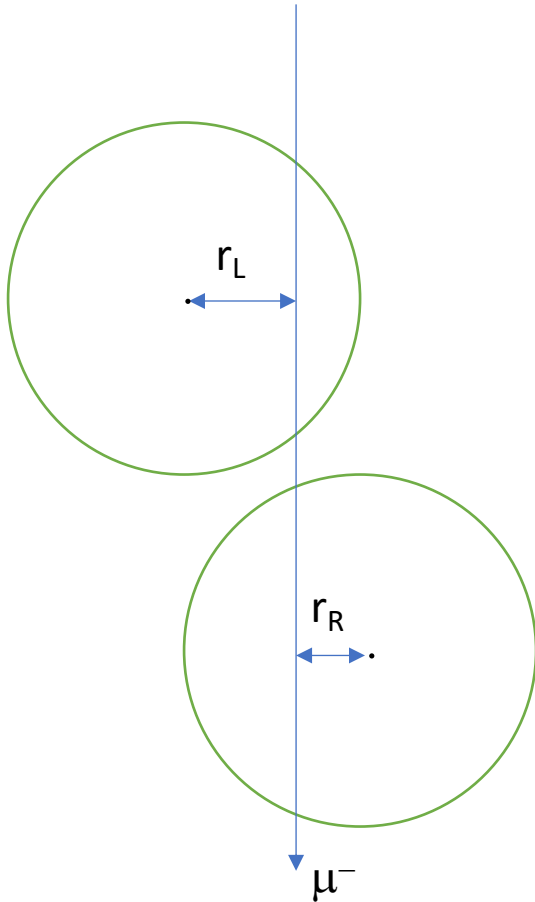


Straw team

Uniform muon distribution studies for the test beam case

31/03/2023

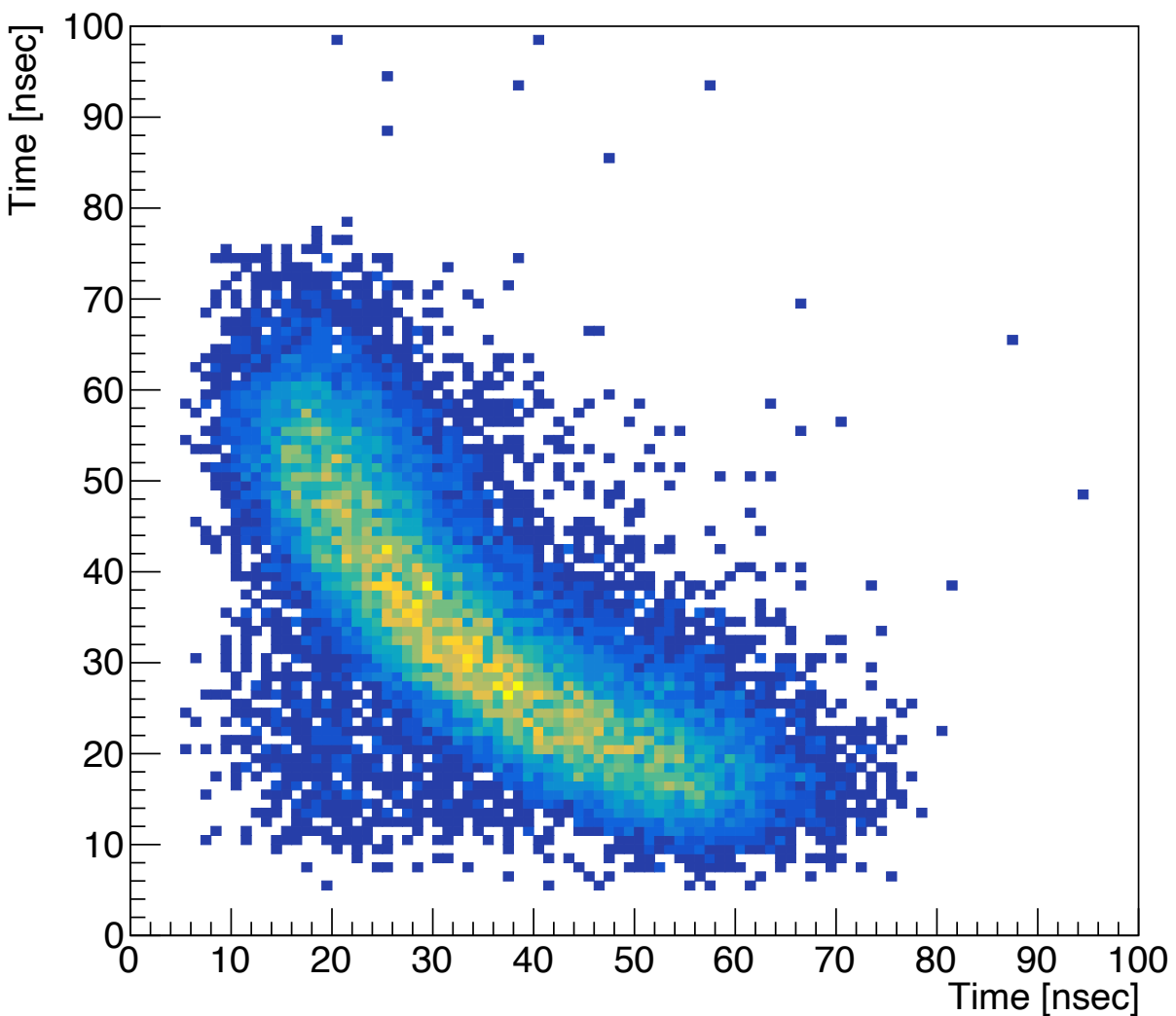
Straw:



- $R_{\text{tube}} = 3 \text{ mm}$
 - $A_d = 30 \text{ micron}$
 - $V_a = 1750 \text{ V}$
 - $\text{Penn} = 54$
 - $\text{Track}_{\text{count}} = 50 \text{ k}$
 - $\text{Ar/CO}_2 : 70/30$
 - $\text{Gas gain} = 90 \text{ k (exp)}$
 - $1 \text{ atm} / 20^\circ \text{ C} / E_\mu = 1 \text{ GeV}$
 - No attachment
-
- $R_{\text{tube}} - r_R - \text{eps} < r_L < R_{\text{tube}} - r_R + \text{eps}$
 - $\text{eps} = 25 \text{ }\mu\text{m}$

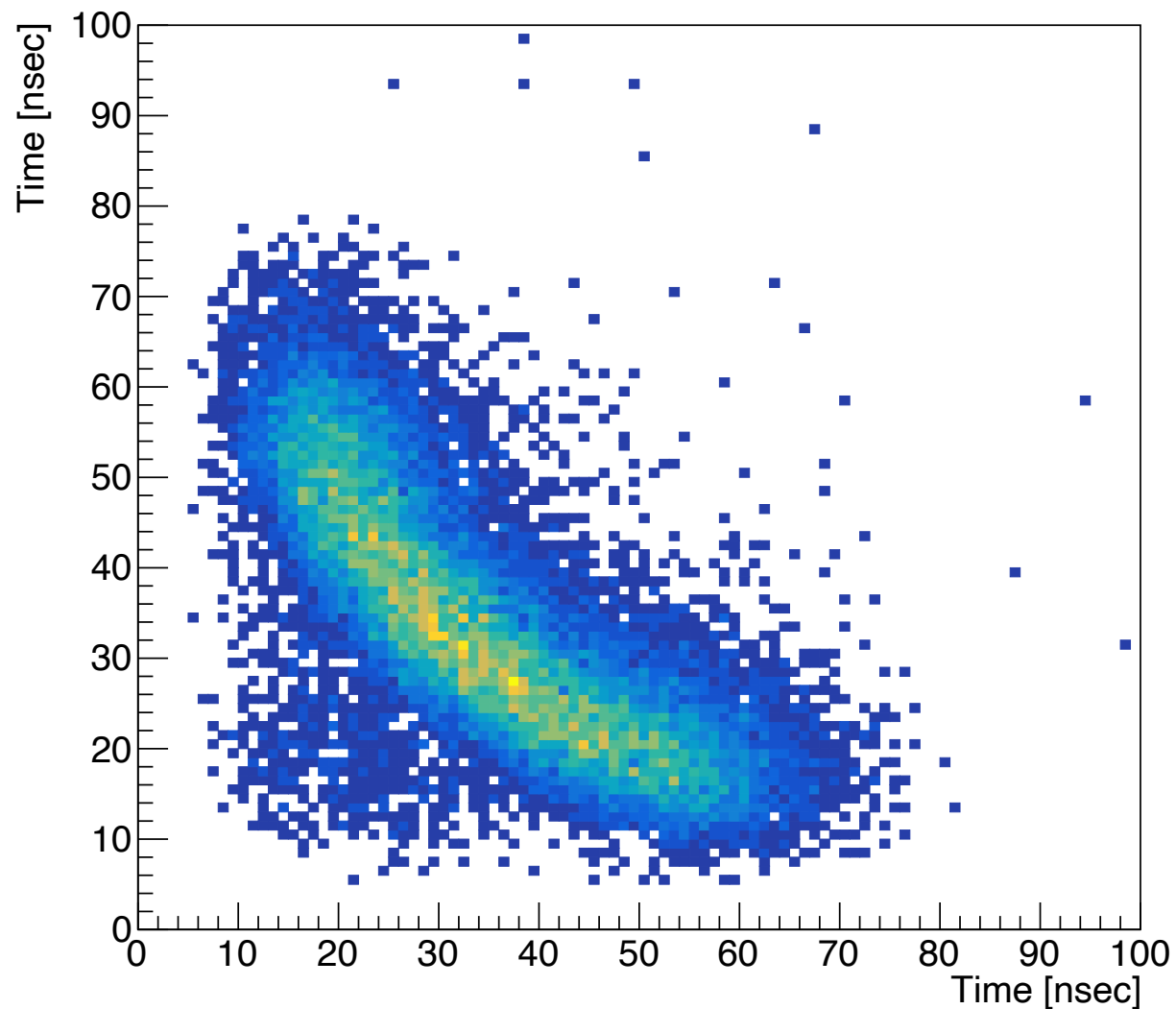
Entries 24238
eps = 25 μm

Fill Banana Plot (eps = 25 micron)

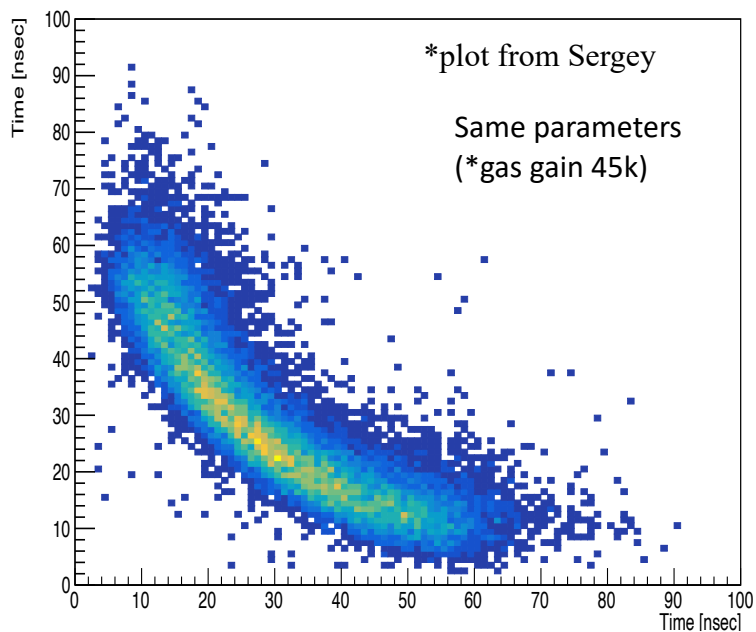


Entries 22805
eps = 5 μm

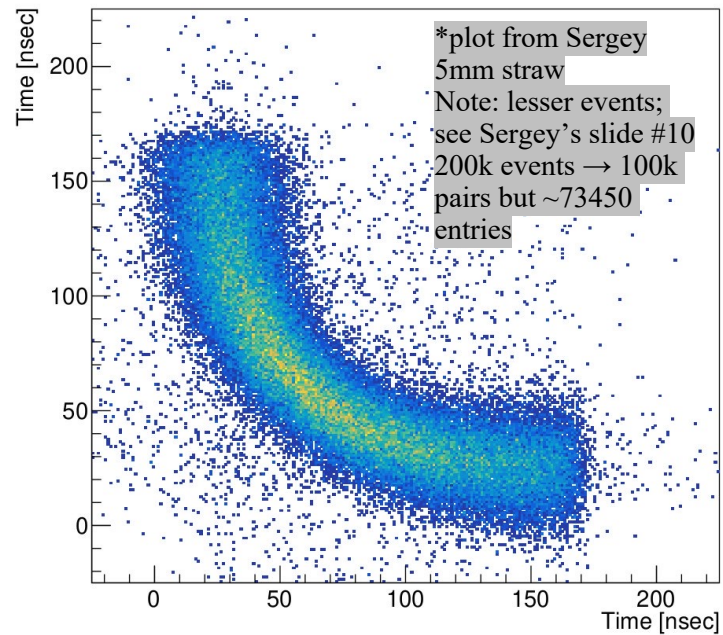
Fill Banana Plot (eps = 5 micron)



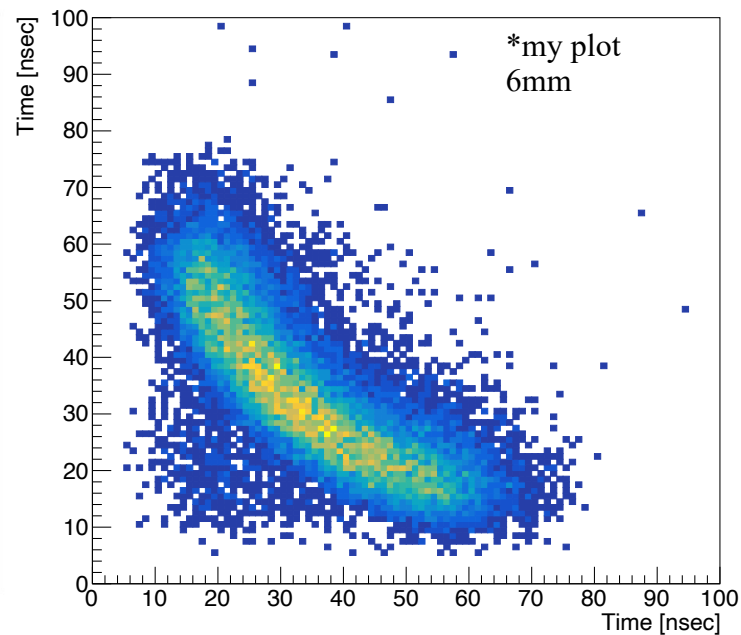
Min stat banana (honest)



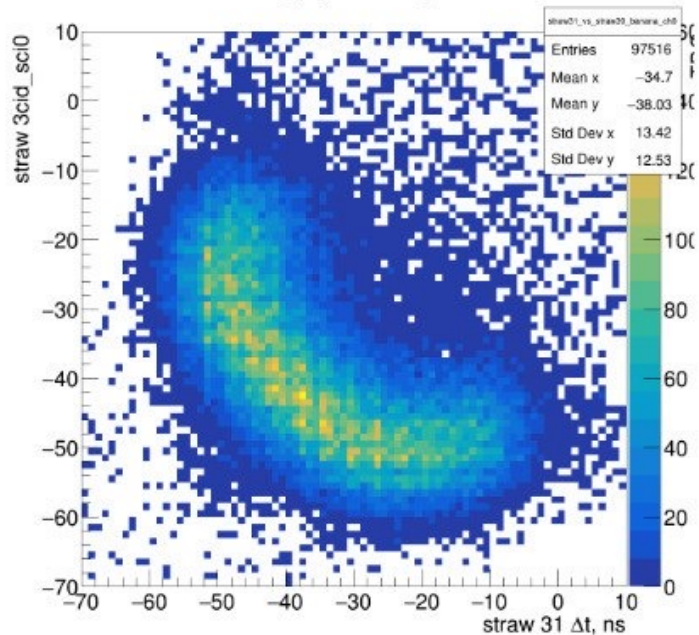
Fill Banana Plot From Vector's Data



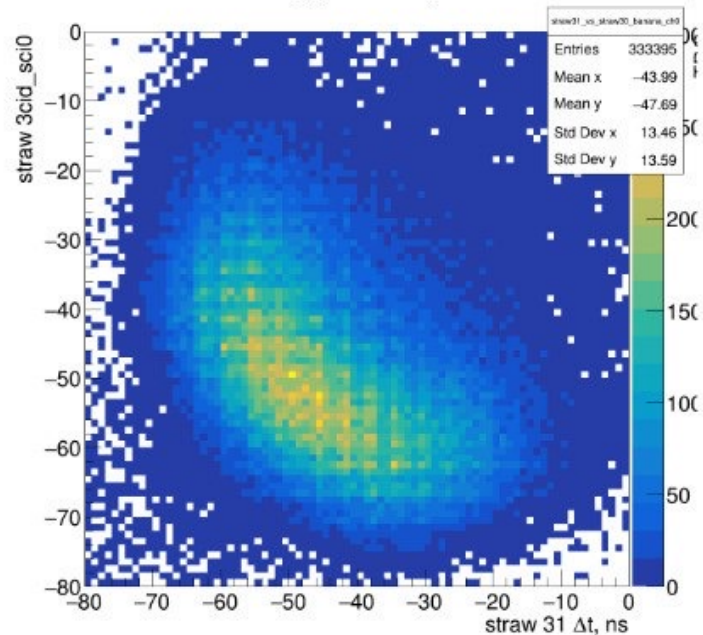
Fill Banana Plot (eps = 25 micron)



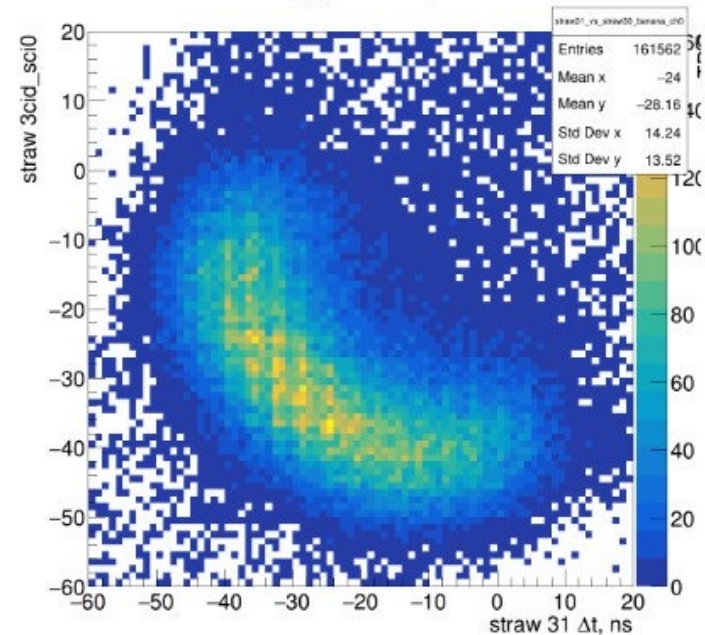
Run 0007: t@t, 1750 V, 1.0 mV/fC



Run 0057: t@t, 1650 V, 1.0 mV/fC



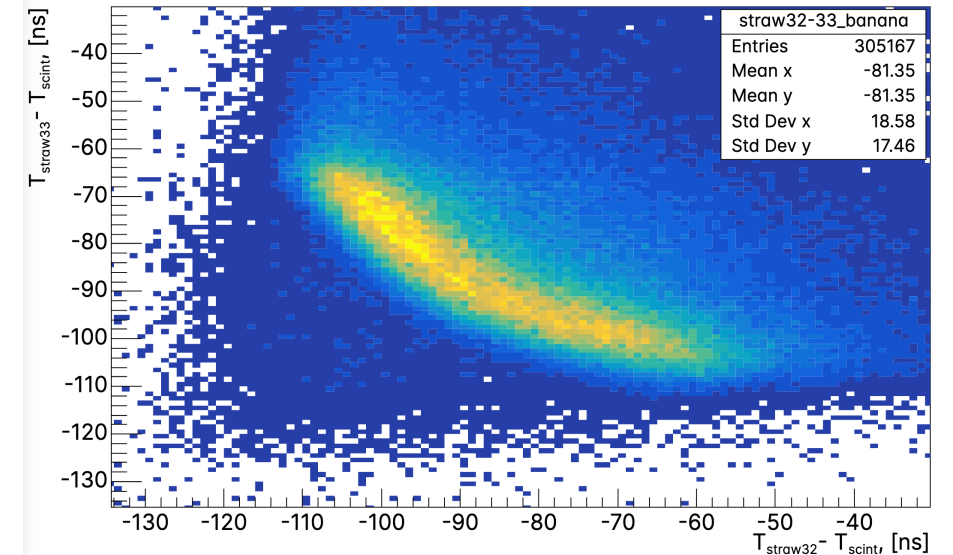
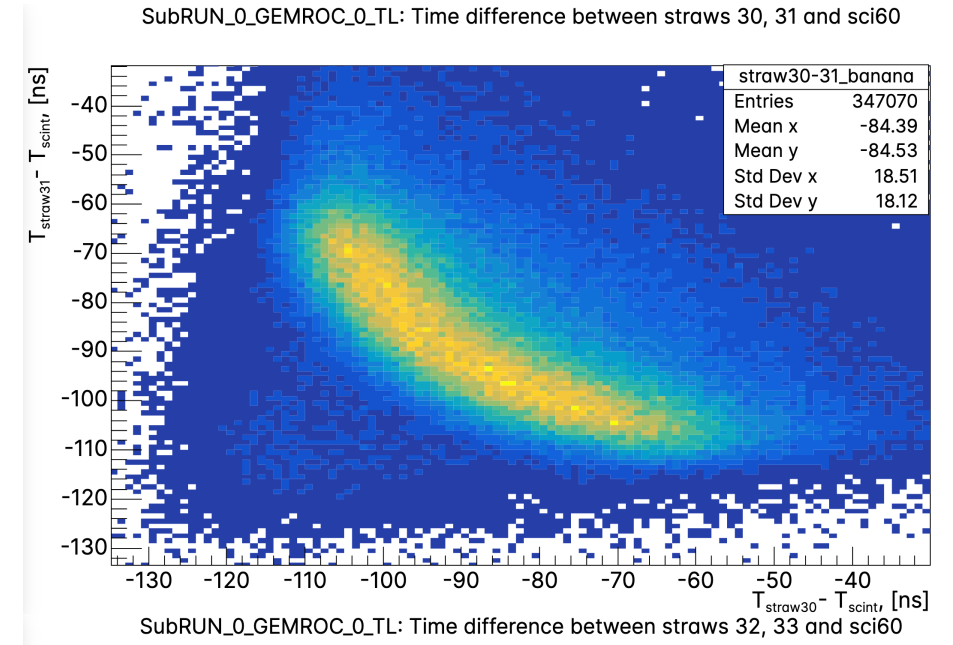
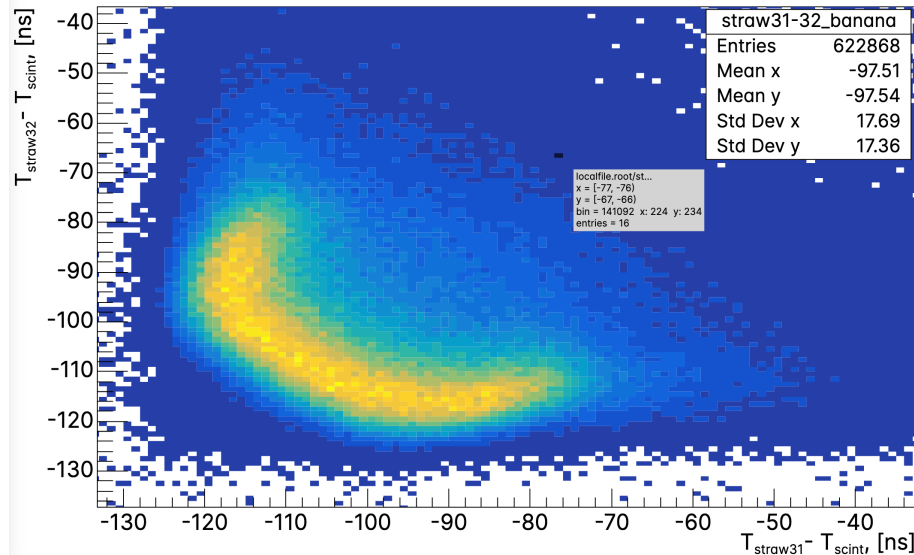
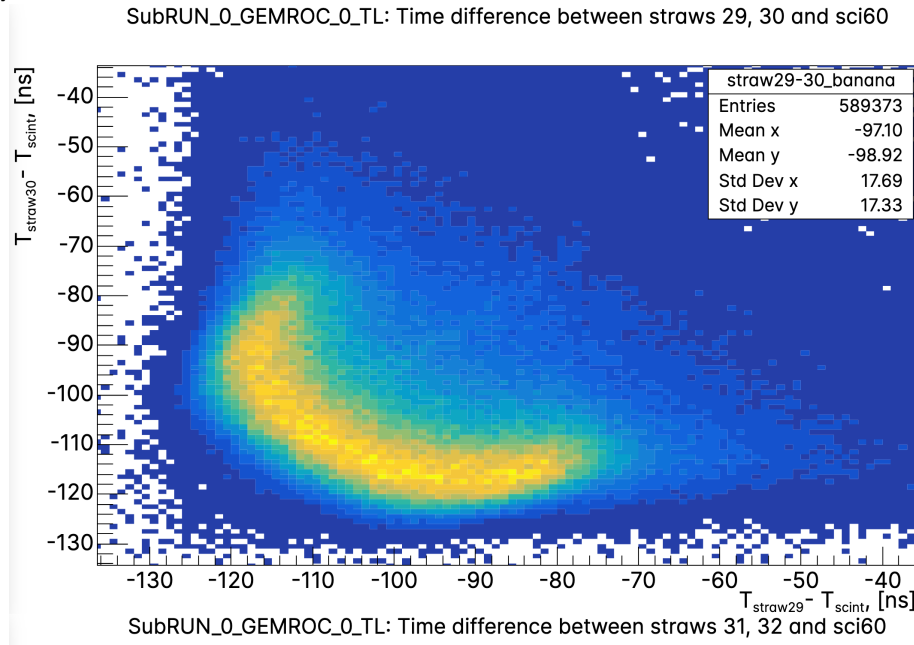
Run 0027: t@t, 1600 V, 4.5 mV/fC



*3 plots
from Vitalii

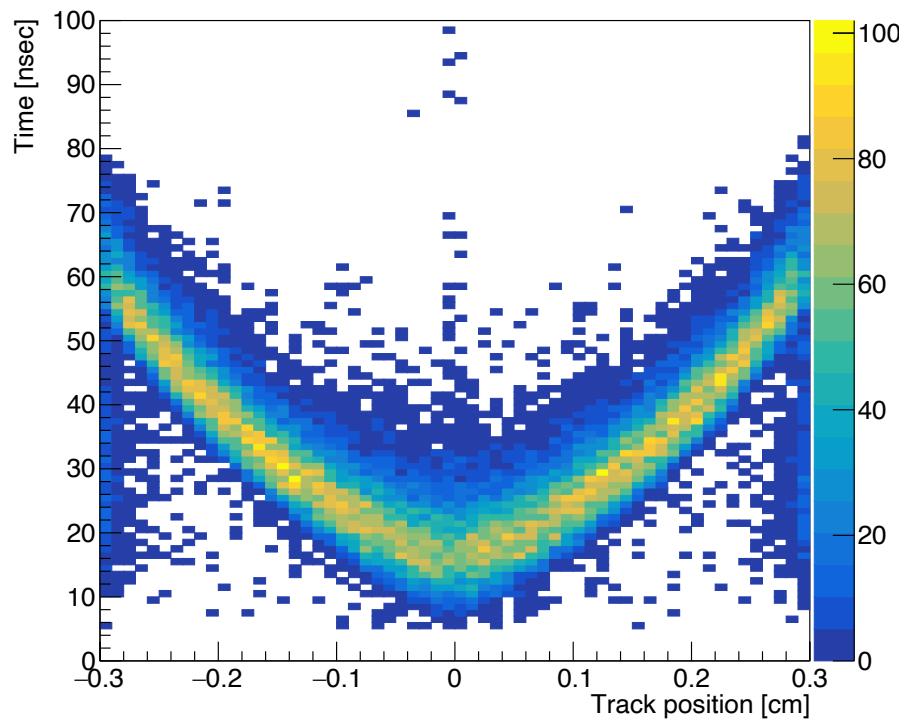
4 banana plots from Andrei Zelenoff – TestBeam Run51 (October 2022)

*before Tiger (I think)

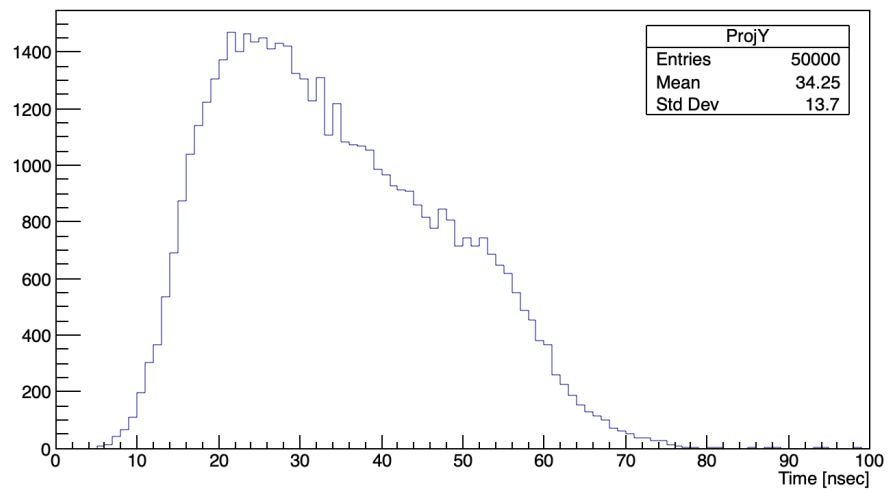


Garfield+LTSpice

RT correlation

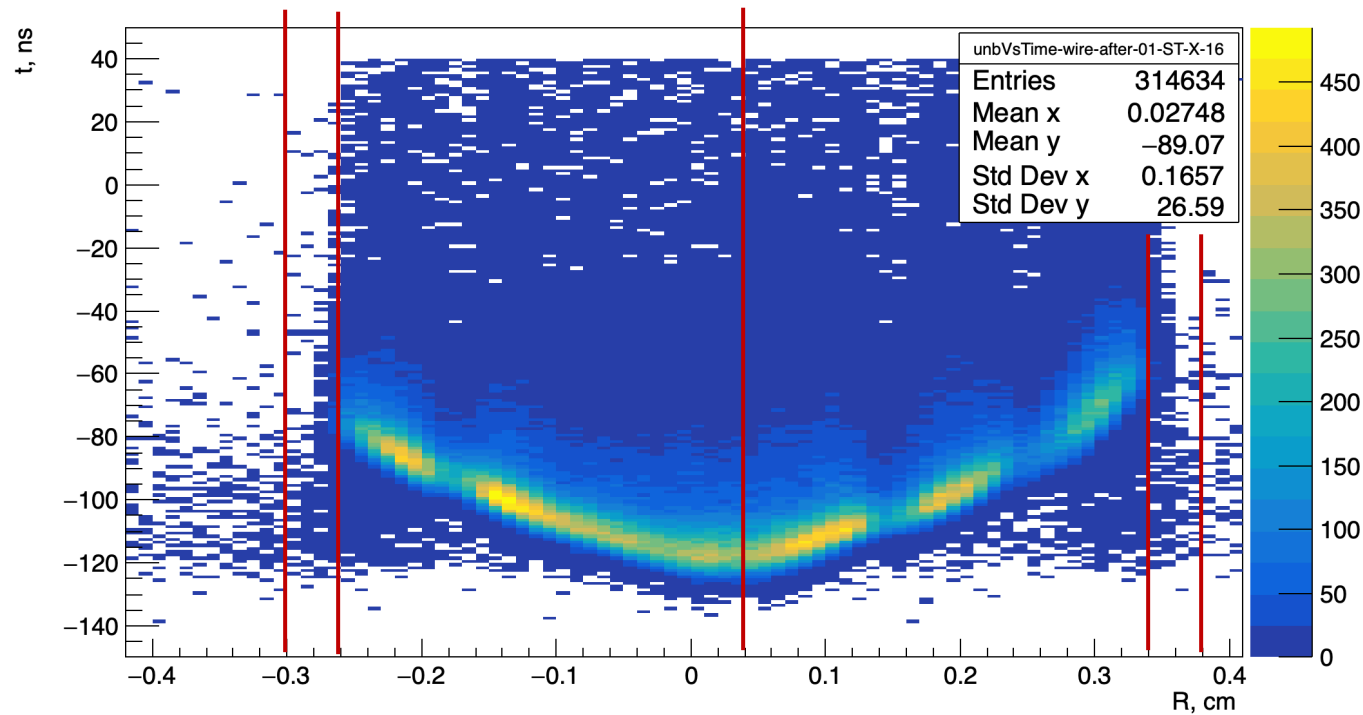


RT correlation v2

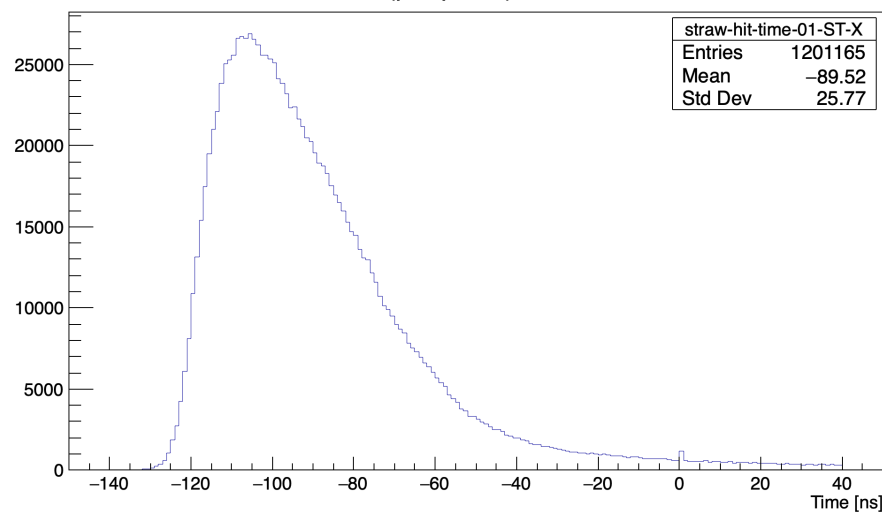


TestBeam (run51_TIGER_output.root)

Unbiased residuals vs hit time for ST01X-16 after cut

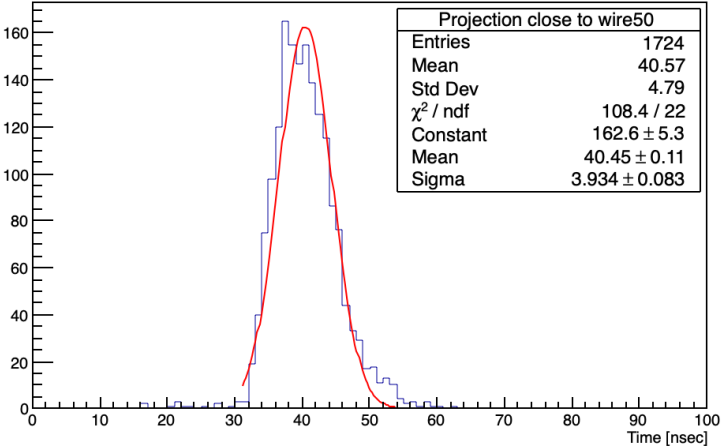
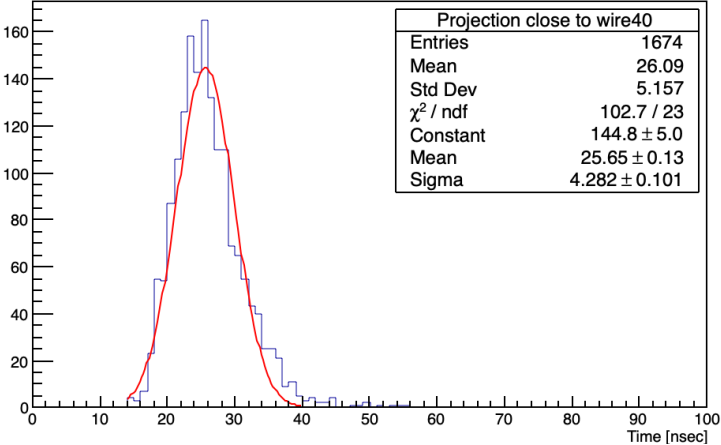
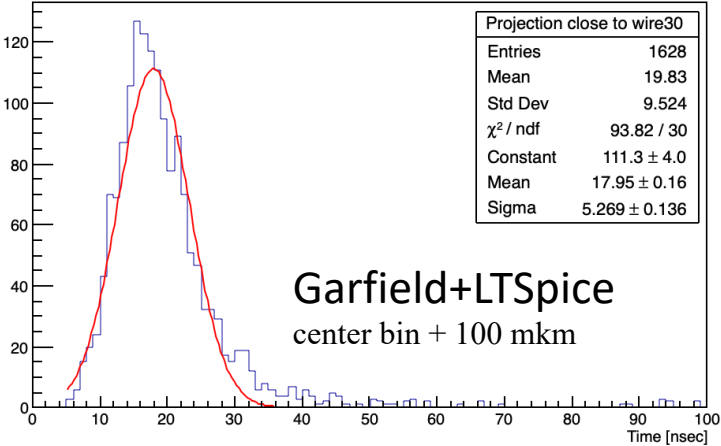


Time (per plane) at ST01X



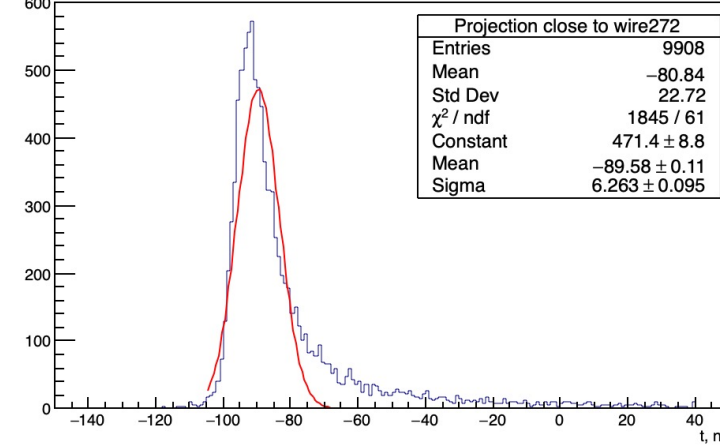
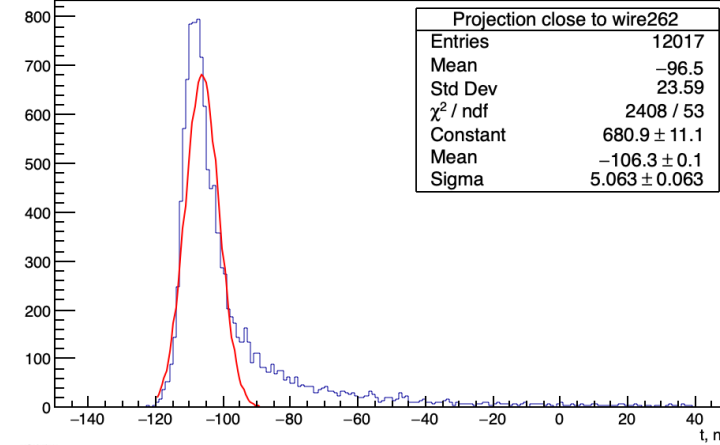
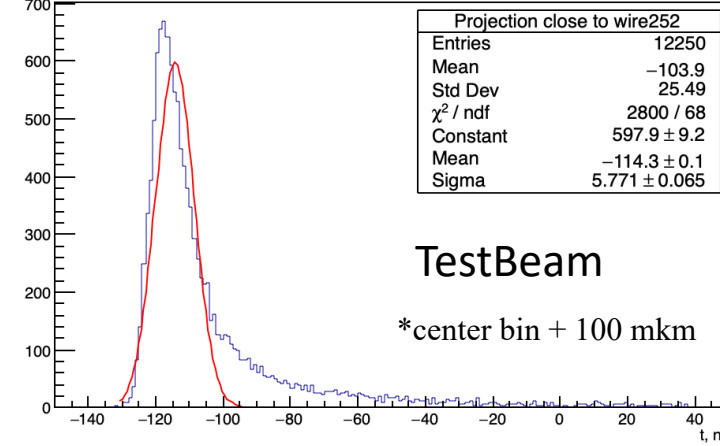
*Nobody knows about shift:
I take about 200 mkm

Close to wire



Step 1000 mkm

Step 1000 mkm



Conclusion

Кароче. Я уже писал, но логика такая:
какие бы мы две трубки не брали, банана пот всегда
обязан быть одинаковым. На тестбим данных мы видимо
что его изгиб меняется, значить это проблемы
неидальности данных тетбима. То есть чем лучше
тестбимовский банан похож на банан из гарфилда, тем
более он правдоподобен. Как-то так.

09:45

так и скажу на митинге)

09:49



Step 1000 mkm

Step 1000 mkm

