

# Setup of Triplet Polarimeter at JLab

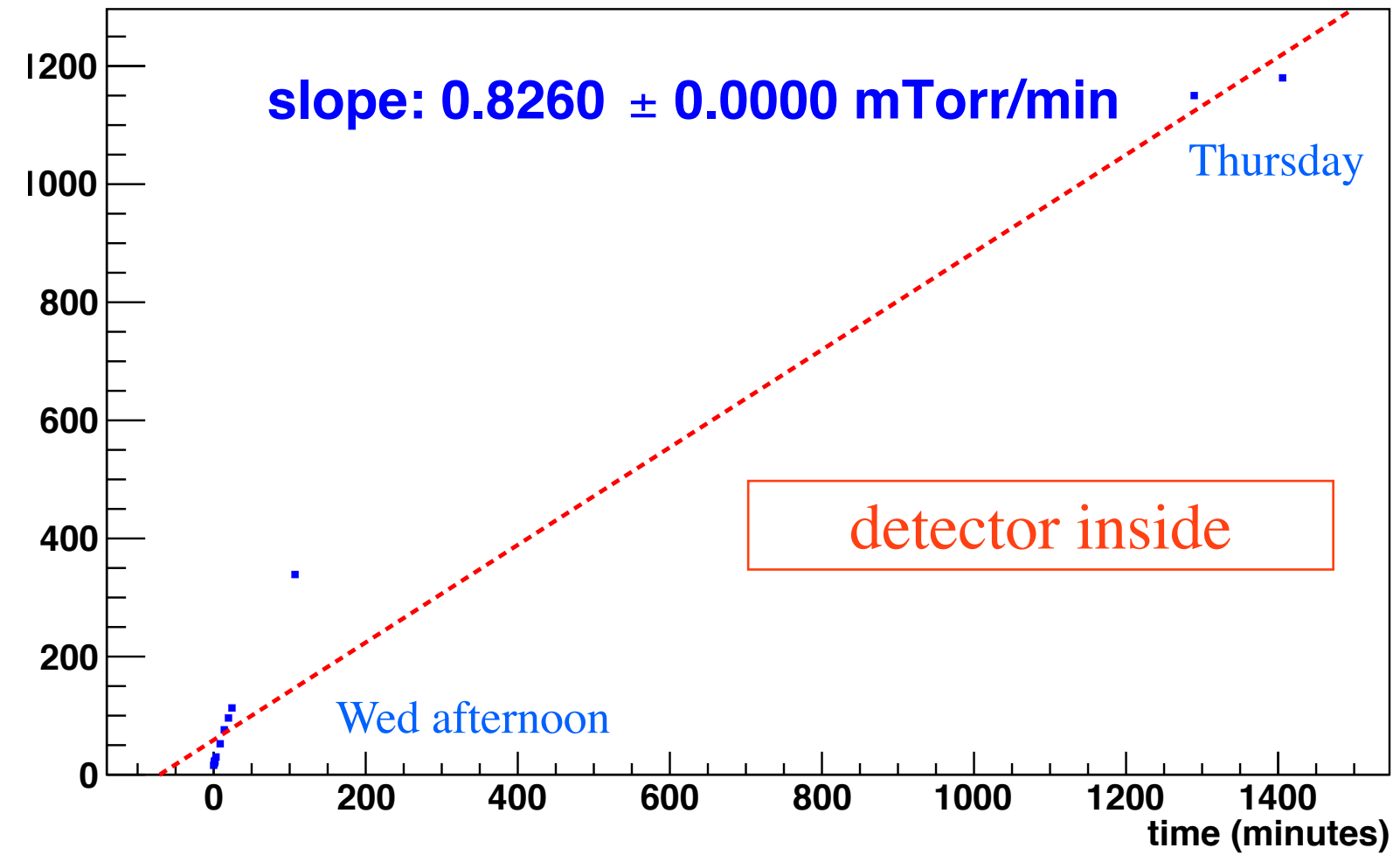
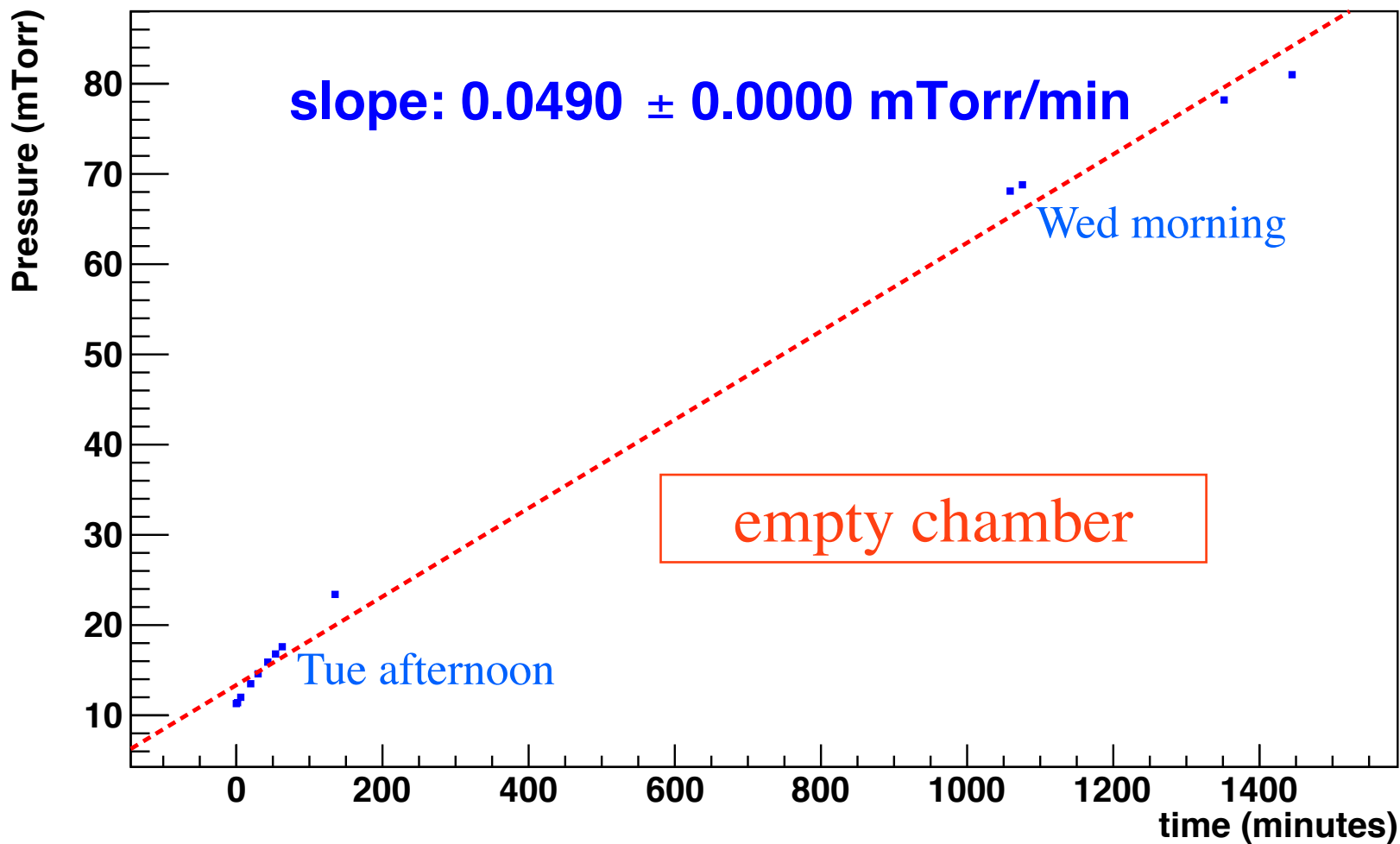
- All vacuum, LV, HV connections made
- Checked signal on all 32 sector channels
- Working on setup of fADC
- Mike is at the lab

March 30, 2015

Kei Moriya, Michael Dugger

# Vacuum Outgas with Detector

- Check outgas rates with vacuum pump turned off
- Significantly more outgassing compared to nothing in chamber
- In actual beamline setup we will always have pump on



# Installation of Detector

detector inside chamber



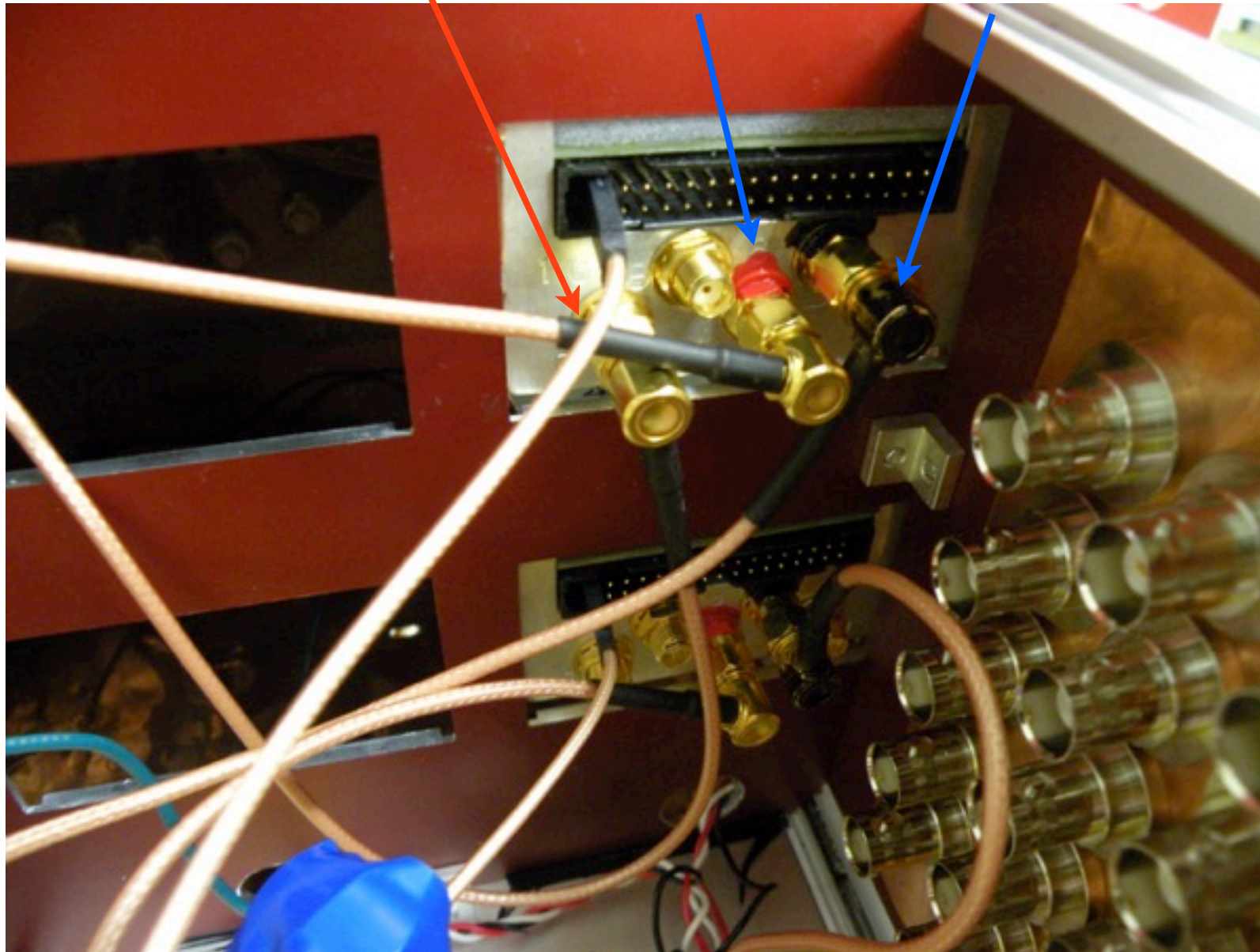


# Cabling in Distribution Box

HV  
labeled B

LV +12V  
red

LV -12V  
black

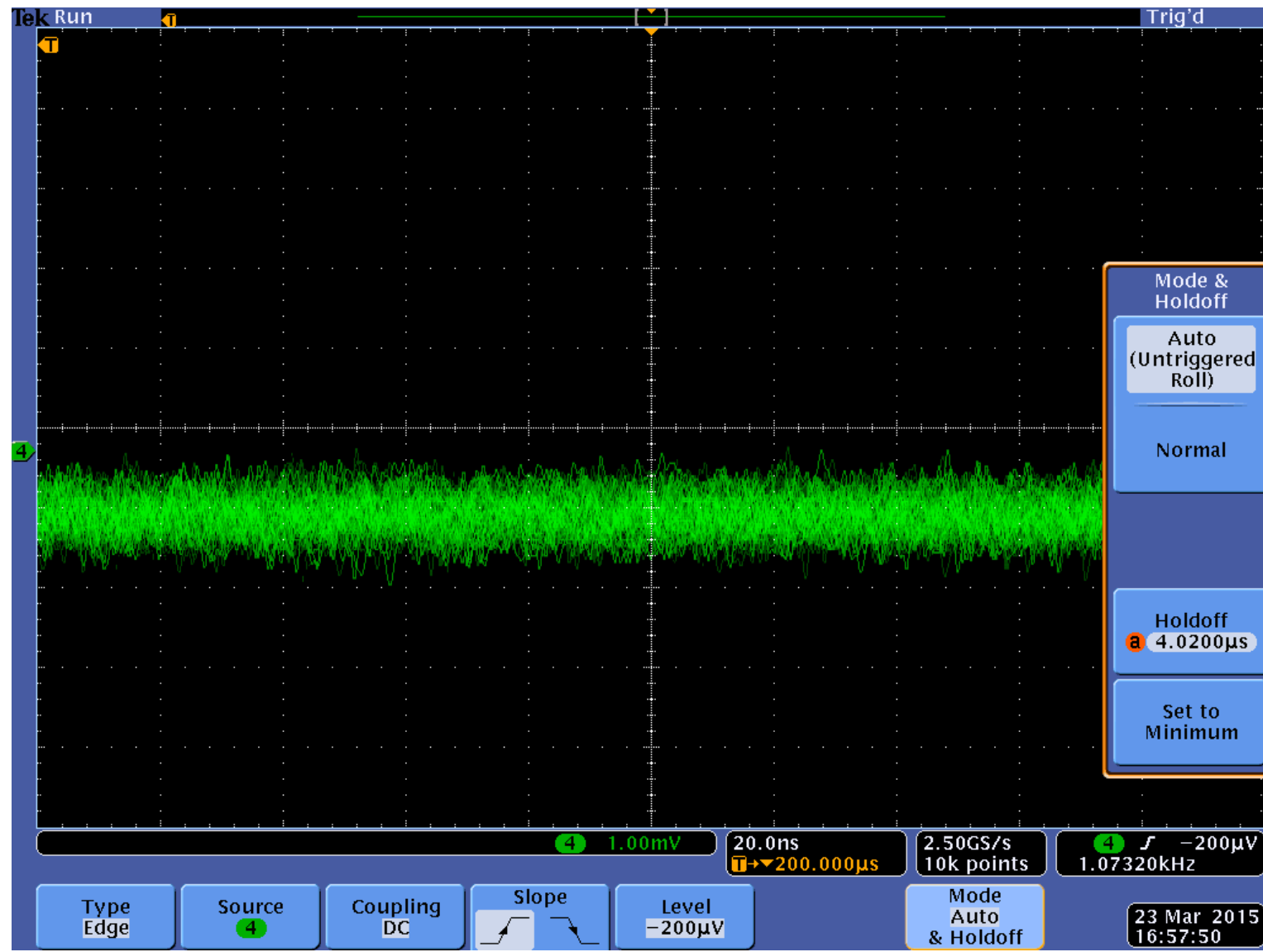


signal from preamp going  
to signal panel

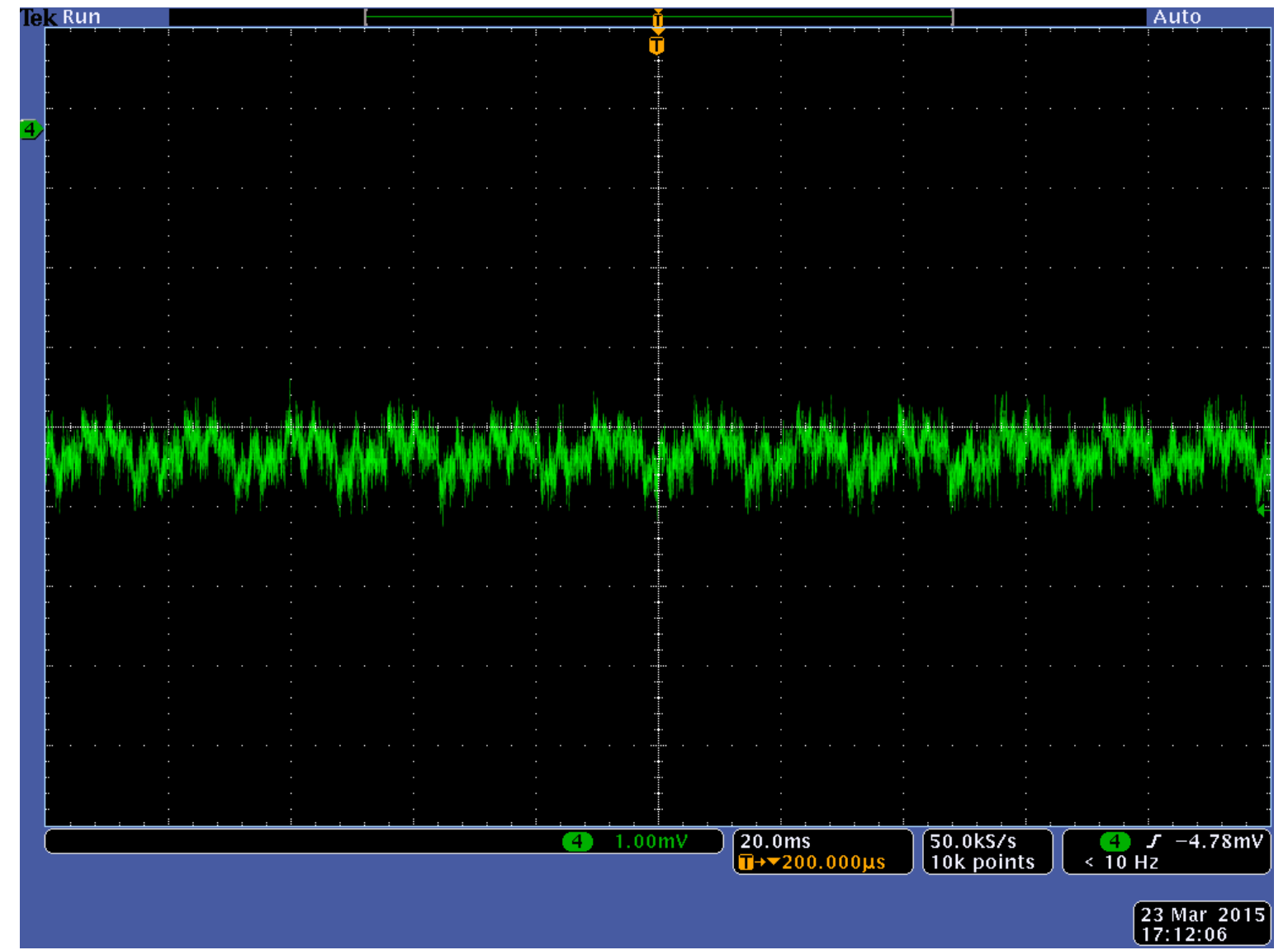


# Noise Levels on LV Cables

- LV was turned off



LV -12V: 1mV, 20ns  
divisions



LV -12V: 1mV, 20ms  
divisions

# Source

- From source dispenser: after training, can come in and get registered sources
- Now have Americium source:  $^{241}\text{Am}$
- $^{241}\text{Am} \rightarrow \alpha + ^{237}\text{Np}$ ,  $Q = 5637.81 (12) \text{ keV}^1$
- $1.5 \mu\text{Ci}$  (60 nCi also available if too strong)

Form: DET-0104-001  
Rev: 0  
Date: 3/1/04

Activity Lab  
Radioactive Source Training Form

App. To: POC  
OFF: ADM-011  
Page 1 of 1

Tracking Number: 07-08

THIS FORM MUST BE POSTED PROMINENTLY IN THE USE AREA ANY TIME THE CORRESPONDING SOURCE IS PROVIDED FROM LOCKED STORAGE

Rad. Isotopes:  $^{241}\text{Am}$  Isotope:  $^{241}\text{Am}$  Amount: 1.5  $\mu\text{Ci}$  Acq. Date: 4/1/11  
Rad. Source Number: 1120-01 Model: J10-010 Supplier: Amersham

Biological Data:

Rad. Type:  $\alpha$  Storage Required:  $E114$   
Rad. Level in Container:  $1.5 \mu\text{Ci}$   
Rad. Level in Room:  $1.5 \mu\text{Ci}$   
Rad. Source Status:  $1.5 \mu\text{Ci}$  Contamination:  $1.5 \mu\text{Ci}$   
Form: 1120-01 Page: 1120-01  
Unit:  $1.5 \mu\text{Ci}$  Unit:  $1.5 \mu\text{Ci}$   
Designated Storage Location:  $1120-01$  Source must be in storage if not secured in use or attended

Approved Location of Use:

1.  $1120-01$   
2.  $1120-01$   
3.  $1120-01$

Approved Users:

$1120-01$   
 $1120-01$   
 $1120-01$

Additional Instructions, Restrictions or Handling Requirements:

$1120-01$   
 $1120-01$   
 $1120-01$

Rad. Control Group approval required prior to movement to any location not listed above.

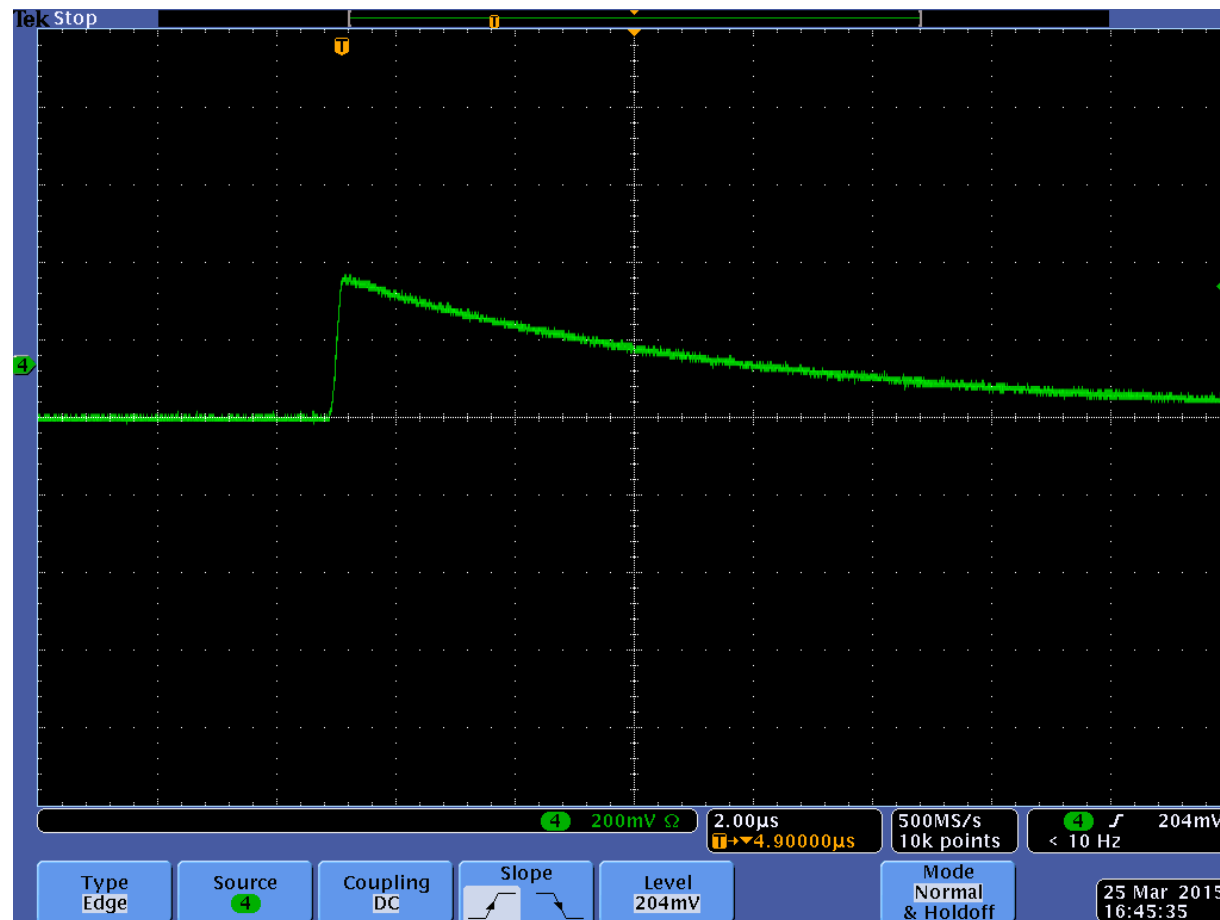
CAUTION  
RADIOACTIVE MATERIAL

# Source in Chamber

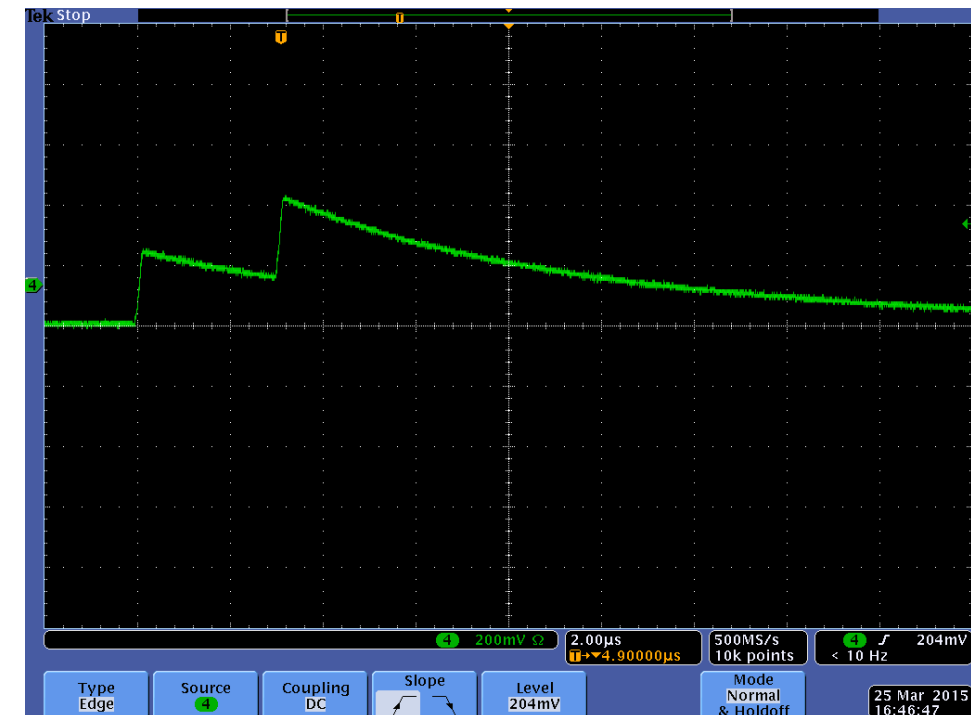
- Put  $^{241}\text{Am}$  source next to detector
- Turn on, set HV to 200 V
- Turn on LV, preamp fans
- Check signals on scope



200 mV, 2 $\mu$ s  
divisions



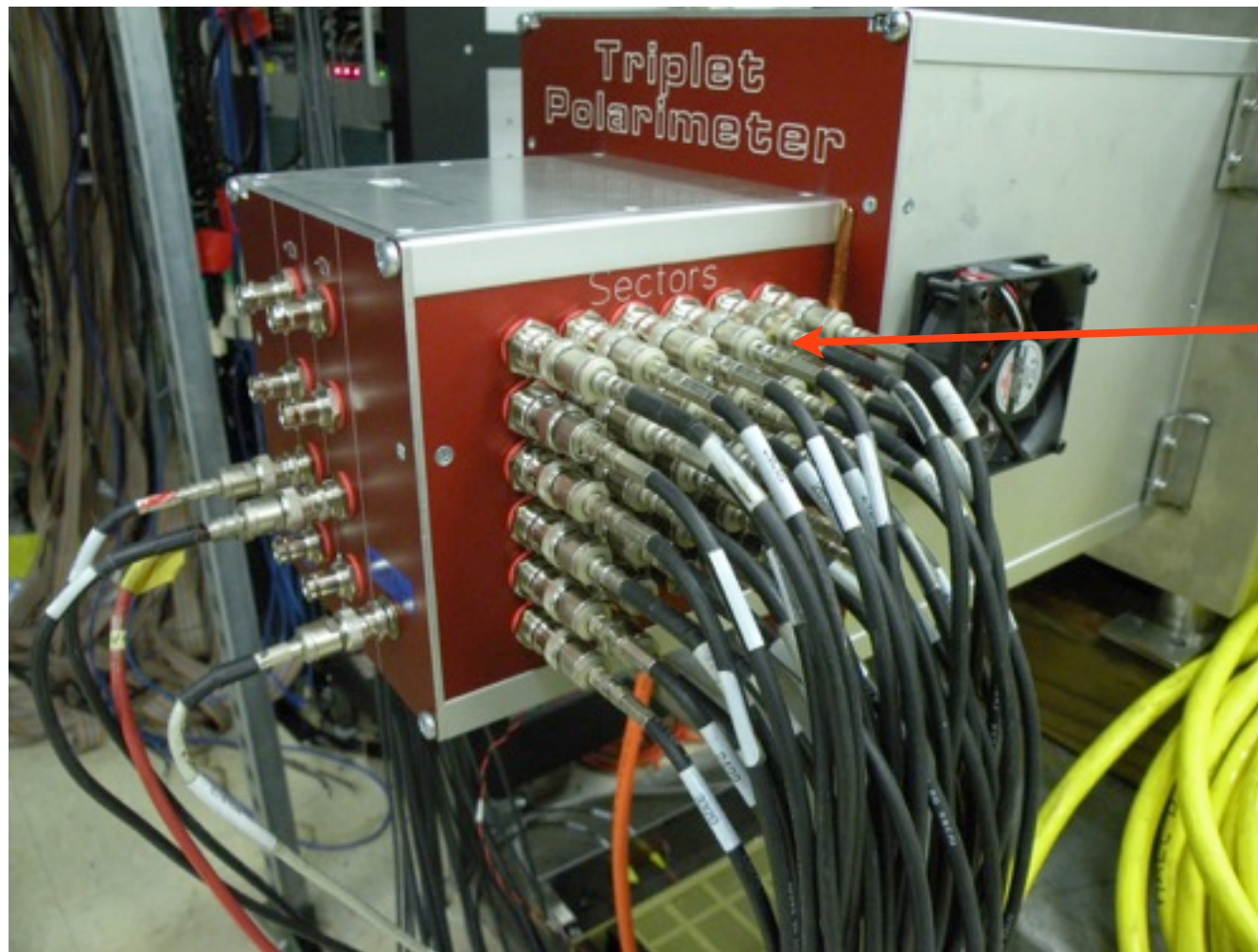
multihit  
event





# Cables and fADC

- Thanks to Fernando, Chris



fADC250s

signals

