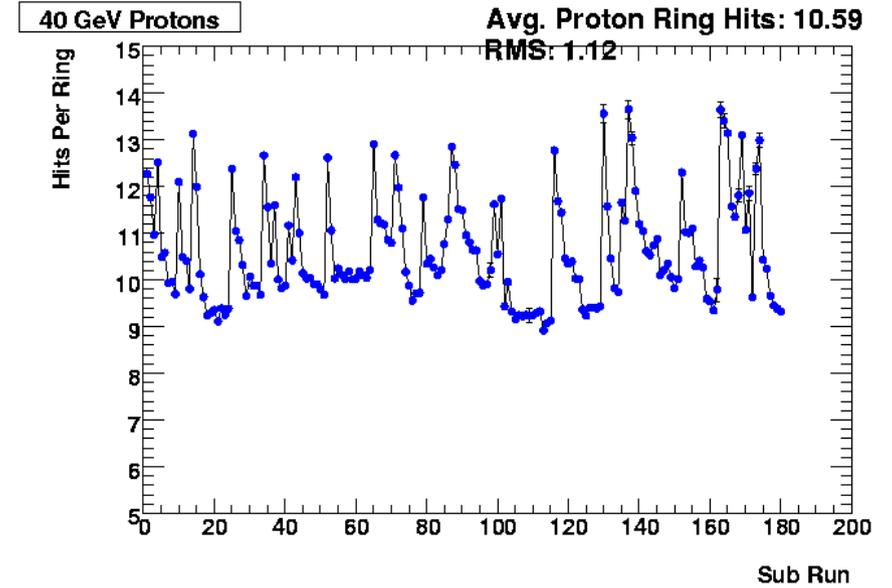
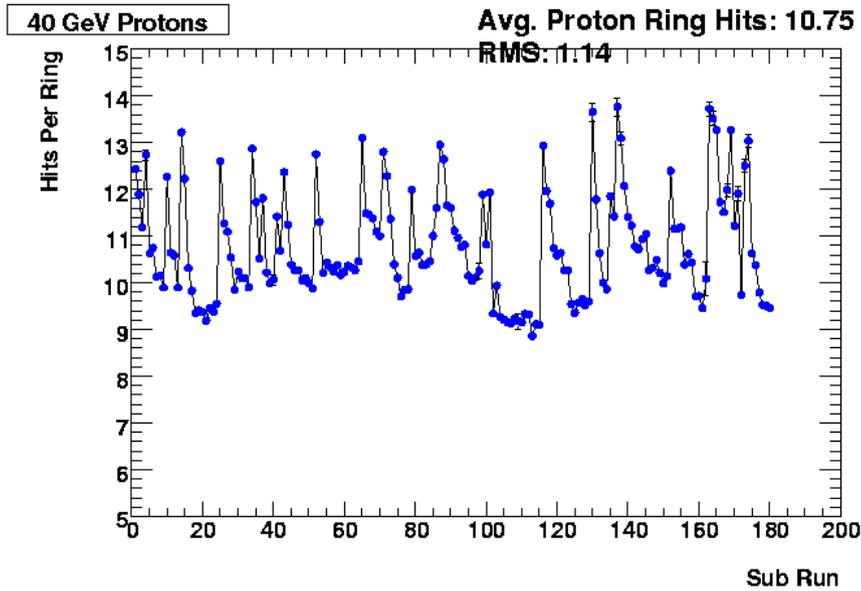
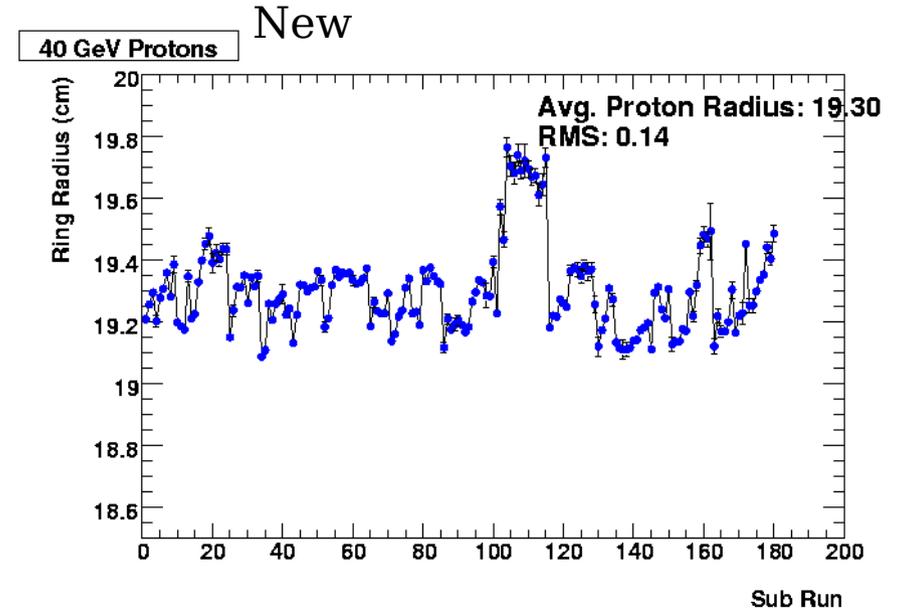
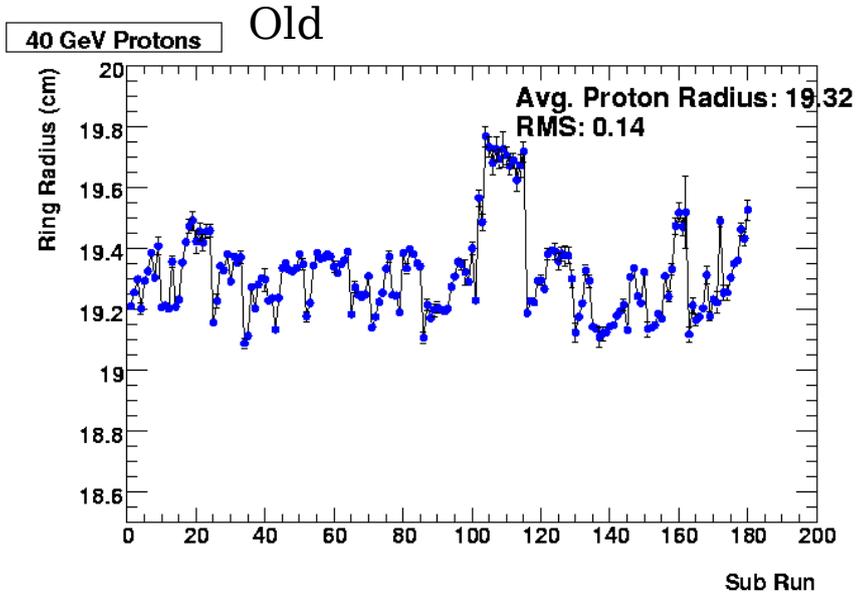
# Pion Stability



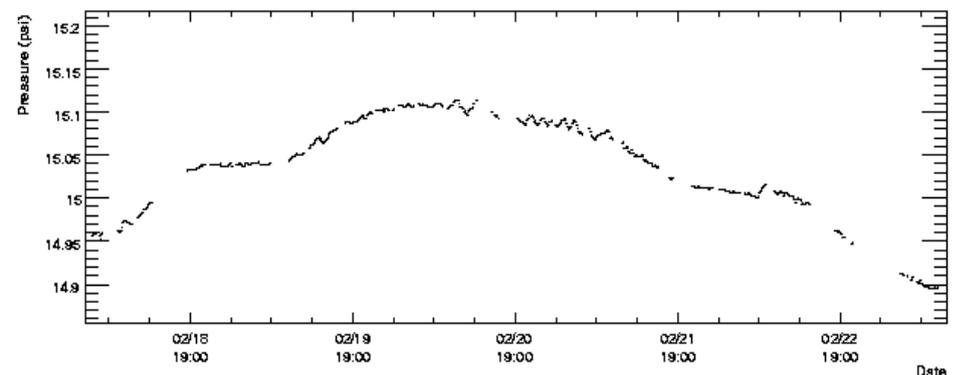
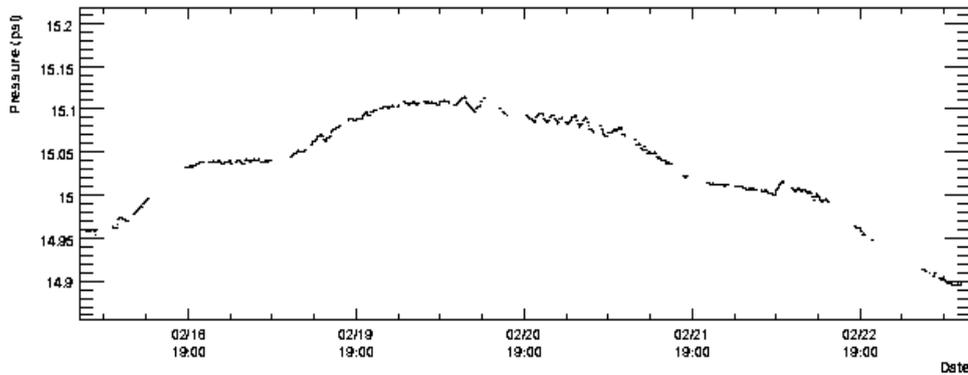
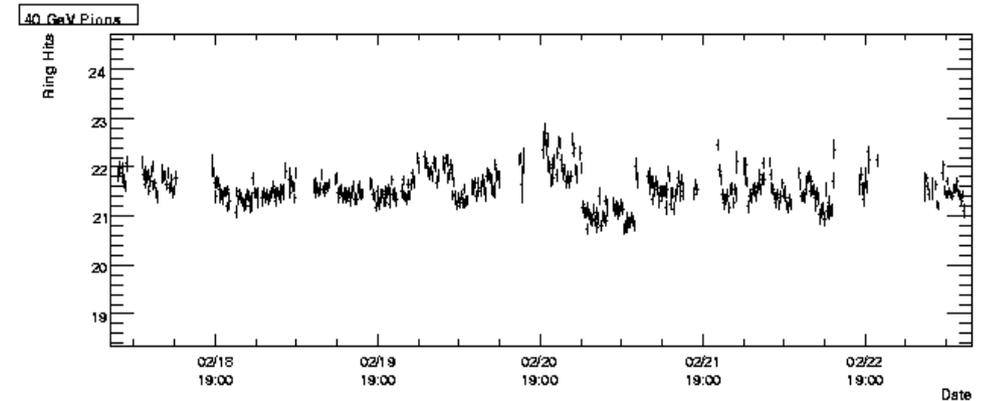
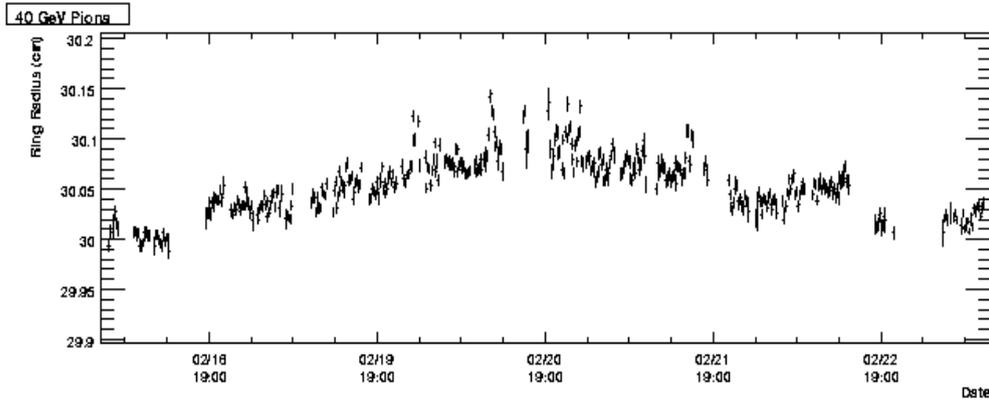
# Kaon Stability



# Proton Stability



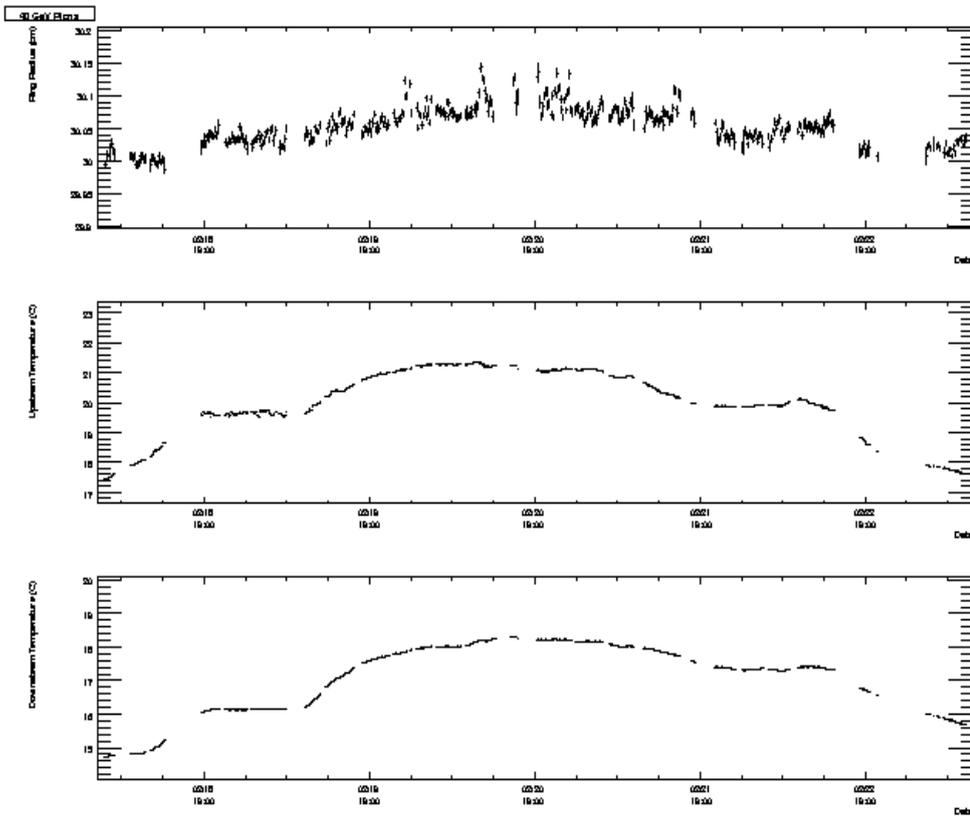
# Pressure



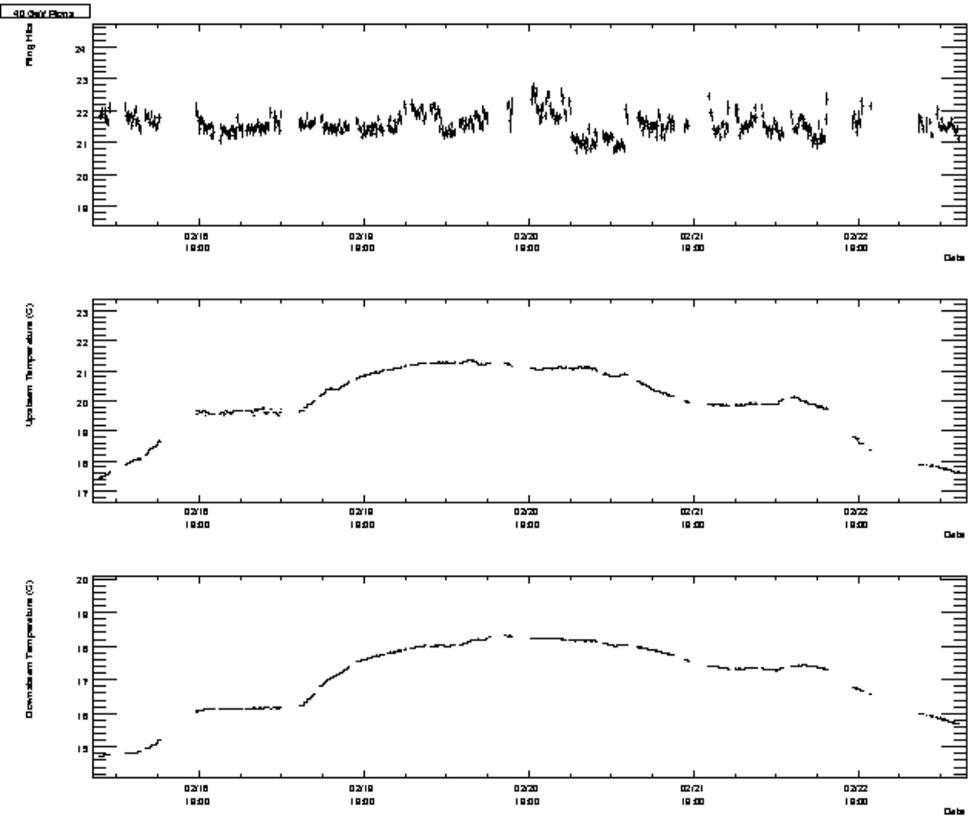
Top: Average pion ring radius  
extrapolated to STP  
Bottom: Pressure of CO2 in RICH

Top: Average pion ring hits  
Bottom: Pressure of CO2 in RICH

# Temperature

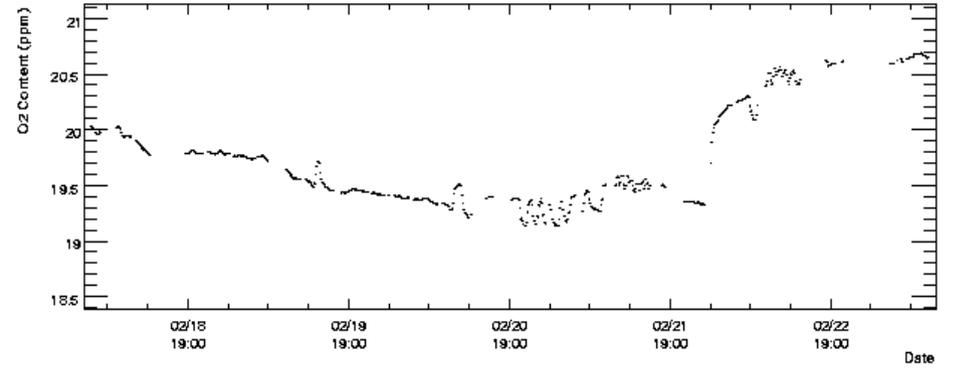
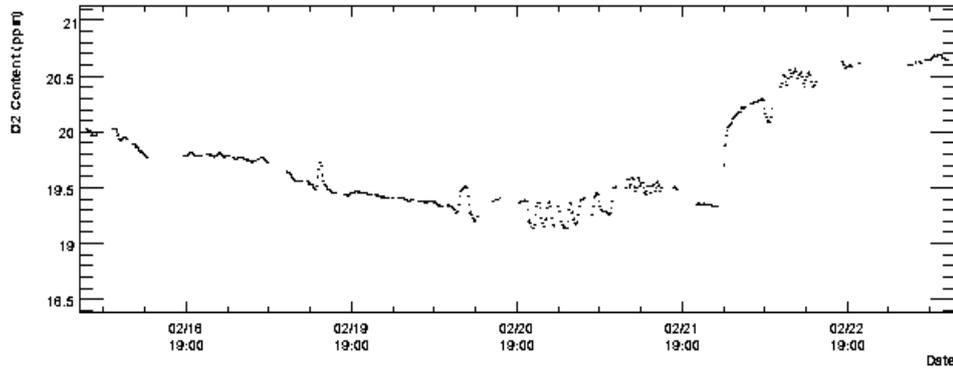
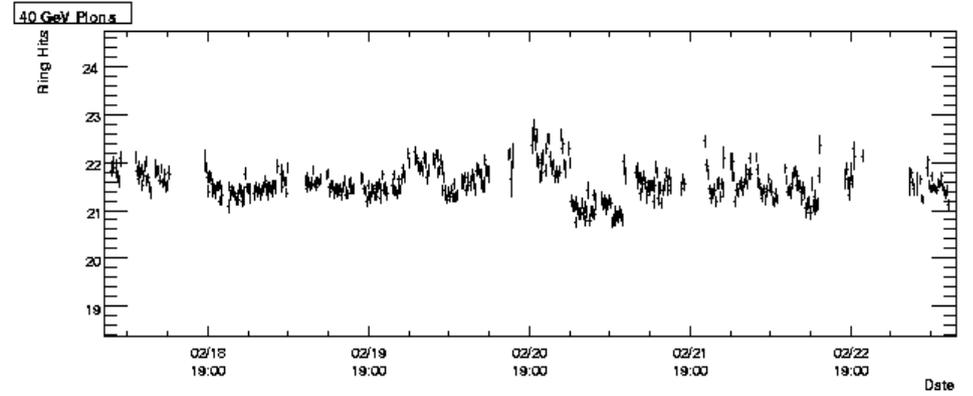
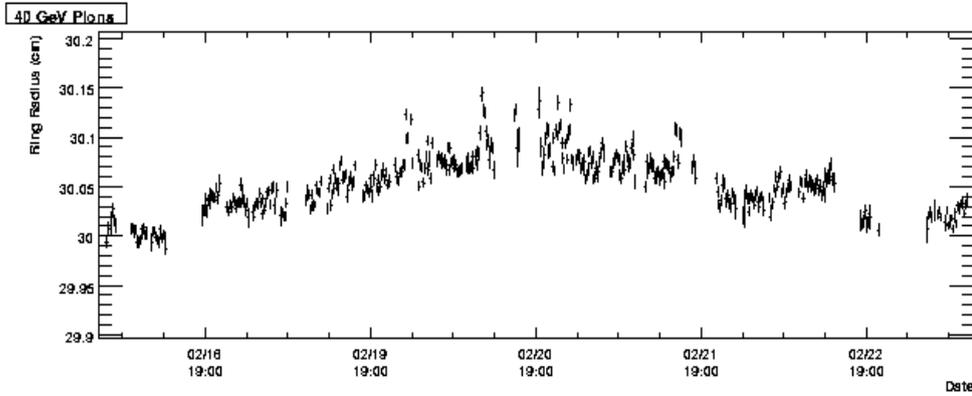


Top: Average pion ring radius extrapolated to STP  
Middle: RICH upstream temperature  
Bottom: RICH downstream temperature



Top: Average pion ring hits  
Middle: RICH upstream temperature  
Bottom: RICH downstream temperature

# Oxygen Content



Top: Average pion ring radius  
extrapolated to STP  
Bottom: RICH oxygen content (ppm)

Top: Average pion ring hits  
Bottom: RICH oxygen content (ppm)