Flux

(Rashmi Sarwal, B.Sc. Physical Science with Computer Science, Miranda House)

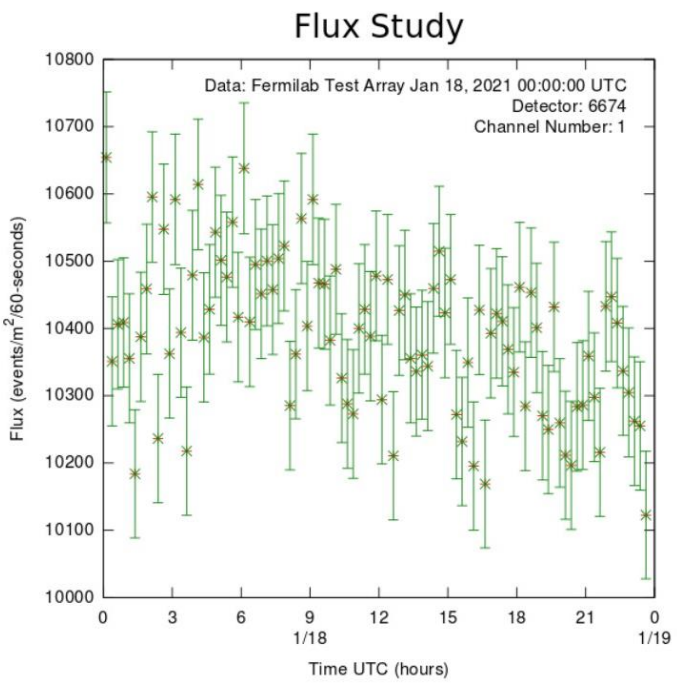
Detector ID: 6674
Project: Cosmic
School: Fermilab Test Array
File Date: Jan 18, 2021
City: Batavia
GPS: (0,0,0)
Latitude: 41:53.365920 N
Longitude: 088:19.585297 W
Altitude: 236 m
Orientation: Unstacked
Total Events: 1547686
Total Lines: 6266013
Gatewidth: 1730 ns
Average hits per Event: 2.69
Counter1: (0.15, 0.125, 0.095) m
Counter2: (0, 0, 0.06) m
Counter 3: (0.15, 0.125, 0.03) m
Counter 4: (0.075, 0.063, 0) m
Area of each 4 counters: 750 cm^2

Plots: -

1) Bin width = 900 sec

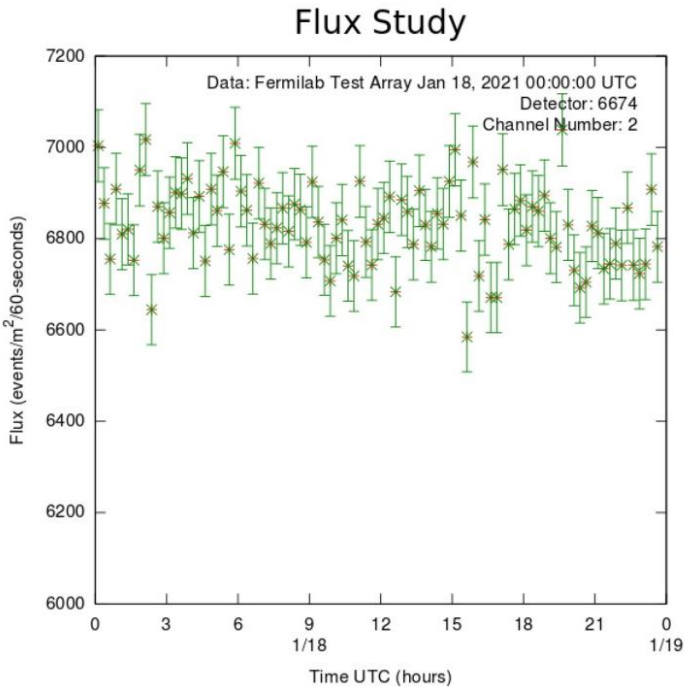
Time period = 0:00 to 23:59 (hour : min)

(Channel 1)



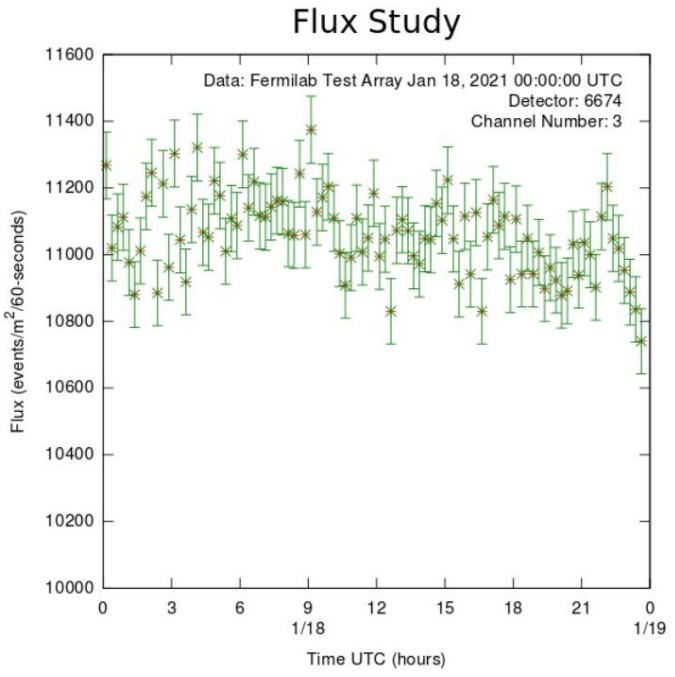
Channel 1 Flux Range =10100 to 10700

(Channel 2)



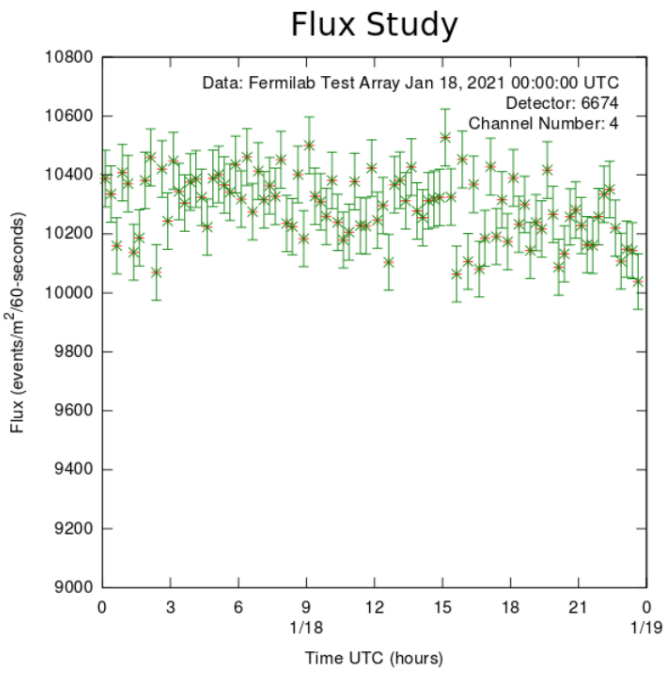
Channel 2 Flux range = 6500 to 7100

(Channel 3)



Channel 3 Flux Range =10700 to 11400

(Channel 4)

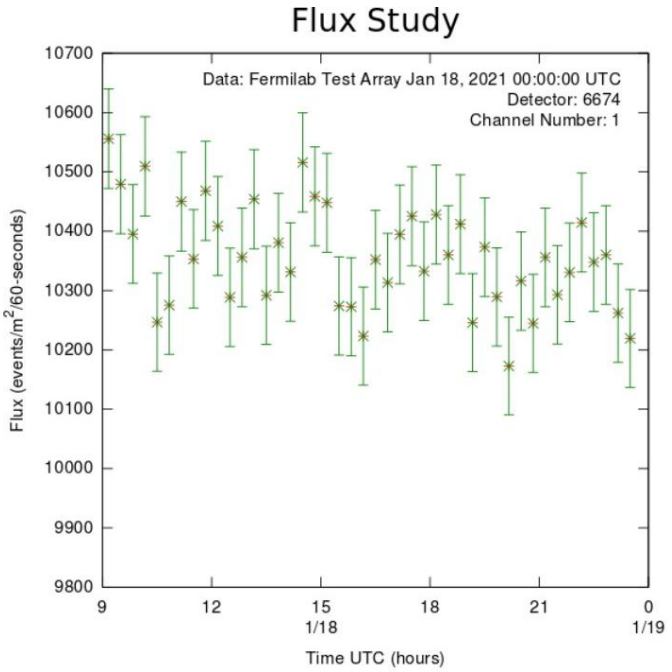


Channel 4 Flux Range =10000 to 10600

2) Bin width = 1200 sec

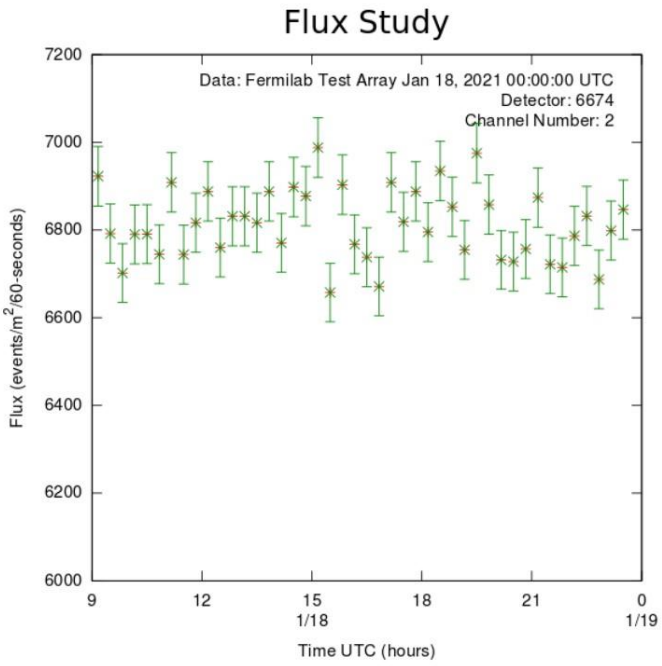
Time period = 9:00 to 23:59 (hour : min)

(Channel 1)



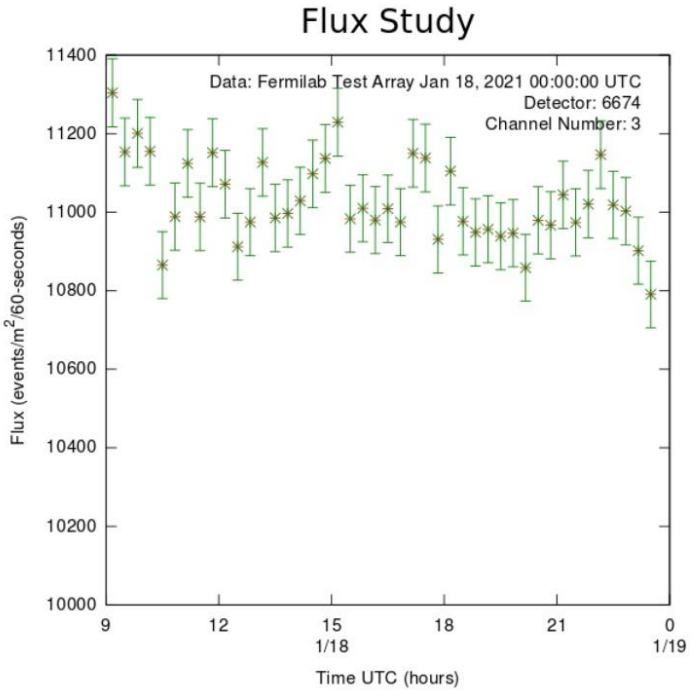
Channel 1 Flux Range =10100 to 10600

(Channel 2)



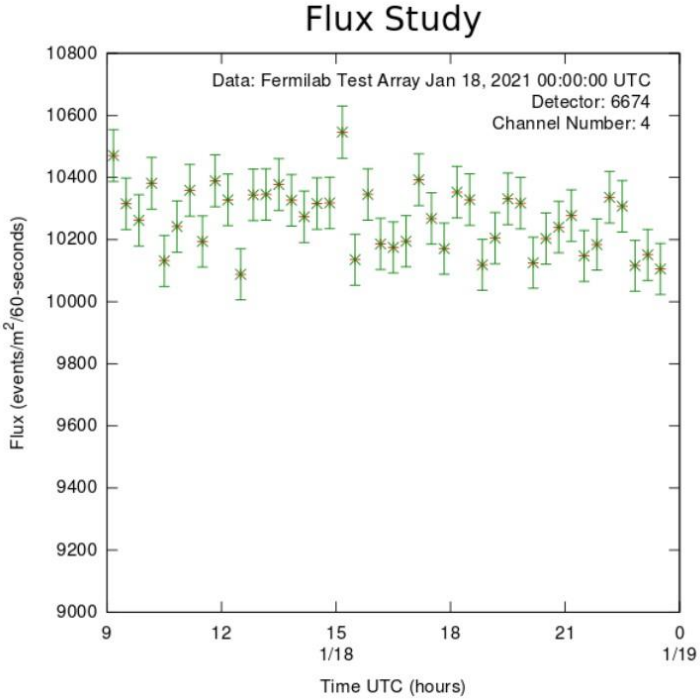
Channel 2 Flux Range =6600 to 7100

(Channel 3)



Channel 3 Flux Range =10800 to 11400

(Channel 4)



Channel 4 Flux Range =10000 to 10600

Conclusion: -

We have unstacked orientation of counters. Also, as given already the coordinates of counter 1 is (0.15, 0.125, 0.095) m, counter 2 is (0, 0, 0.06) m, counter 3 is (0.15, 0.125, 0.03) m and counter 4 is (0.075, 0.063, 0) m.

From the above plots for both bin width cases it can be observed that flux range for counter 1, counter 3 and counter 4 is still approximately compatible but flux range for counter 2 is different. I assume it is due to the spatial orientation/coordinates of the counters.