Statistics for 9mV/fC

For the 70/30 runs there are two runs: run 43 and run 44:

- Run 43 5.5M Sci.Coinc. (\sim 100k events in straw 14)
- Run 44 59M Sci.Coinc., but have no synchronization. Recoverable, but time consuming.

Seems, we have good statistics for 70/30

For the 93/7 runs there are two runs: run 50 and run 53:

- Run 50 \sim 12k events in straw 14
- Run 53 \sim 700k events in straw 14

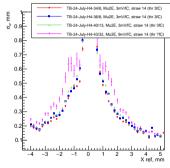
Seems, we have enough statistics for 93/7

Ar/CO₂ 70/30 resolution

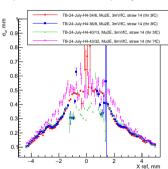
Resolution Ar:CO₂ 70:30, straw 14, 200 µm bin

Time resolution TB-24-July-144-3460, Mu2E, 3mt/I/C, stow 14 (thr 3fC) TB-24-July-144-3610, Mu2E, 3mt/I/C, stow 14 (thr 3fC) TB-24-July-144-4013, Mu2E, 3mt/I/C, stow 14 (thr 3fC) TB-24-July-144-4013, Mu2E, 3mt/I/C, stow 14 (thr 3fC)

Spatial resolution, derivative method



Spatial resolution, ShipWay method

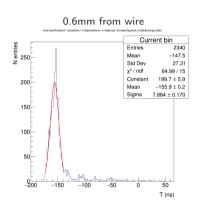


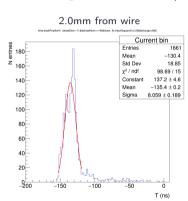
- Multiple problems:
- Seems, the time calibration from 3mV/fC does not work...
- \bullet With the current calibration I see resolution decrease from 3mV/fC

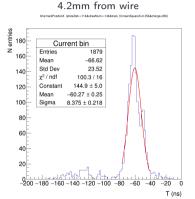
- Red, Blue, Green 3 mV/fC, thr 2.8 fC
- Magenta 9mV/fC, thr unknown

Ar/CO₂ 70/30 9mV/fC time fits

Resolution Ar:CO₂ 70:30, straw 14, $200\mu m$ bin



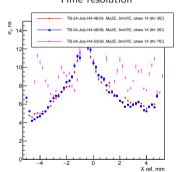




fits more or less works

Ar/CO₂ 93/7 resolution

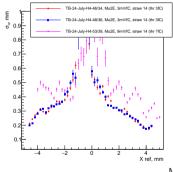
Time resolution



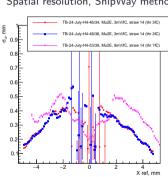
- Red, Blue 3 mV/fC, thr 2.8 fC
- Magenta 9mV/fC, thr unknown

Resolution Ar: CO_2 93:7, straw 14, $200\mu m$ bin





Spatial resolution, ShipWay method



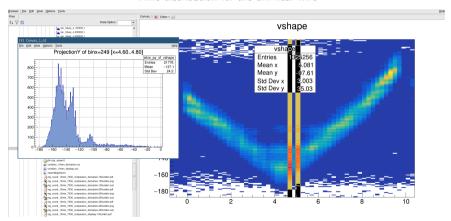
Multiple problems:

- Problem with fitting
- Seems, the time calibration from 3mV/fC does not work. . .
- With the current calibration I see resolution decrease from 3mV/fC

9mV/fC time calibration problem example

Problem with calibration for Ar:CO₂ 93:7, straw 14, $200\mu m$ bin

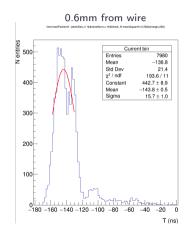
Time distribution for the bin near wire

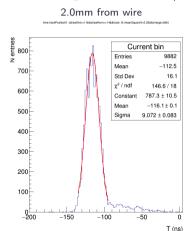


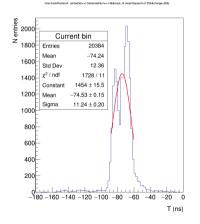
Noisy data and the time calibration problem ...

Ar/CO₂ 93/7 9mV/fC time fits

Resolution Ar:CO₂ 93:7, straw 14, $200\mu m$ bin







4 2mm from wire

Problem with fits... Need to improve