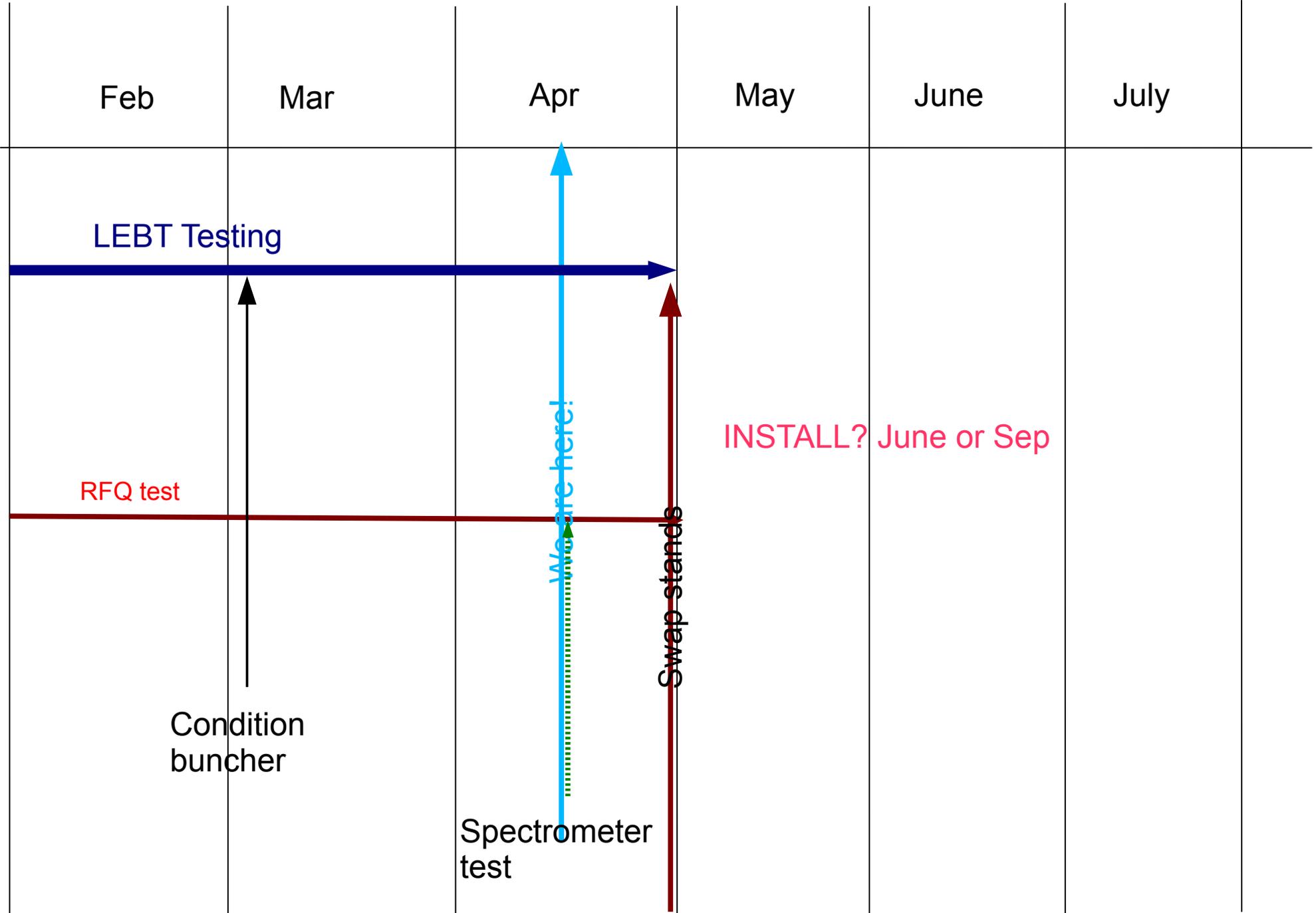


Pre-injector Upgrade Updates (28 Mar 2012 – 11 Apr 2012)

C.Y. Tan
11 Apr 2012



Feb

Mar

Apr

May

June

July

LEBT Testing

RFQ test

Condition buncher

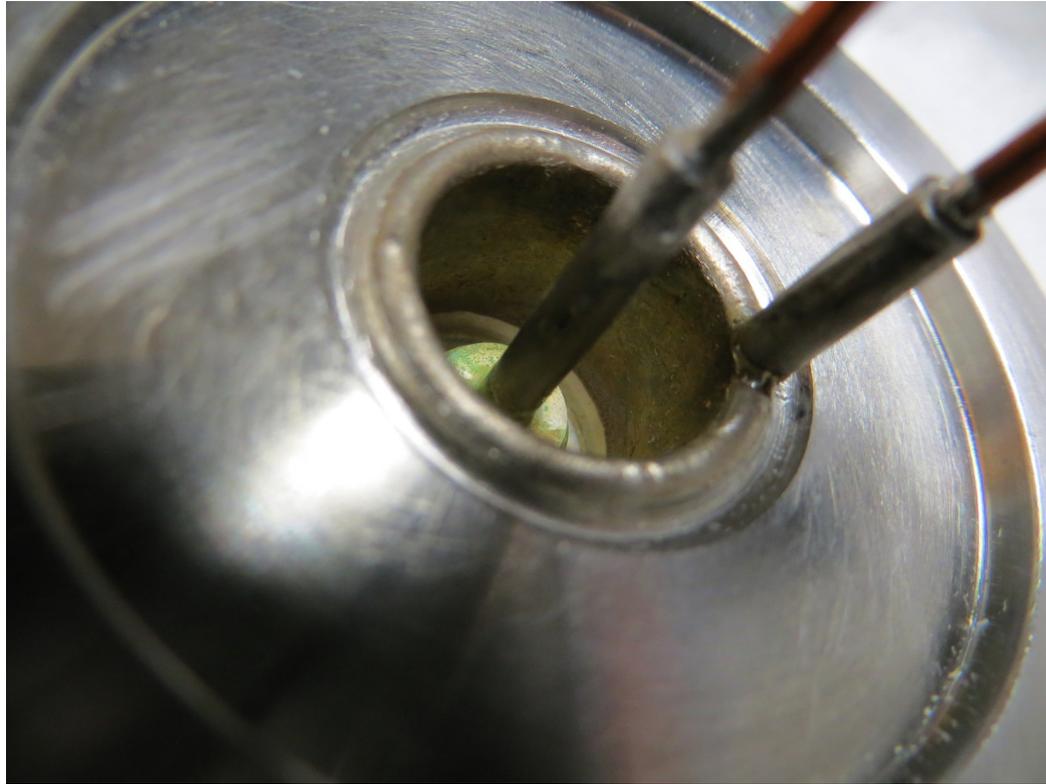
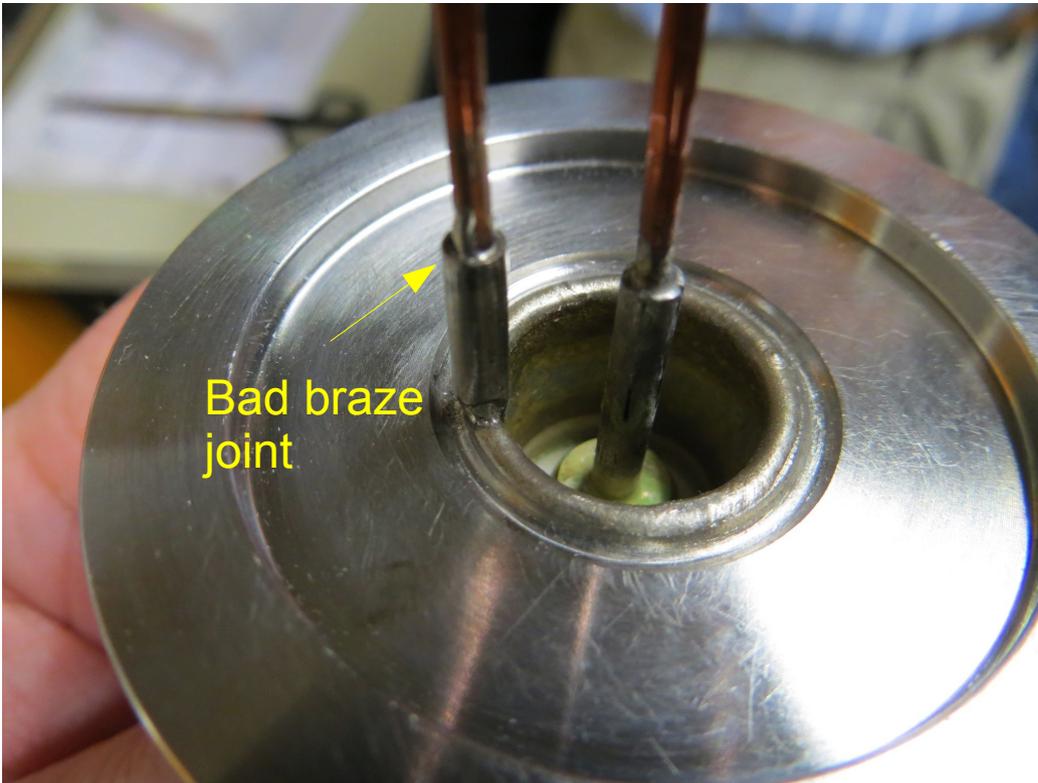
Spectrometer test

Swap stands

INSTALL? June or Sep

We are here!

Green gunk and bad brazing



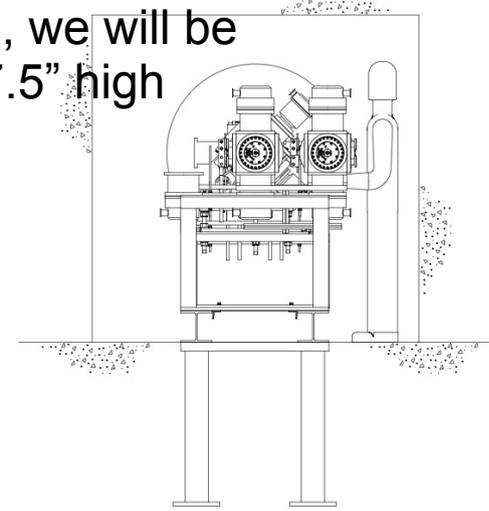
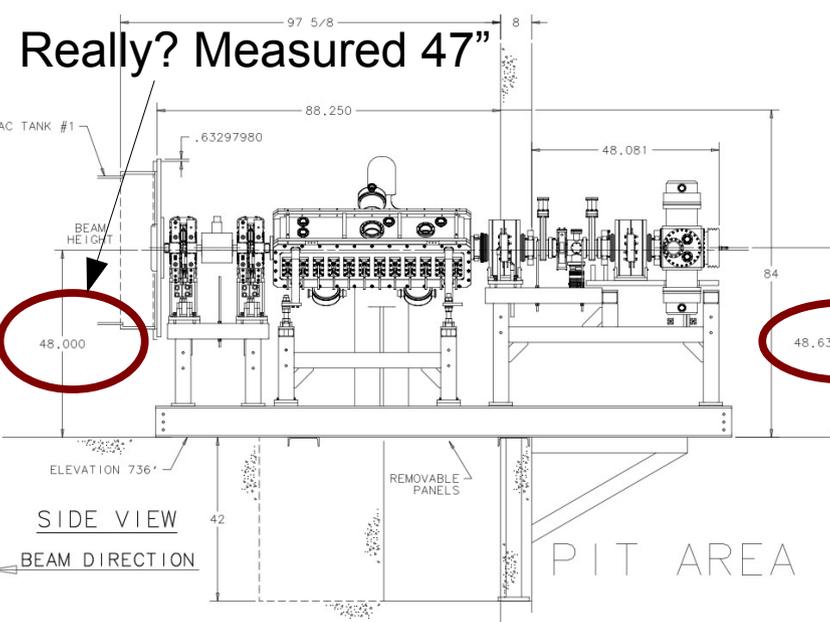
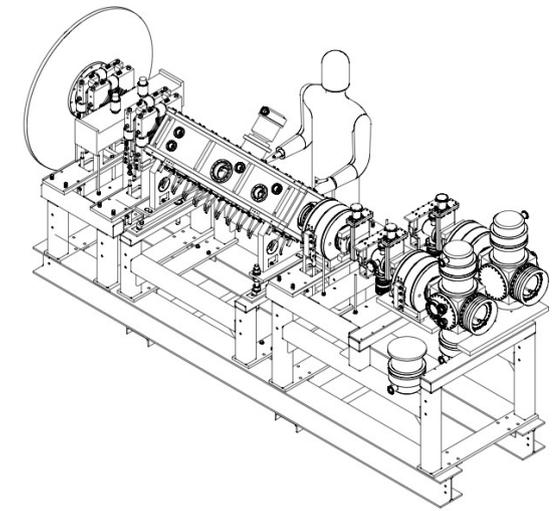
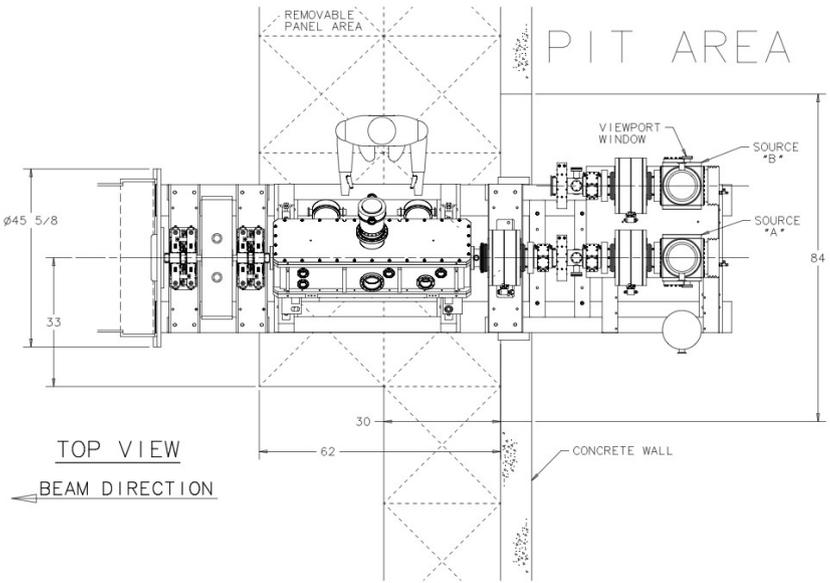
There is green gunk that is probably flux.
Copper wire is insulated.
Ding thinks that the flux produces an ion cloud that may cause sparking.

There is a bad braze joint between antenna and feedthru.

Plans

- Spectrometer energy measurements.

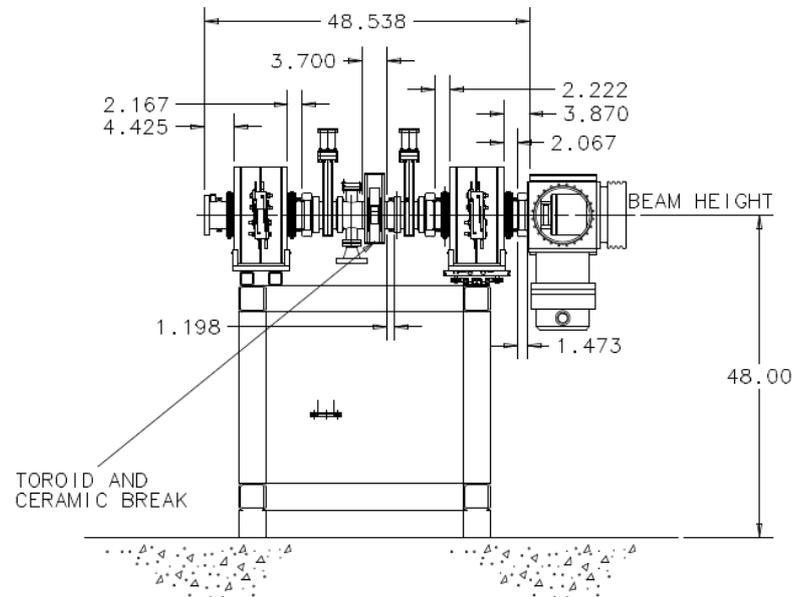
REV	DESCRIPTION	DRAWN	DATE
		APPROVED	DATE



PREACCELERATOR
PRELIMINARY
LAYOUT
APRIL 27, 2011

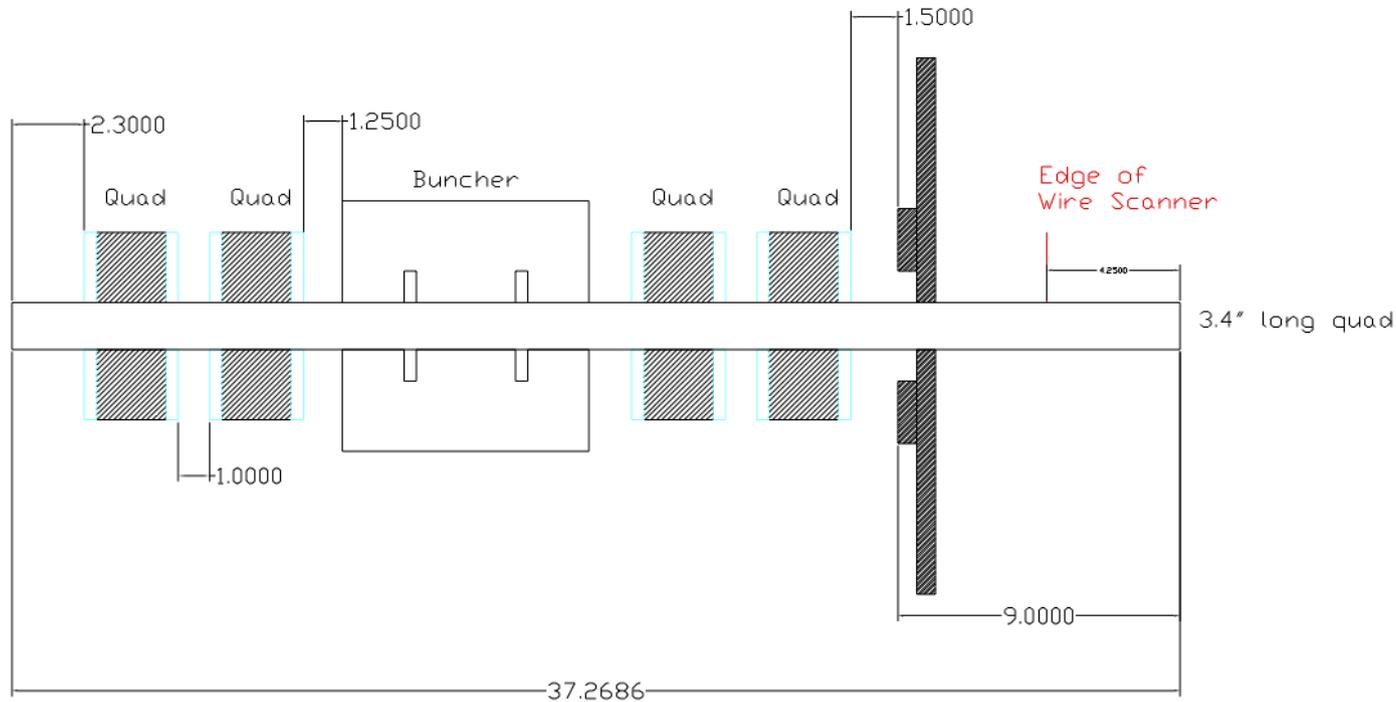
UNLESS OTHERWISE SPECIFIED			ORIGINATOR	
+	+	+	DRAWN	
			CHECKED	
			APPROVED	
1. BREAK ALL SHARP EDGES MAX.			USED ON	
2. DO NOT SCALE DRAWING.			MATERIAL	
3. DIMENSIONS BASED UPON ASME Y14.5M-1994				
4. MKV, ALL MKV SURFACES				
5. DRAWING UNITS: U.S. INCH				
FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY				
SCALE	DRAWING NUMBER		SHEET	REV
			1 OF 1	
CREATED WITH :			GROUP :	

LEBT Status



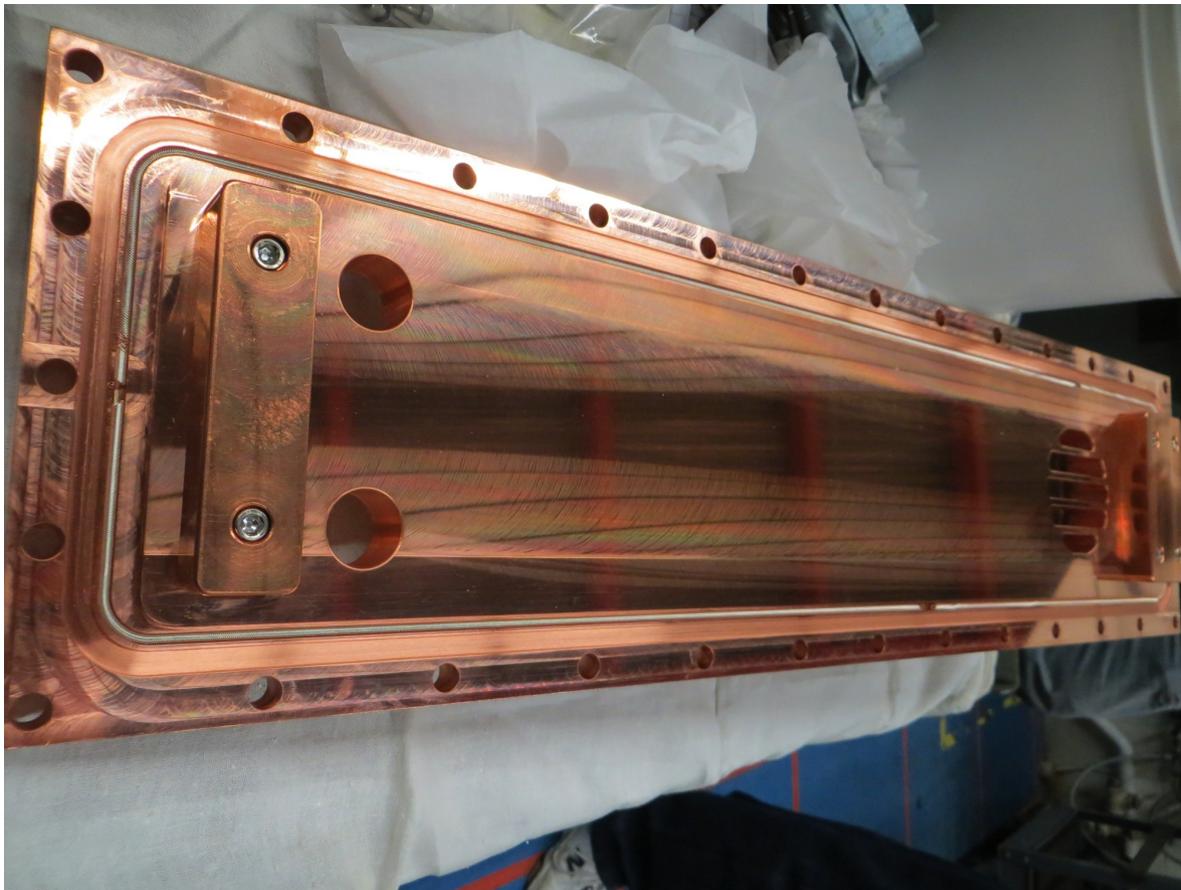
Device	Status	Comments
New slide	being built?	6 weeks to delivery. End of April?

MEBT Status

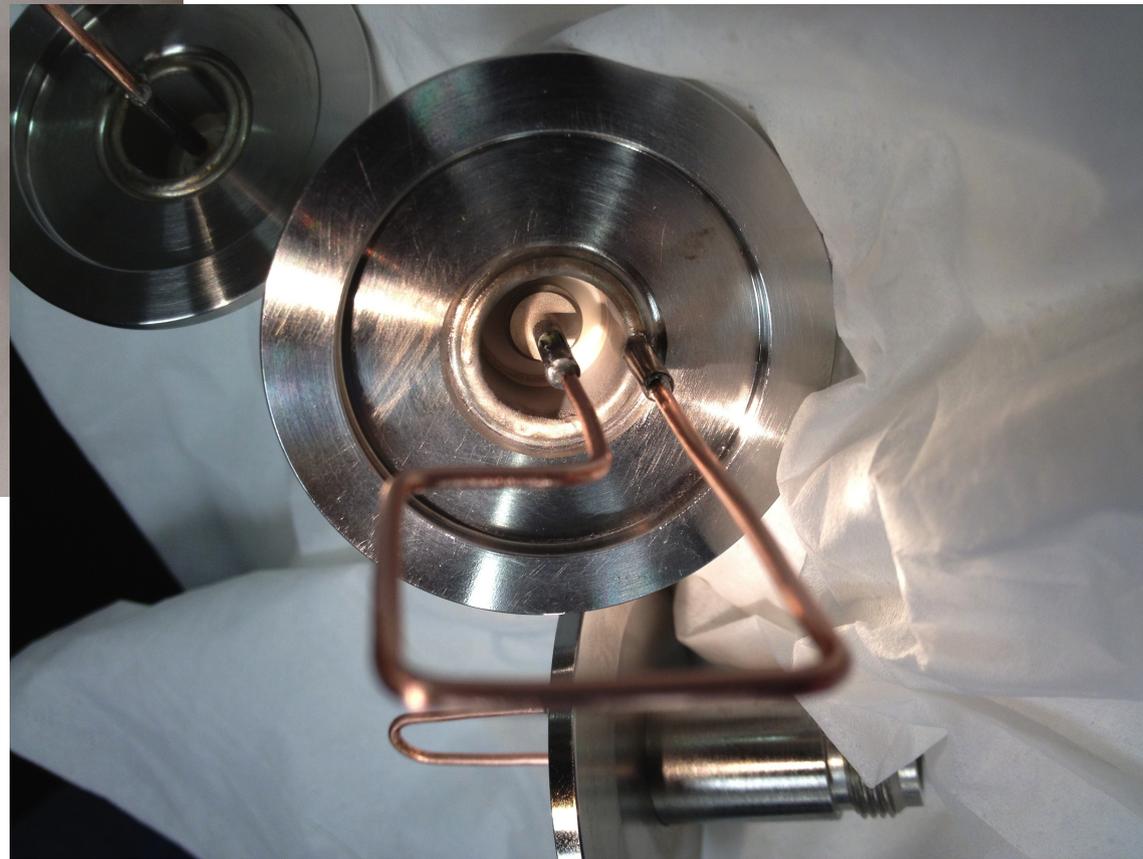


Device	Status	Comments
MEBT Stand	Being designed	Another 2 more weeks (13 Mar)
Quad doublets	Being paired and tested	Field measurements to be redone for 1 st pair (#5, #6) after alignment . 2 nd pair being measured.
Buncher	ion pump replaced with turbo	spikes still there but gone after 1 week

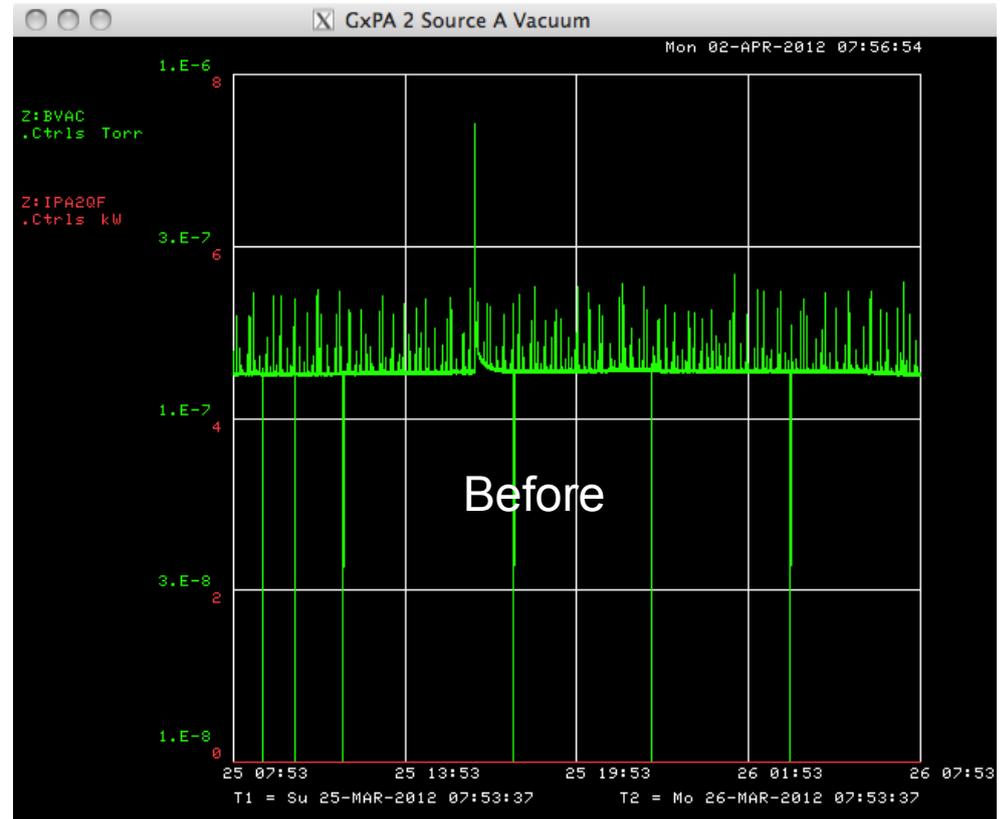
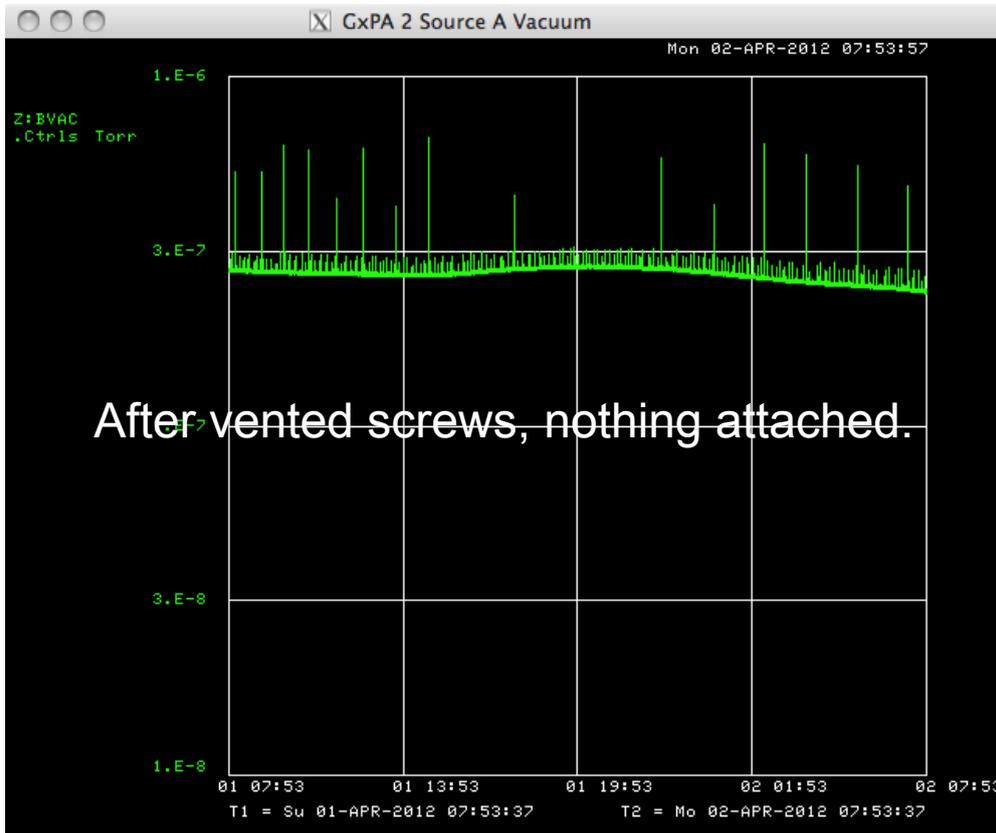
Tuning block screws not vented



After cleaning

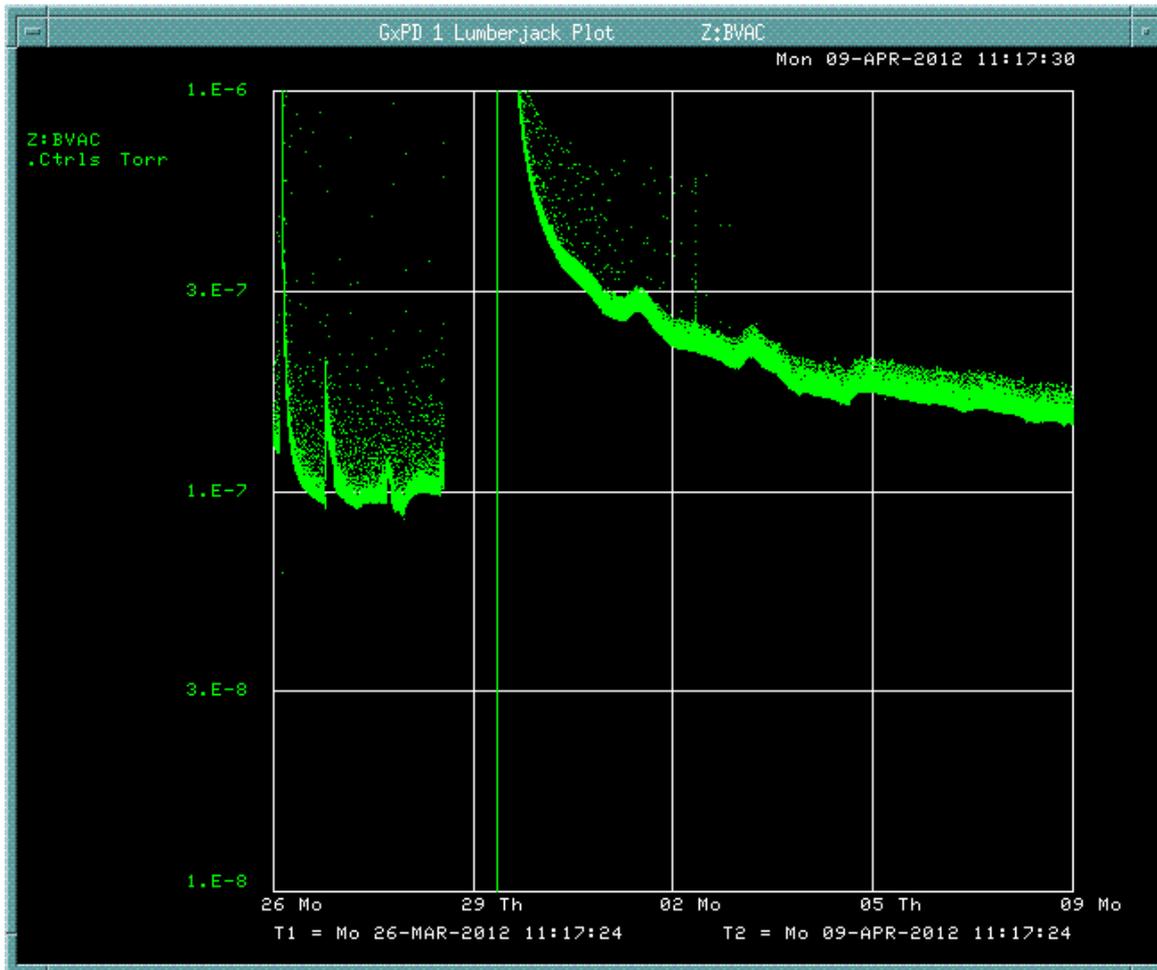


Buncher vacuum



Everything is blanked off, vented screws for tuning plates after 2.5 days of pumping with ion pump. Spikes 1 every 2 hours. Vacuum is still coming down.

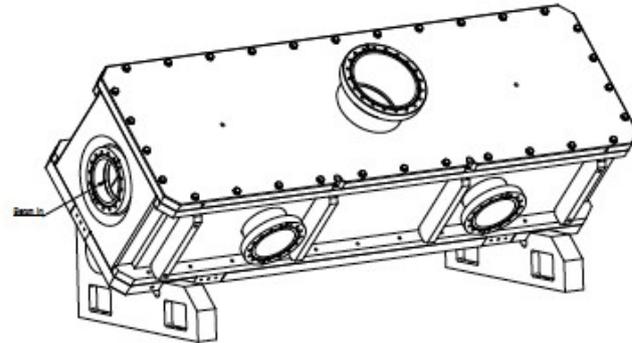
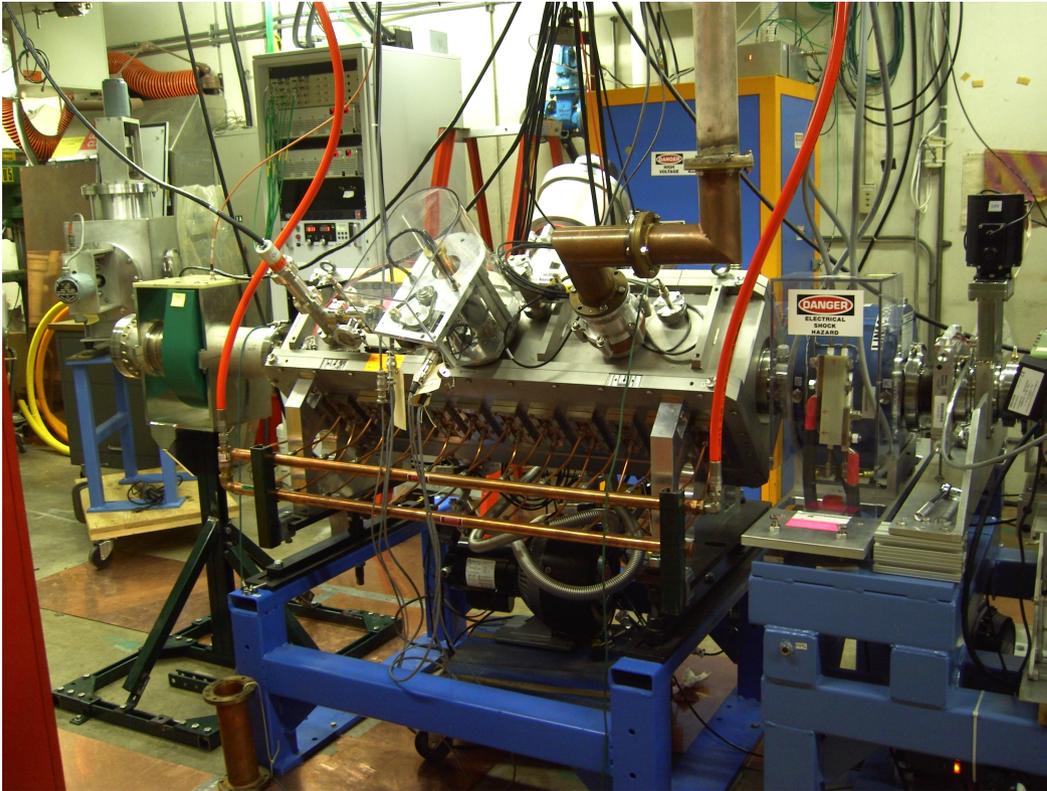
After 1 week of pumping



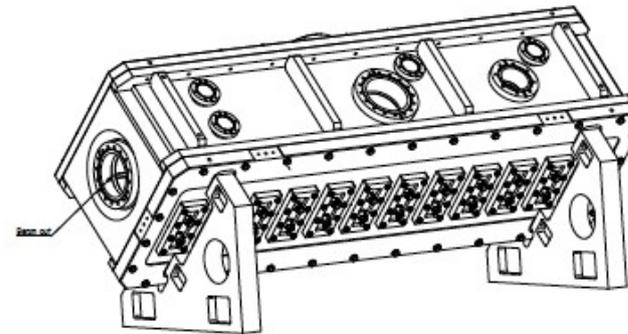
No more sudden spikes.

Really looks like virtual leak.

RFQ Status

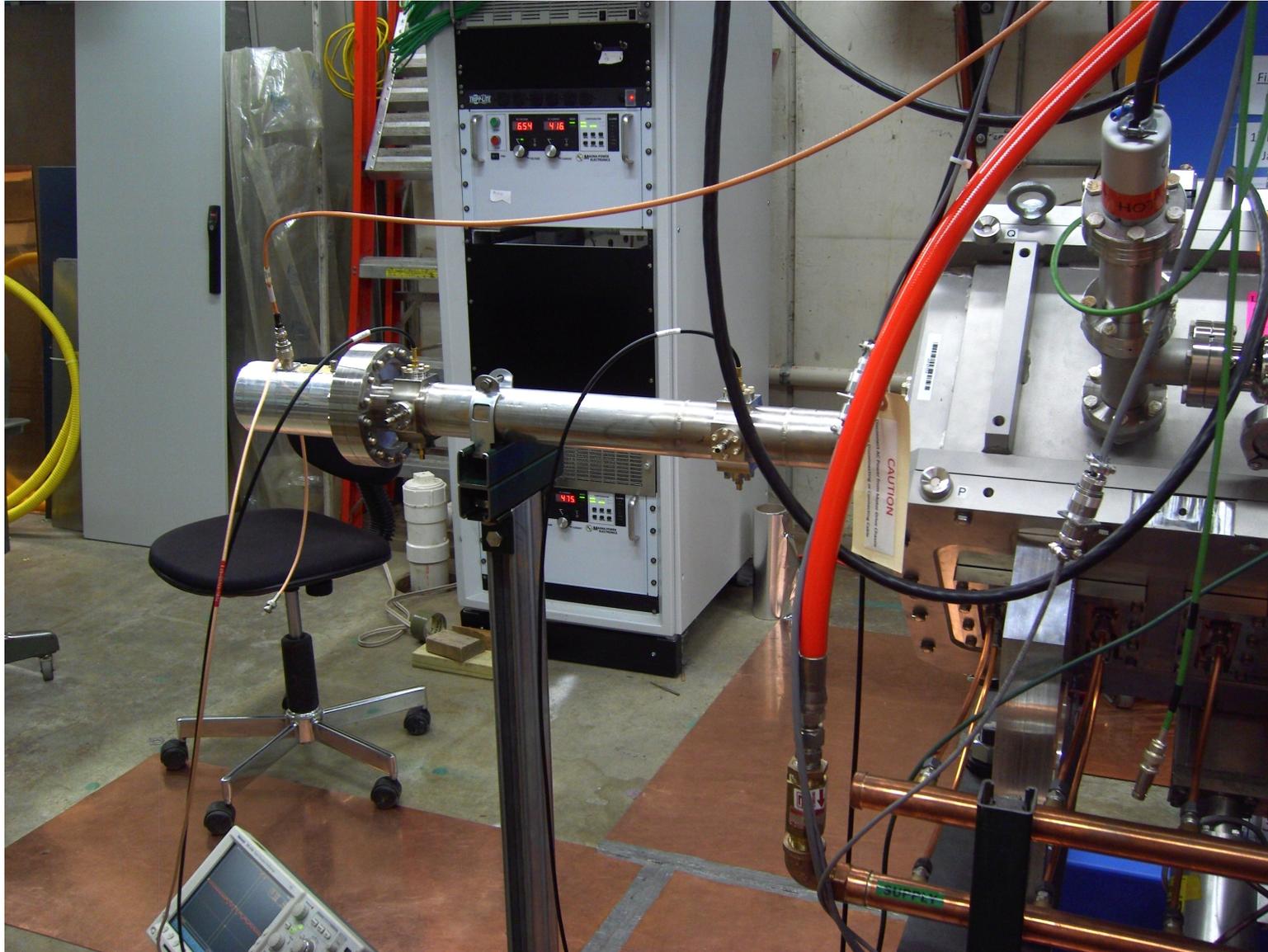


15

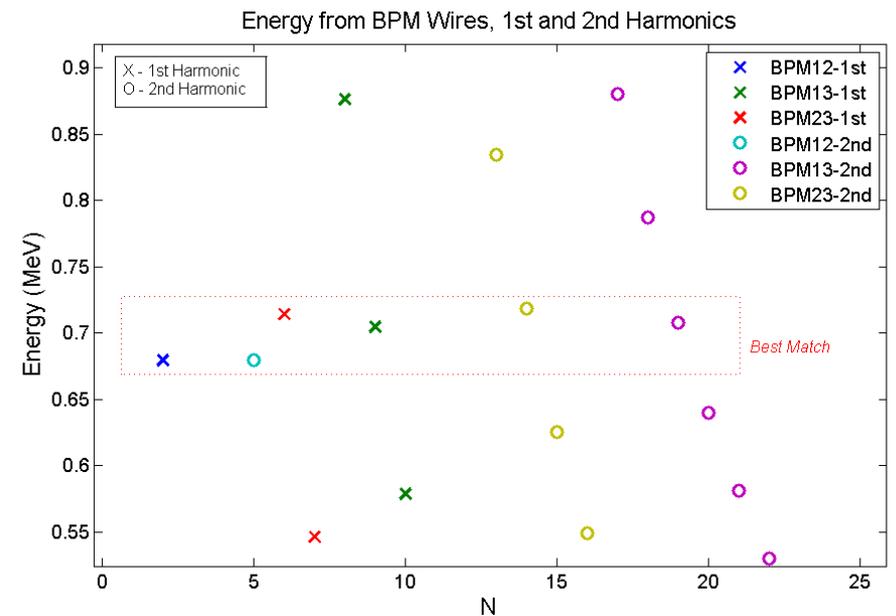
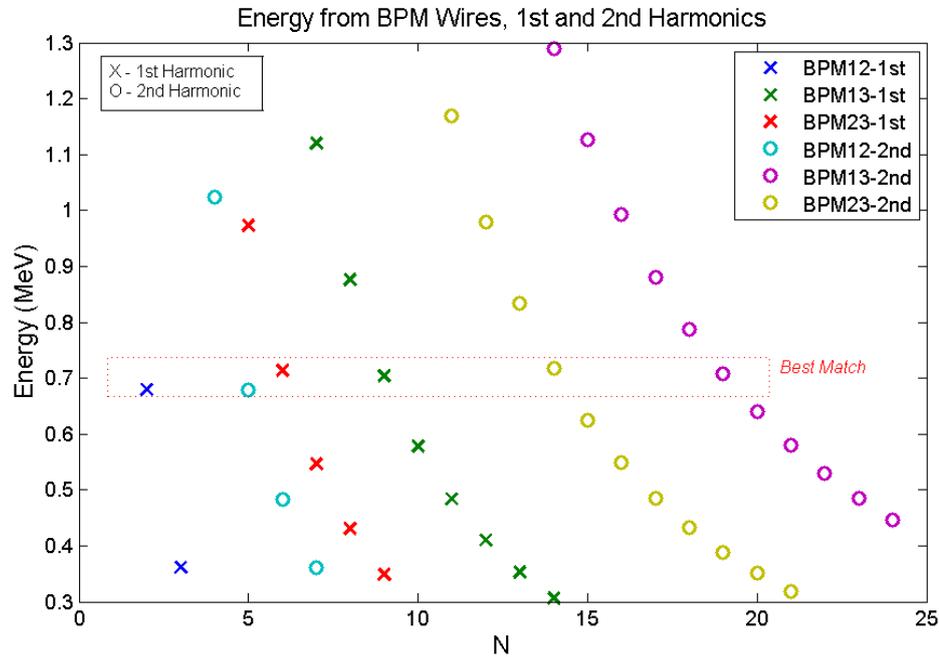


Device	Status	Comments
PLL work	Testing started	
RFQ	Energy measured with BPM wires	Same low energy of ~700 keV

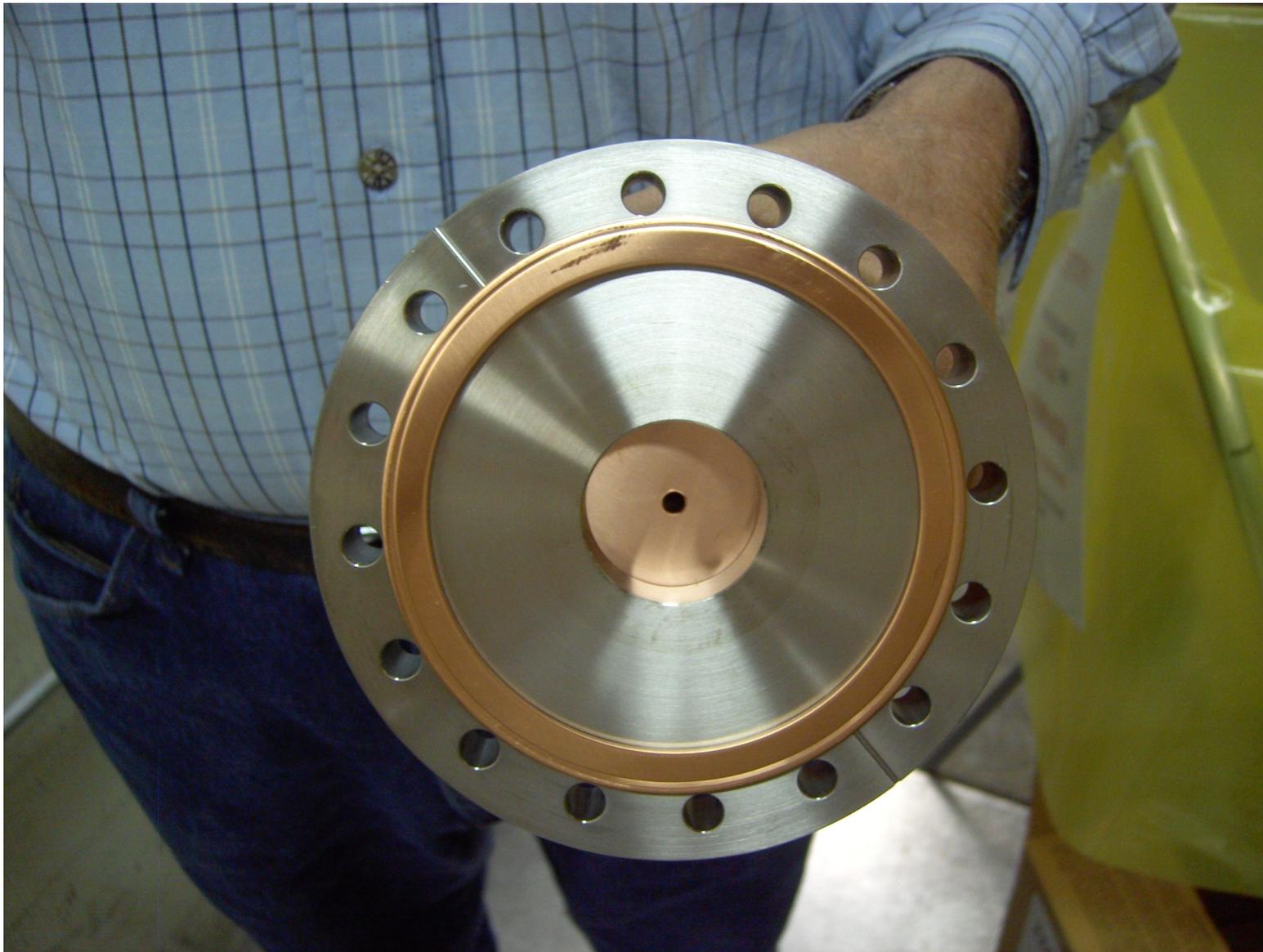
TOF setup



RFQ Energy Measurement with BPM wires



Slow Faraday Cup Aperture

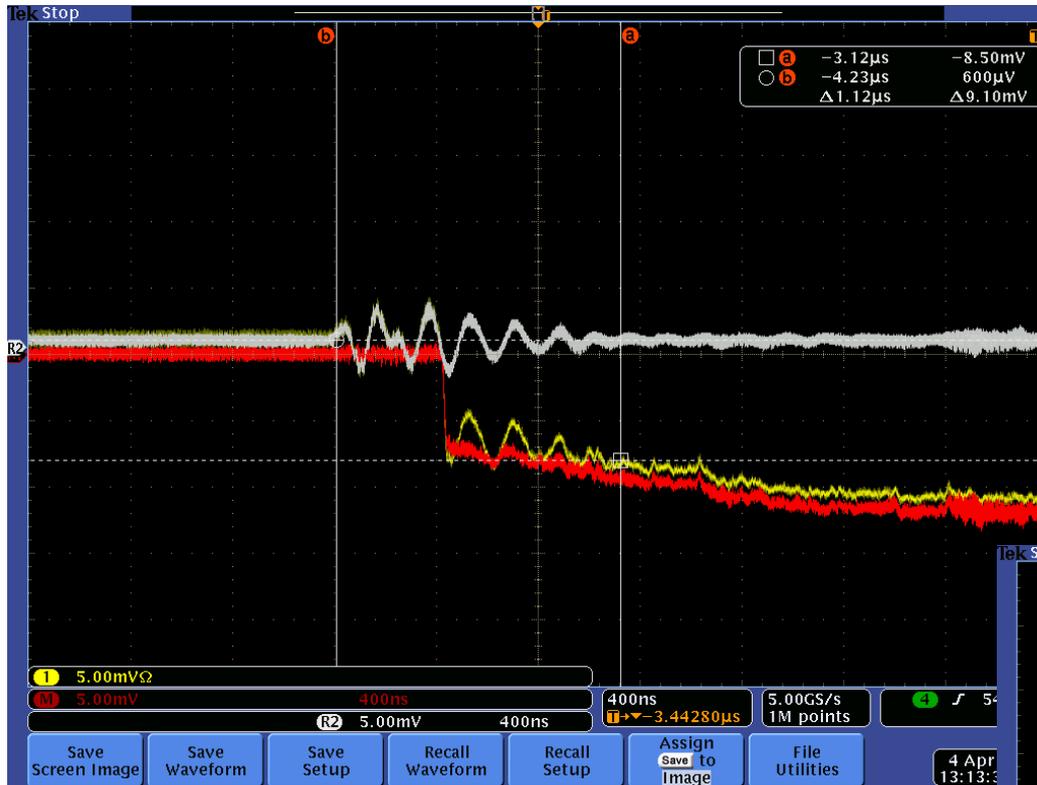


6 mm hole

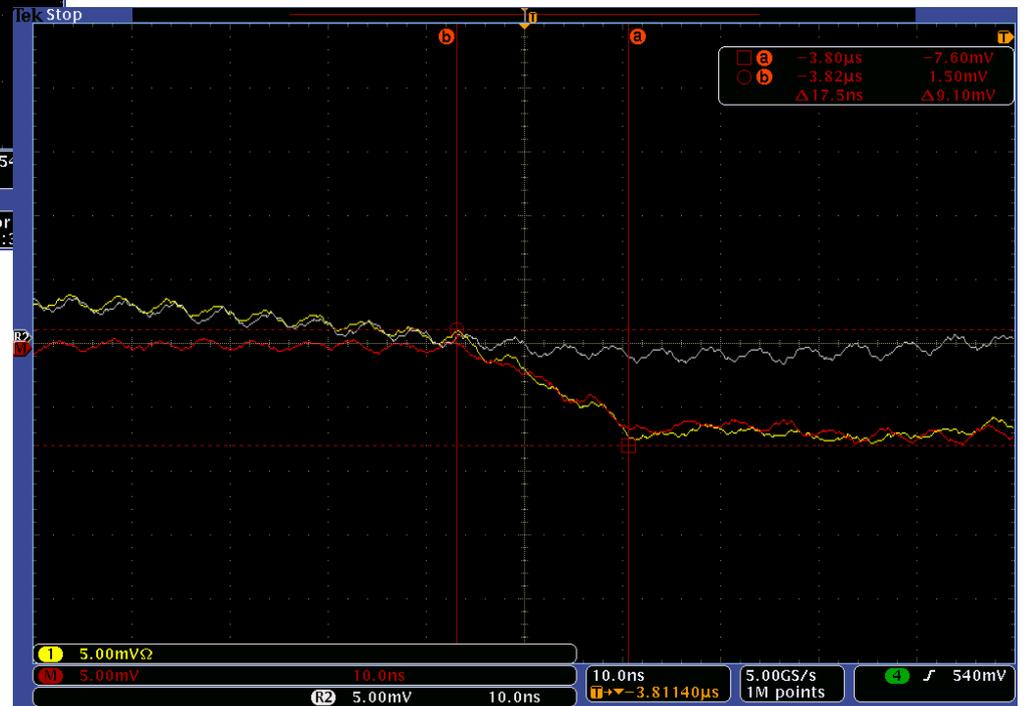
Beam chopping



Rise time 17.5 ns!???

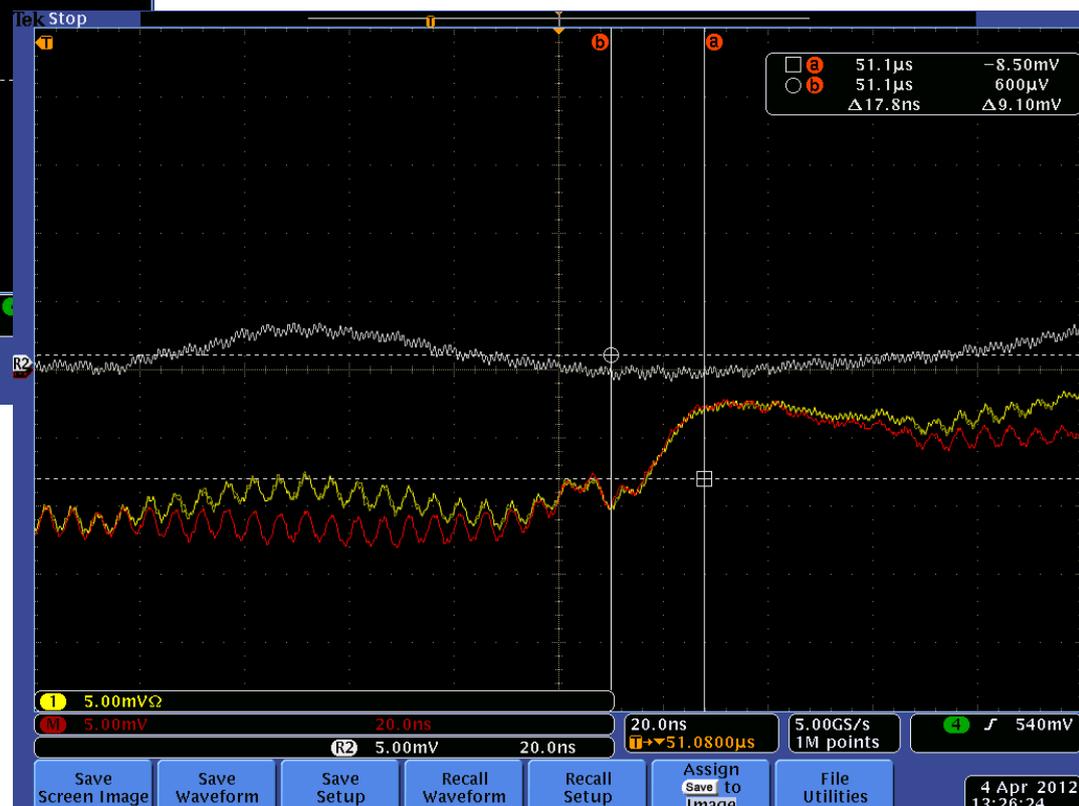
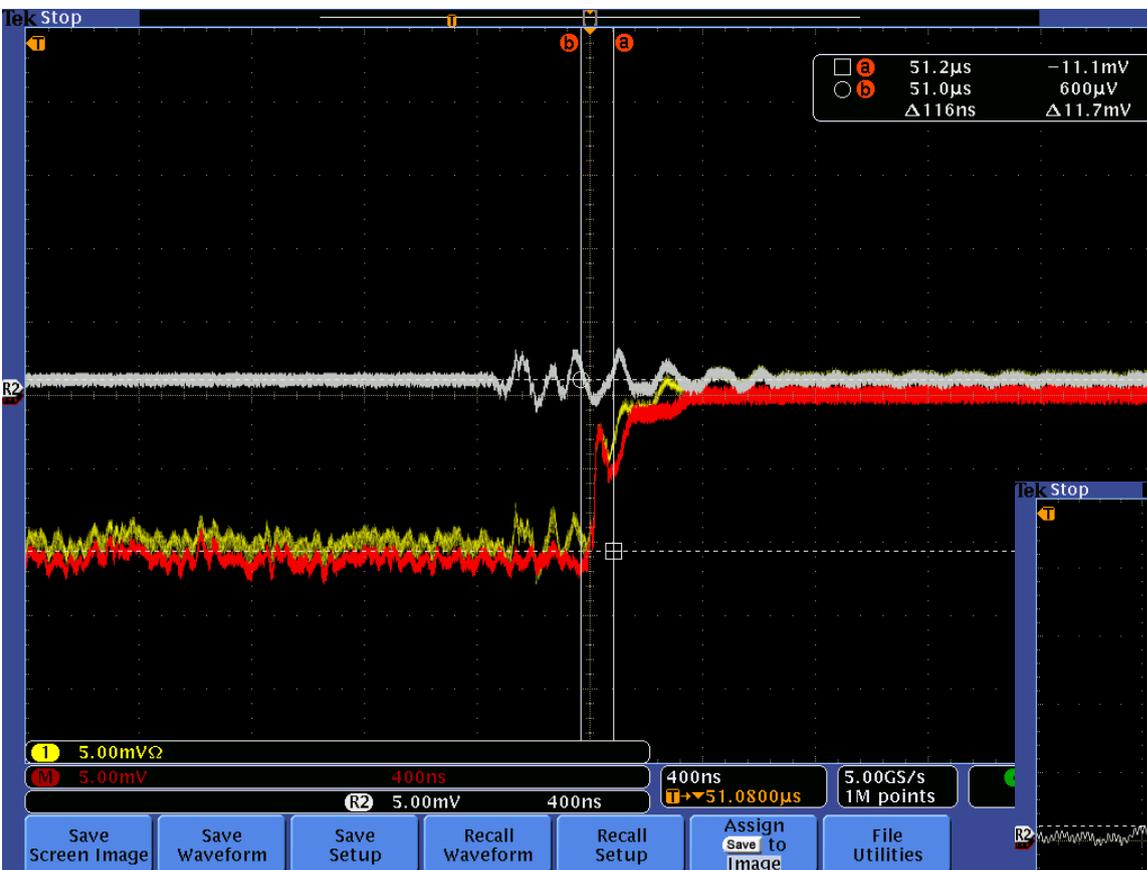


Probably aperture ... 6 mm hole in Faraday cup



Falling edge 17.8 ns !!!!

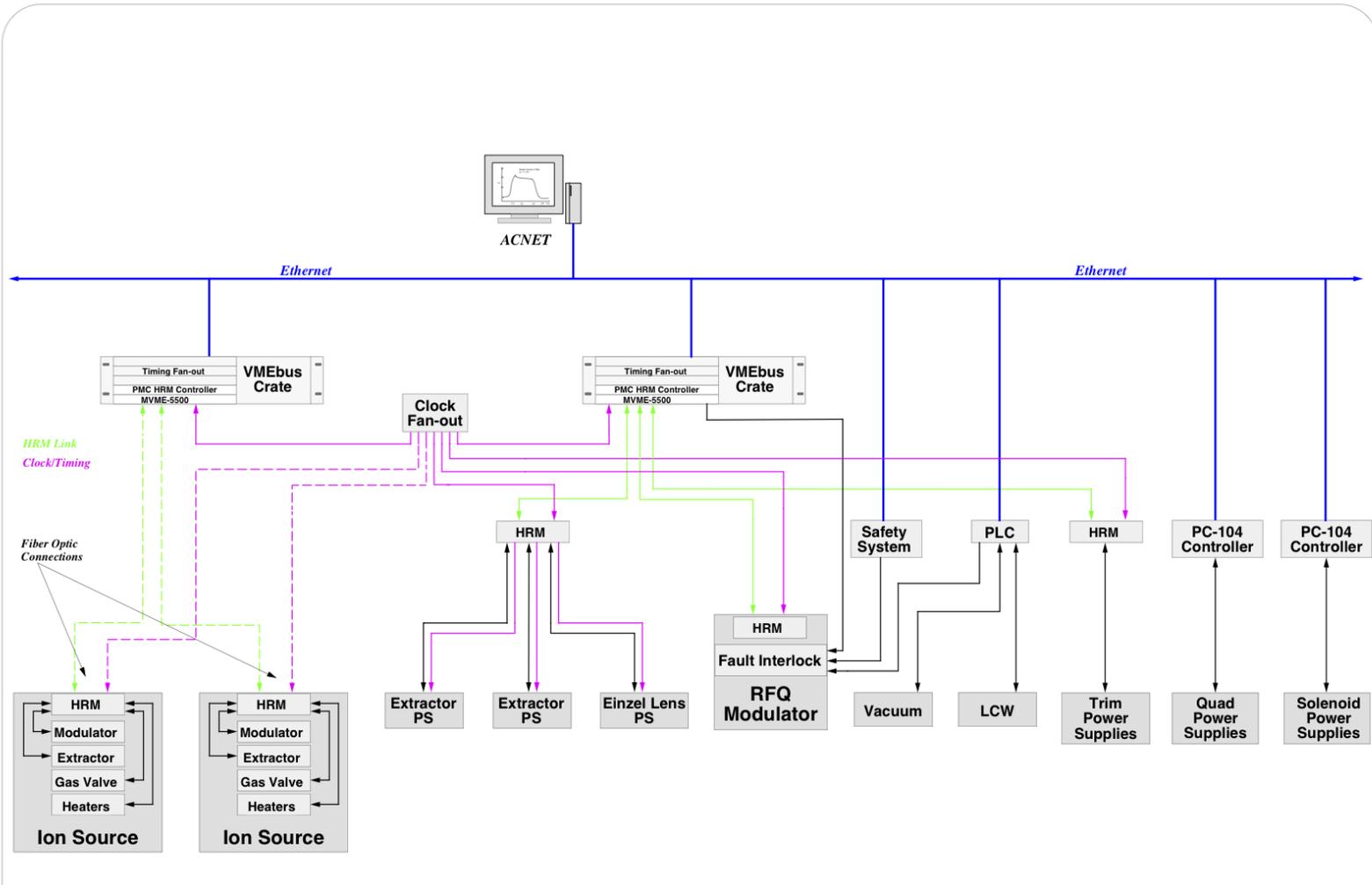
Note: after pulse



Test area, test stand and instrumentation

Device	Status	Comments
spectrometer	Spectrometer being assembled.	

Controls



Linac RFQ Upgrade Controls Block Diagram

Controls



Safety