

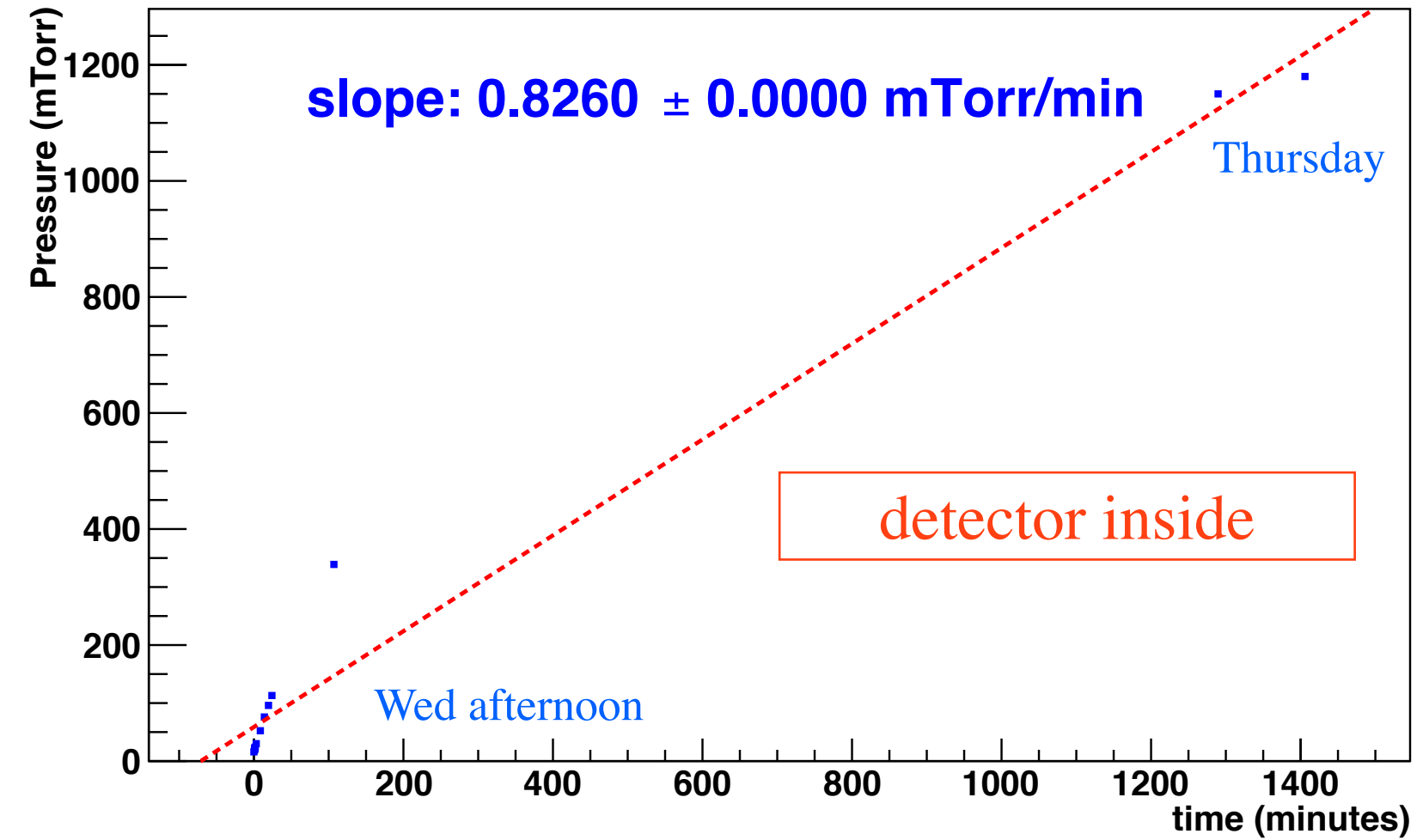
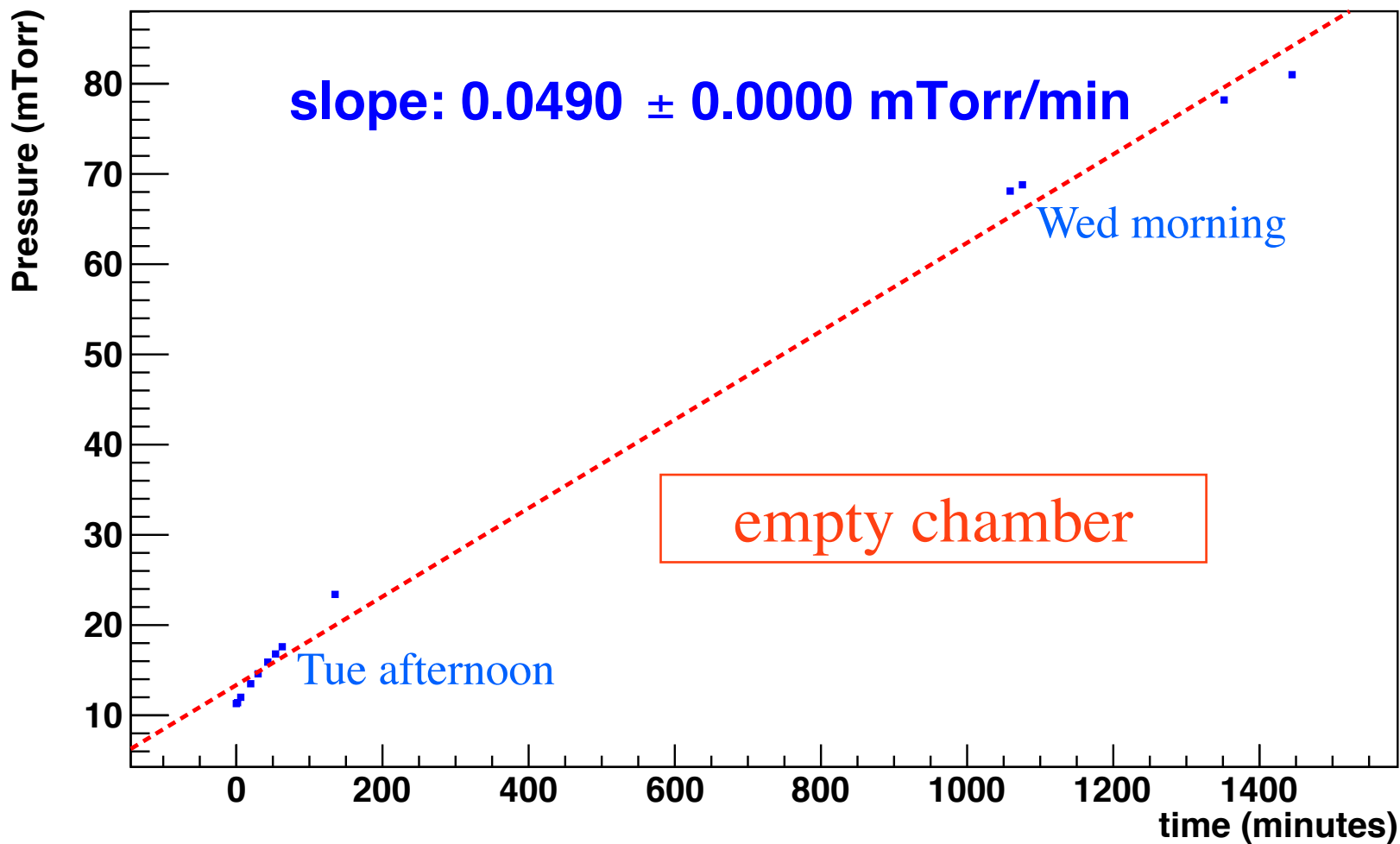
Setup of Triplet Polarimeter at JLab

- Setting up cables around preamp (3/19)
- Cabling of LV, HV (3/23)
- Connecting LV, HV, checking source signals (3/25)

March 25, 2015
Kei Moriya

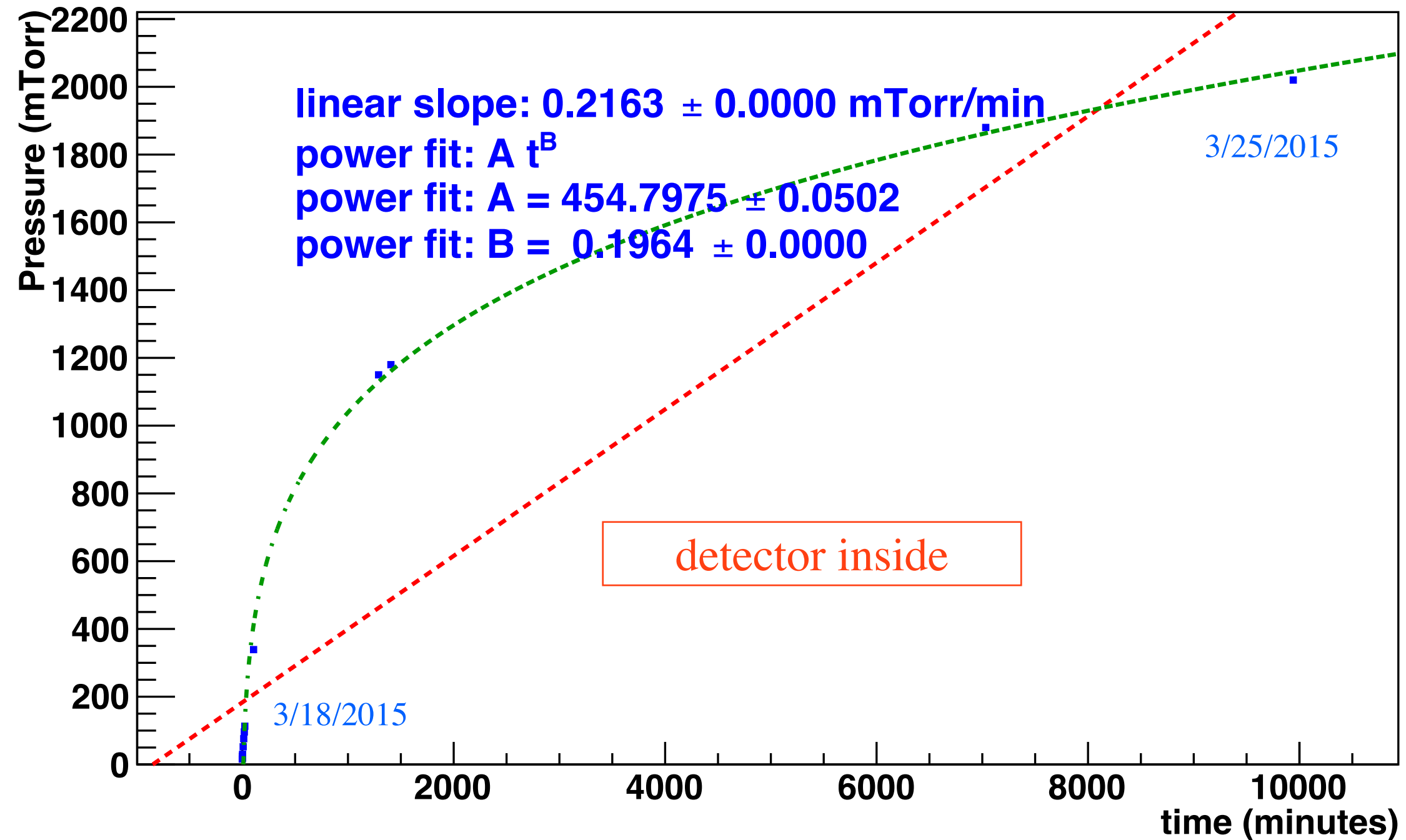
Vacuum Outgas with Detector

- Started pump down procedure on March 18 (Wed) with detector inside
- Previous results are with empty chamber
- Significantly more outgassing



Outgas Final Results

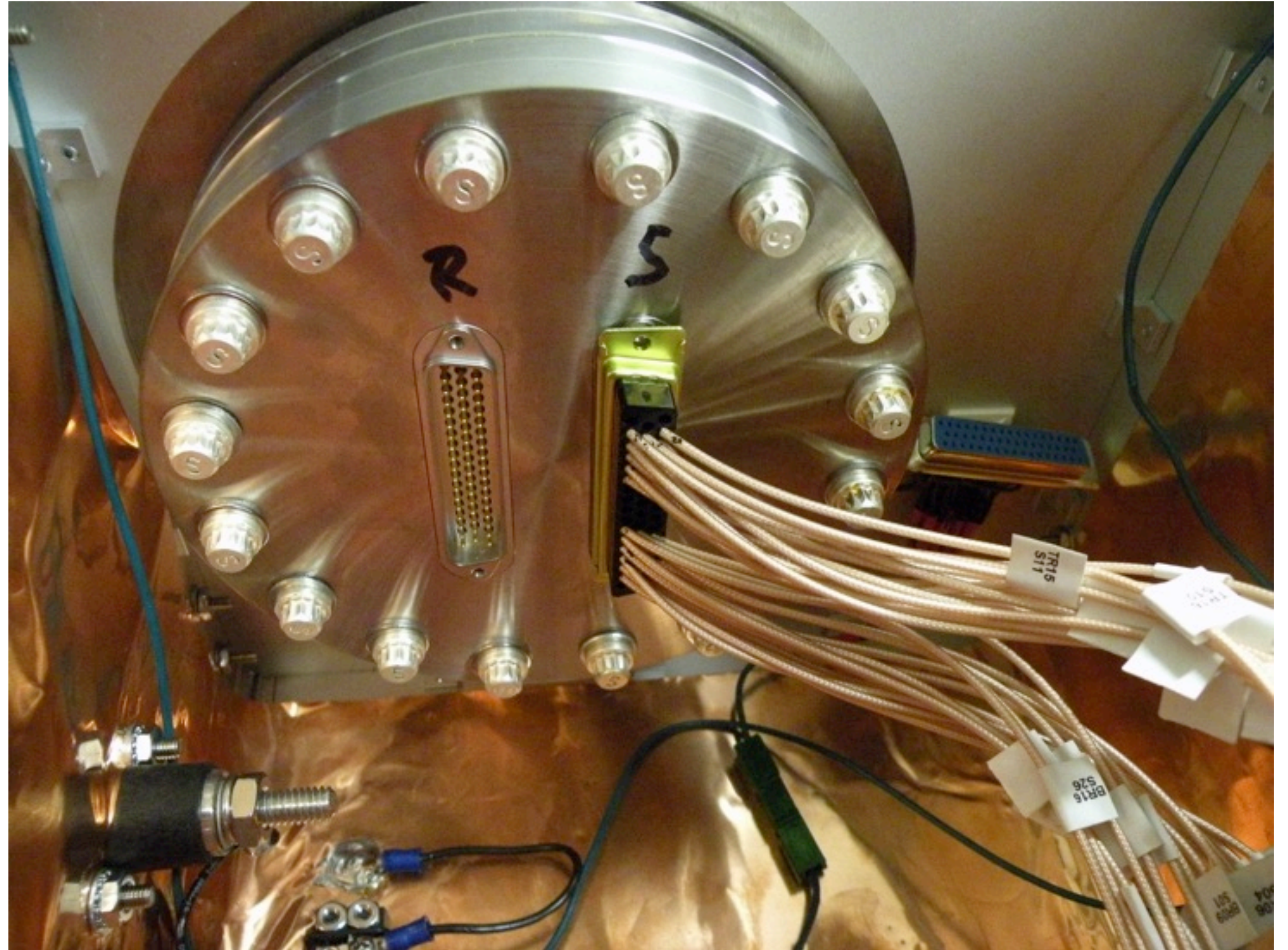
- Started pump down procedure on March 18 (Wed) with detector inside
- Final pressure after a week was 2 Torr



D-sub Pin From Detector

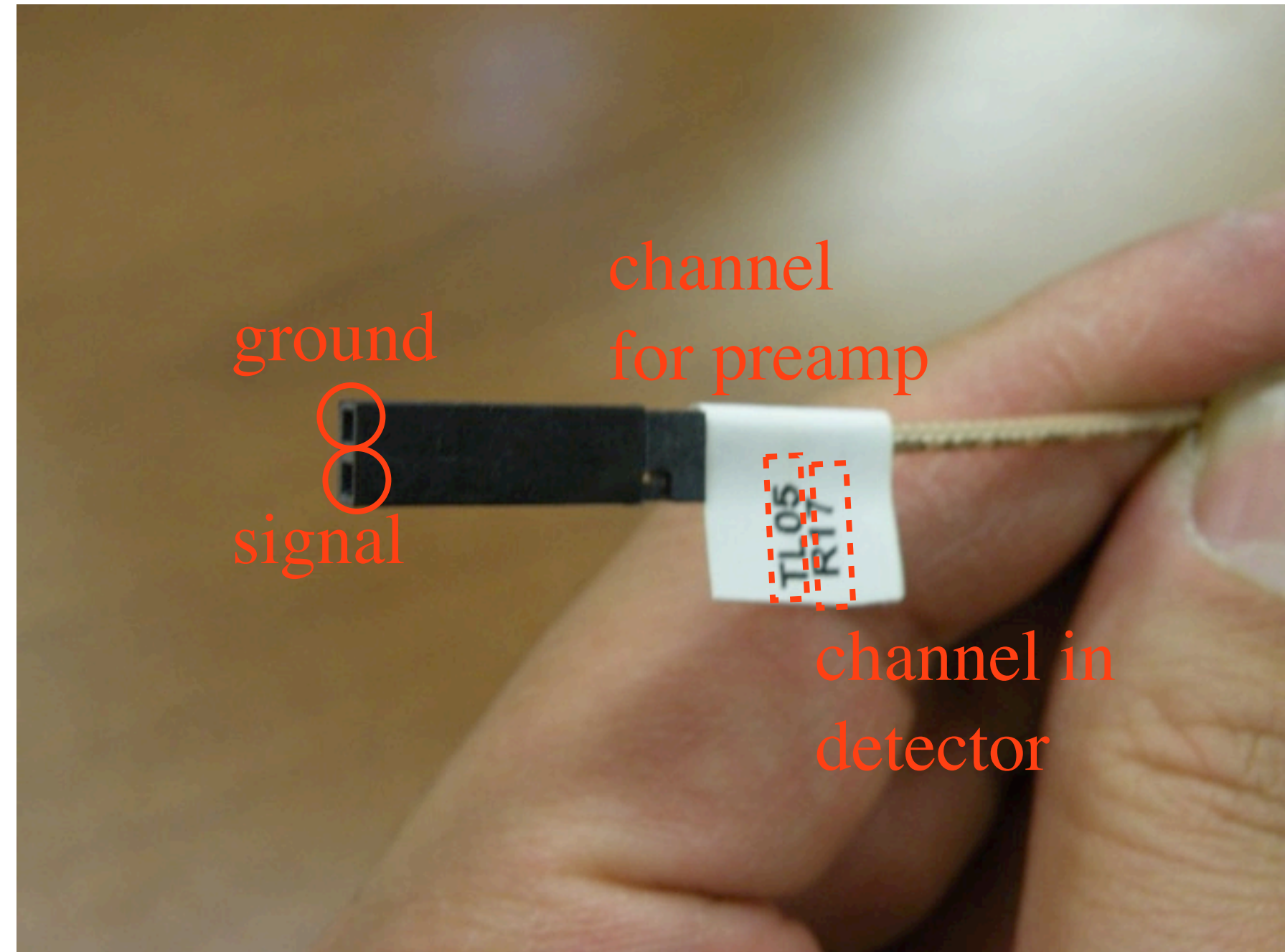
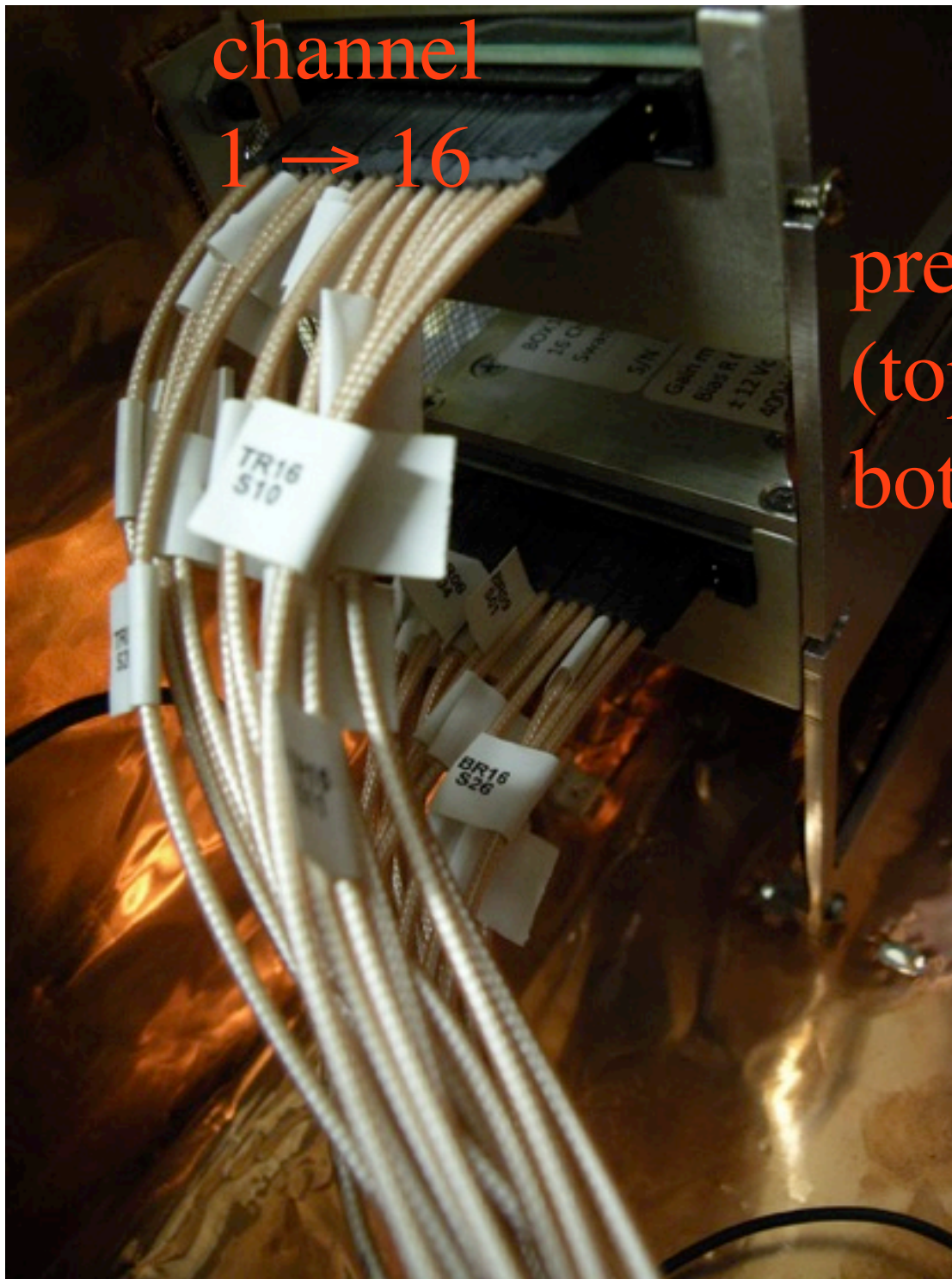


connects to output
of detector signals



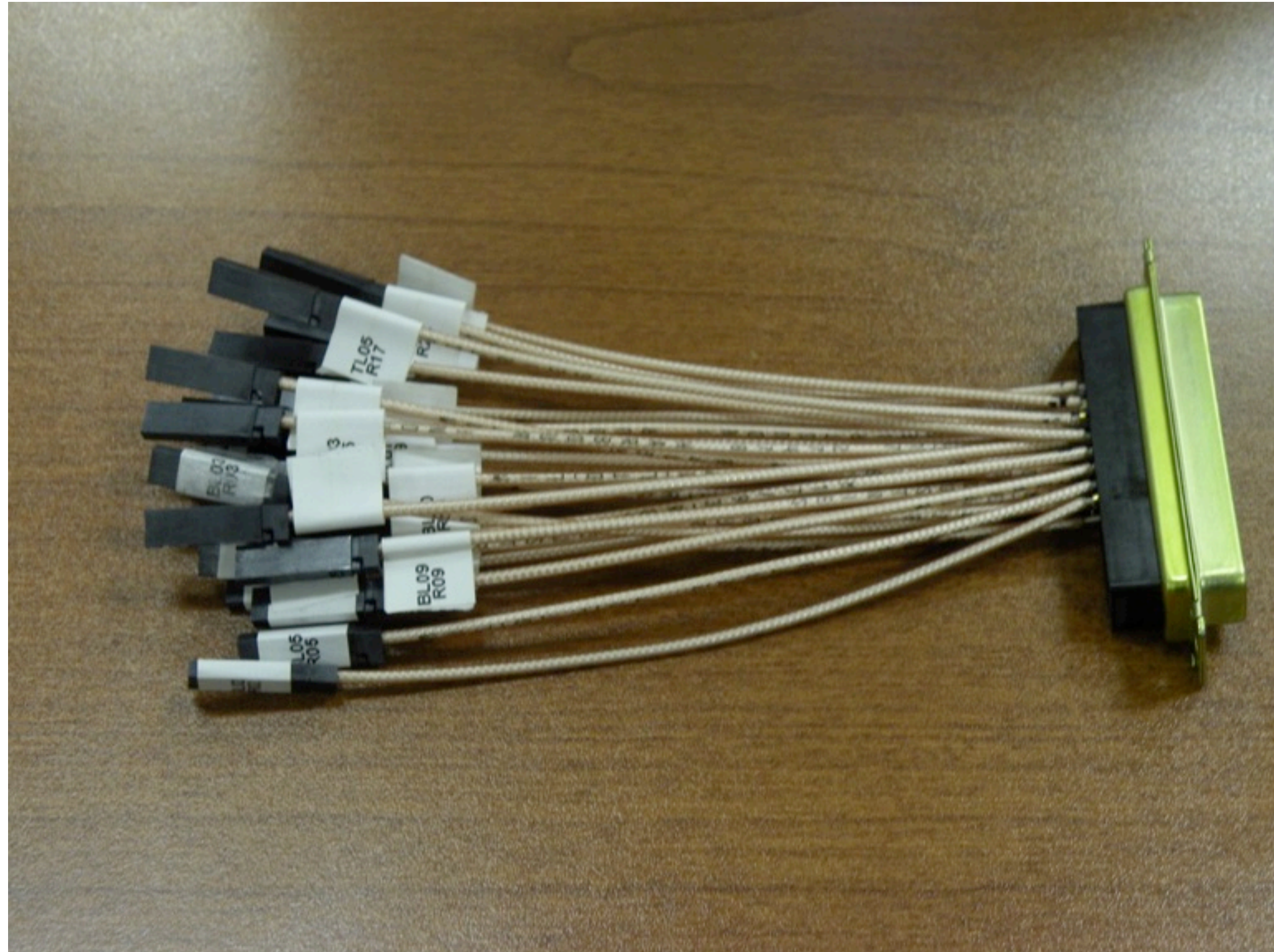
other side is detector

Preamplifier Connections



Ring Connectors

not in use yet

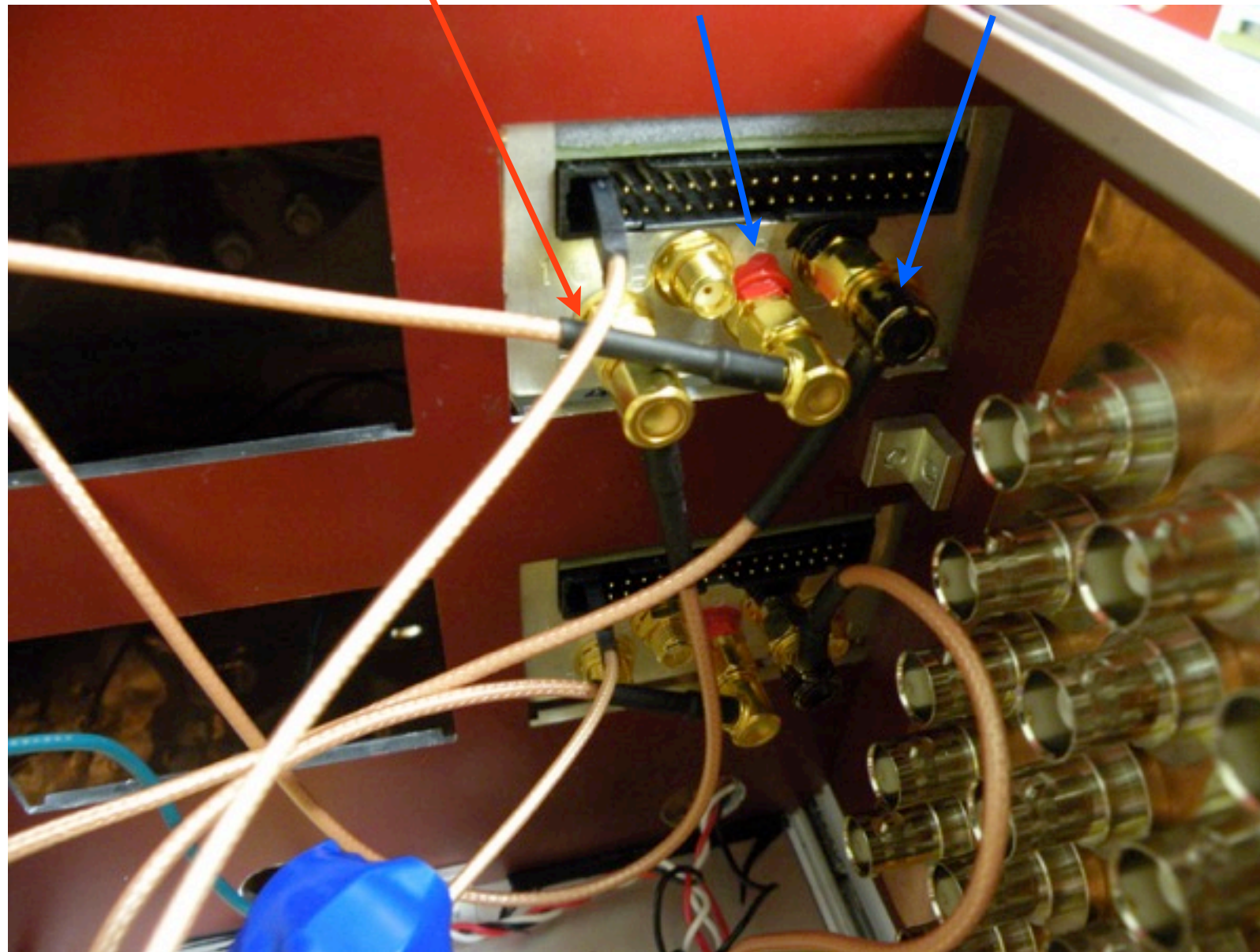


Cabling in Distribution Box

HV
labeled B

LV +12V
red

LV -12V
black



signal from preamp going
to signal panel

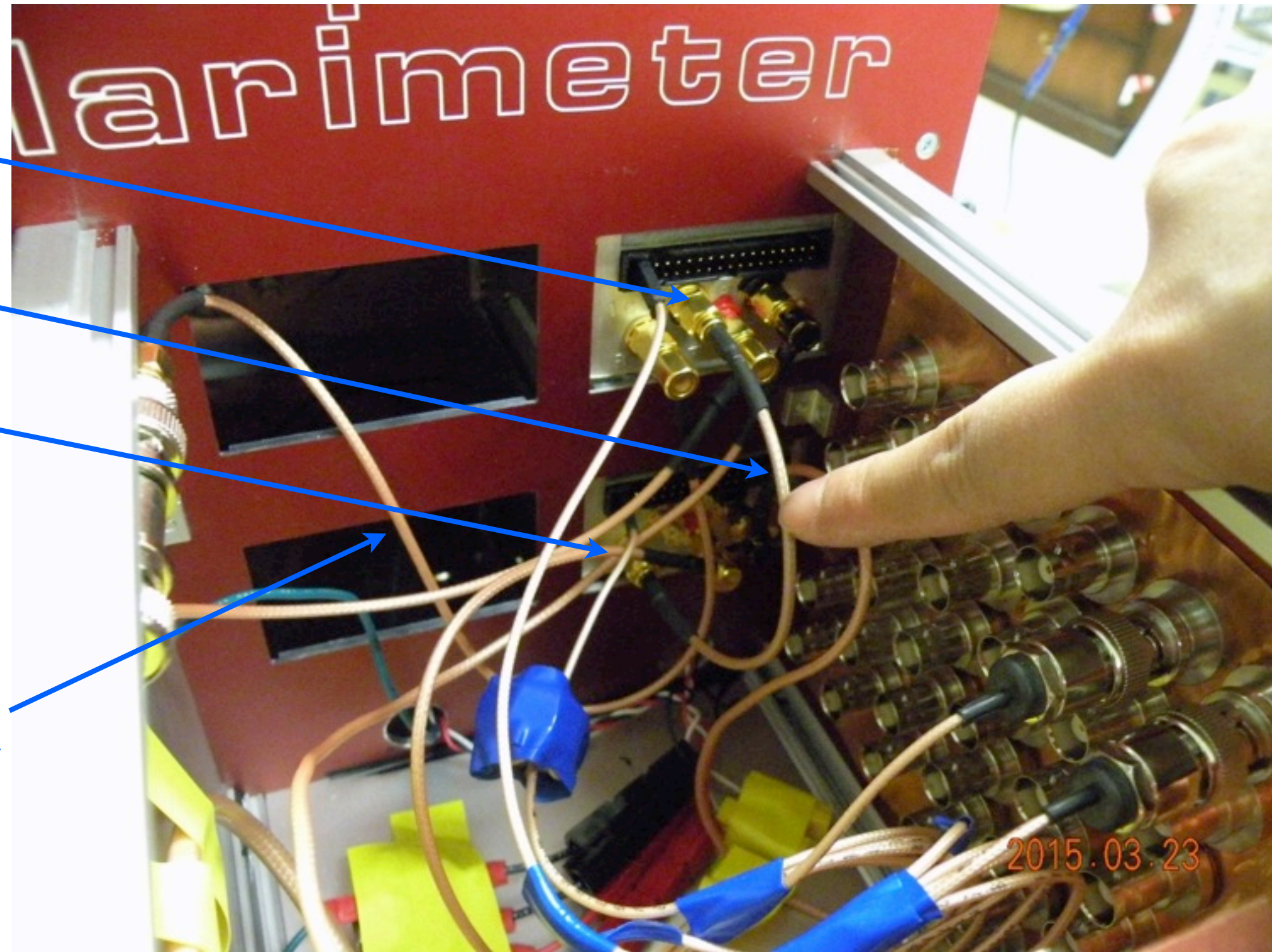
Daisy Chain for HV

HV labeled B
(red)

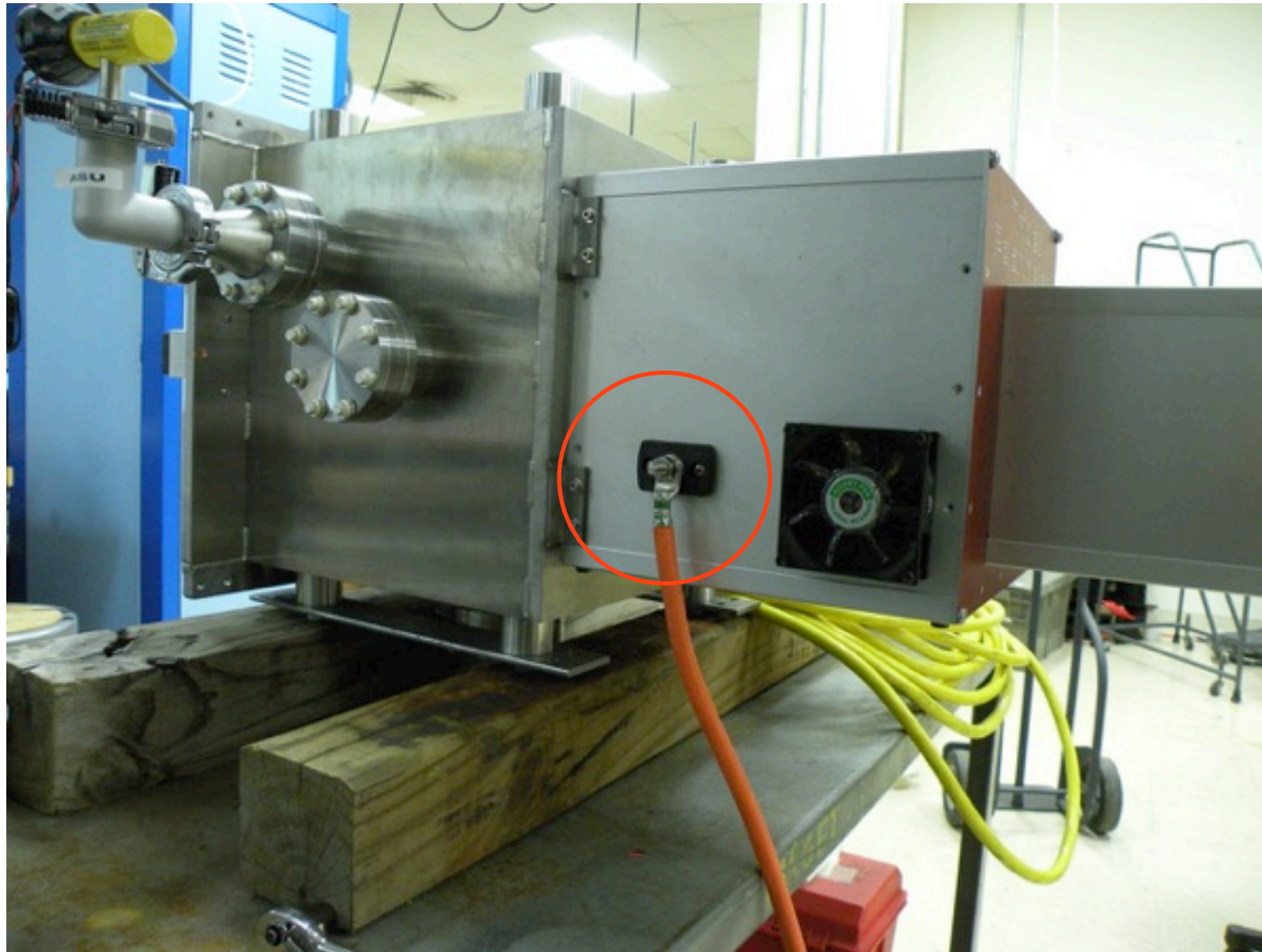
daisy chain

HV labeled B

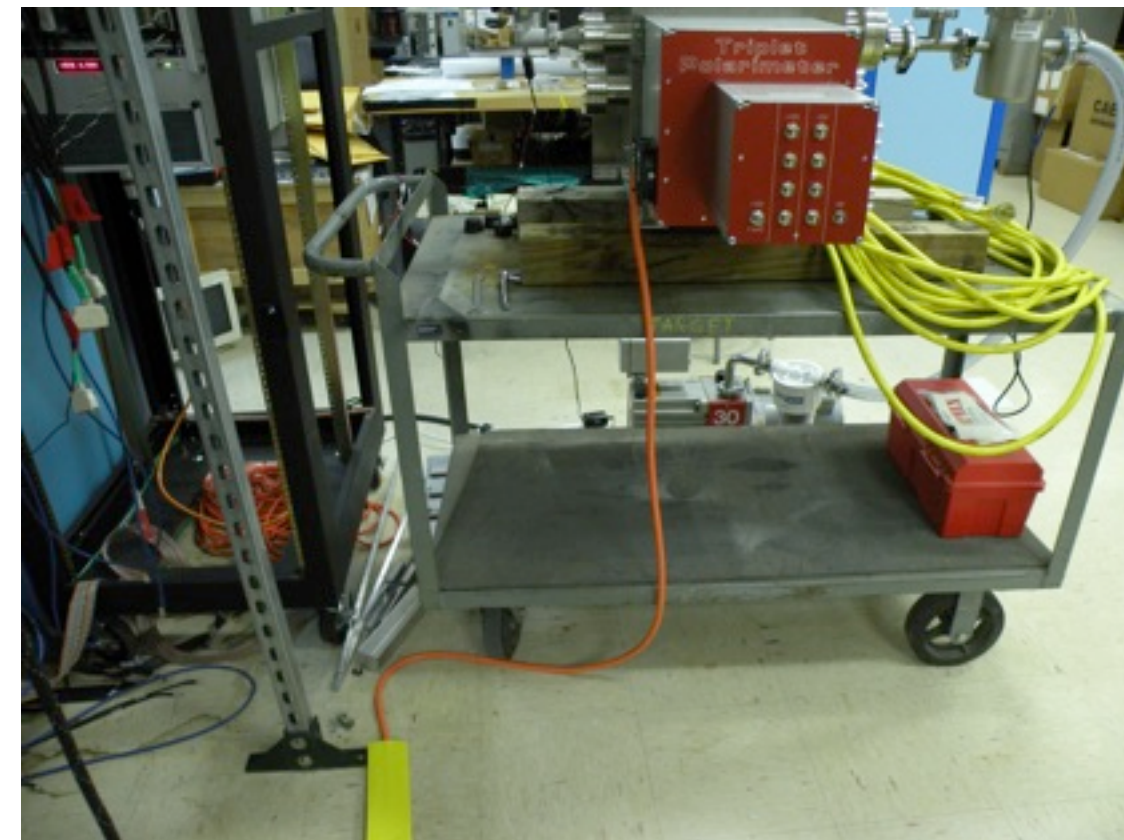
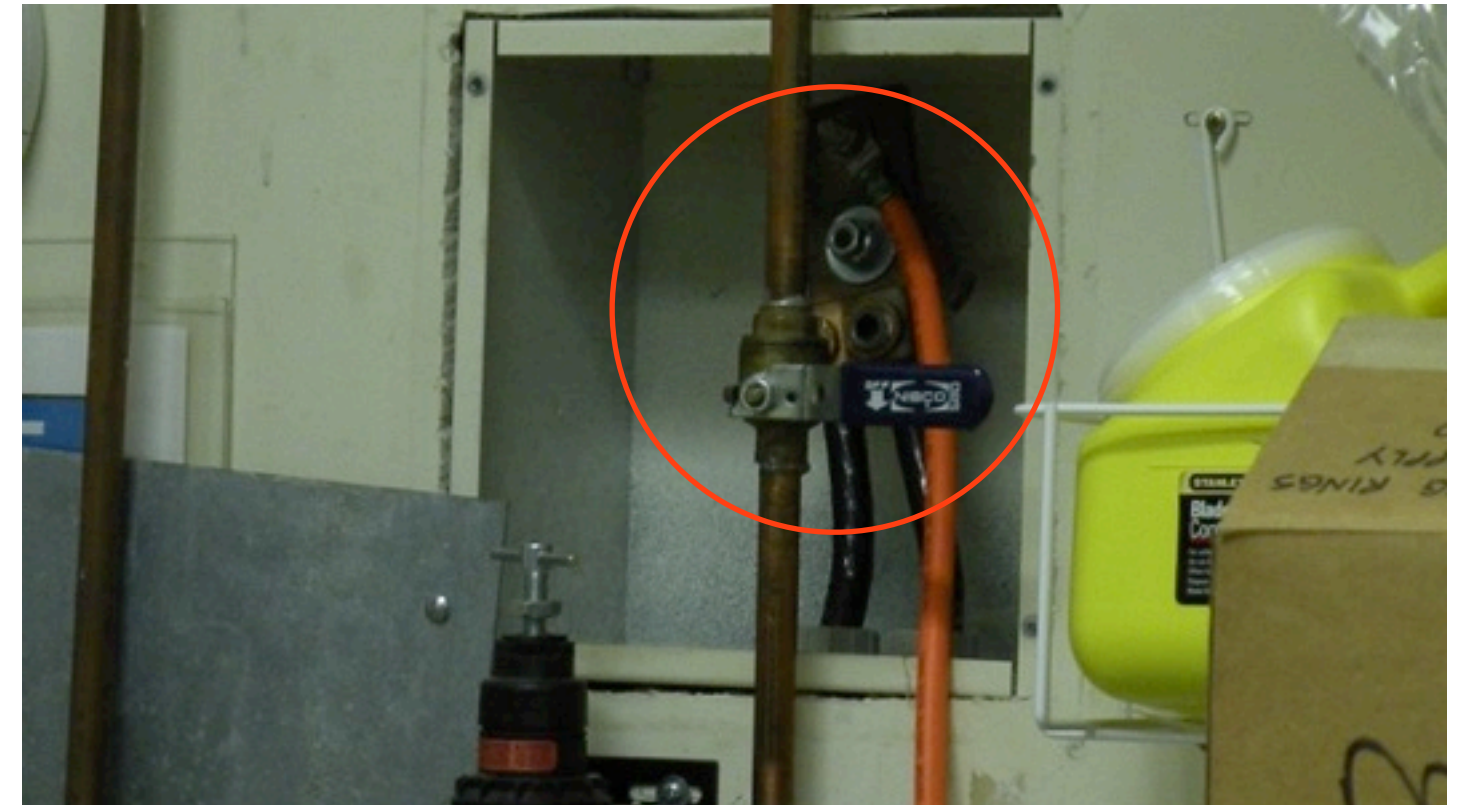
HV wire



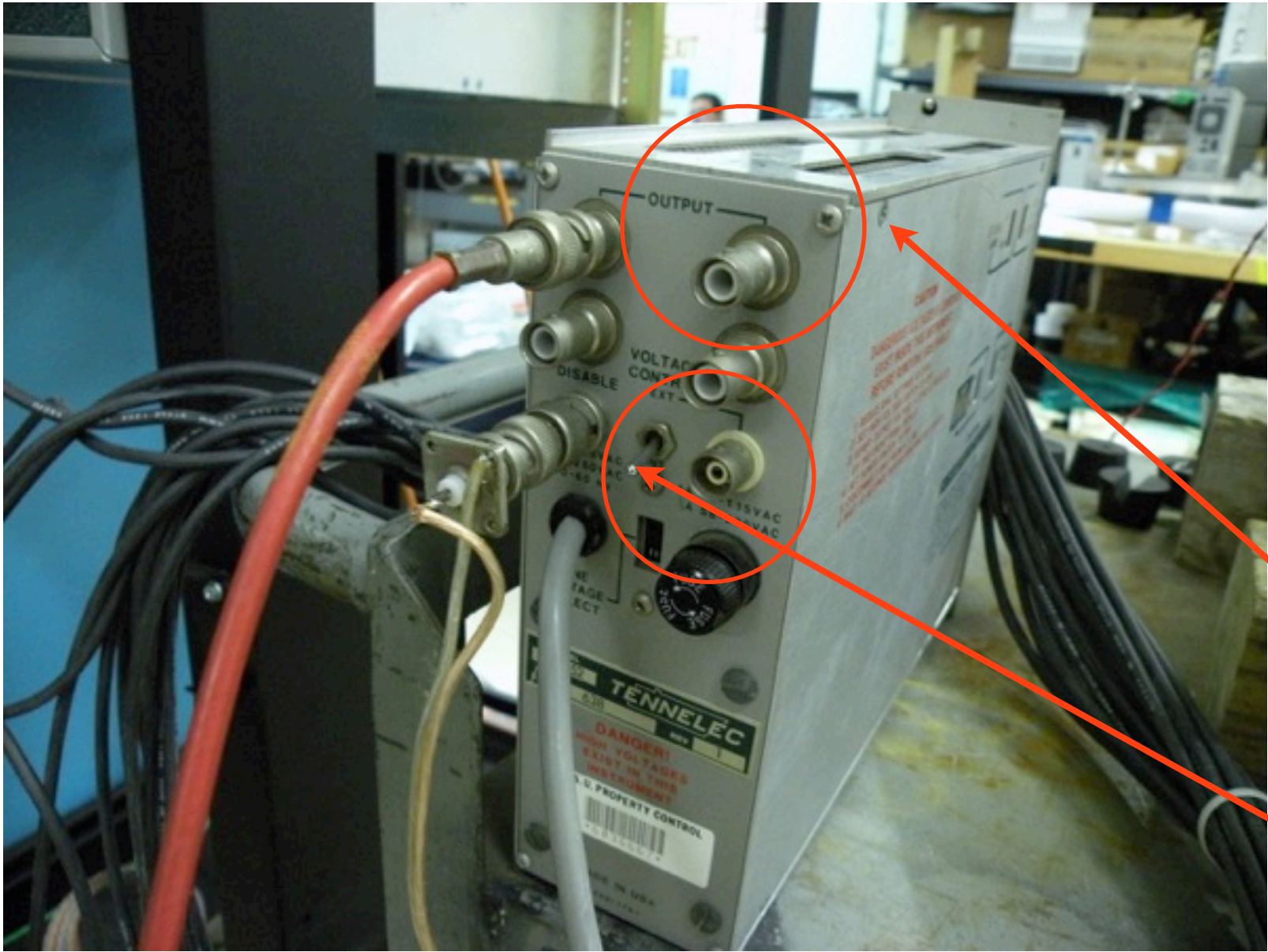
Grounding Lug



ground connection at wall



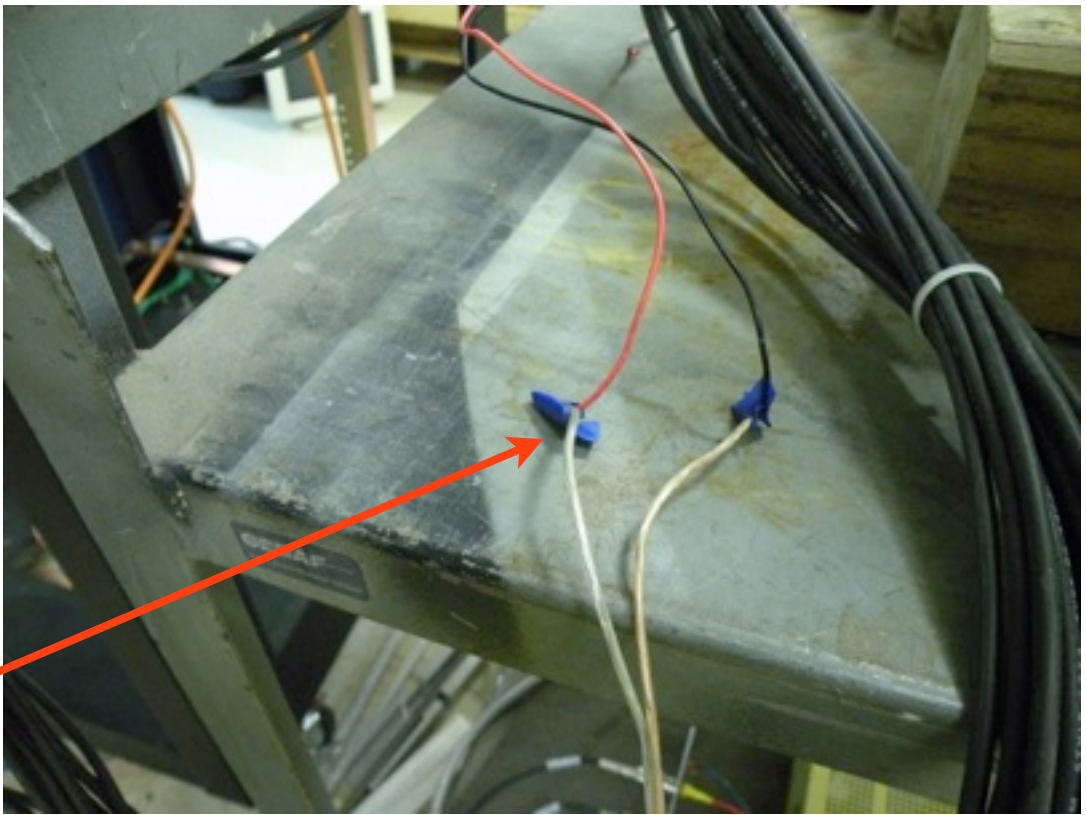
Back of HV Supply



HV output

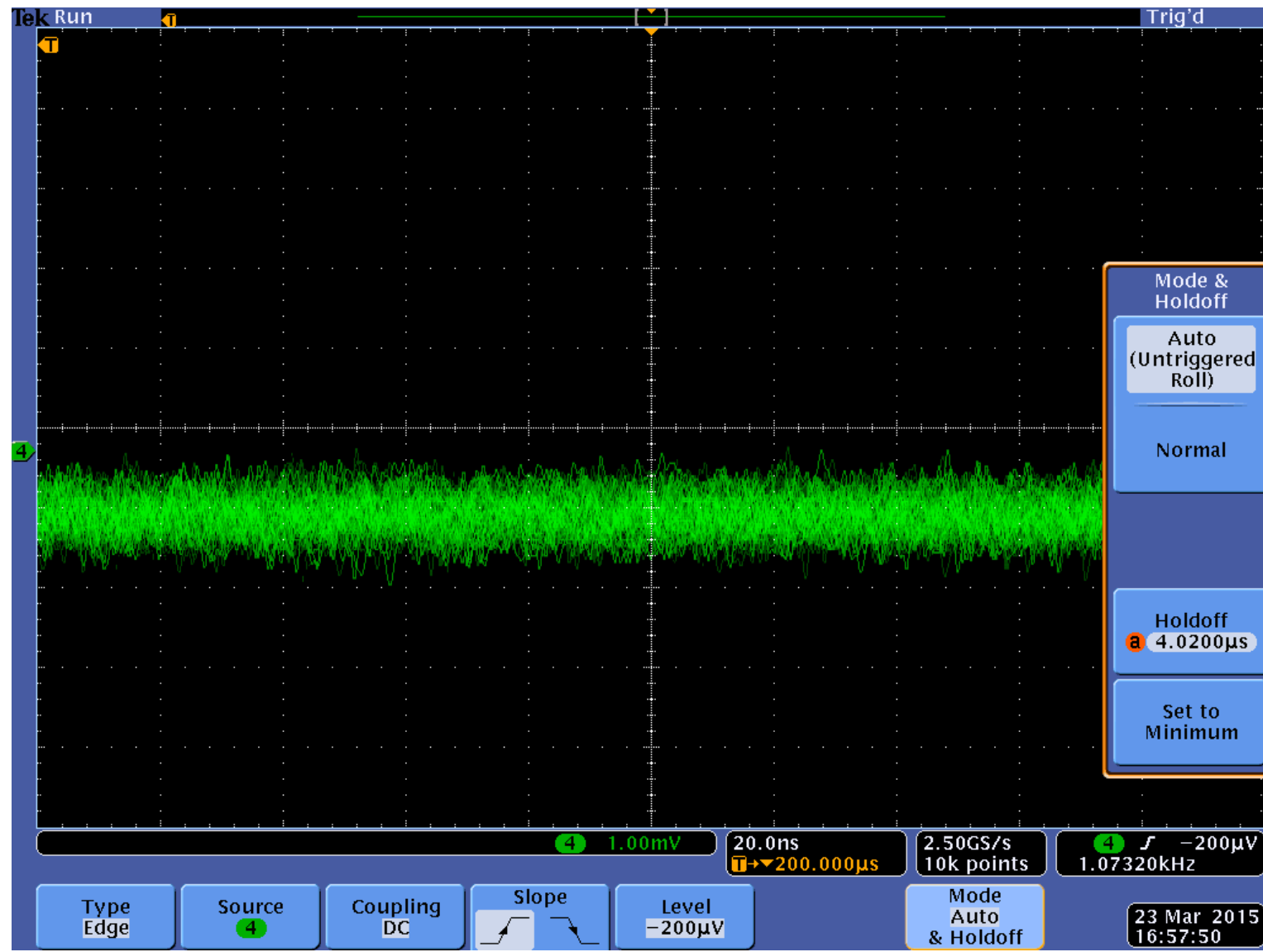
disable from stinger

connect leads in stinger to HV disable

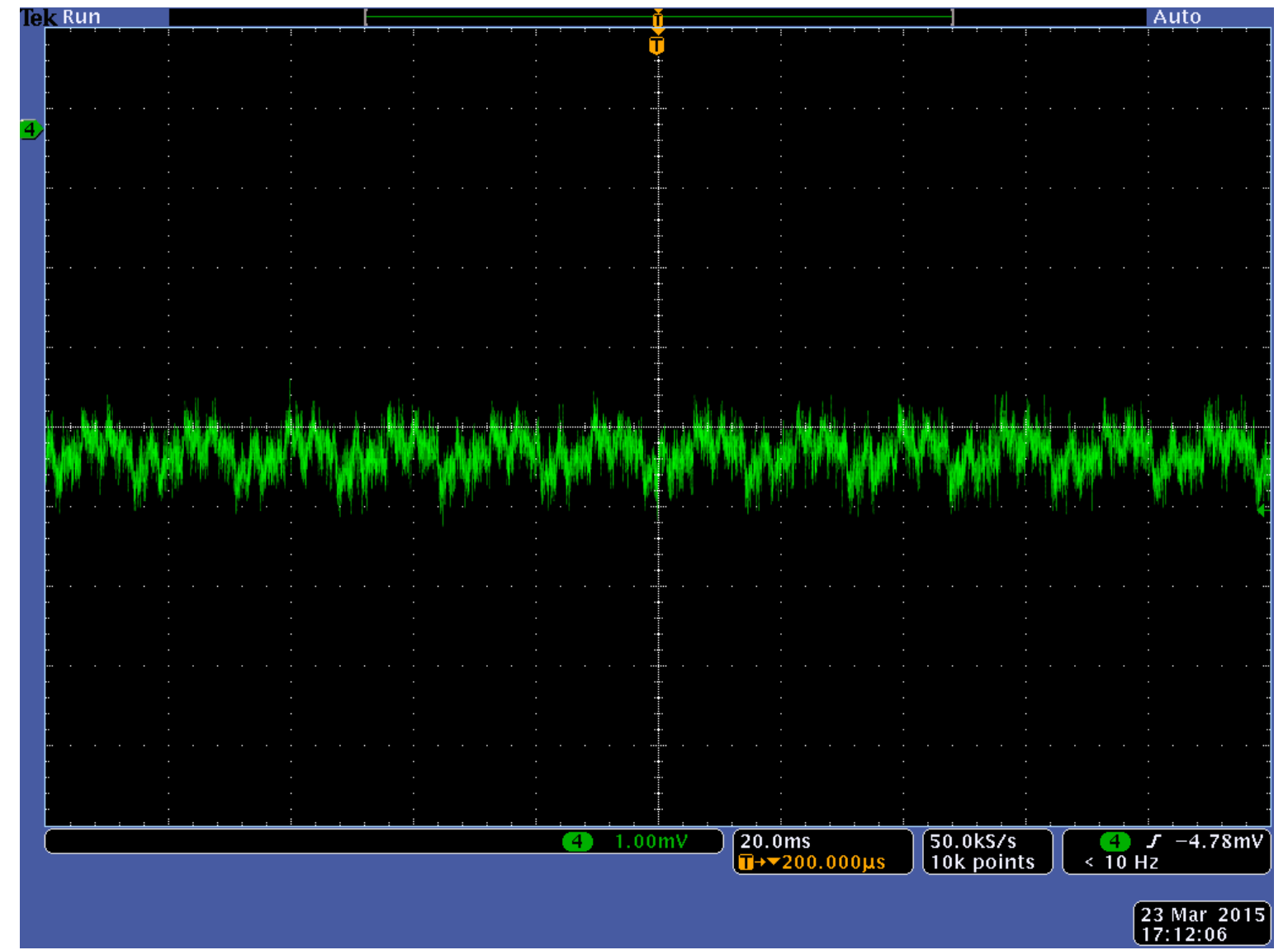


Noise Levels

- Pictures taken with USB stick in scope (png)
- LV was off



LV -12V: 1mV, 20ns
divisions

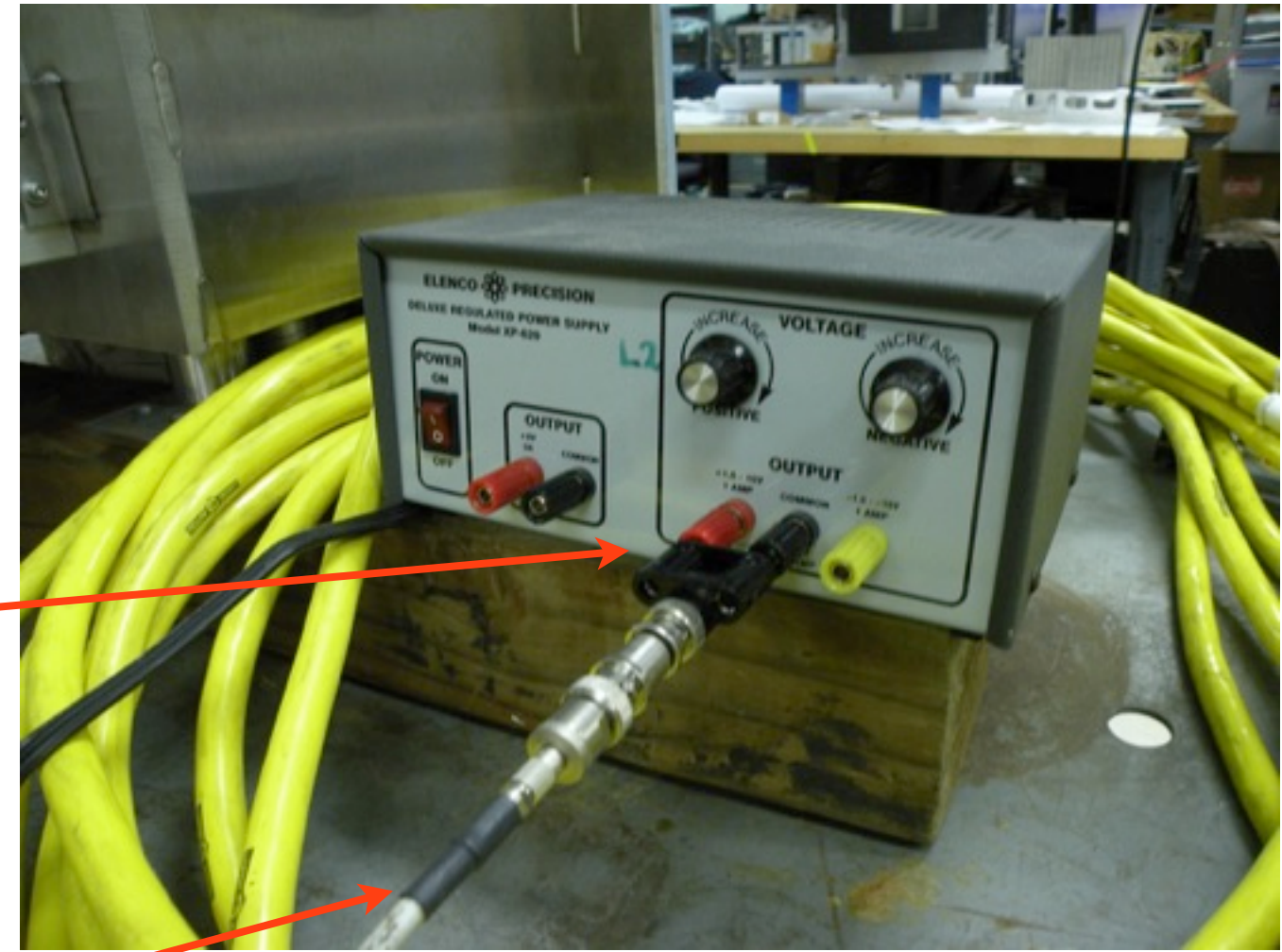


LV -12V: 1mV, 20ms
divisions

LV Supply For Fans



connector
from Elton



wire from Chris, Nick
(Hall D electronics)

Wire Tools

voltmeter, wire,
stripping/cutting tool
from Chris, Nick

electrical tape from Scot
(Hall D engineering)



Source

- From source dispenser: after training, can come in and get registered sources
- Now have Americium source: ^{241}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

Batch Serial Number: 110 Isotope: Am-241 Amount: 1.5 µCi Assay Date: 4/1/11
Mfg. Serial Number: 1120 24 Model: J10-200 Supplier: Amersham

Biological Data:

Radon Type: Storage Required: E114
Maximum Level in Container:
Maximum Level in Room:
Radon Source Status: Contamination:
Form: 1120
Page: 112-1133 Page: 112-1134
Unit: Unit:
Designated Storage Location: Source must be in storage if not secured in use or attended

Approved Location of Use:

1.
2. EEL 121
3. EEL 120

Approved Users:

1.
2. T. Chinnaiwair
3. Brian Puy
Amour Marjono

Additional Instructions, Restrictions or Handling Requirements:

APC-1 104
EEL 1120-200

Jim Boyle
Debra Hoffmann

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

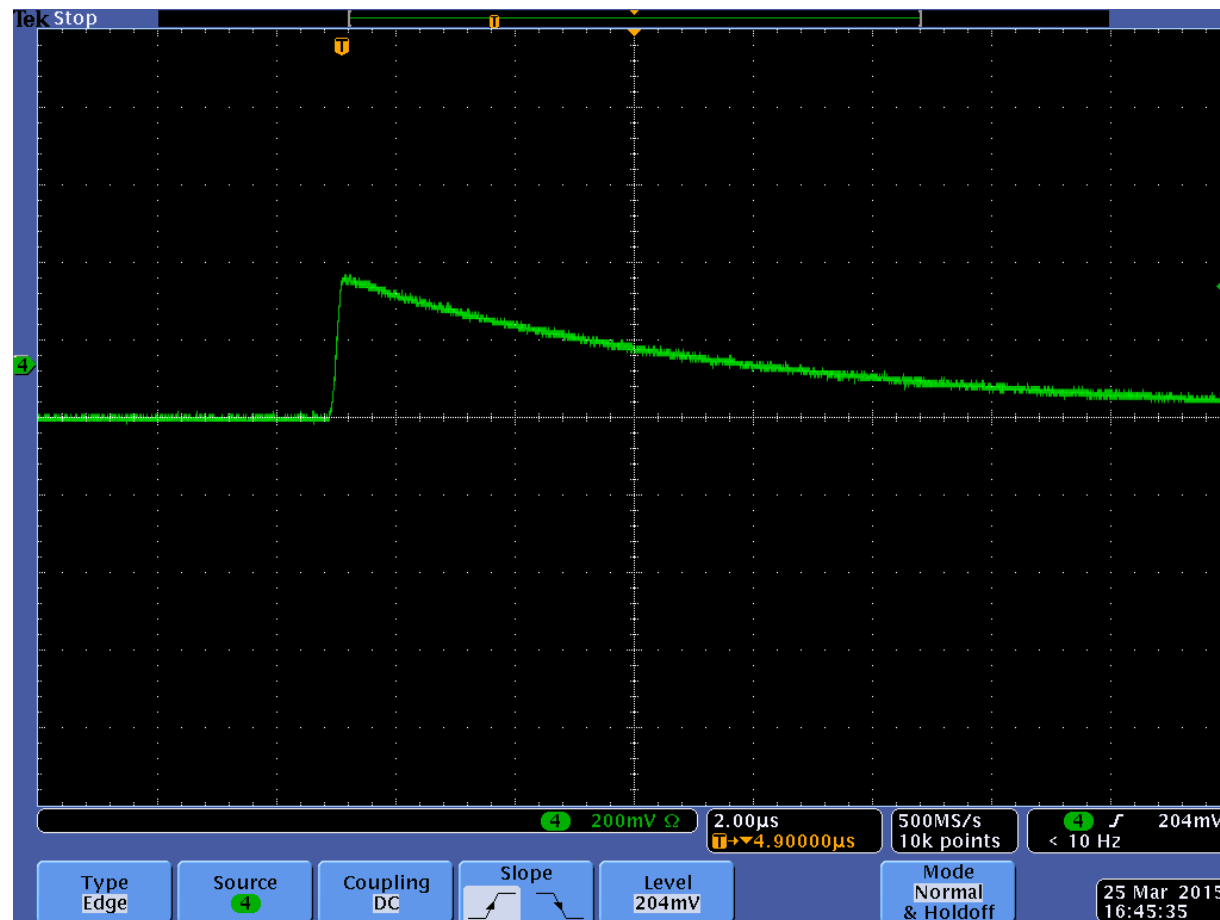
CAUTION
RADIOACTIVE MATERIAL

Source in Chamber

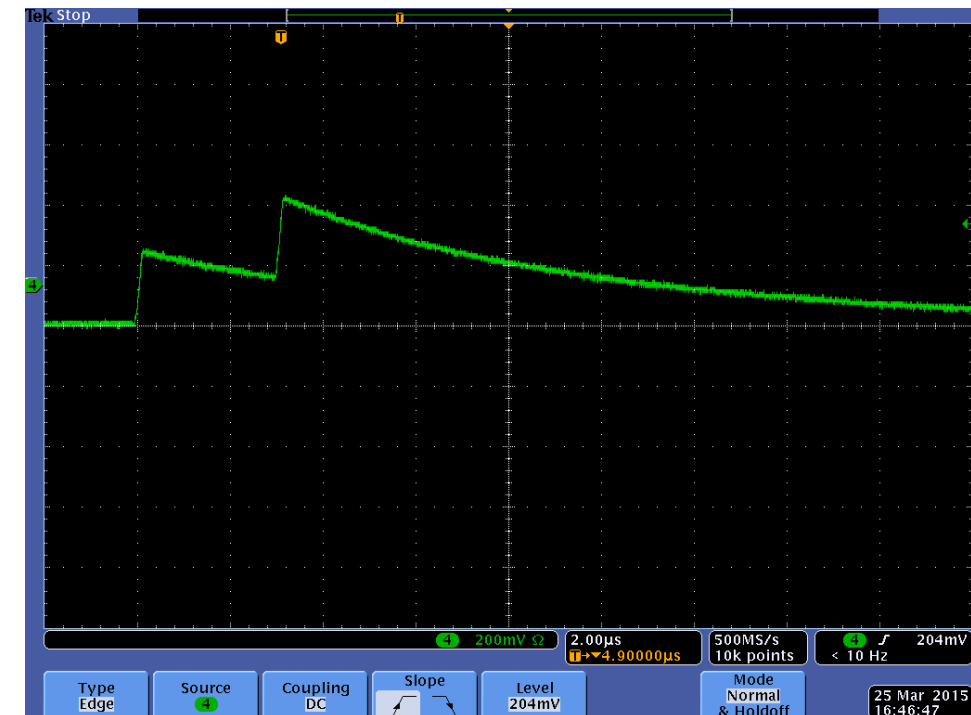
- Put ^{241}Am source next to detector
- Turn on, set HV to 200 V
- Turn on LV, preamp fans
- Check signals on scope



200 mV, 2 μ s
divisions

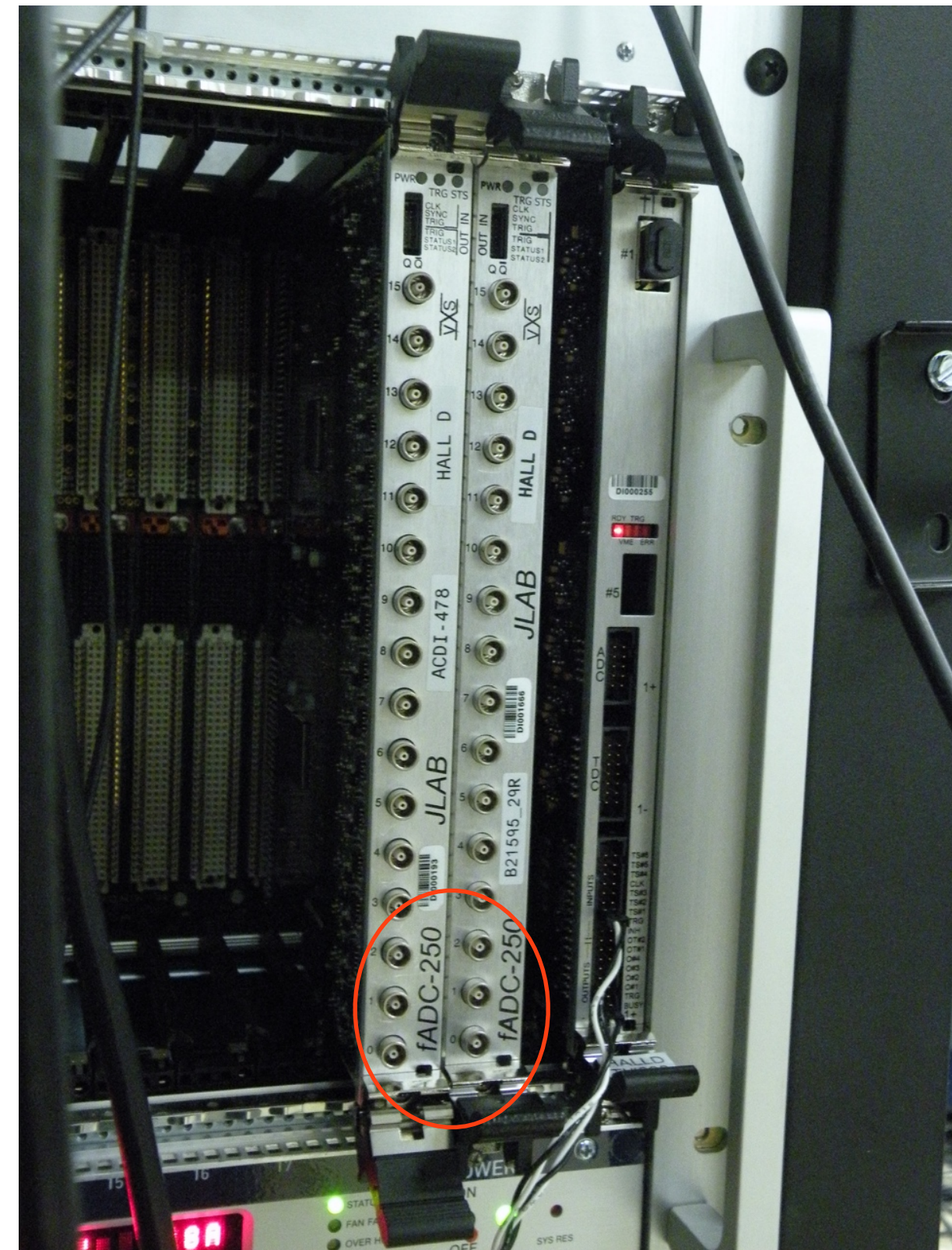


multihit
event



fADC250s

- Thanks to Fernando, Chris
- Install next week with Beni



TO DO

- Check that all channels are working
- Talked to Fernando, will get fADC250s on March 26 (Thu)?