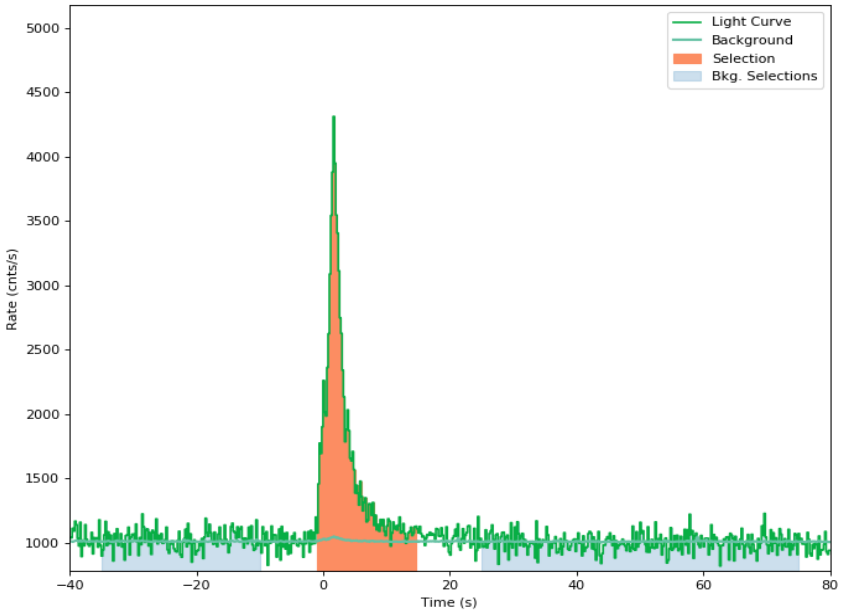
Scintillator Length Study

- Studying the optimal length for the scintillators in POLAR-2

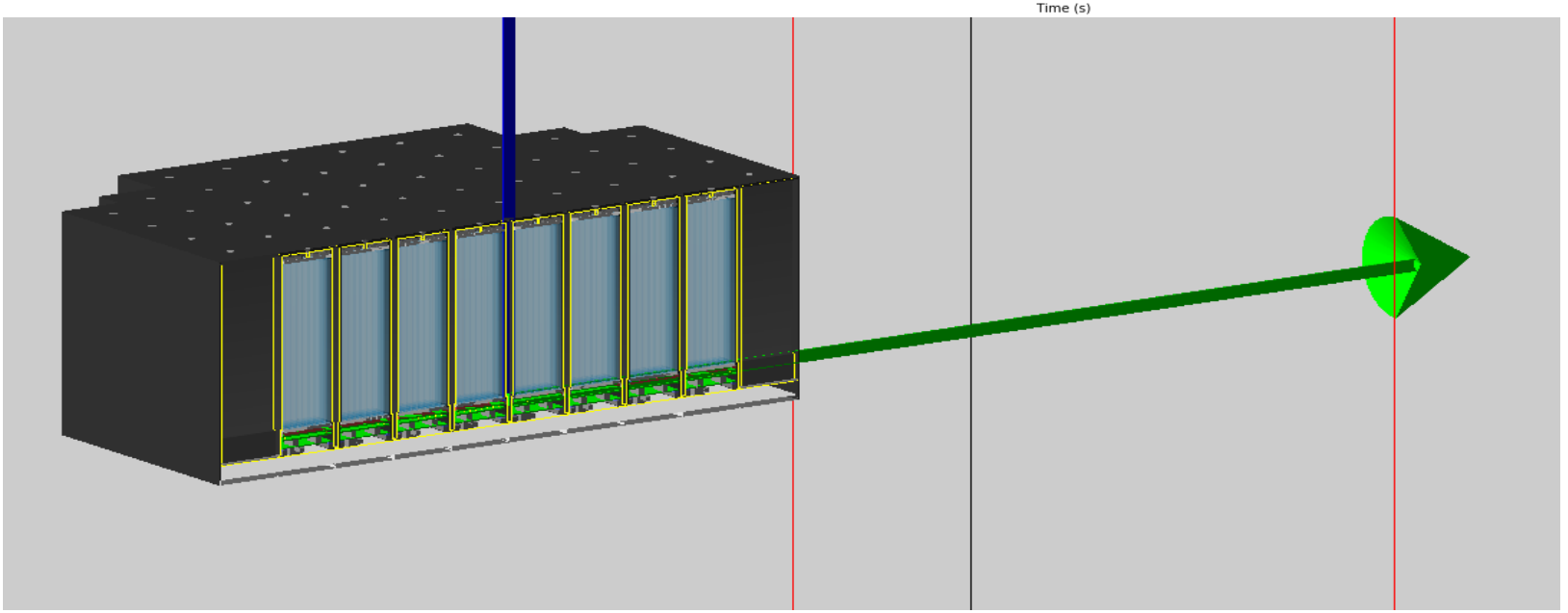
- Using one typical GRB as input for the signal

- Using a uniform background coming from all directions (photons with a powerlaw of -1.5)

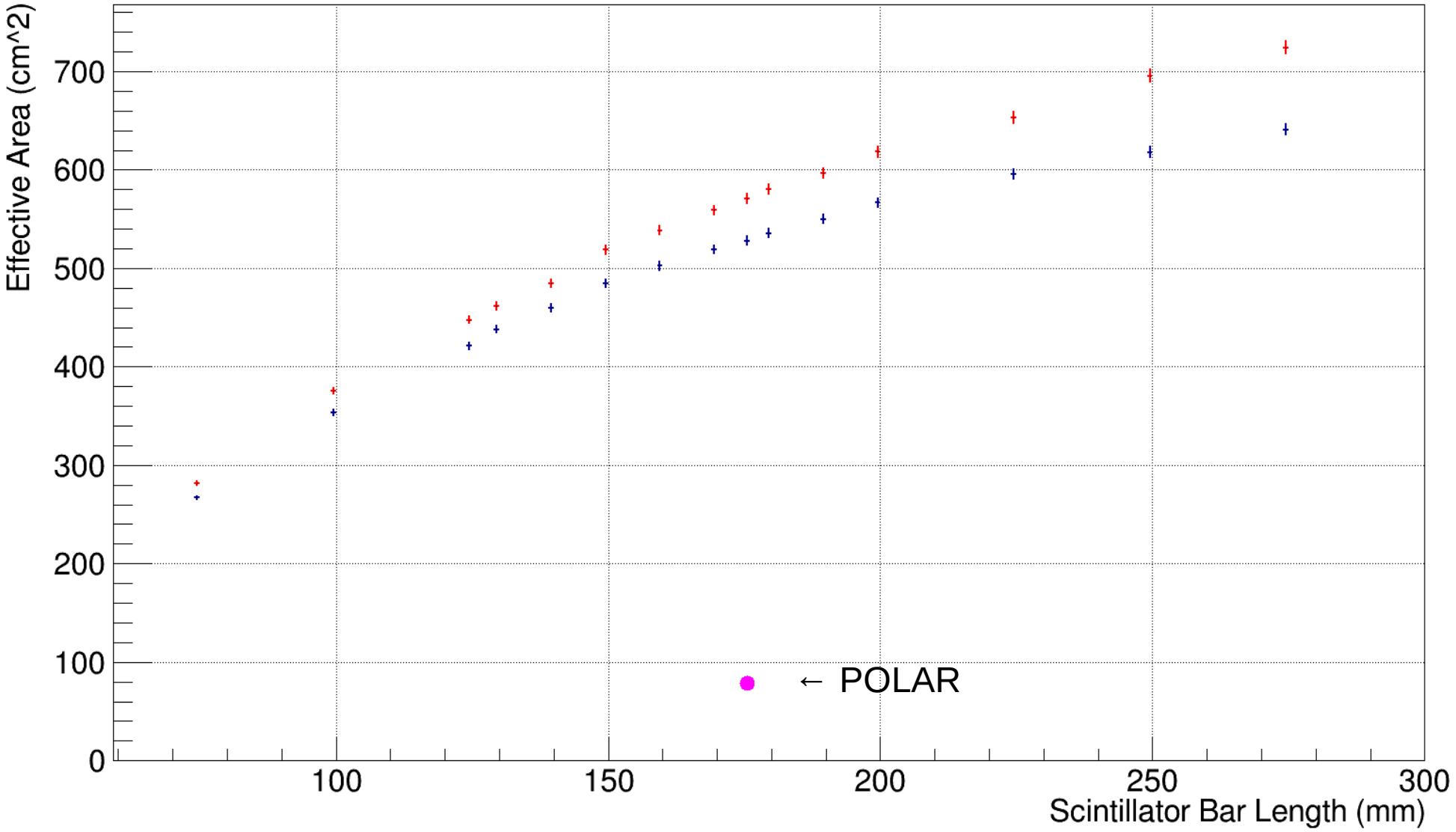


Fluence: (1.93 +/- 0.03)E-5 erg/cm^2

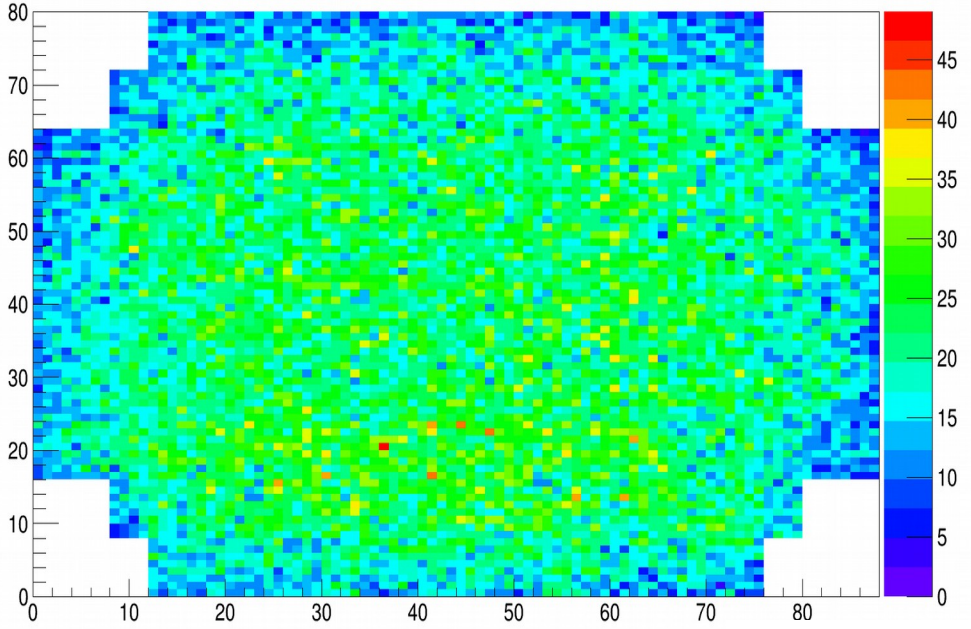
Spectrum:
Epeak = 237
Alpha = -0.84
beta = -1.99

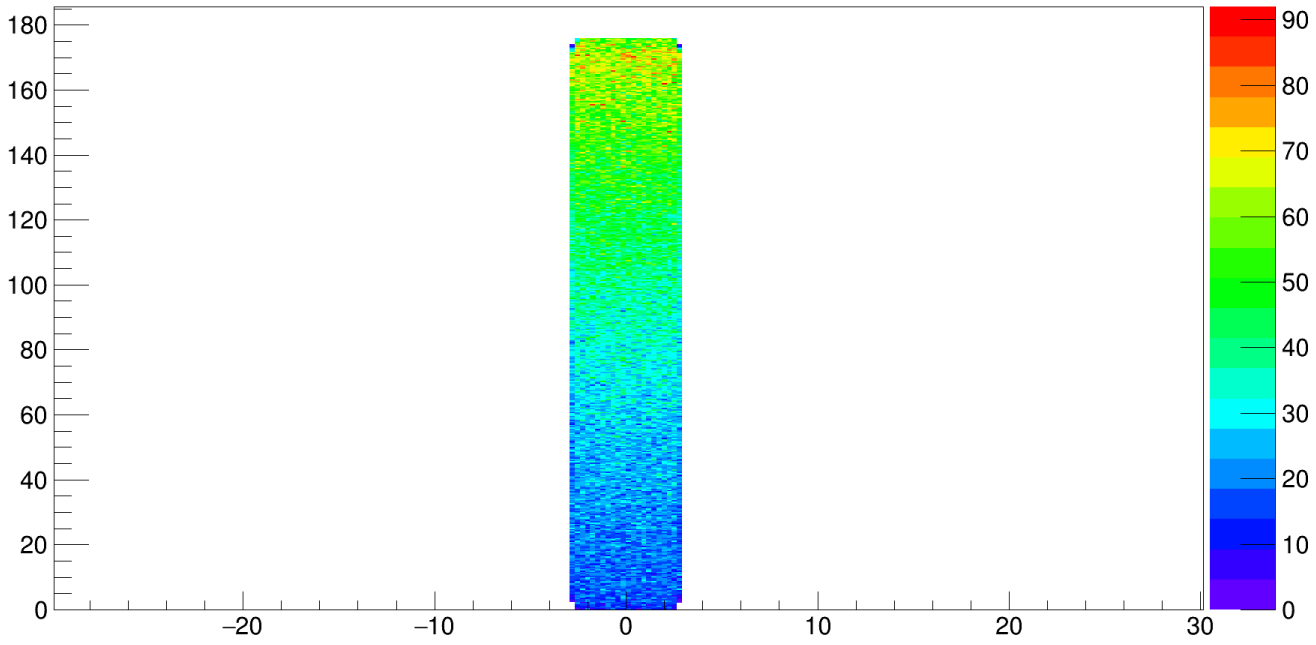


Signal for 2 different incoming angles

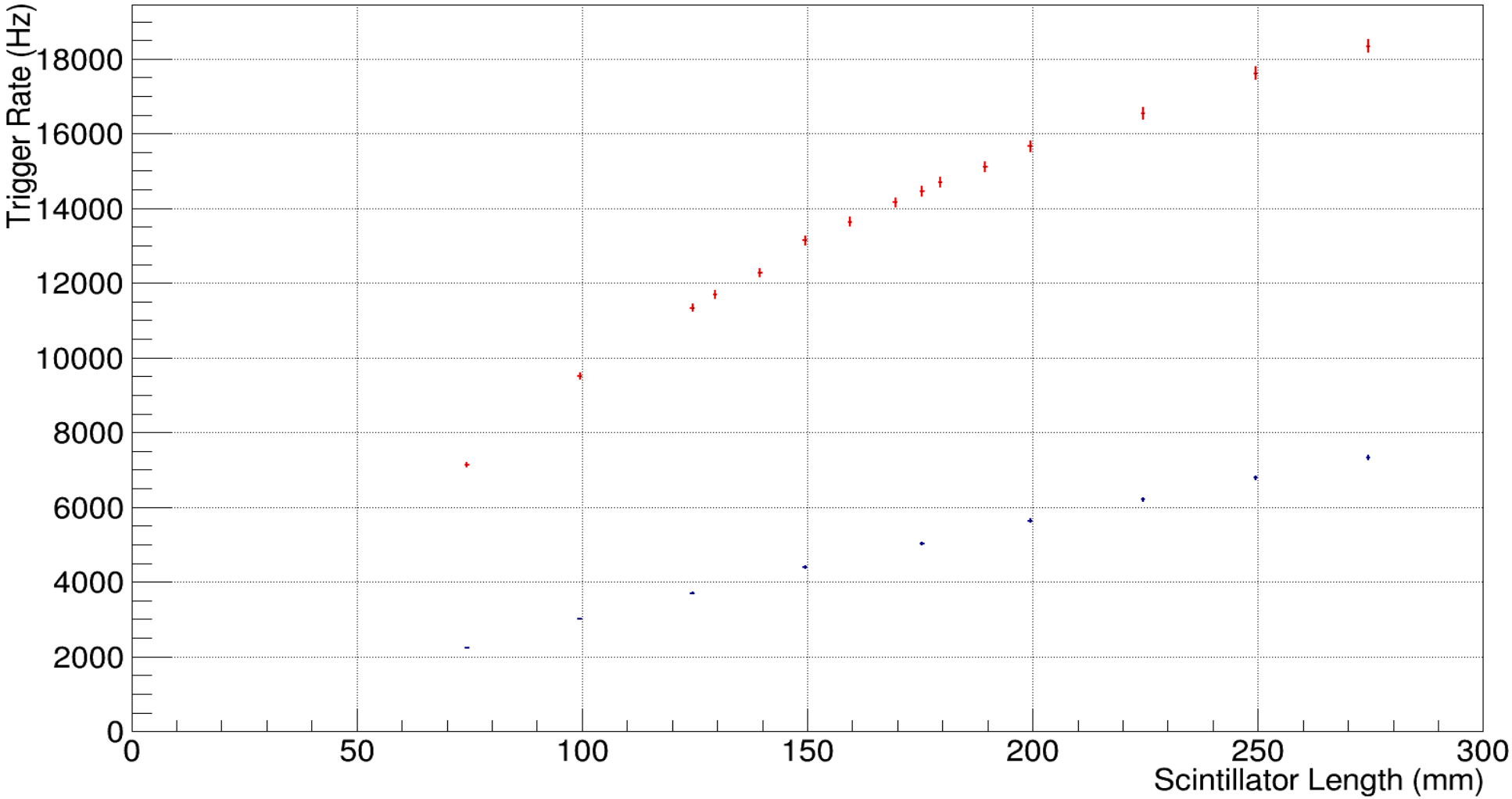


Hit distributions



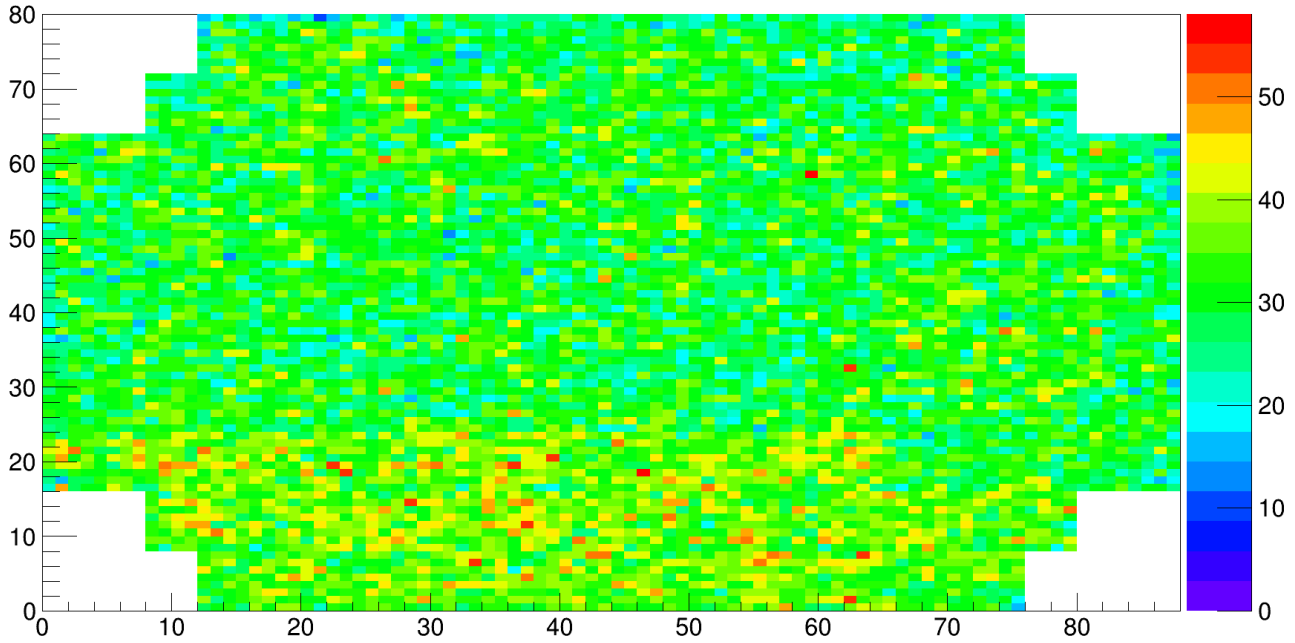


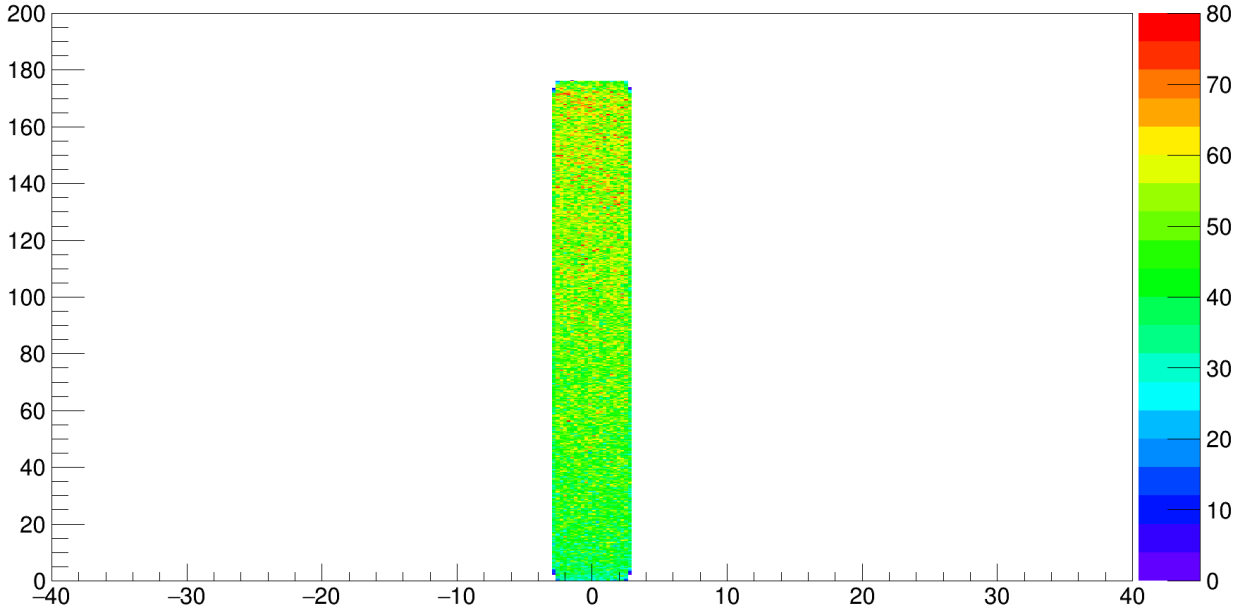
Background



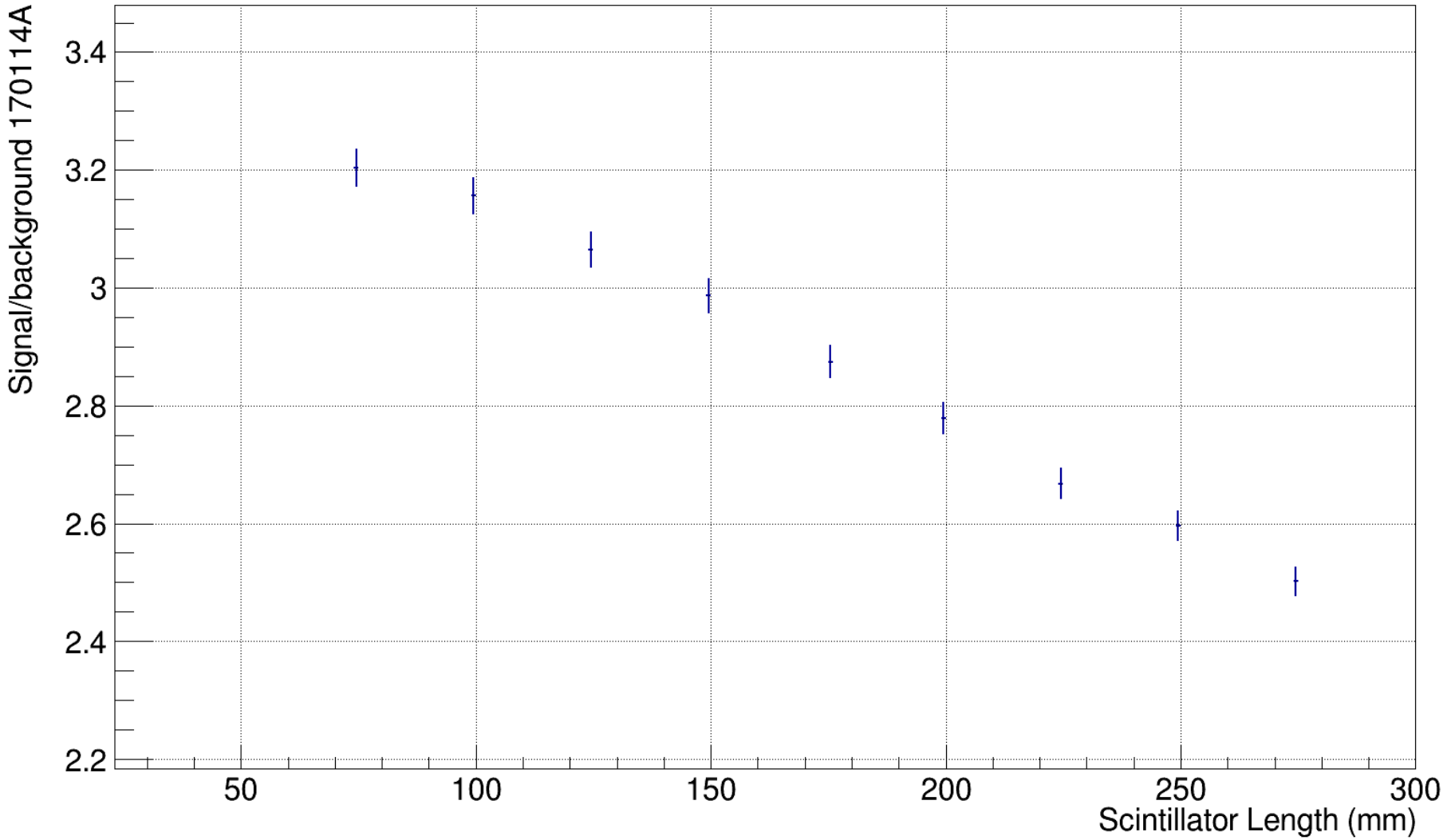
- Background normalized using rate measured in POLAR for this GRB + the number of counts for the same simulation with POLAR

Hit Distribution background





Signal / Background



Conclusions

- So far it seems shorter is better
- Adding the M100 to this process will only make this clearer…
- Calculating M100 requires some coding
- Will do additional studies to see if the incoming direction of the background really is that important
- Otherwise… we should go shorter with the bars!