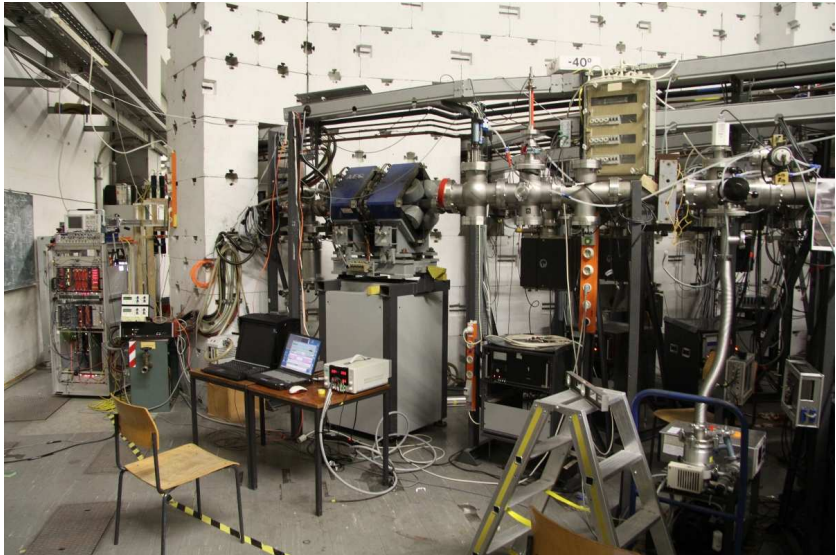


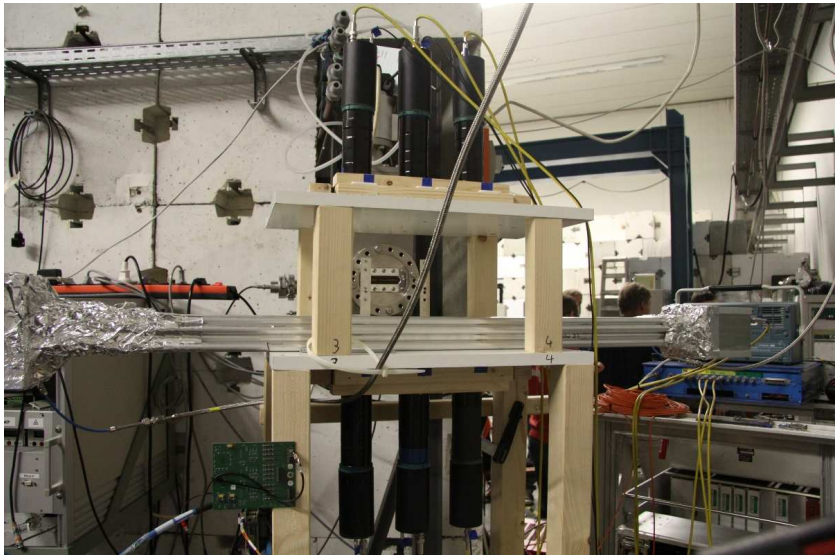
# Some First Results from Tandem Test

LMU group, Bernhard, Matthias, Philipp, Jörg ...

October 1, 2010

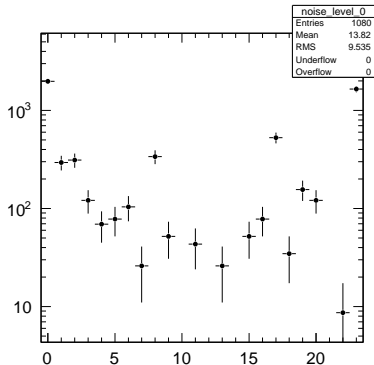
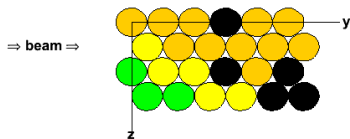






hits/nr events  
(based on 24994 events)

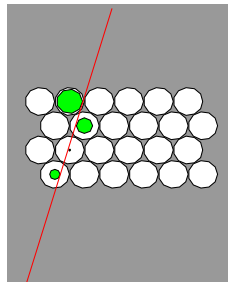
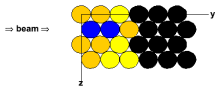
- > 0.100 ● (blue)
- < 0.100 ● (red)
- < 0.070 ● (orange)
- < 0.040 ● (yellow)
- < 0.020 ● (green)
- < 0.010 ● (black)



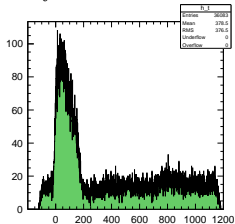
- Determine tube-efficiency for high  $p$ -irradiation.
- Trigger rate:  $\sim 0.5$  Hz (cosmics)
- Three irradiation rates:
  - $f_A = 0.6$  MHz / tube
  - $f_B = 4.7$  MHz / tube
  - $f_C = 19$  MHz / tube(calculated from beam currents)
- Max rate at GIF: 500 kHz ( $\gamma$ ).

hits/nr events  
(based on 24991 events)

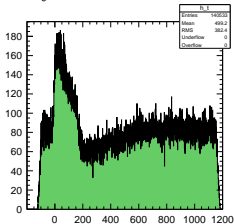
- > 0.100 ●
- < 0.100 ●
- < 0.070 ●
- < 0.040 ●
- < 0.020 ●
- < 0.010 ●



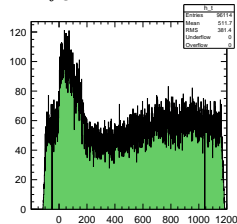
$f_A = 0.6 \text{ MHz}$



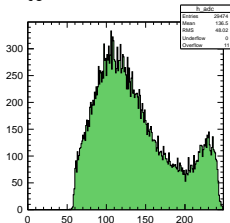
$f_B = 4.7 \text{ MHz}$



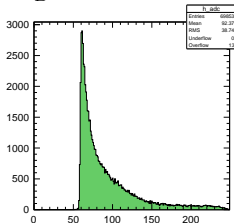
$f_C = 19 \text{ MHz}$



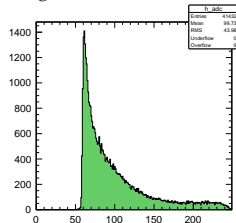
$\Rightarrow f'_A = 0.25 \pm 0.01 \text{ MHz}$



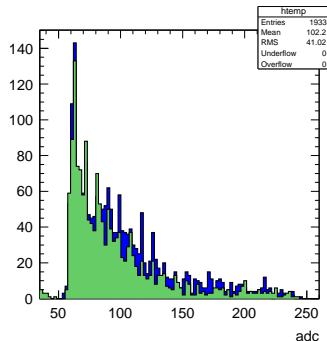
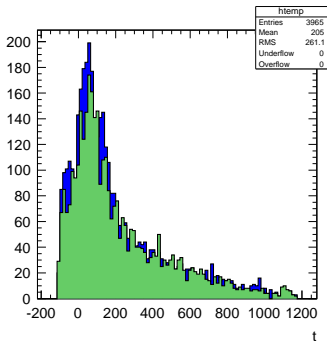
$\Rightarrow f'_B = 1.37 \pm 0.02 \text{ MHz}$



$\Rightarrow f'_C = 1.45 \pm 0.03 \text{ MHz}$

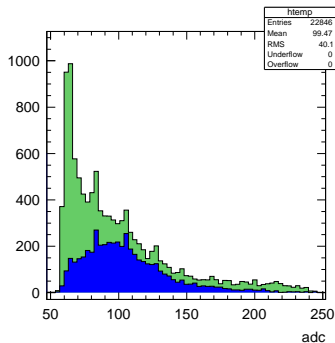


Comparison of TDC and ADC in areas with and without irradiation in one tube.



⇒ no difference...

Check ADC entries for hits on track only.



- No beam:  $\epsilon = 0.94$
  - Run A:  $\epsilon_A = 0.85$
  - Run B:  $\epsilon_B = 0.70$
  - Run C:  $\epsilon_C = 0.70$
- (Very preliminary as quality cuts not optimized yet)

⇒ Muon signal seems to be ok.



- Data taking very stable and chamber worked very smoothly.
- Data not fully understood, yet.
- Counting rates in tubes are too small in comparison to rates expected from beam parameters.