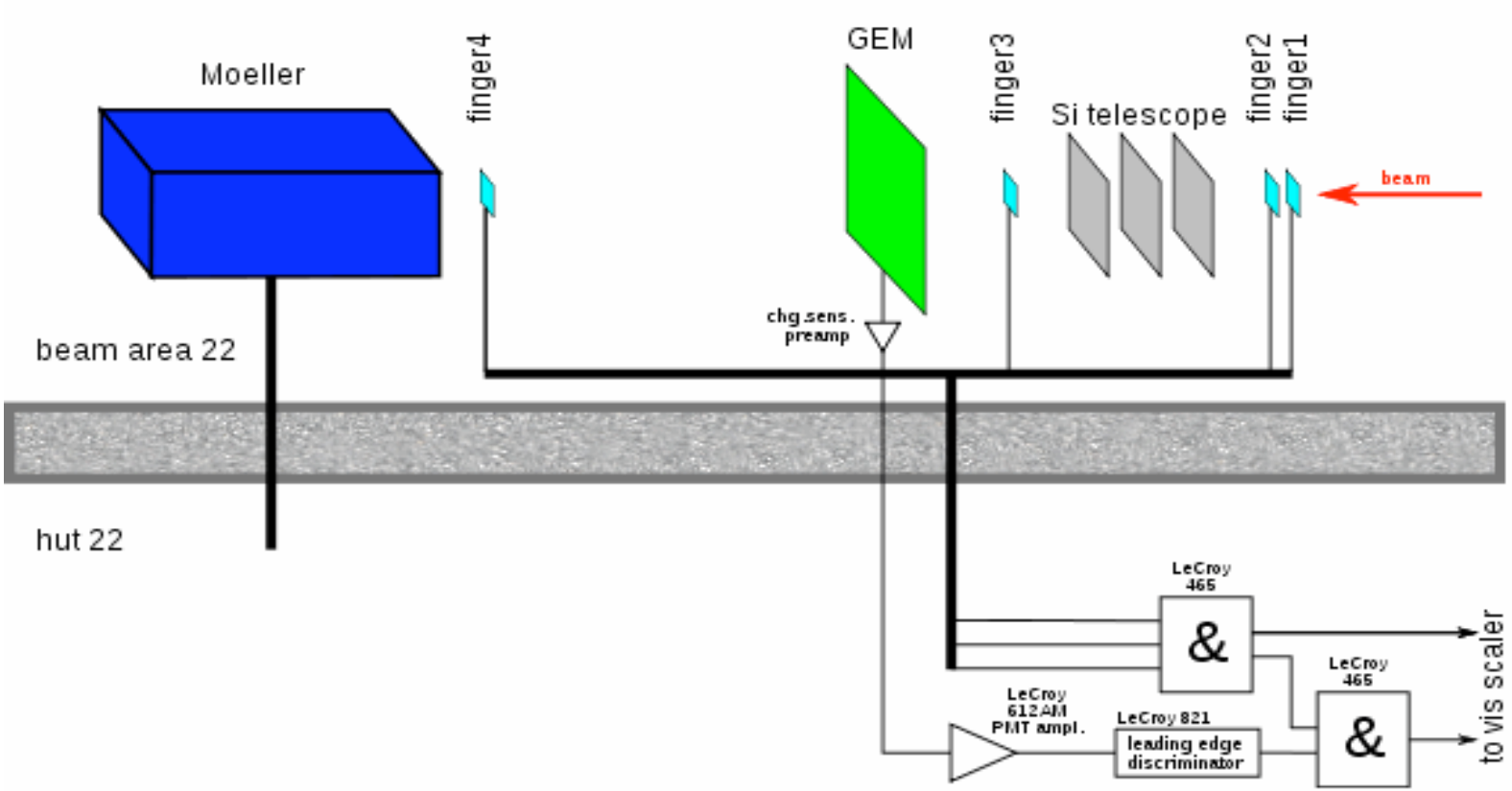
1- GEM Luminosity Monitors without APV Boards attached between May 2-June 6

2- GEM Luminosity Monitors with old and new APV Boards attached between June 6-June 25

OZGUR ATES
HAMPTON UNIVERSITY

27 June 2011-OLYMPUS Collaboration Meeting

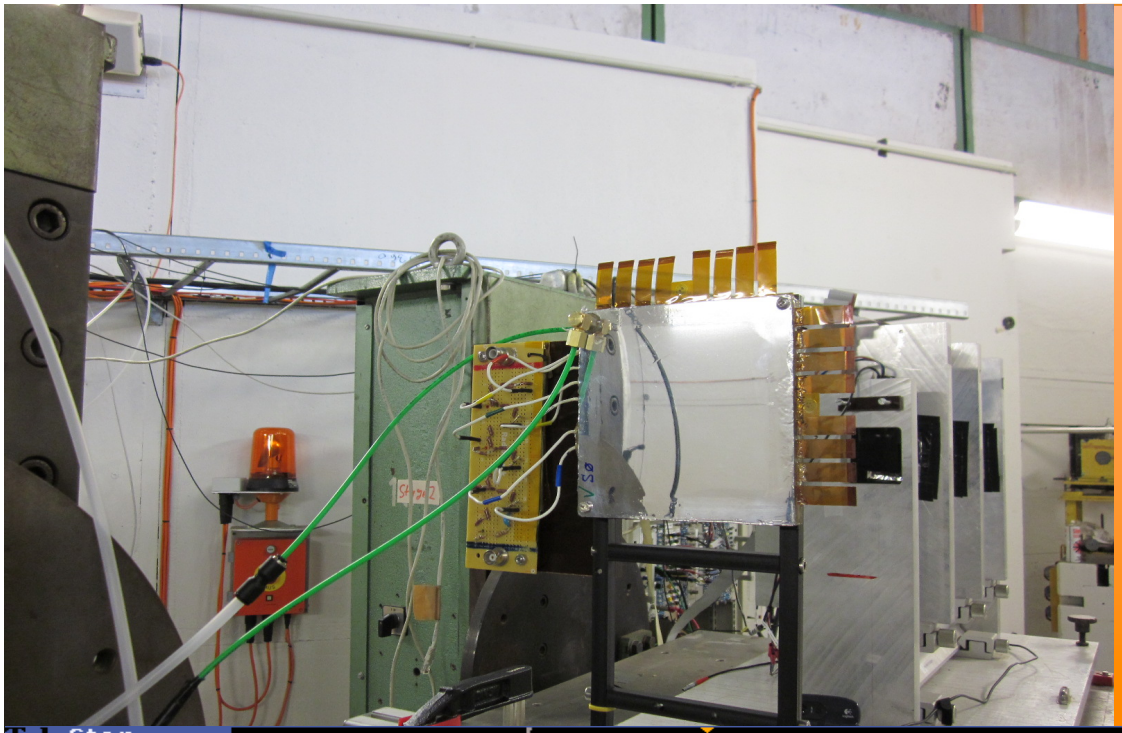
1- Test Beam SET UP with preapplified 3rd GEM for the GEM Trigger Output



GEM Efficiency = (GEM Trigger & Beam Trigger) / Beam Trigger

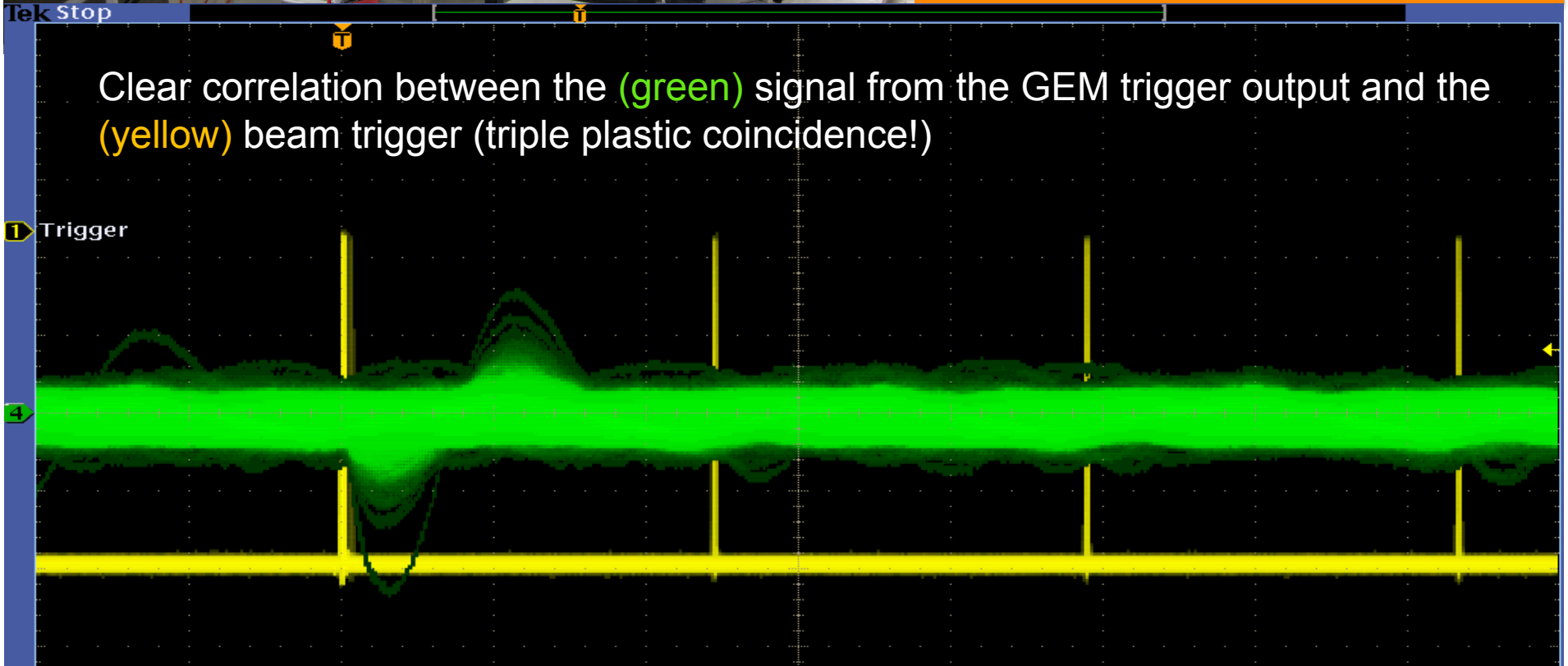
GEM Trigger = Trigger Output of Voltage Divider (Bottom 3rd GEM)

Beam Trigger = Triple Coincidence of 3 Plastics

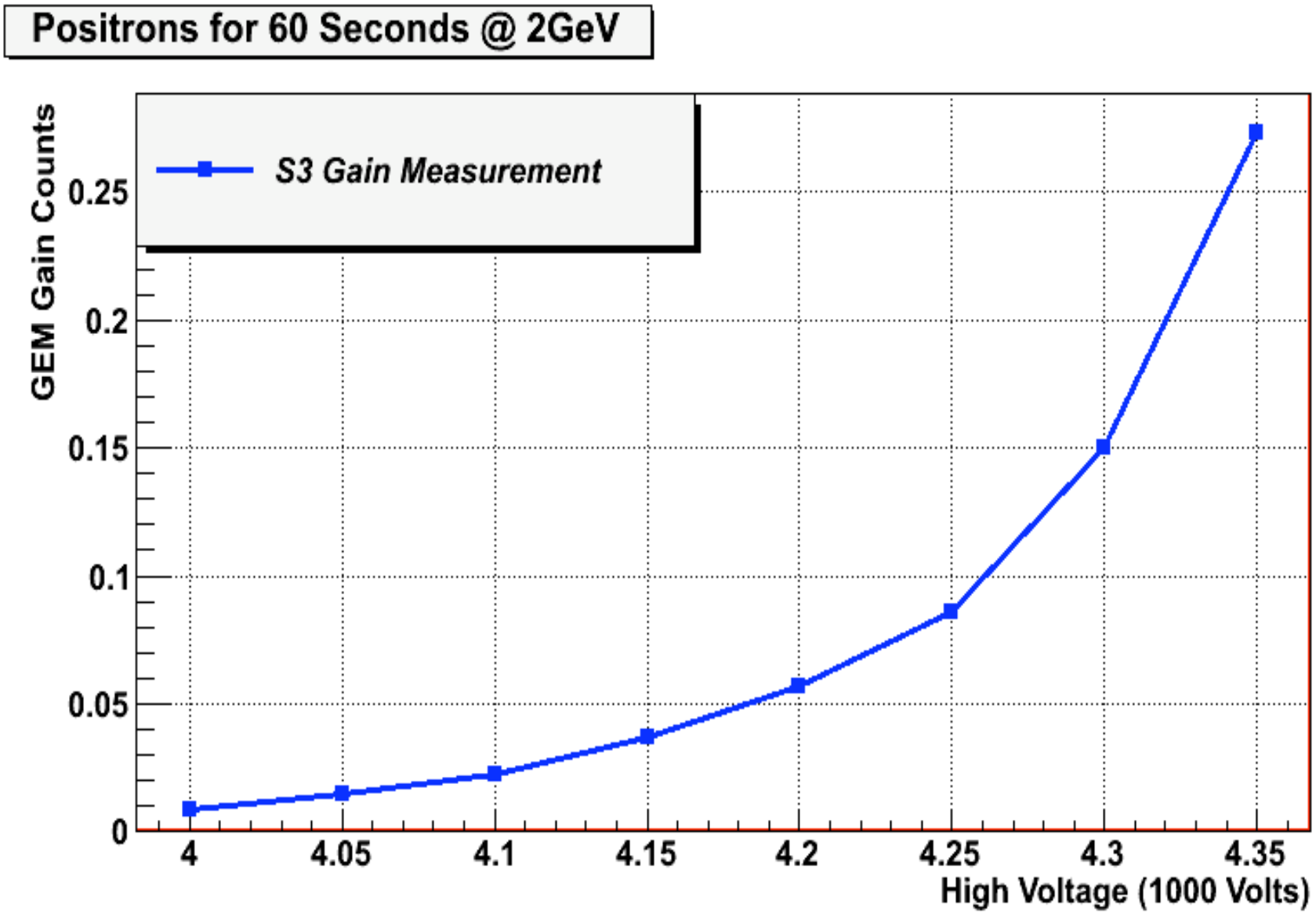


Test Beam 22

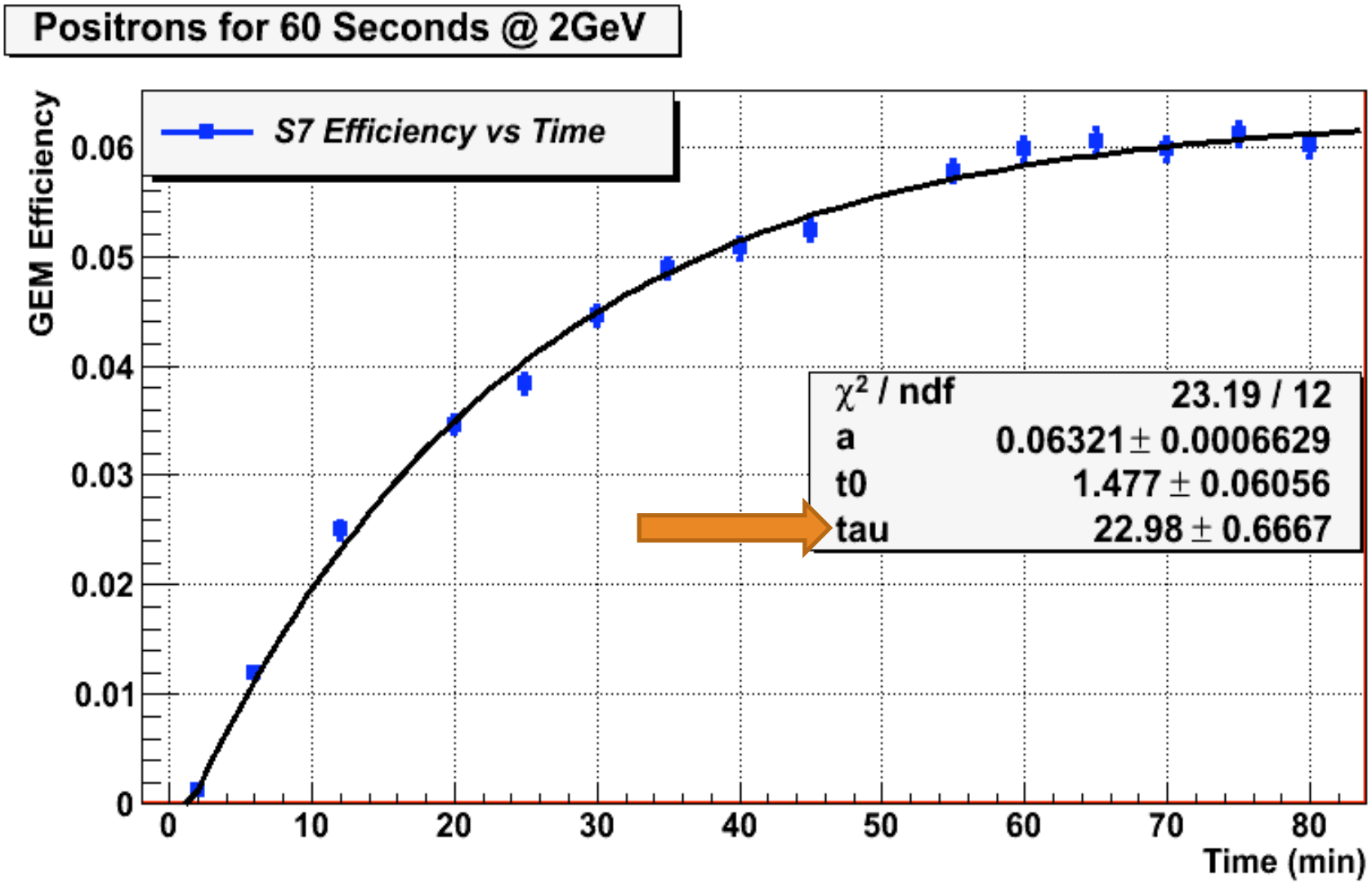
Clear correlation between the (green) signal from the GEM trigger output and the (yellow) beam trigger (triple plastic coincidence!)

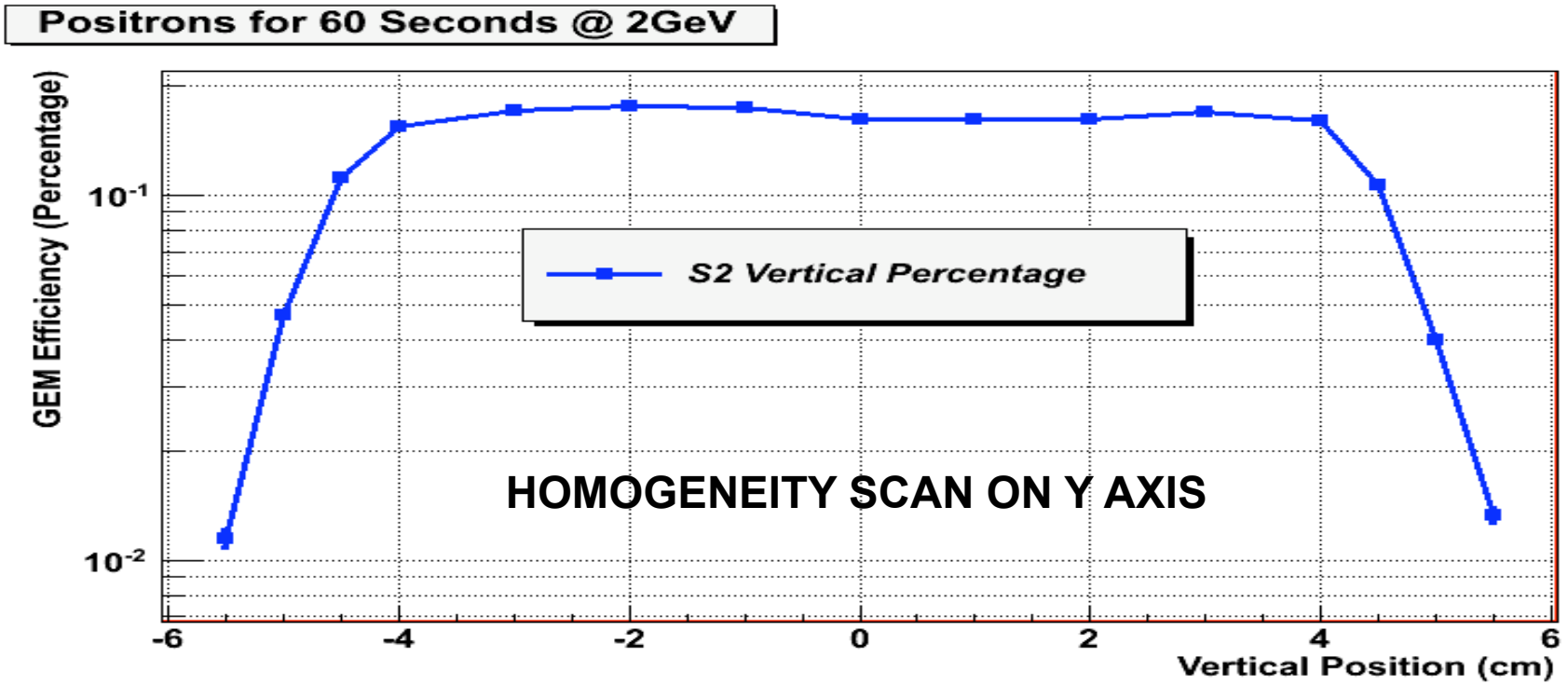


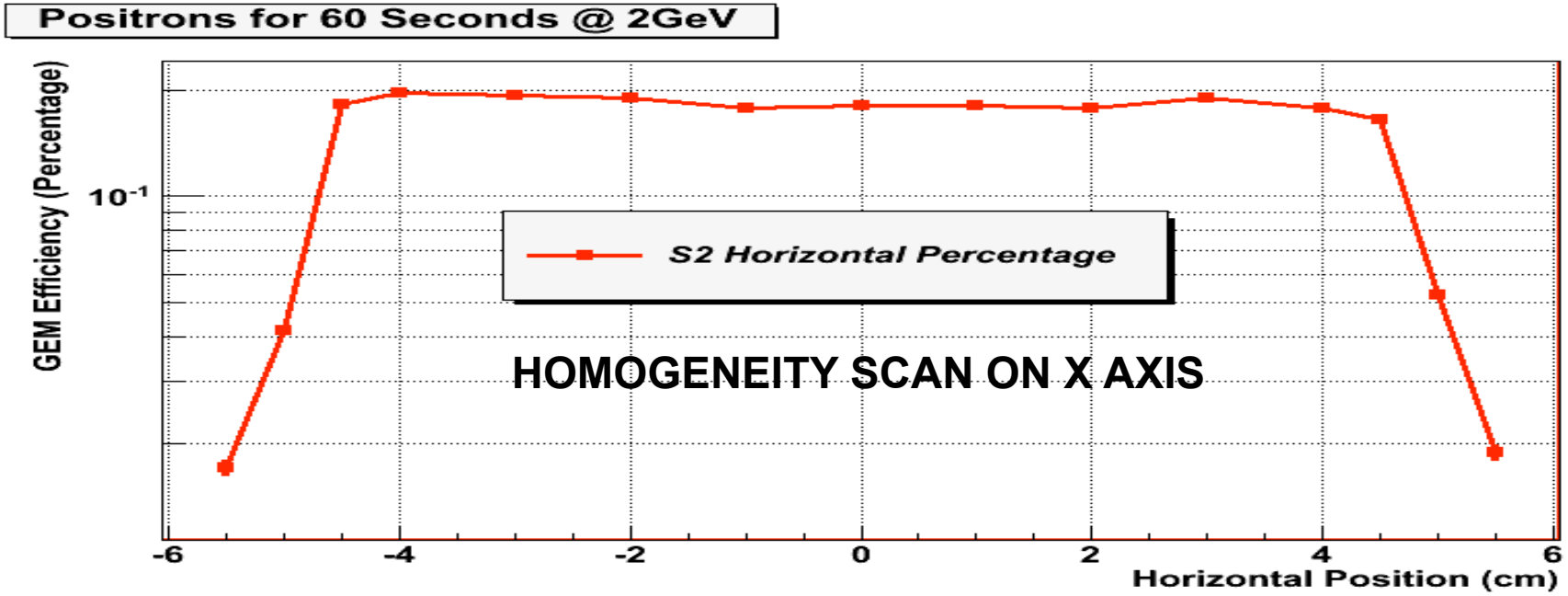
Relative Eff.: Gem Counts/Beam Counts Versus High Voltage

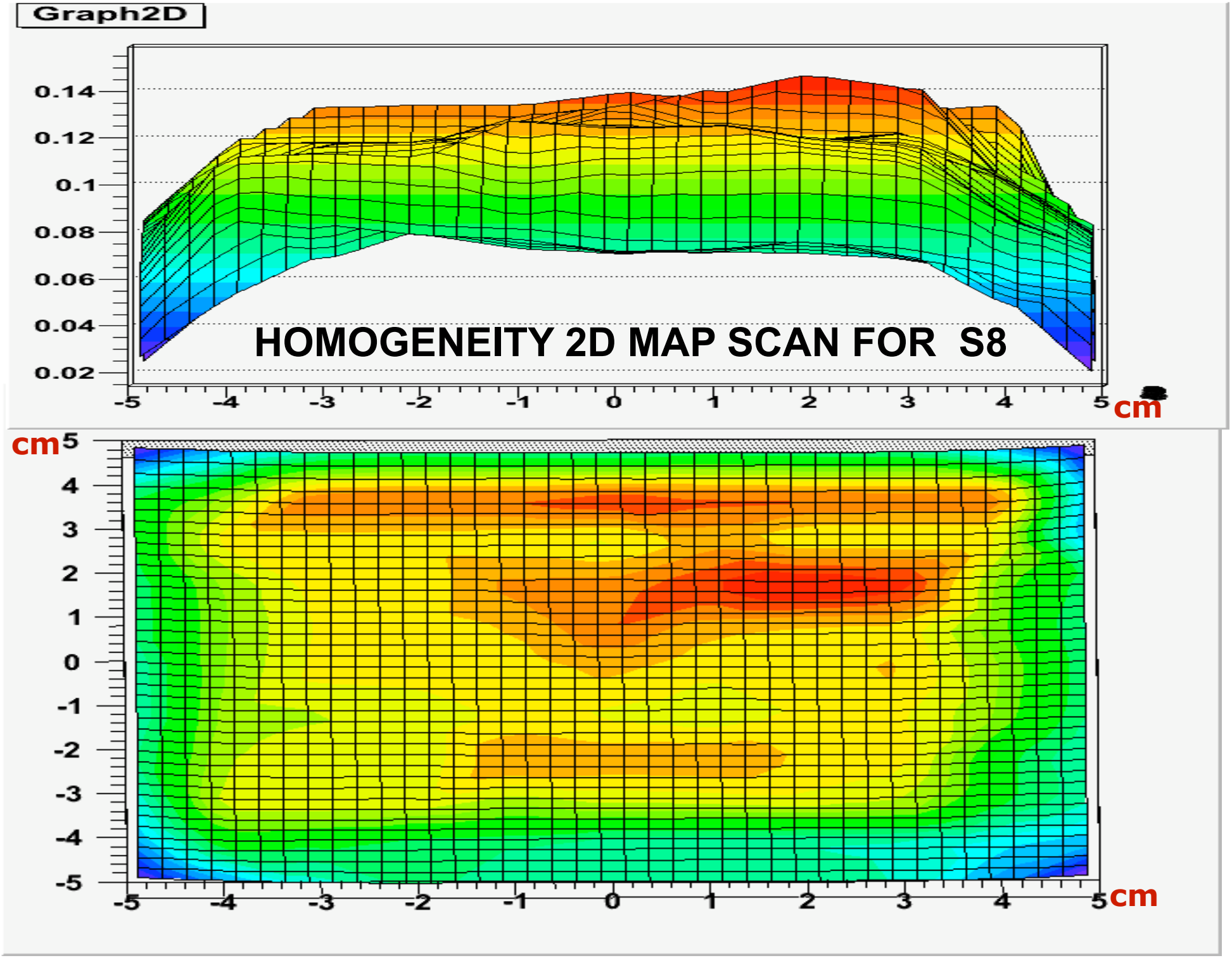


Relative Eff. Versus Time gives "Time Constant" as ~23min

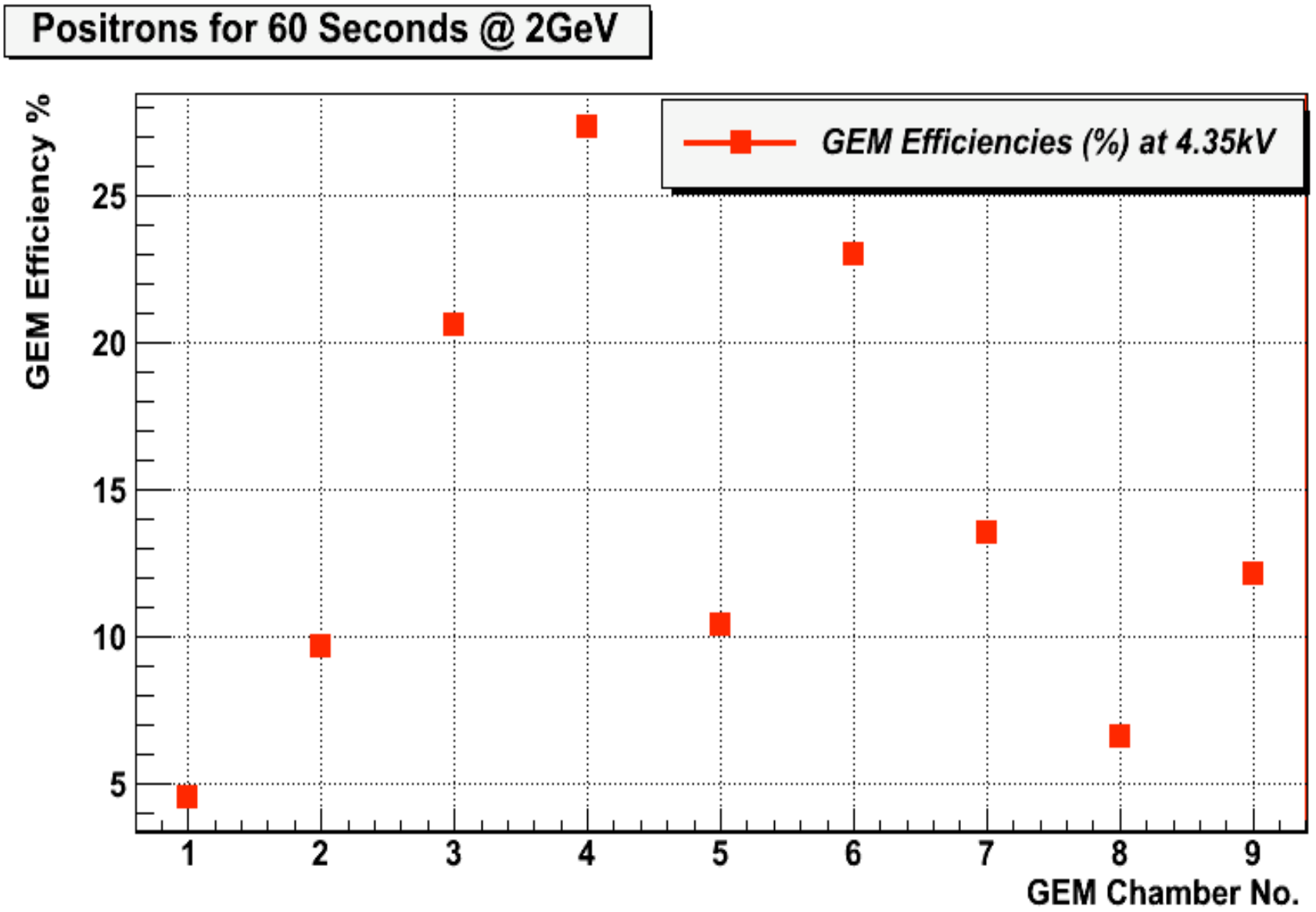



Positrons for 60 Seconds @ 2GeV
GEM Efficiency (Percentage)
10^{-1}
10^{-2}
S2 Vertical Percentage
HOMOGENEITY SCAN ON Y AXIS
-6
-4
-2
0
2
4
6
Vertical Position (cm)


Positrons for 60 Seconds @ 2GeV
GEM Efficiency (Percentage)
10^{-1}
S2 Horizontal Percentage
HOMOGENEITY SCAN ON X AXIS
-6
-4
-2
0
2
4
6
Horizontal Position (cm)


Graph2D
0.14
0.12
0.1
0.08
0.06
0.04
0.02
-5 -4 -3 -2 -1 0 1 2 3 4 5
cm
HOMOGENEITY 2D MAP SCAN FOR S8
cm
5 4 3 2 1 0 -1 -2 -3 -4 -5
-5 -4 -3 -2 -1 0 1 2 3 4 5
cm

TEST RESULTS OF 9 GEM CHAMBERS

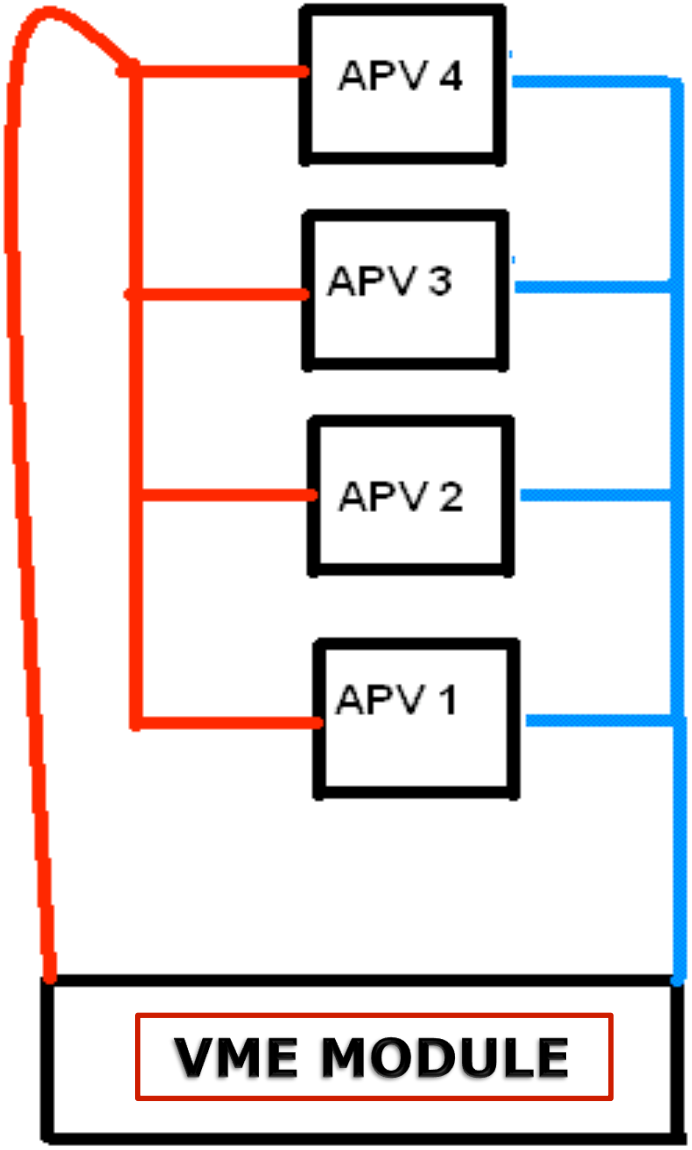


2- Test Beam with attached 4 APVs to GEM

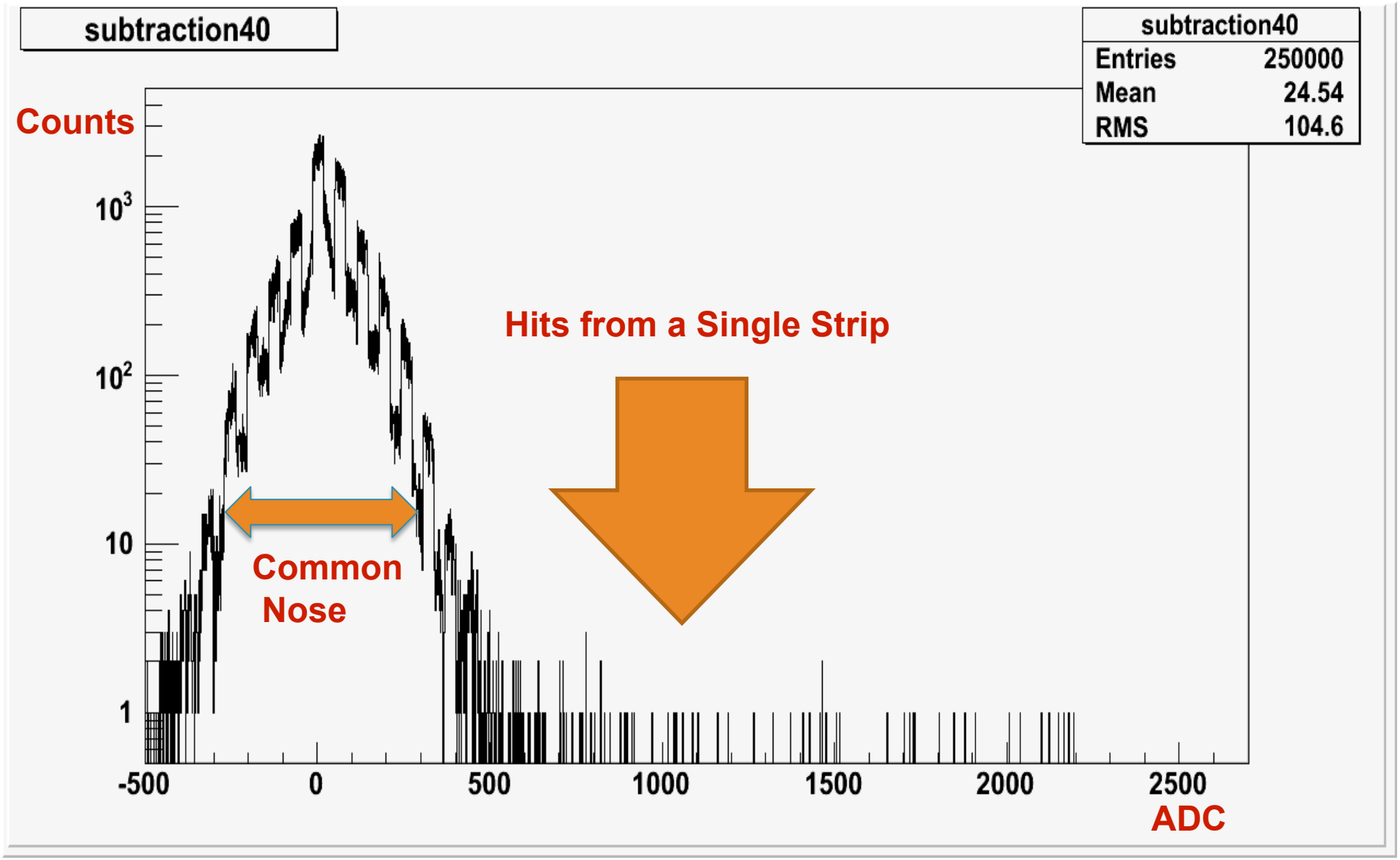
Propagation Delays between the APV Cards in Ribbon Cable compensated by adjusting the analog cables.

Clock Freq.= 40Mhz

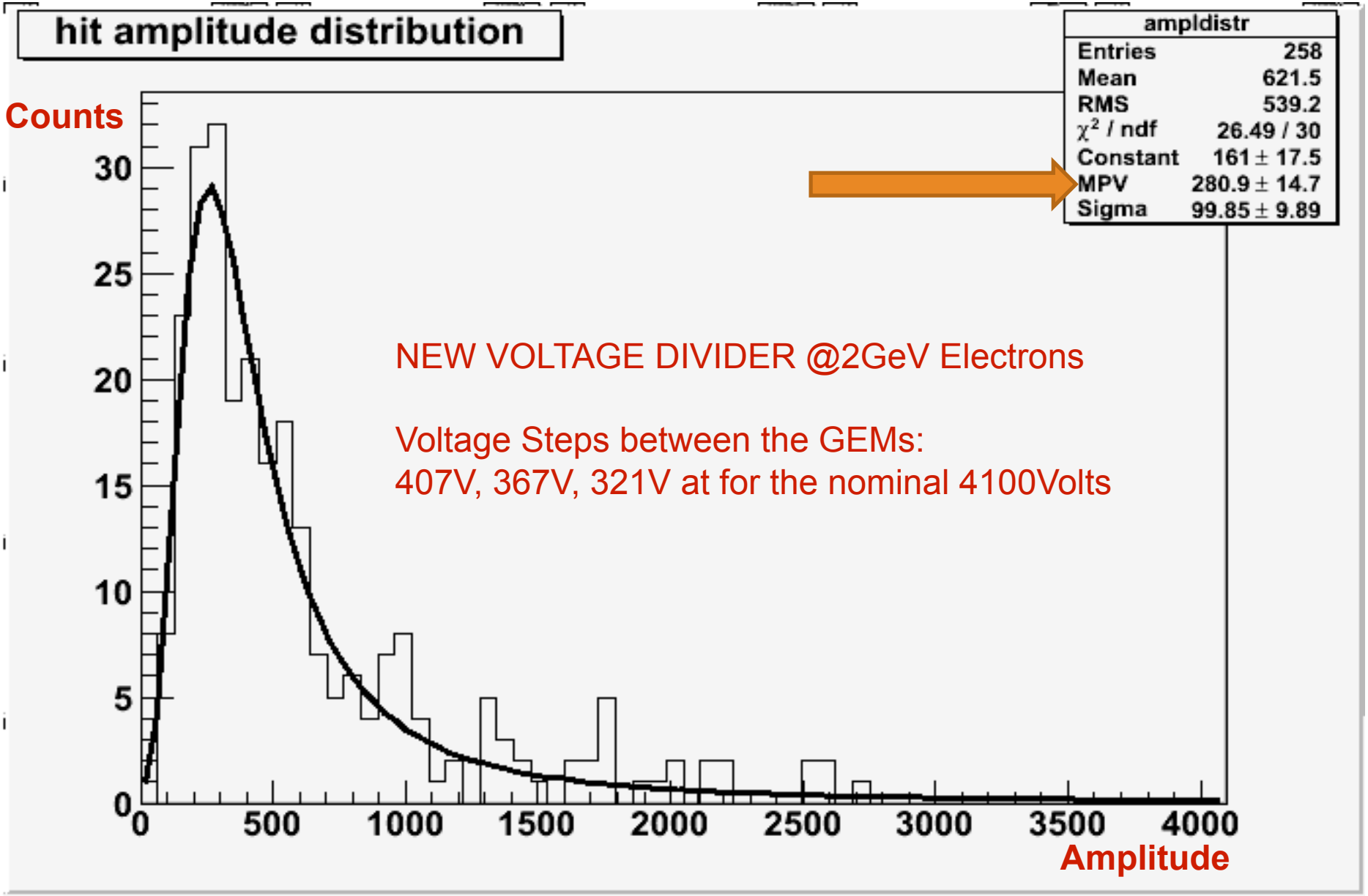
Clock Period=25 ns



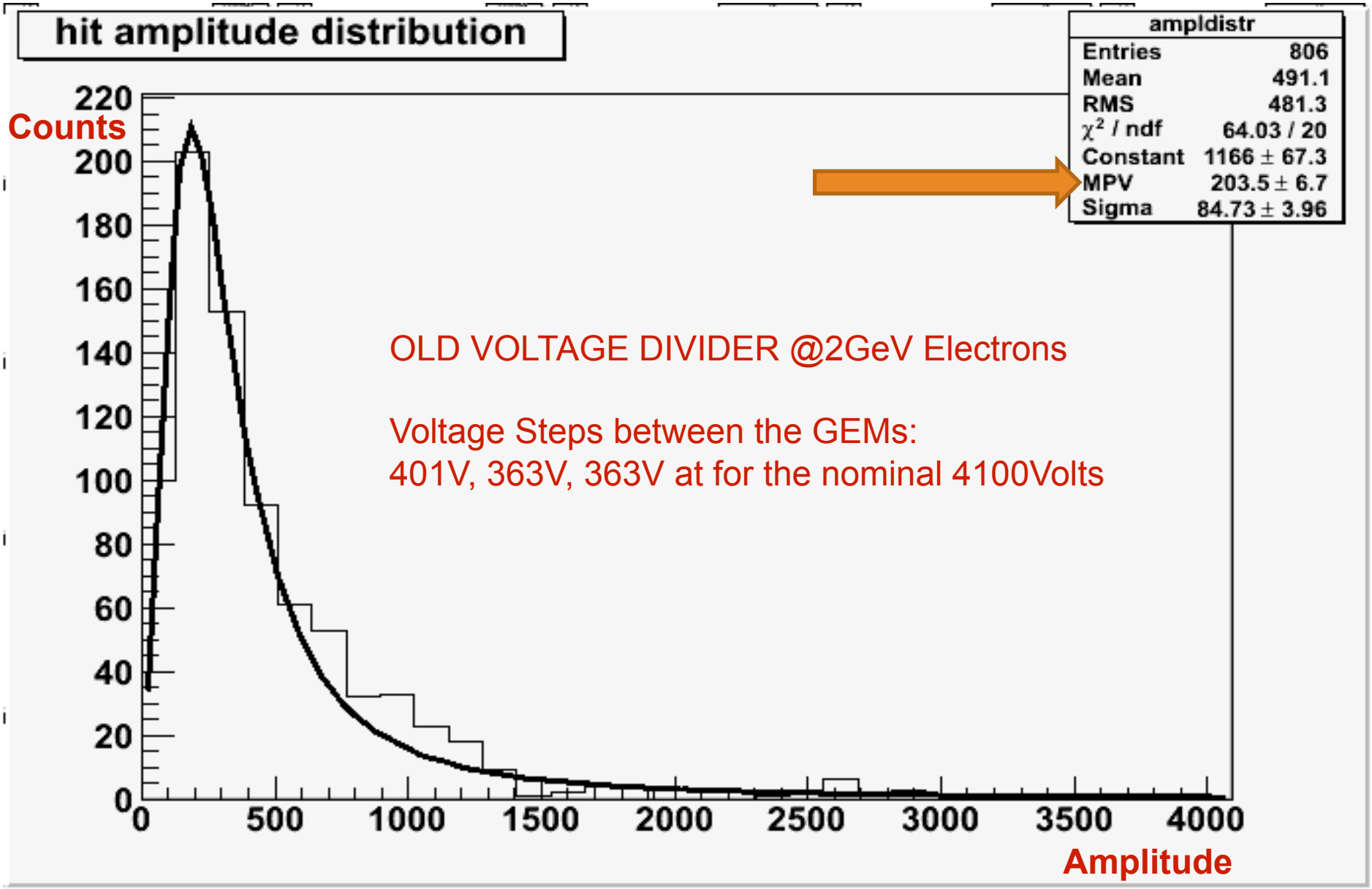
Pedestal Subtraction from Production Run for Strip 40th at 200MeV-Electrons



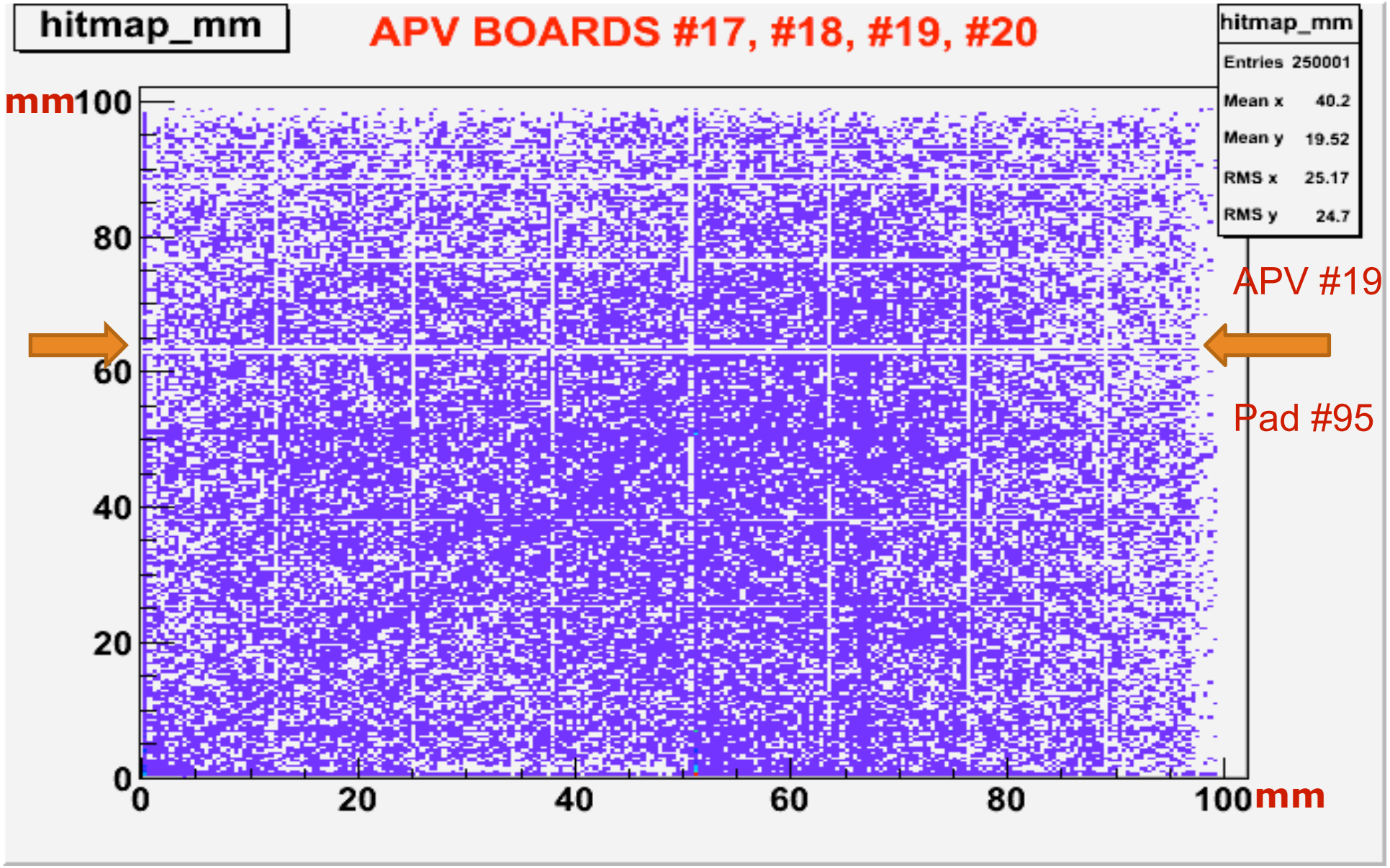
Landau Distribution by using Peak Search Method



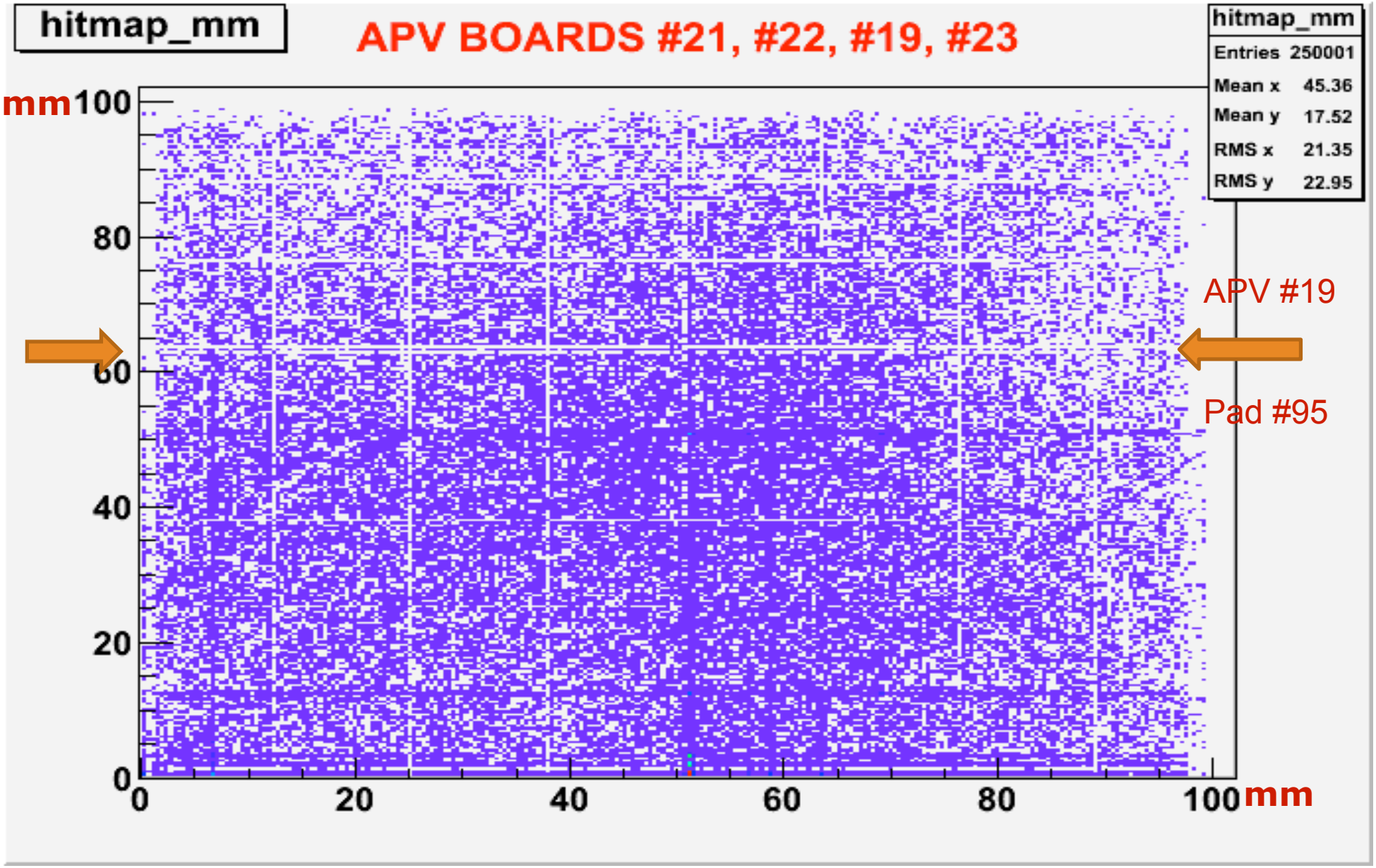
Landau Distribution by using Peak Search Method



10by10cm^2 -HitMap- @200MeV Electrons



10by10cm^2 -HitMap- @200MeV Electrons



THANKS☺