

ArgoNeuT Status

Mitch Soderberg

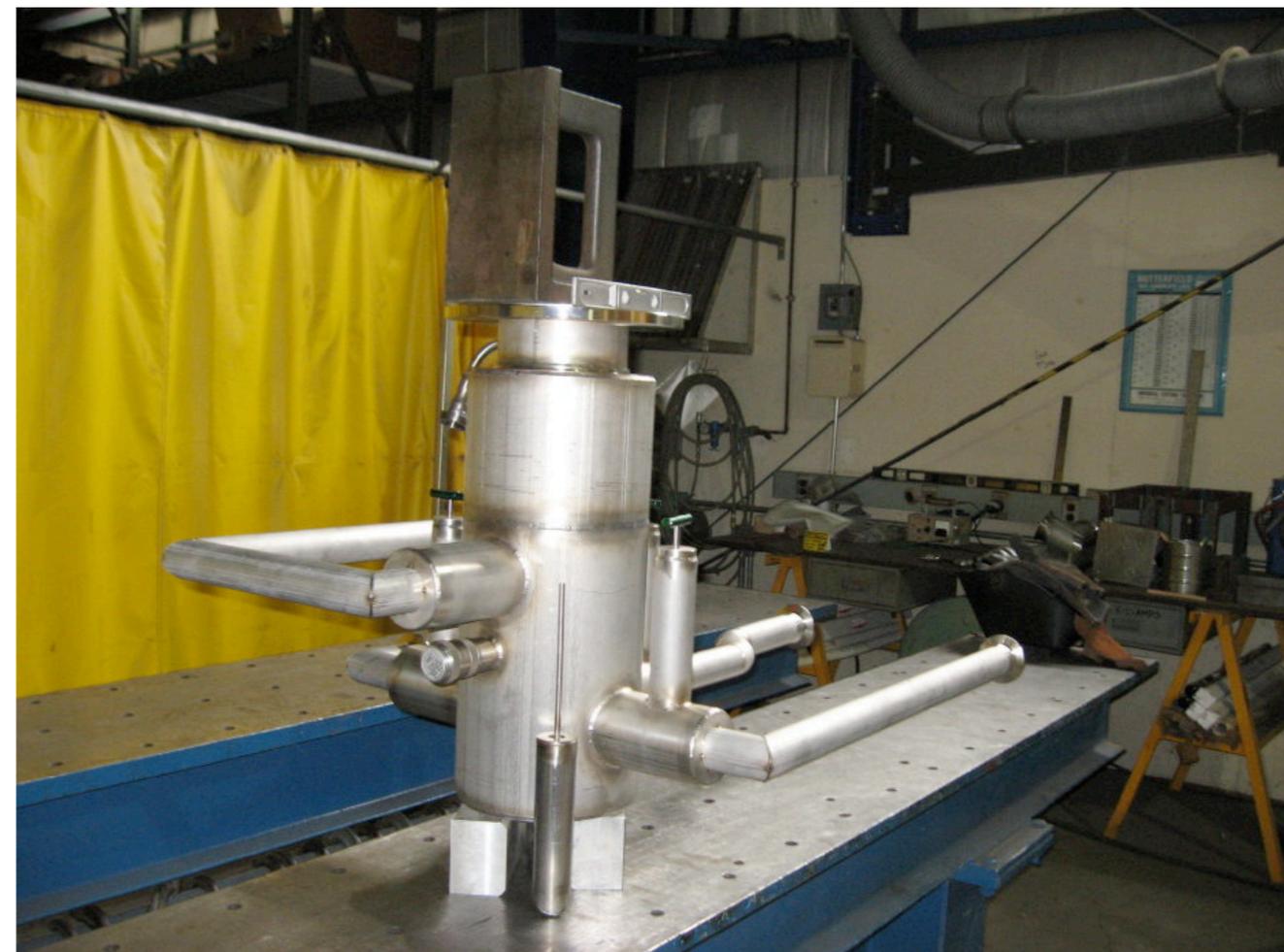
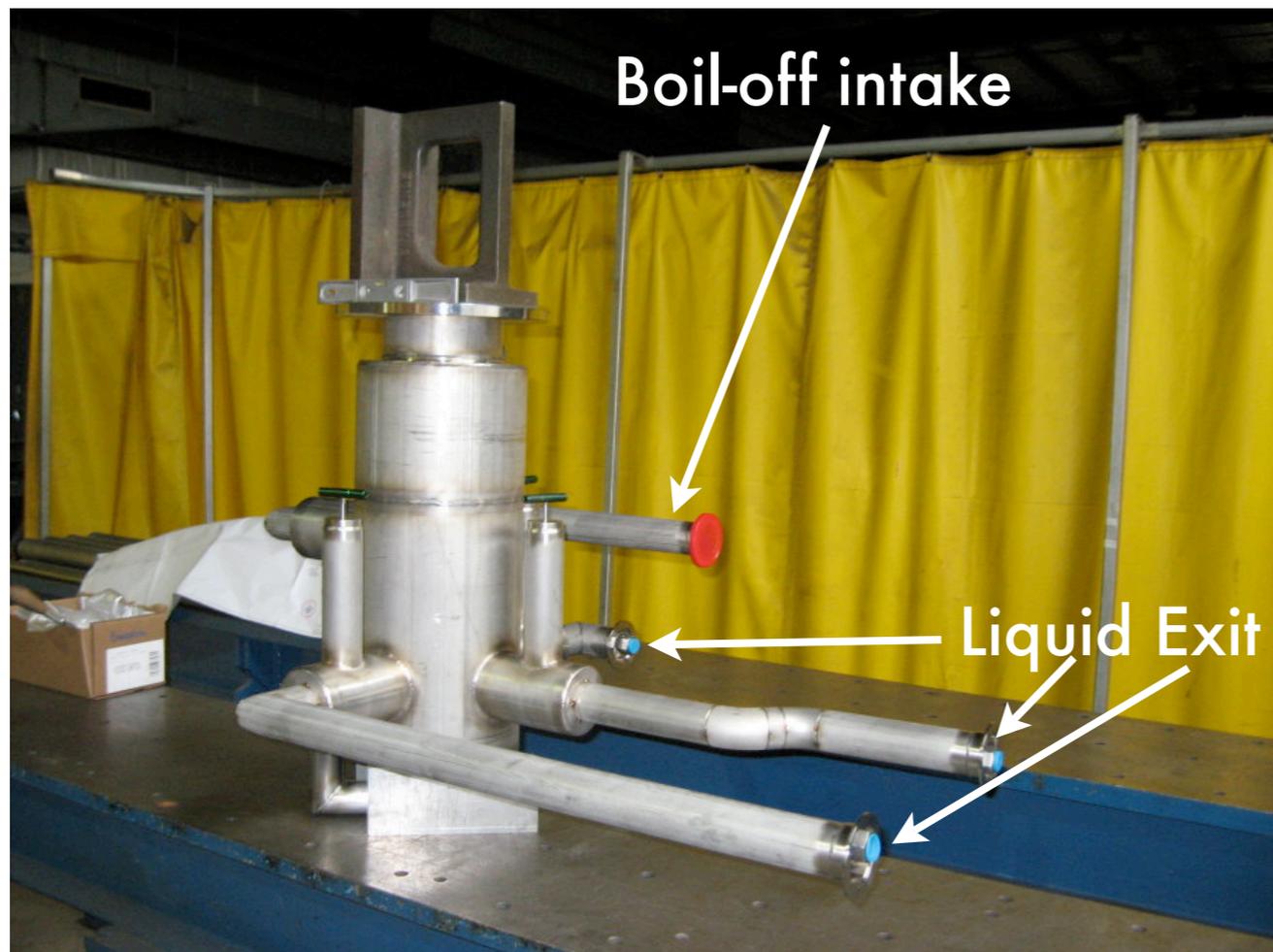
Cryo I

- Unistrut frame up.
- Will hold all cryo. items
- Many other items almost ready (talk to John V. and Andy).



Cryo II

- Cryocooler vessel complete.
- Quite an undertaking...



High Voltage

- Tested HV feedthrough up to 25kV in air.
- Using a “Hans” filter pot..will probably need some retooling when safety panel sees it.

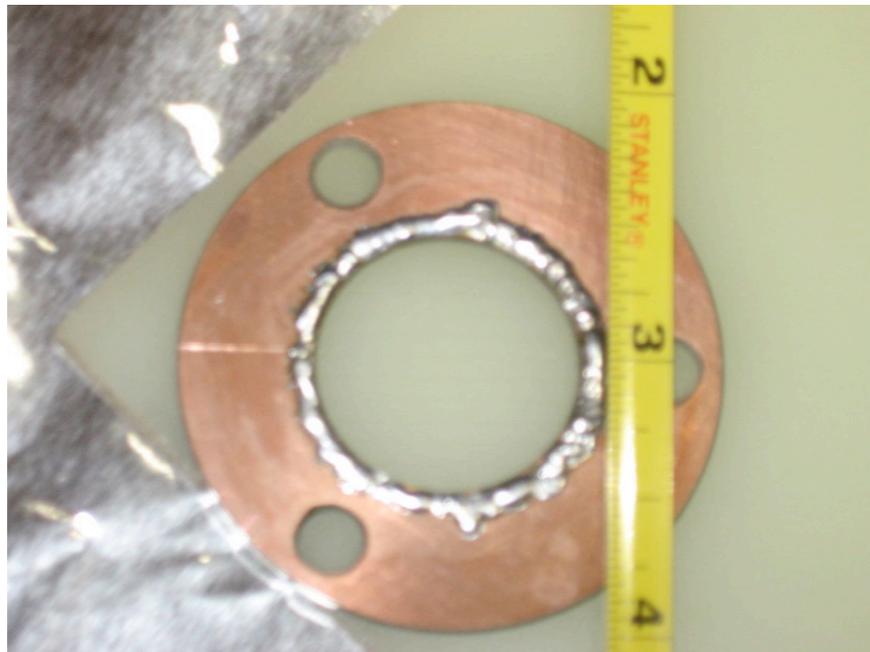
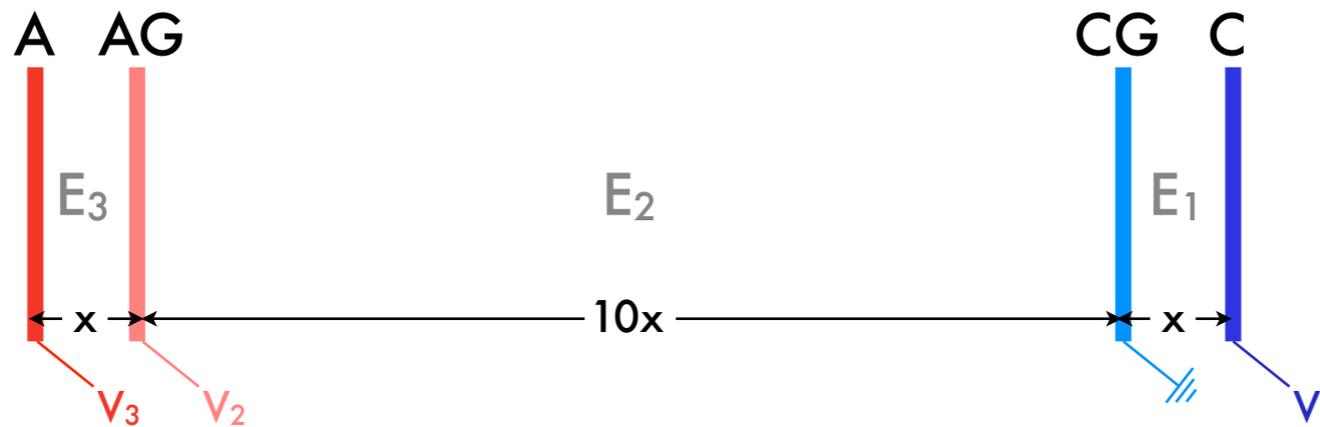


HV feedthrough

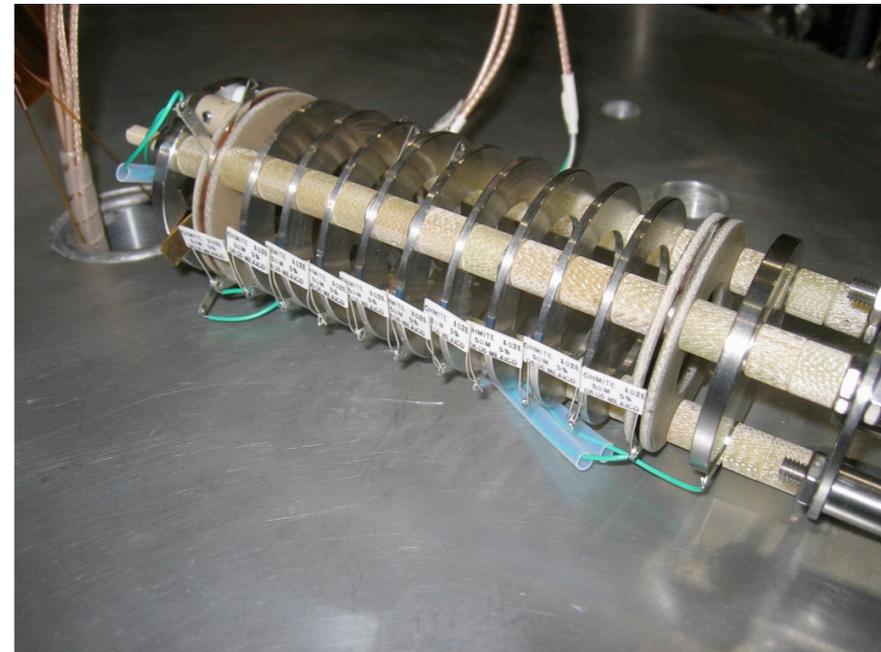


Purity Monitor I

- Have been working on purity monitor setup to get it ready to hang from top plate.
- 100% Transparency condition: $\frac{E_2}{E_1} \geq \frac{1 + \rho}{1 - \rho} \approx 2.3$ $\rho = \frac{2\pi r}{s} \approx 0.4$
- 50V on the cathode requires about 1400V on the anode for full transparency.



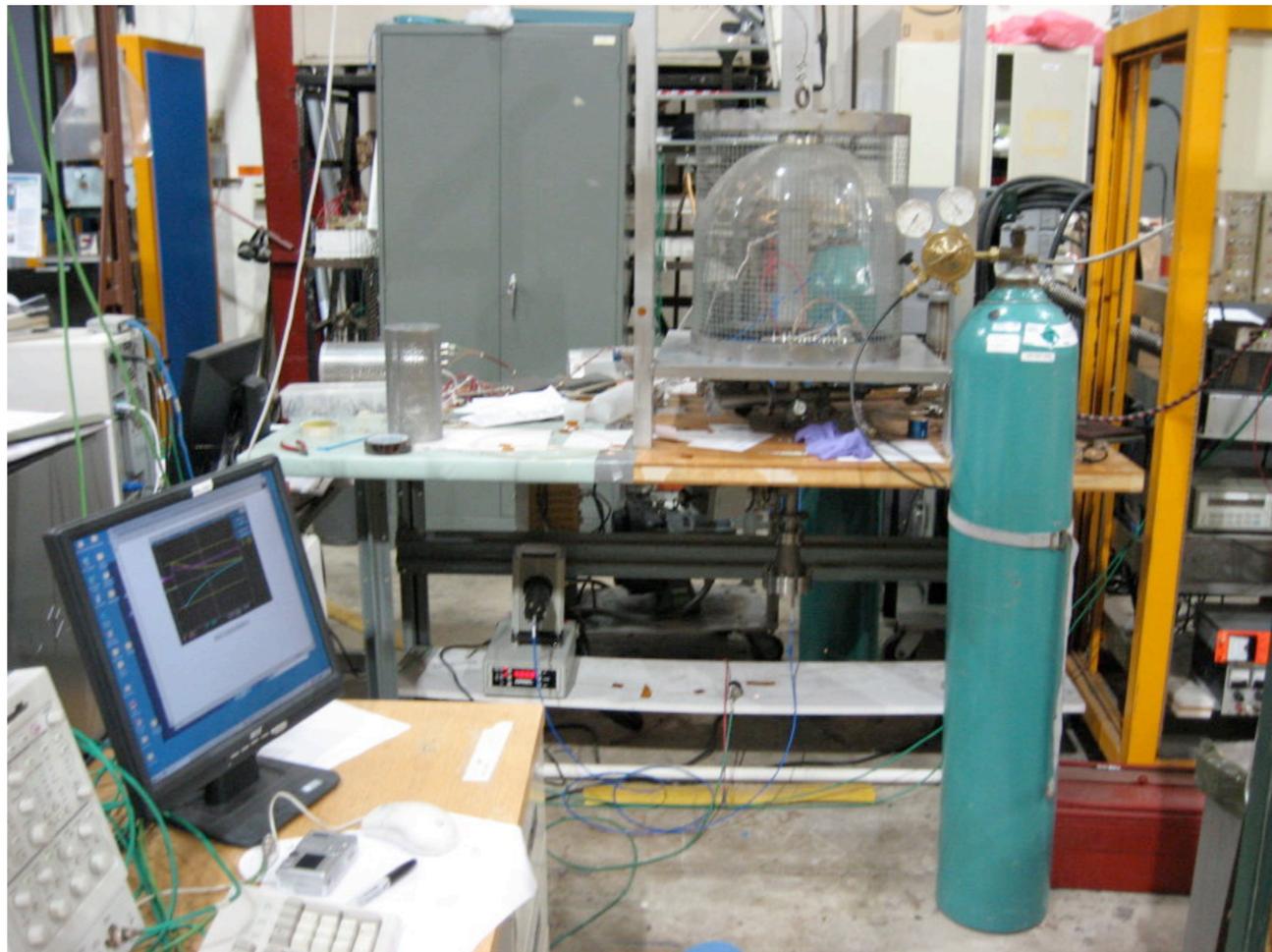
Purity Monitor Grid:
12 wires, 1/16" pitch, 100 μ m diameter



ArgoNeuT Purity Monitor

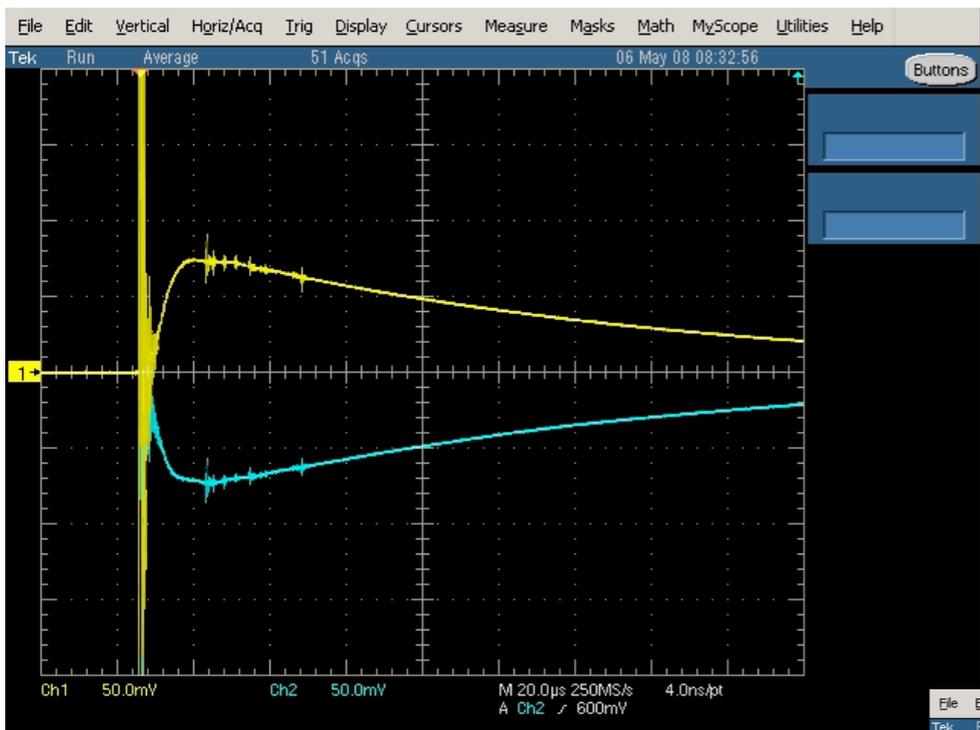
Purity Monitor II

- Using Bell jar setup at PAB (thanks Stephen!)
- Testing in vacuum and in Ar gas.
- Using all components of ArgoNeuT purity system (except internal fiber).
- Have been debugging these past few days.

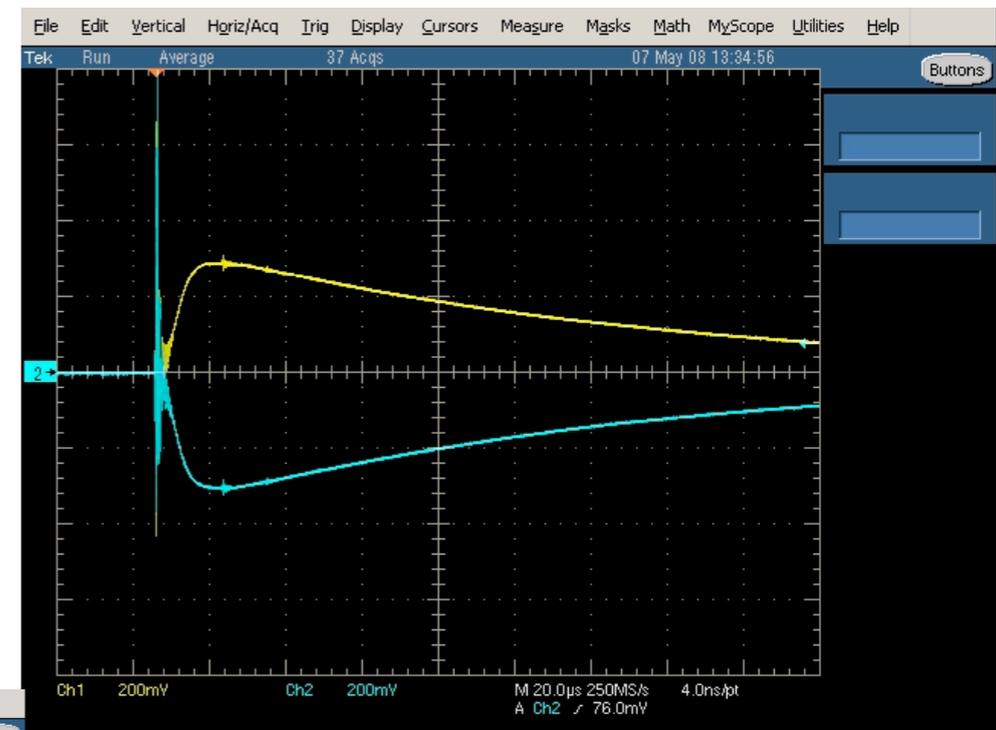


Purity Monitor III

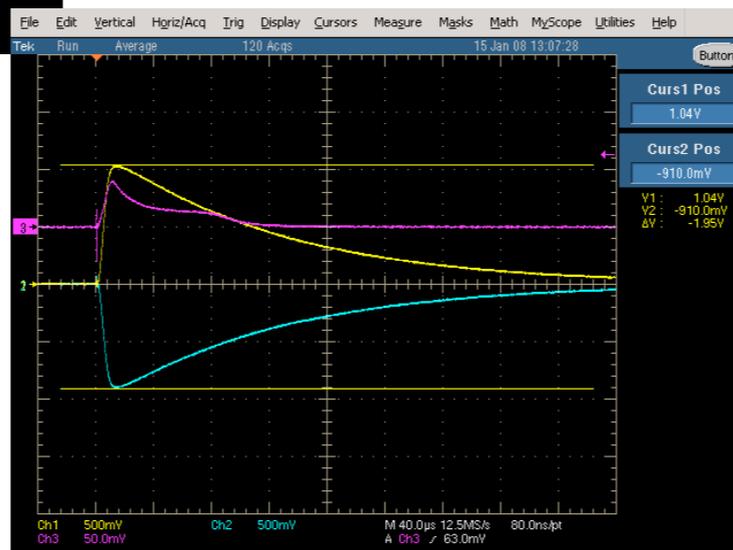
- Some traces from the cathode/ anode of our purity monitor in vacuum.
- Initial signal was small...replaced photocathode, then fiber.
- Two Photocathodes: gold on glass vs. gold on aluminum.



Initial (80mV pulse,
300Vcathode)



Now (300mV pulse,
50V cathode)



Reference: FNAL (1V pulse)

Other Items / Plan

- Have tested level-meter (works great).
- 3 filters built. Need to regenerate and wrap in foam.
- Need to address static charge issue (i.e.- how to add sintered metal disc to fill stinger).
- Purge Bell jar with argon....assess purity monitor performance (today).
- Retest glass photocathode with better fiber (today).
- Hang purity monitor and baffles from top-flange (tomorrow, early next week).
- Install TPC and all its connections (early next week).