

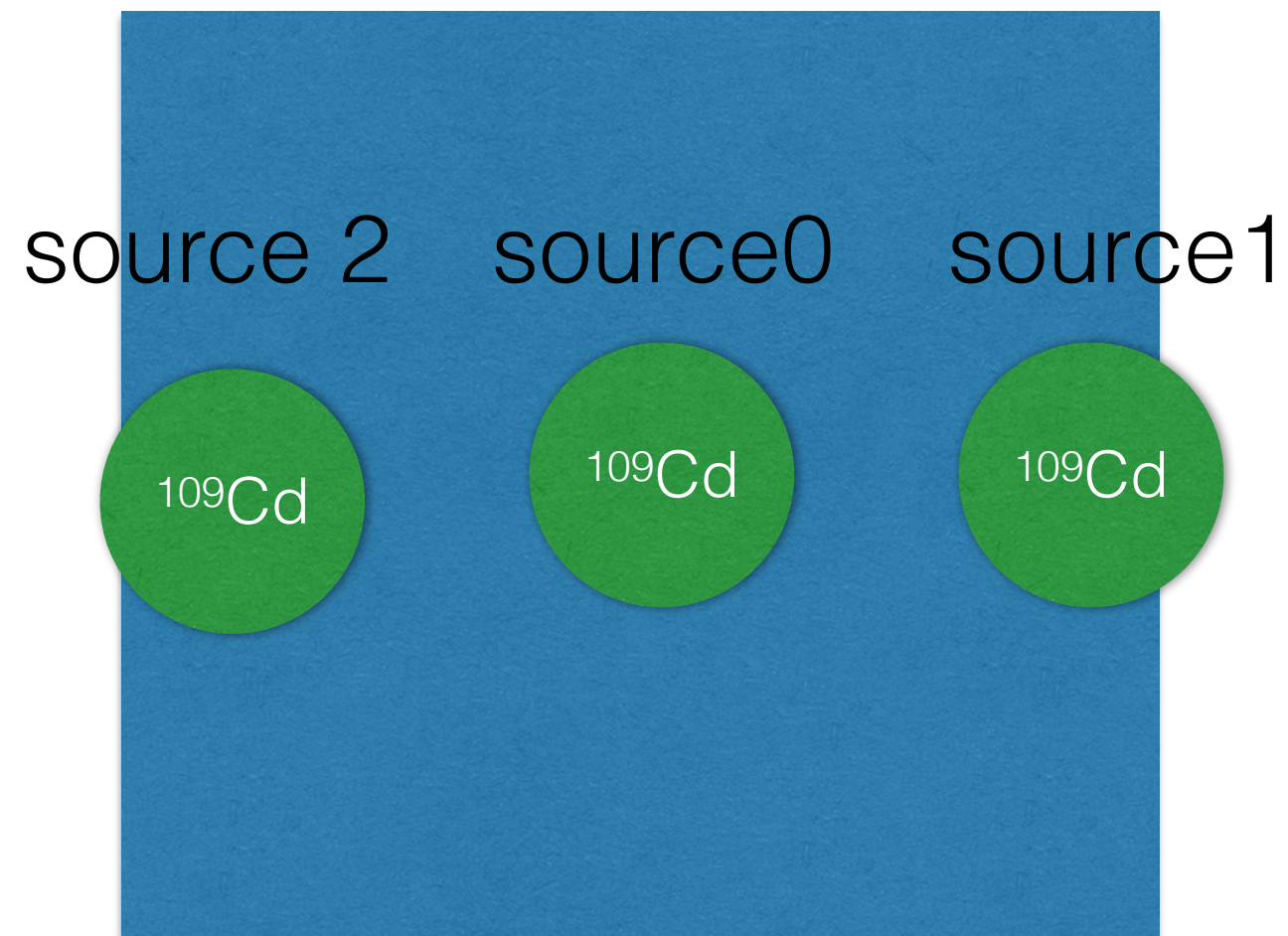
# First confusing look @ the confusing MWPC data

F.Sanchez

# Running conditions

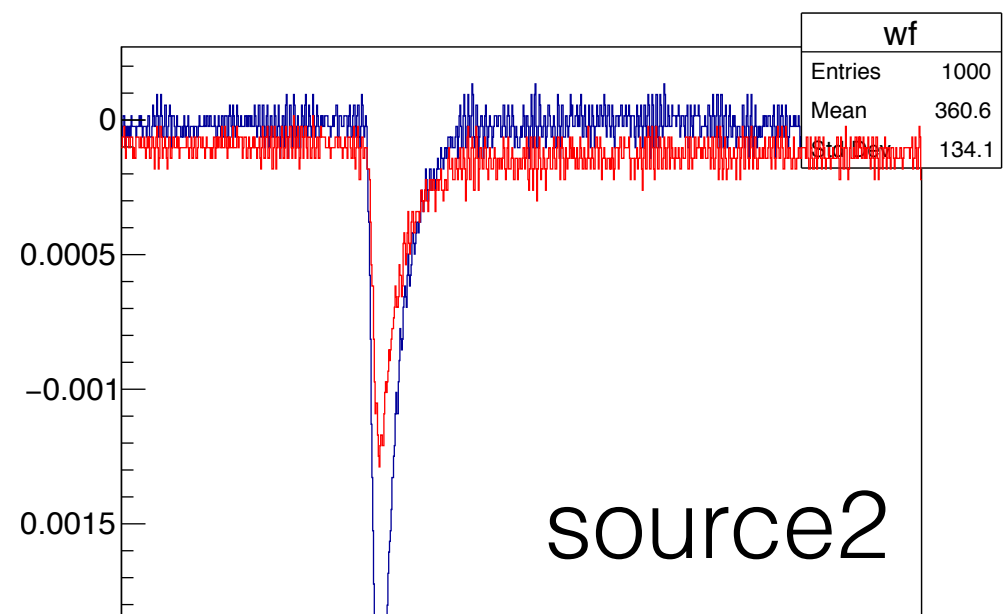
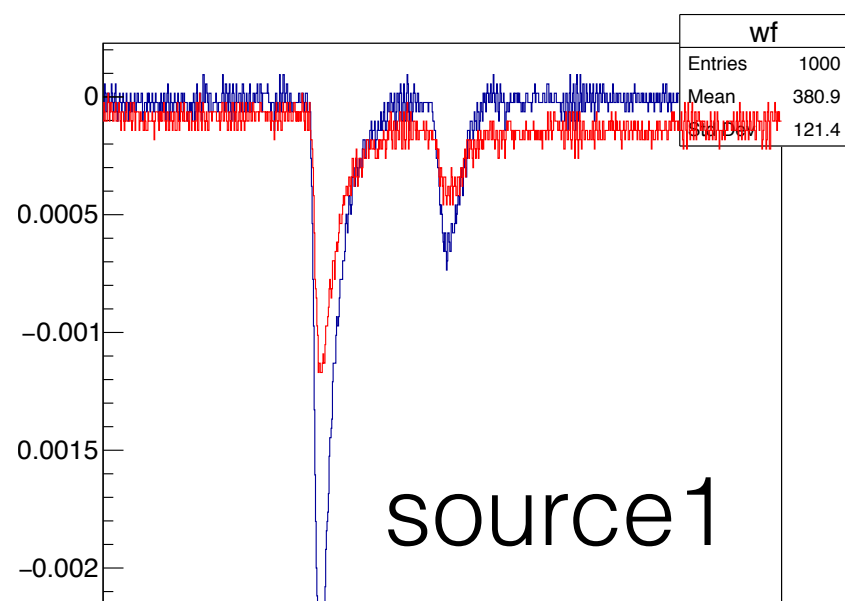
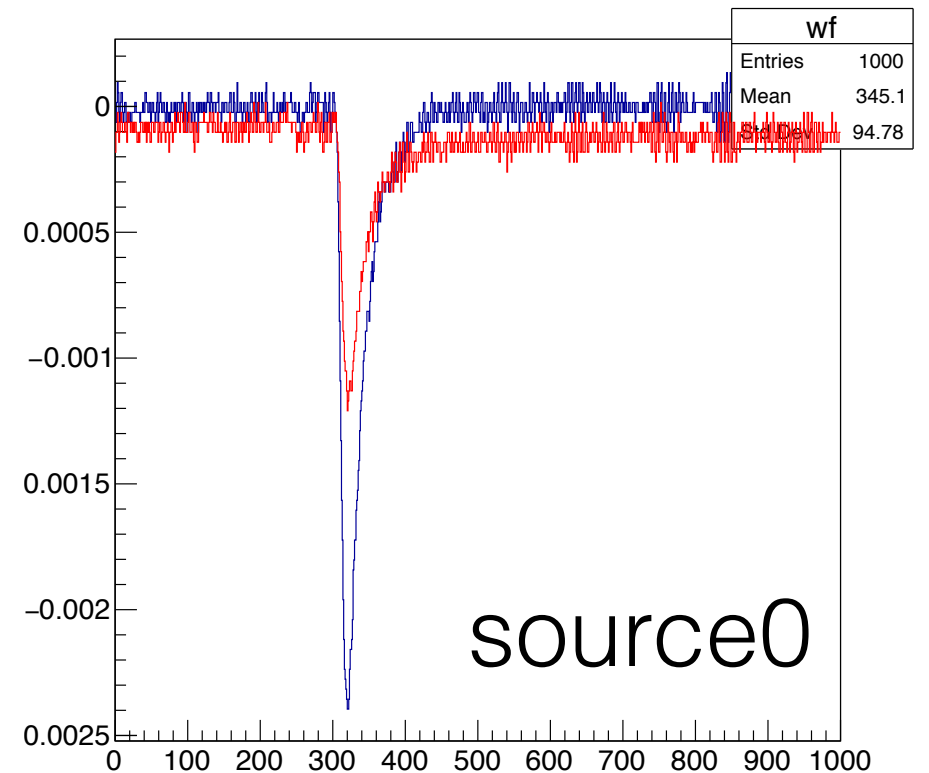
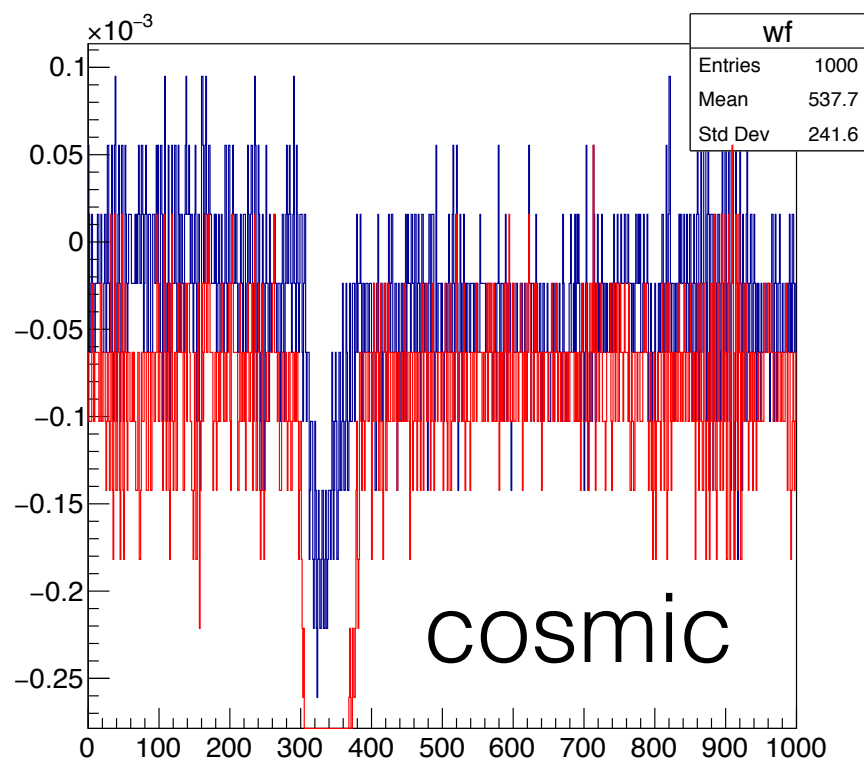
- One layer with 20 wires.
- HV ~ 1100 Volts.
- Two side readout with the oscilloscope.
- No electronics amplification.
- Trigger on one of the two signals to be above threshold.

# Source location

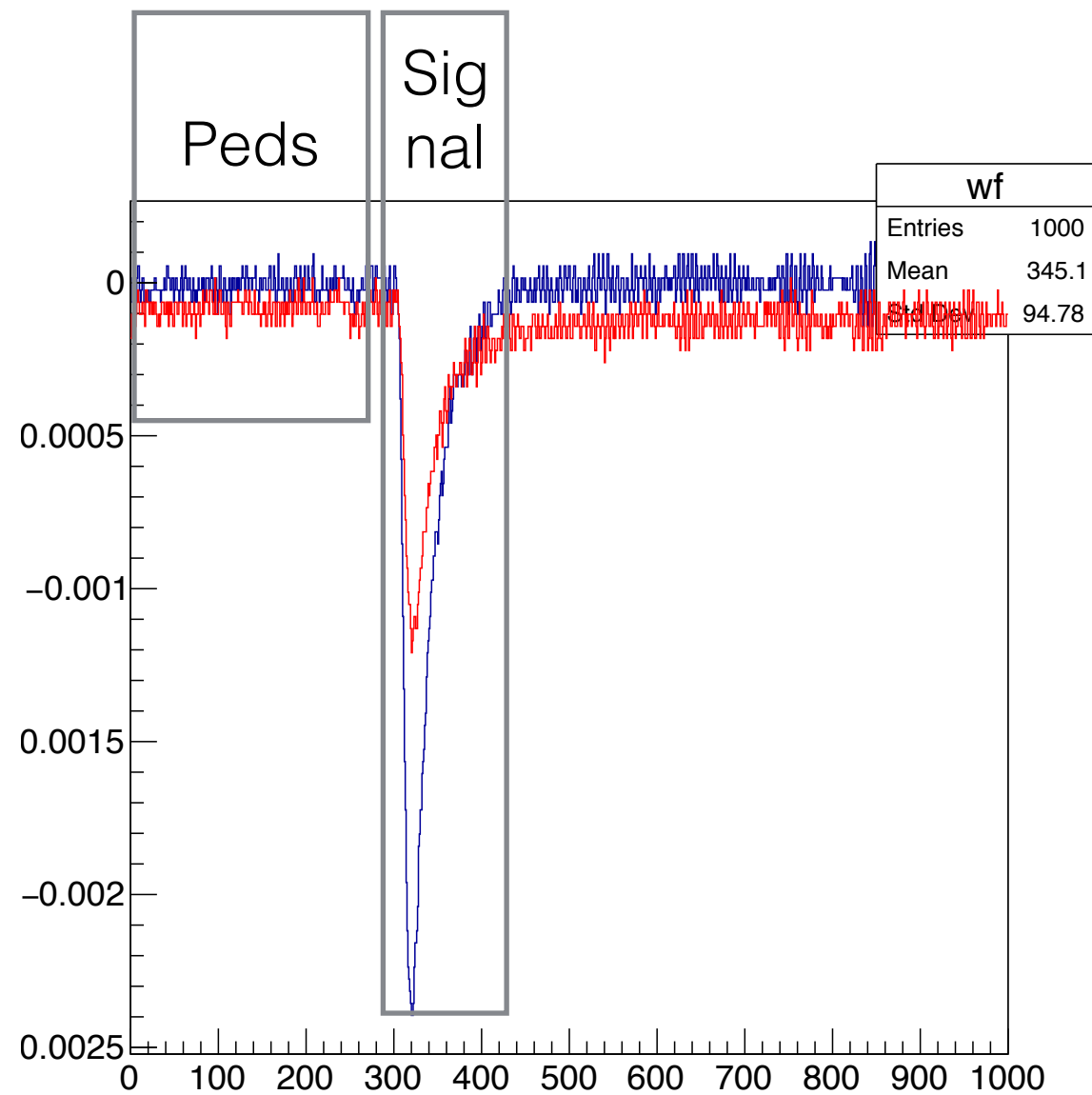


# Wave Forms

Each sample = 2 ns    Total range is 2 us



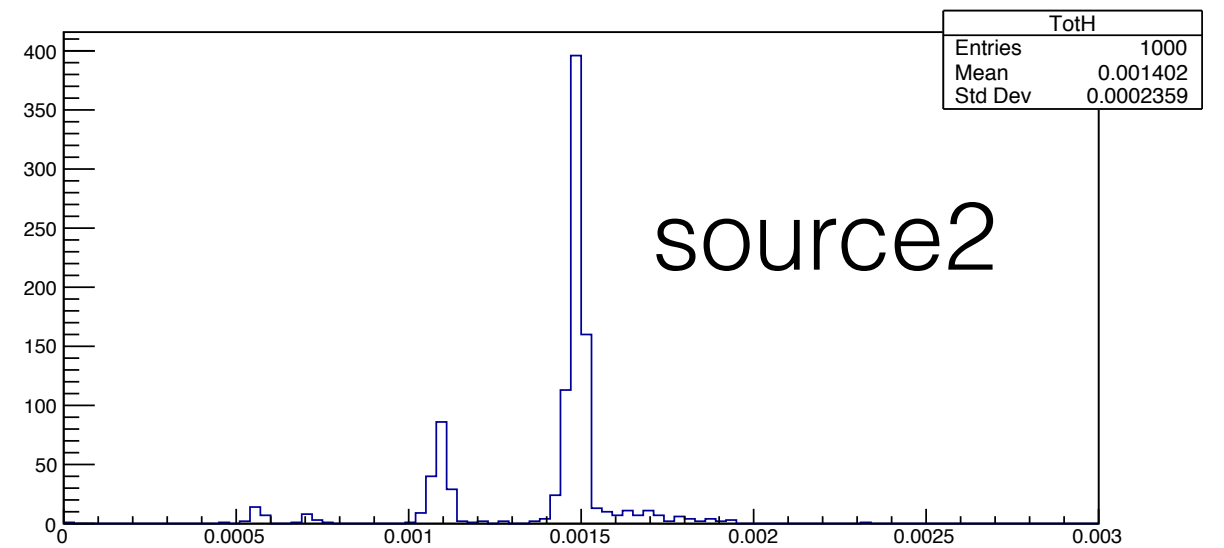
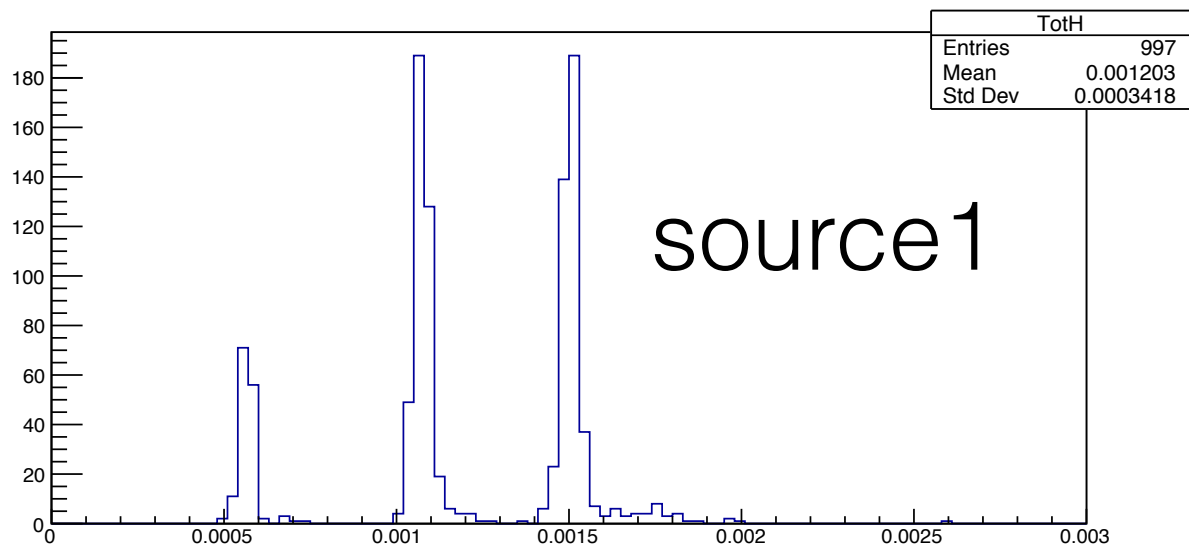
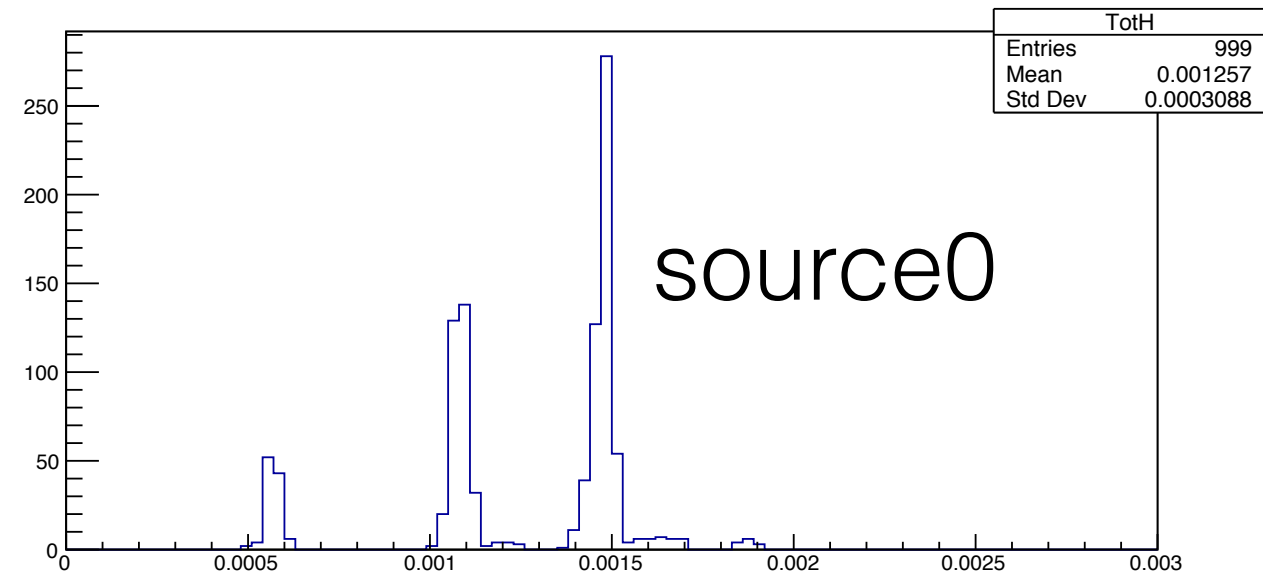
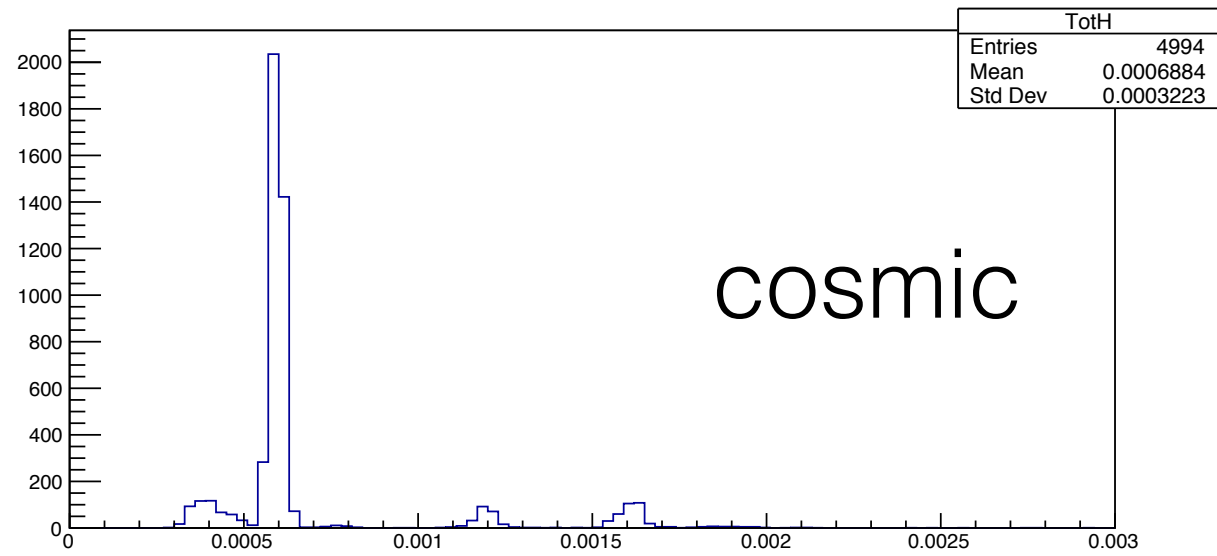
# Signal analysis



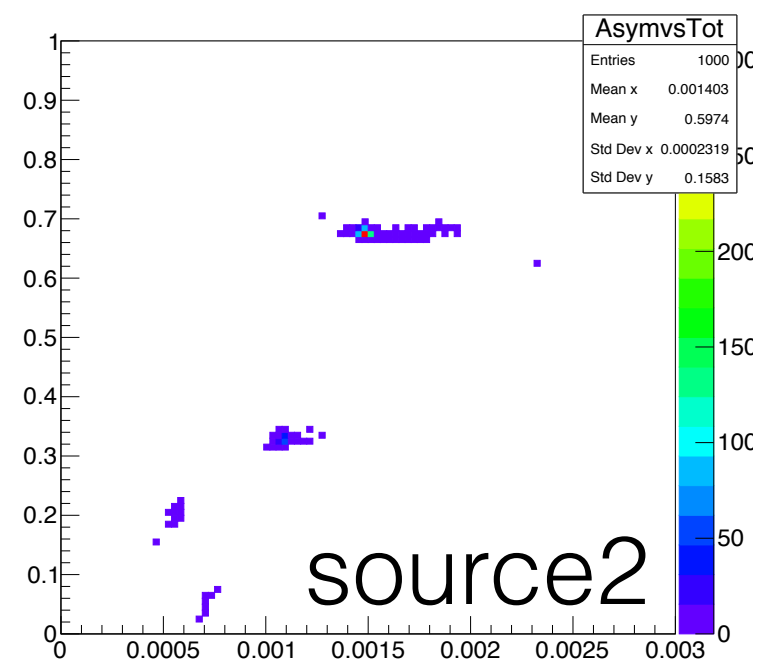
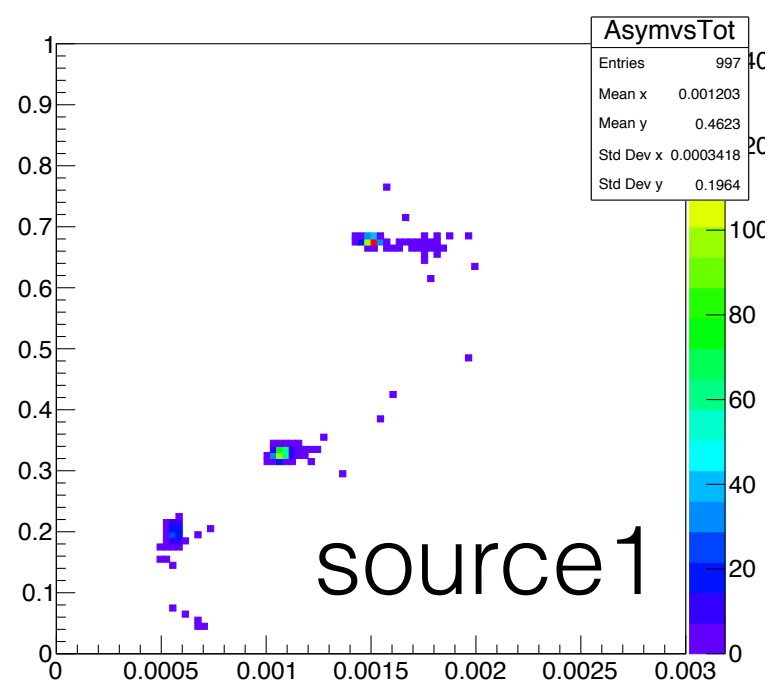
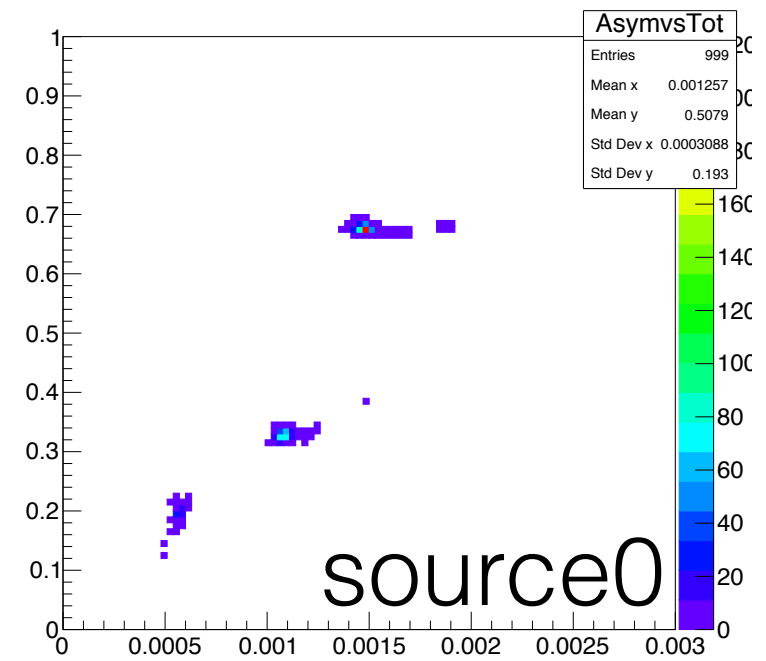
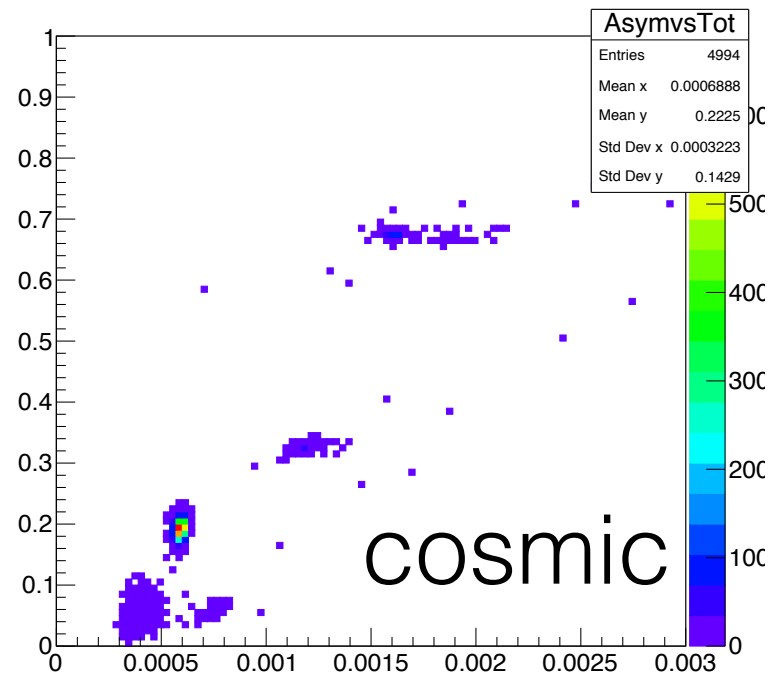
$$Integral = \sum_i \frac{(V_i - Ped)}{(i_{max} - i_{min})}$$

$$Asym = \frac{Integral_R}{Integral_R + Integral_L}$$

# Spectrum



# Asymmetry



# Observations

- Strong correlation between the asymmetry and the integrated signal.
  - The position is not quantised in 20 steps as expected (one per wire). It looks like if we miss one wire every two.
  - Is this an indication of different gain along the detector ?
- Peak position is the same for source and cosmic but with different peak amplitude (I am afraid the source was close to the detector during cosmic run).
- I doubt these are sparks because they spectrum changes depending on the particle signal.



# Next steps

- Test with the telescope cosmic ray trigger to select pure cosmic rays.
- Inject charge in every wire to check the concept of charge sharing.
- Inverting the field to have wires at ground.
- ....