

Block Detector Prototype for low energy neutron measurement

Lab Meeting
2013/08/30
Friday
Benard Mulilo

Test results with proton beam on an iron target (neutrons)

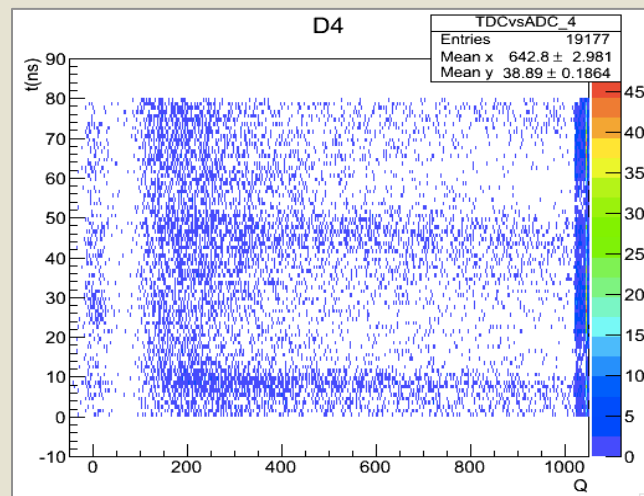
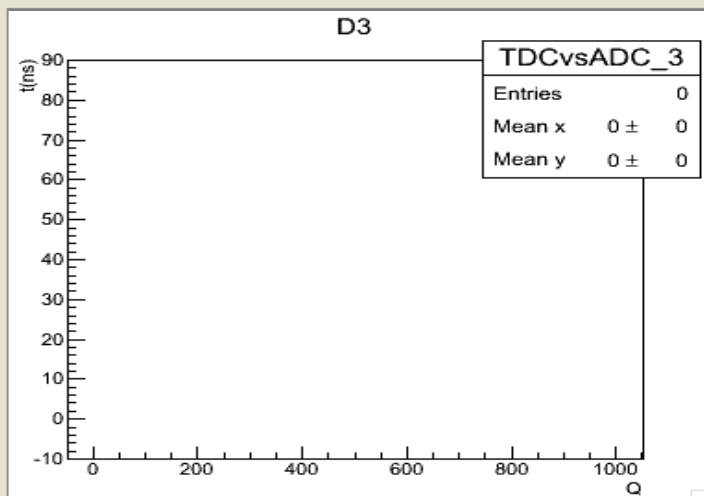
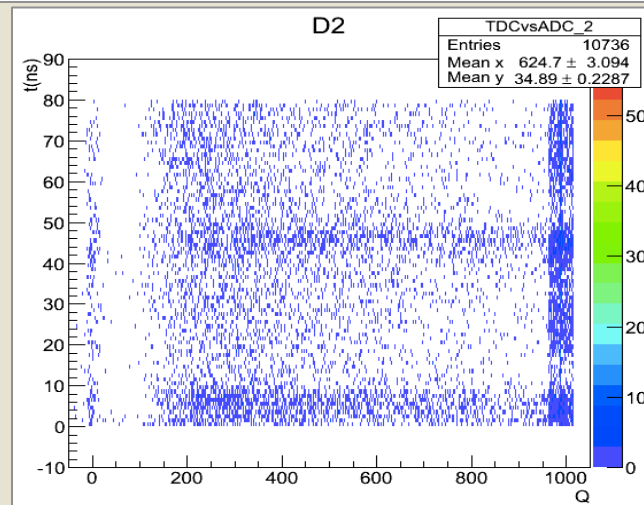
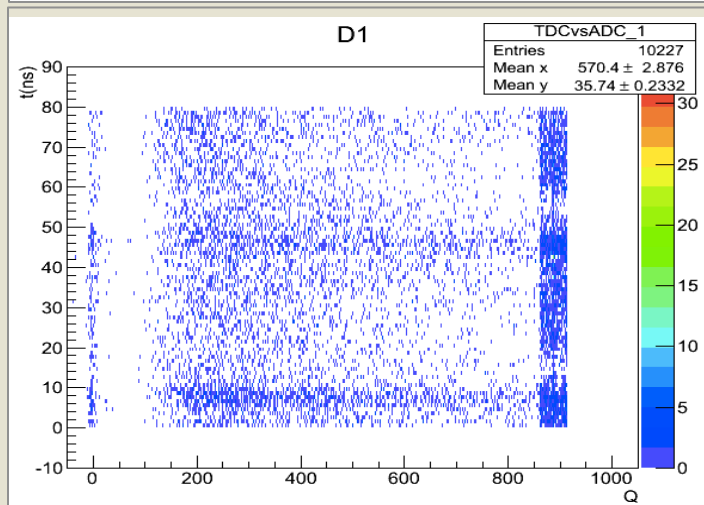


Fig.3: A plot of TDC (time) against ADC (charge)

Test results with proton beam on an iron target (neutrons)...

- Pedestal data results

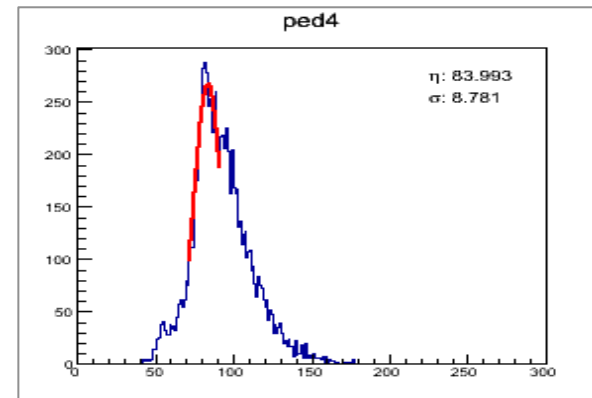
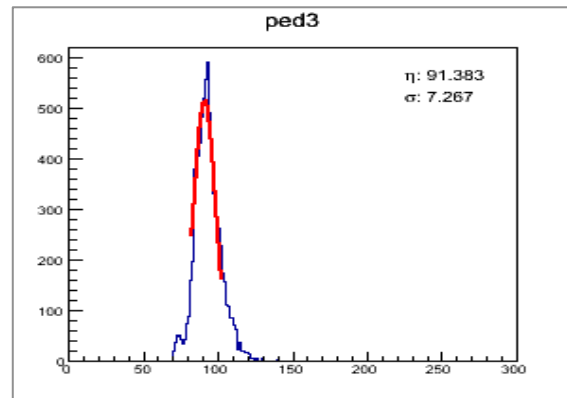
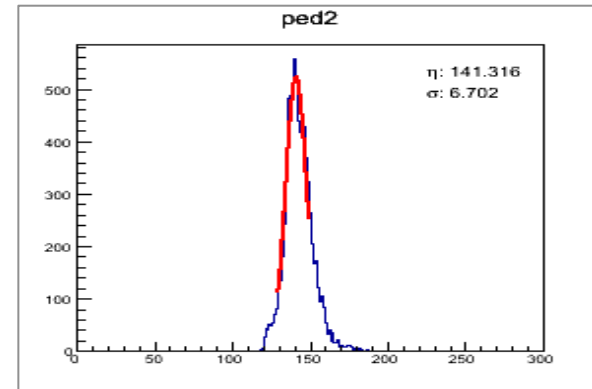
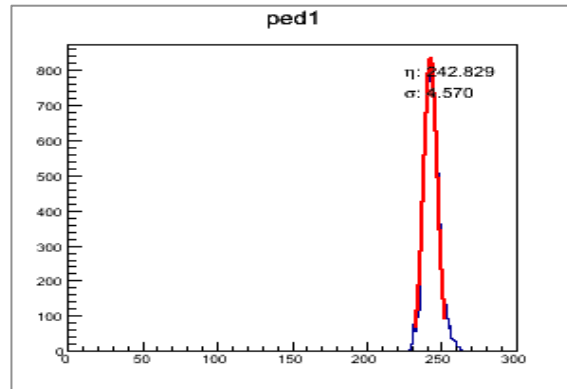


Fig.4: Pedestal data results for detectors 1, 2, 3 & 4 respectively.

Test results with proton beam on an iron target (neutrons)....

- Zero base time of gammas

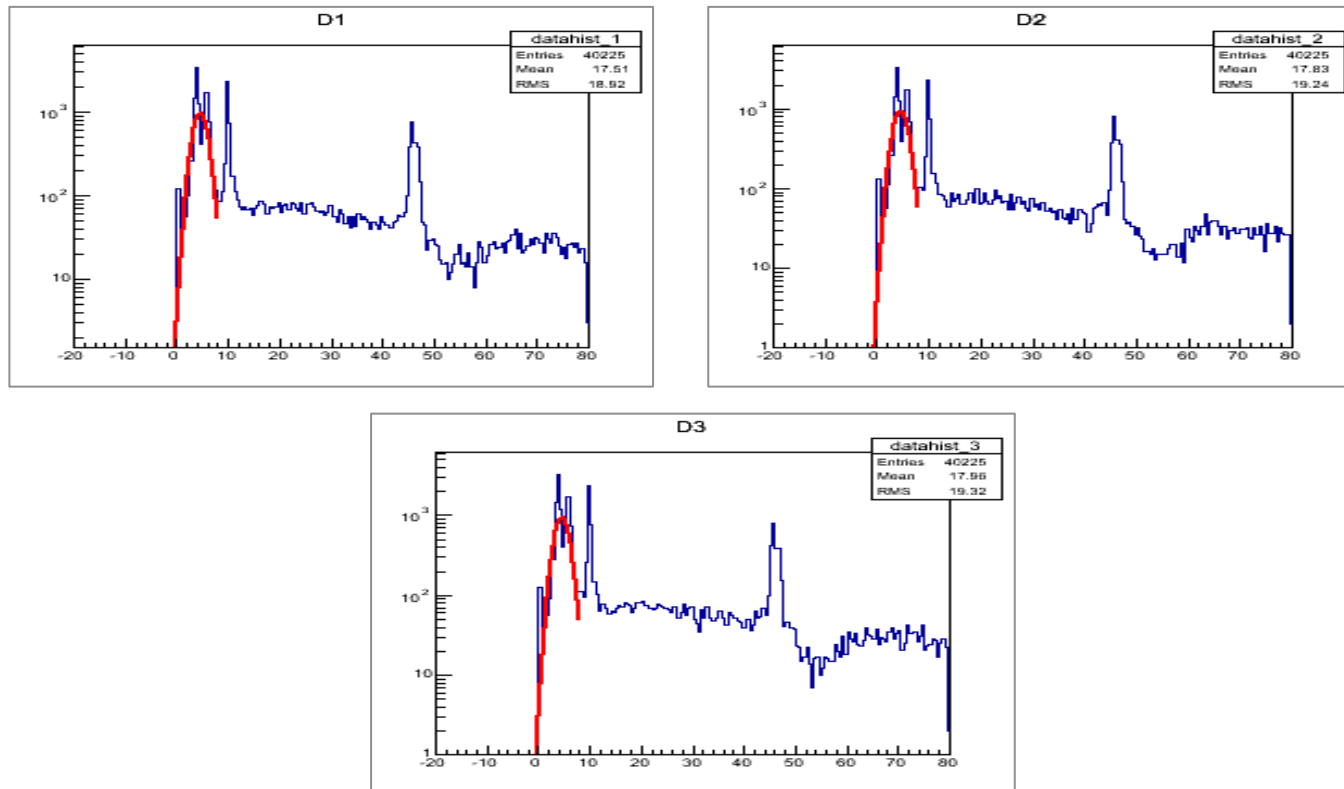


Fig.5: Time of flight distributions of gammas & neutrons for detectors 1, 2 & 3 respectively.

Future tasks

- Perform a fit for the ToF distributions.
- Plot of the final neutron energy
- etc....

BACK UP SLIDES

Prototype Block Detector for low energy neutron measurement

**Lab Meeting
2013/08/16
Friday
Benard Mulilo**

Third test of the prototype
block detector for low energy
neutrons at KIRAMS
[New light guides]

Test at KIRAMS



Fig.1: Korea Institute of Radiological & Medical Sciences –KIRAMS (1st & 2nd panels)

Friday, August 30, 13

Electronics setup

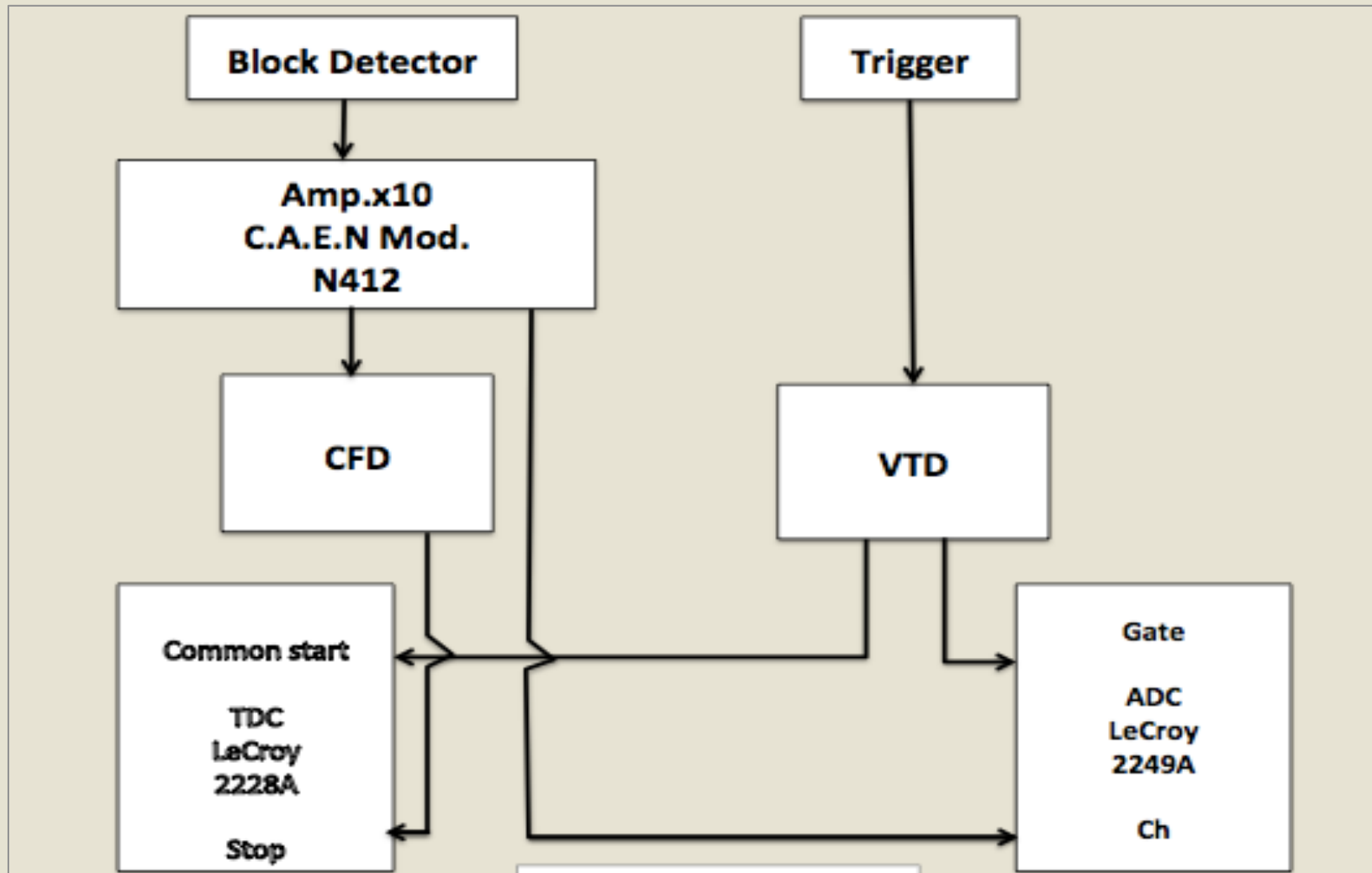


Fig.2: Electronics set-up for data collection

Experimental setup

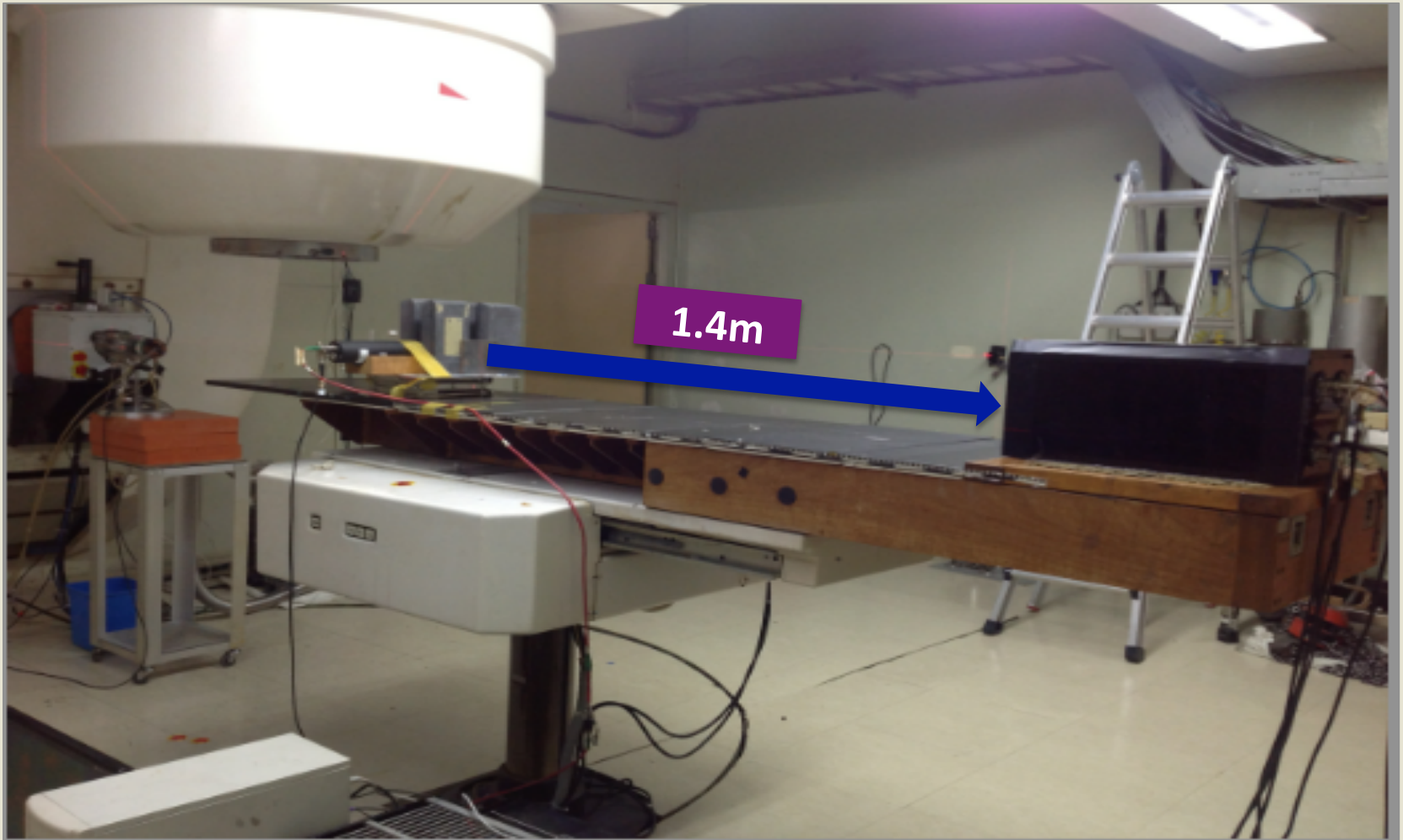


Fig.3: Experimental set-up for data collection at KIRAMS-Seoul, South Korea

Test results with proton beam on an iron target (neutrons)...

- Pedestal data results

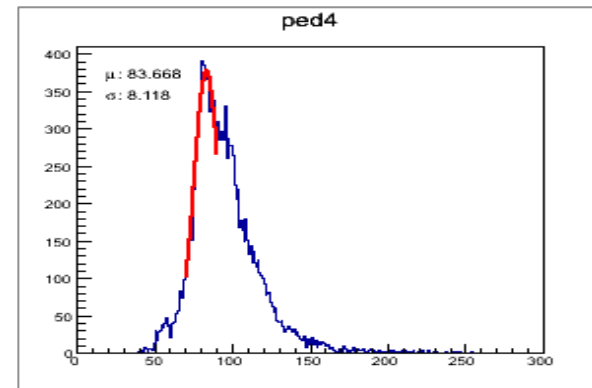
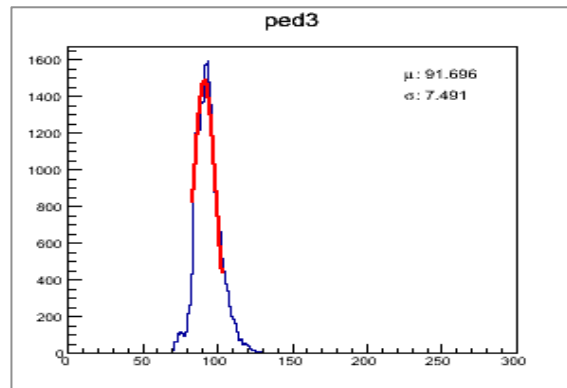
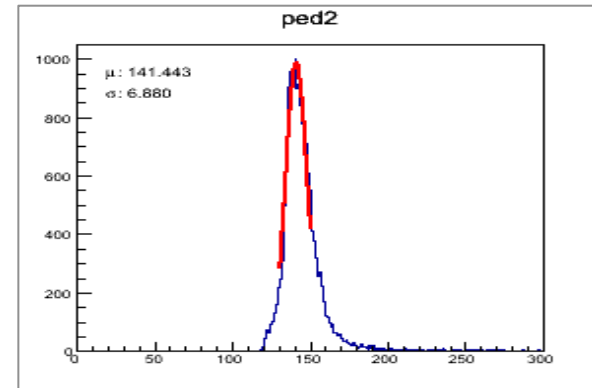
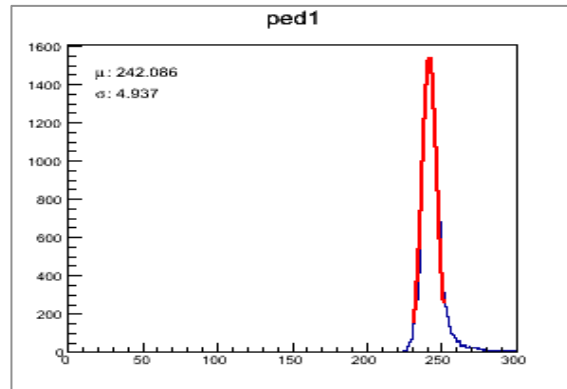


Fig.4: Pedestal data results for detectors 1, 2, 3 & 4 respectively.

Test results with proton beam on an iron target (neutrons)....

- Zero base time of gammas

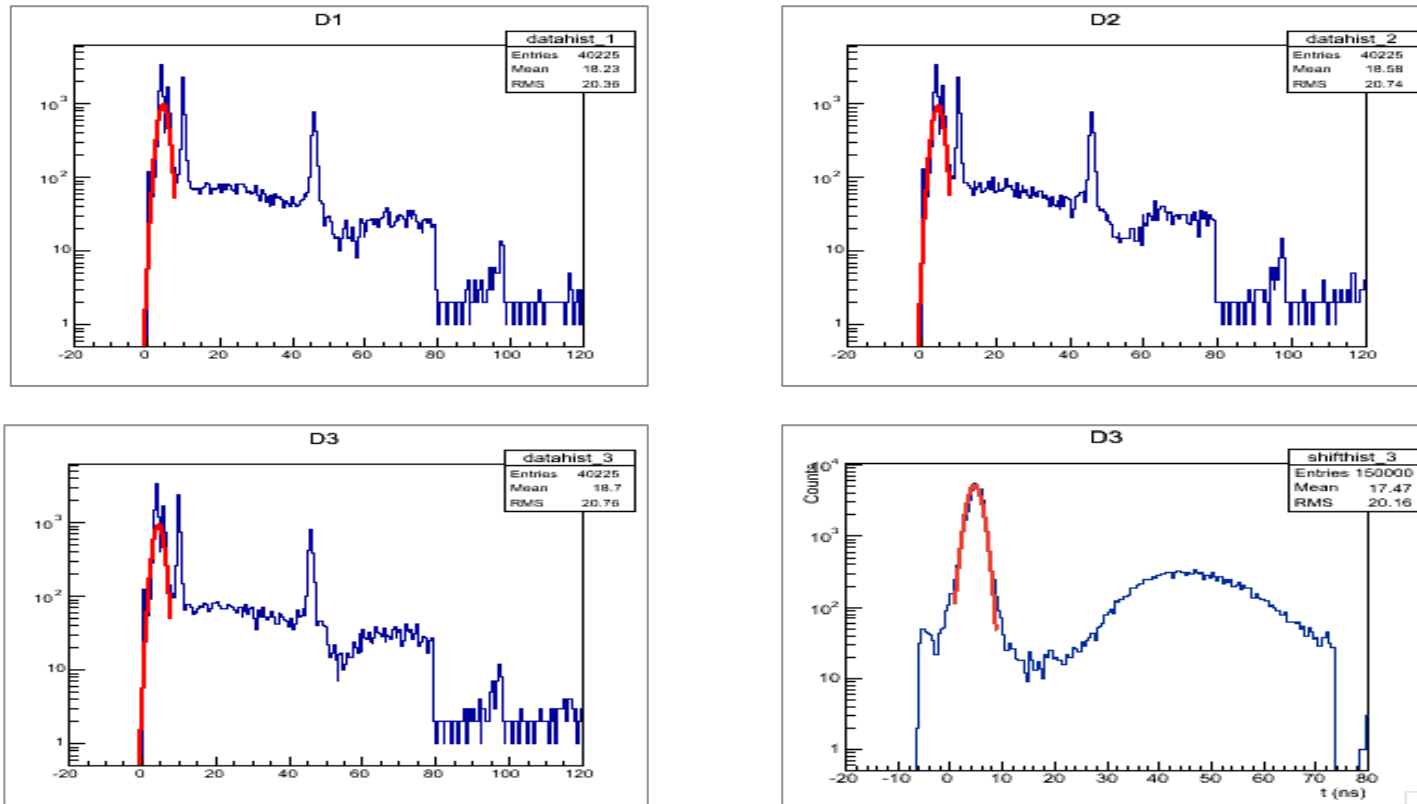


Fig.5: Time of flight distributions of gammas & neutrons for detectors 1, 2 & 3 respectively. 4th panel (D3) shows ToF distribution reference from ^{252}Cf source .

Test results with proton beam on an iron target (neutrons)....

- Reason for the unclearly defined ToF distributions for gammas and neutrons.(insufficient data collection)

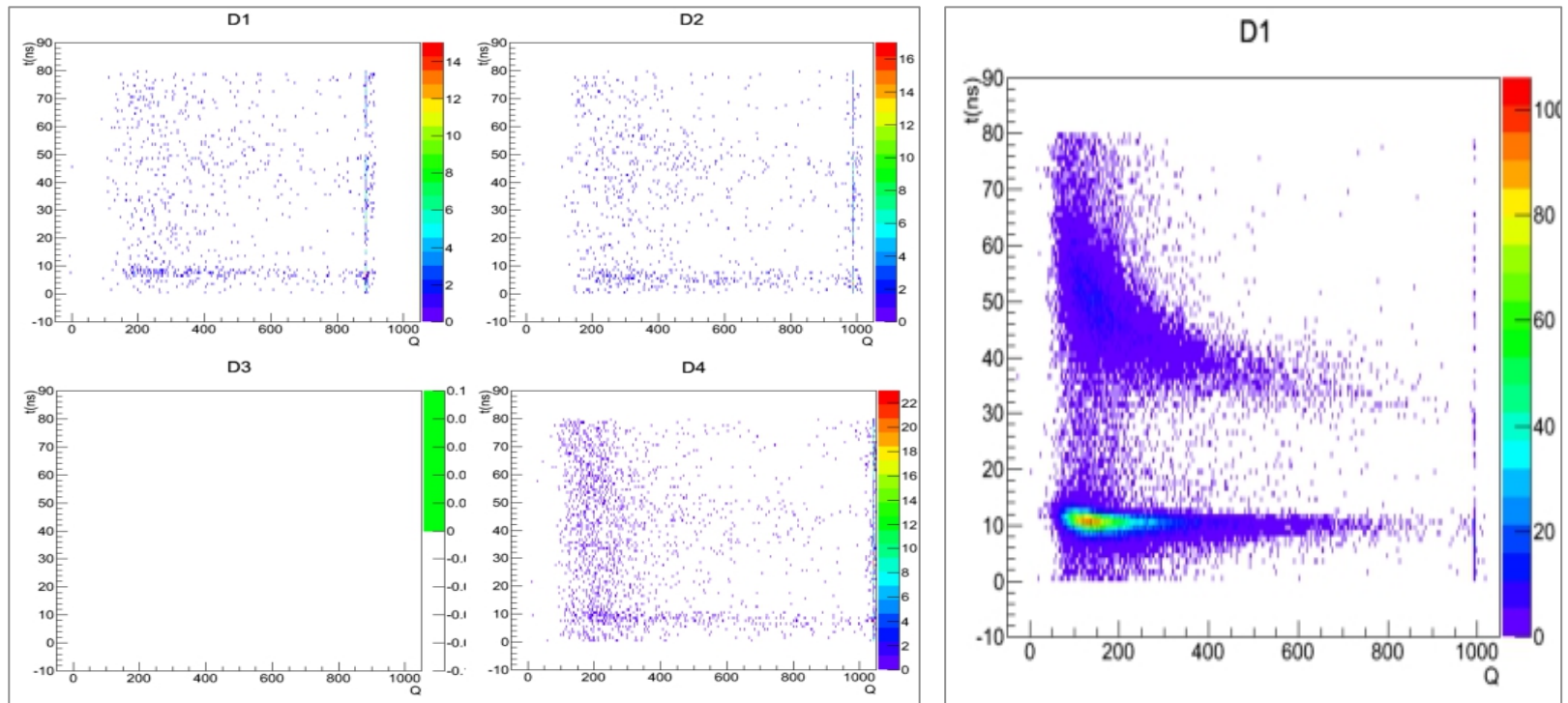


Fig.6: KiSoo's result depicting the charge distribution of a plot of TDC vs ADC for detectors 1, 2, 3 & 4 with the RHS panel being used as a reference.