GEM/TPC-Status at Carleton
15 October 2002

Space-Point Resolution:

resistive anode study

first setup ⇨ spread too wide

new setup ⇨ spread too narrow
- uniformity is good
- some tests with long strips

plan to replace foil to get optimal setup for resolution study

Tracking Studies TPC:

new pad layout
(174 pads, 3x multiplexed)

data with $ArCO_2$ and P10
very good quality

analysis with Deans JAVA code

optimize the code

expect good results soon

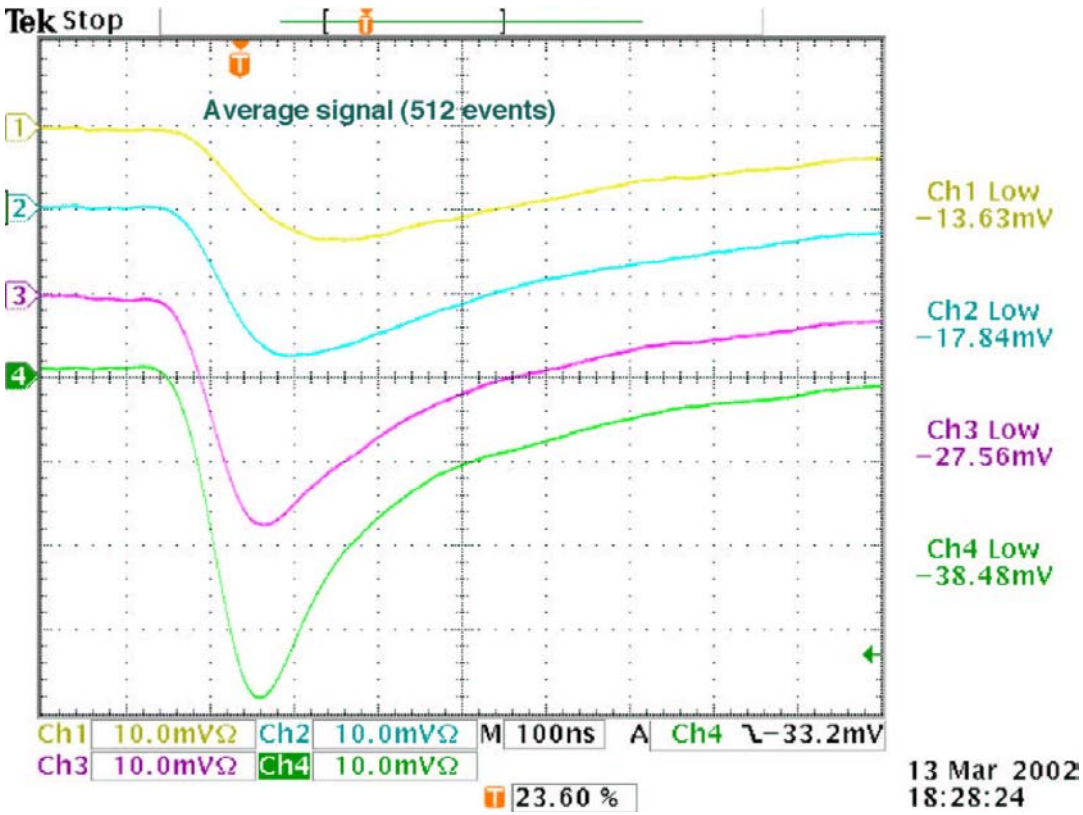
TPC #2 shipped to Victoria

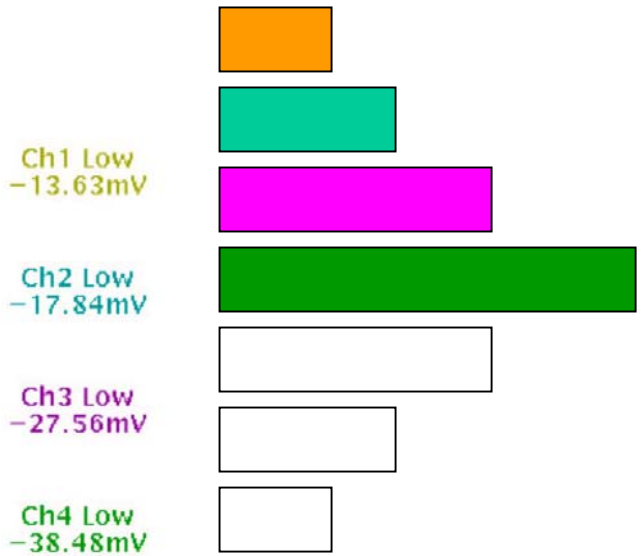
Madhu Dixit will go to Prague
http://www.physics.carleton.ca/~gmd

Resistive Anode: Old

resistivity: 40 kΩ/❑
gap: ~200μm

size of source: ~1 mm
signal spread over ~7 strips
corresponds to ~ 14 mm





spread too wide

Resistive Anode: New

central strip: main pulse

adjacent strips with induced pulse

+ charge dispersion on foil

1.5 mm strips

2 MΩ/❑

gap: 100 μm

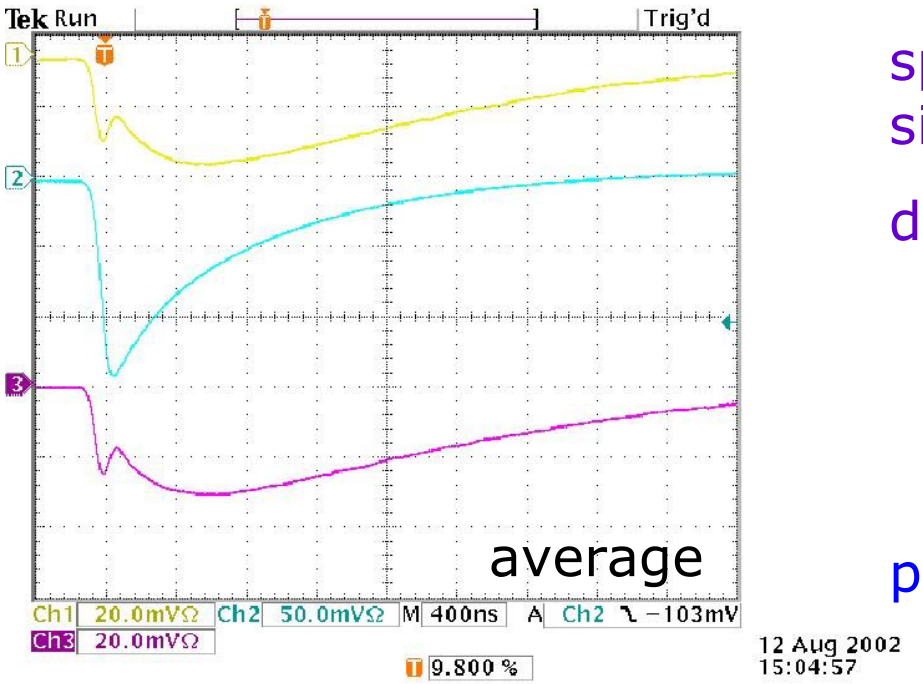
⇨ ~0.8 mm width

spread is too narrow to significantly improve resolution

do some tests:

- uniformity
- 'how to analyze the data'
- compare to calculation

plan to replace foil by 1 MΩ/❑



New Pad Layout for TPC

174 pads for tracking
(3 fold multiplexed)
+ veto and filter

taking data
with $ArCO_2$ and P10
very good data quality

analysis routine
from Deans simulator
package (JAVA)

adapt routine to
our data

expect to get
good results soon