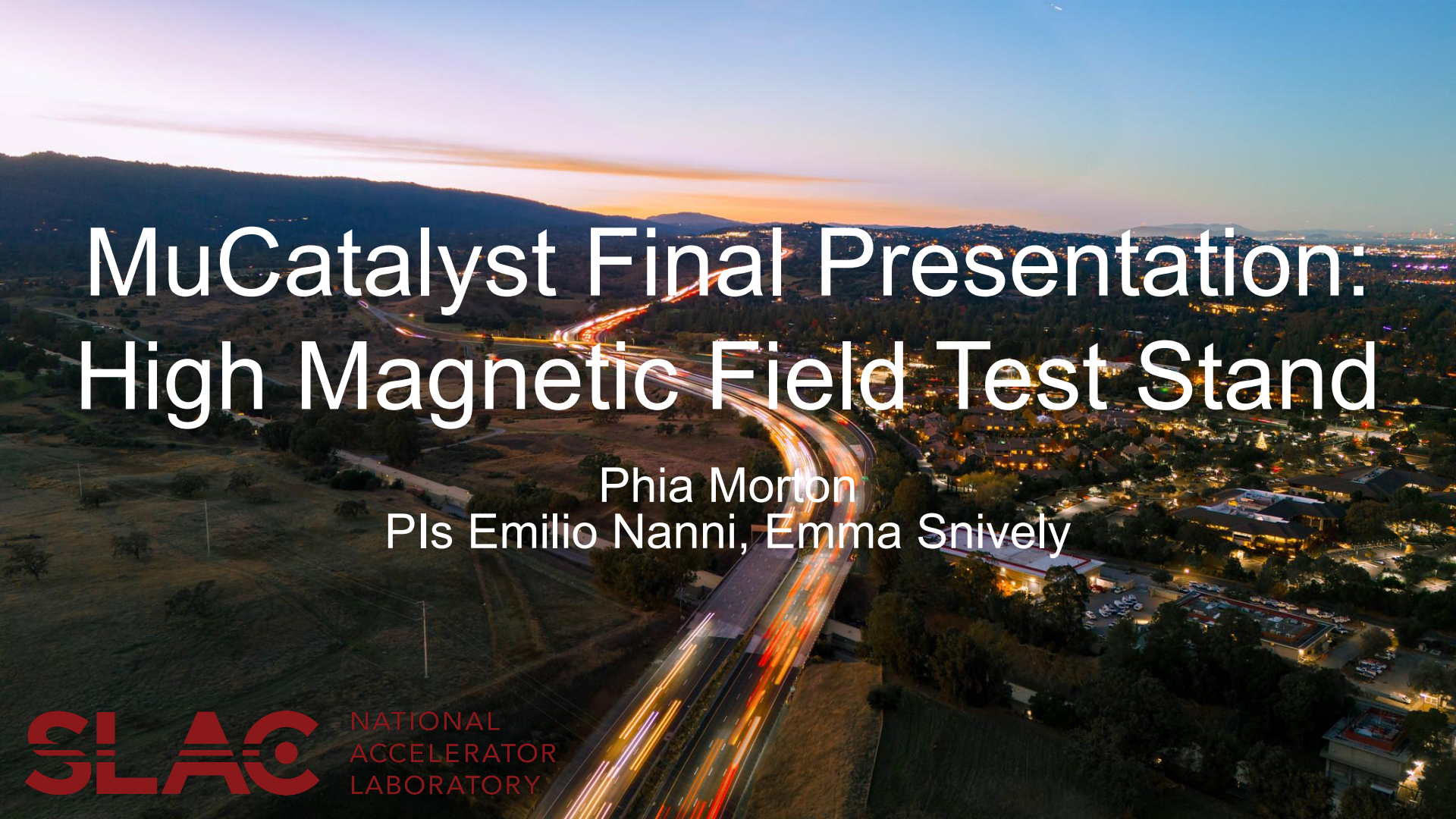




MuCatalyst Final Presentation: High Magnetic Field Test Stand

Phia Morton
PIs Emilio Nanni, Emma Snively



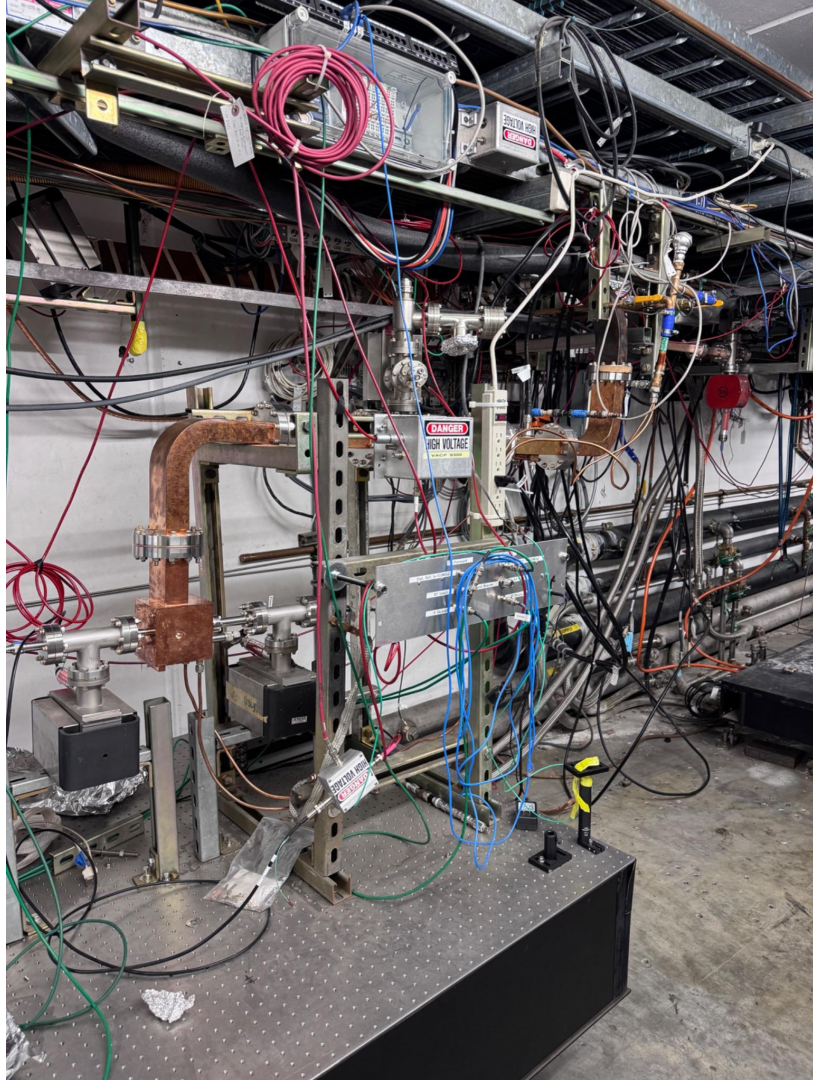
NATIONAL
ACCELERATOR
LABORATORY

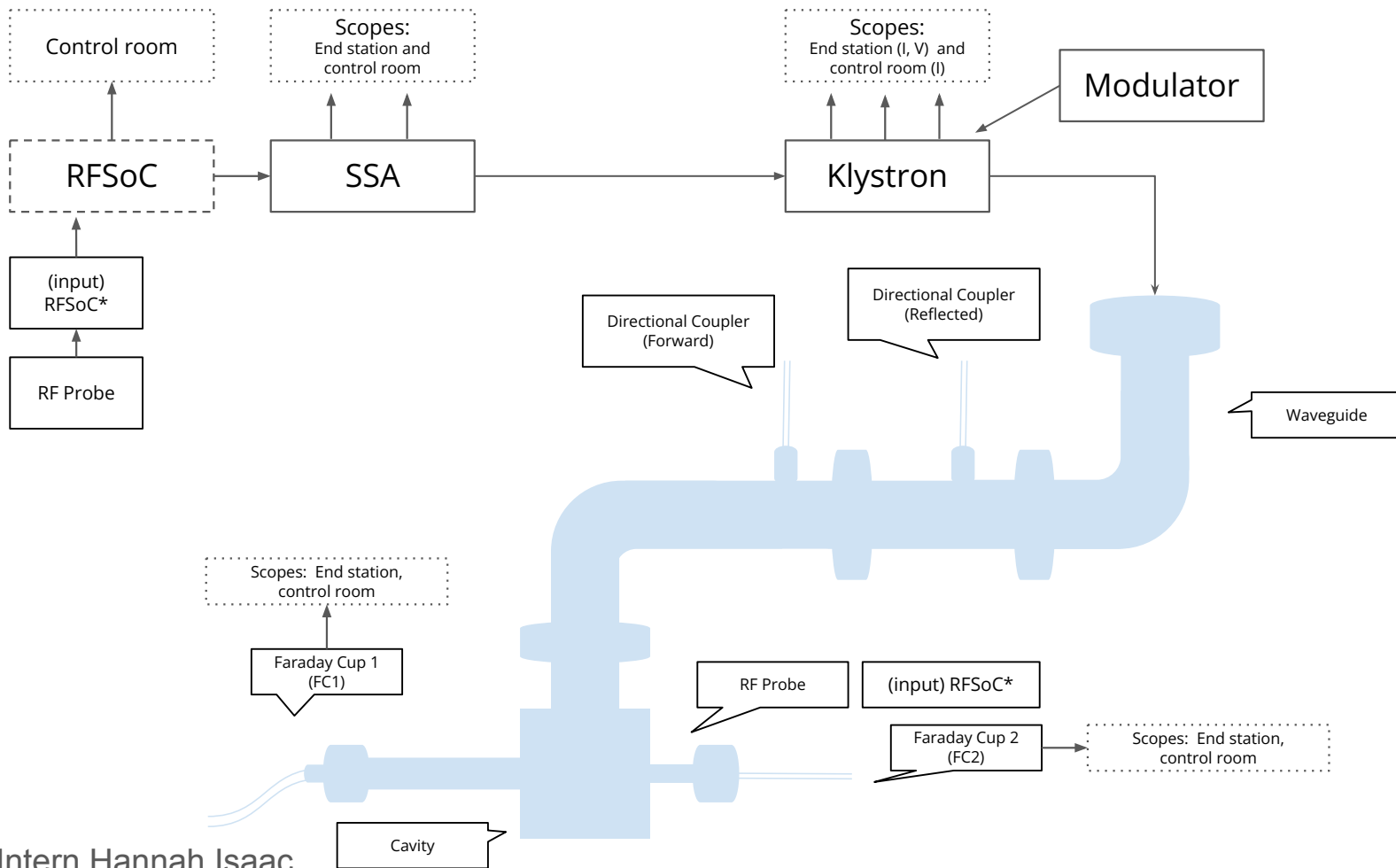
5 T Solenoid

To be installed in the
NLCTA (Next Linear
Collider Test Area)
bunker

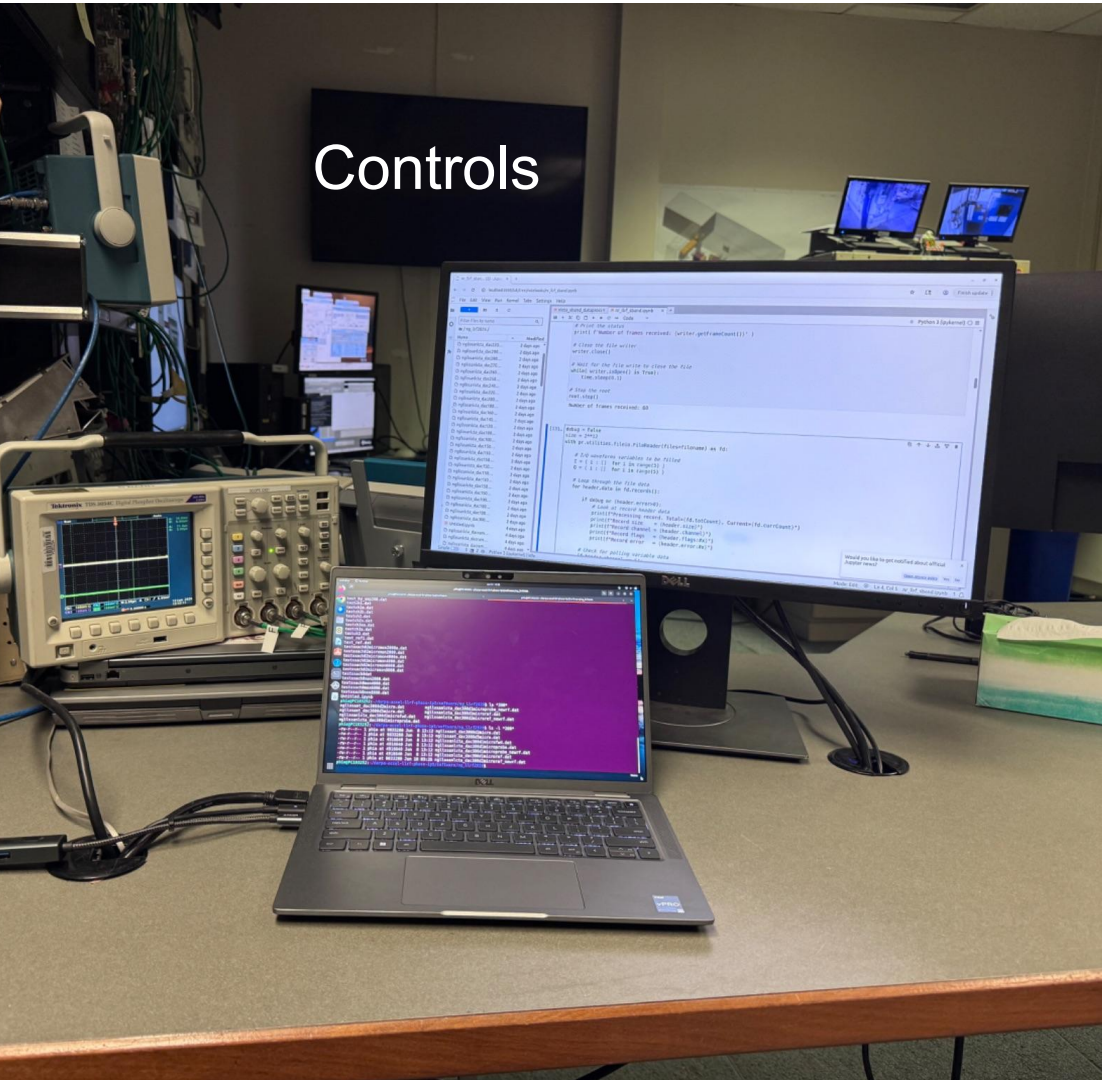
First needs to be tested
with a safety perimeter







Controls



RF System on a Chip



Tektronix TDS 3054C Digital Phosphor Oscilloscope

500 MHz
5 GS/s

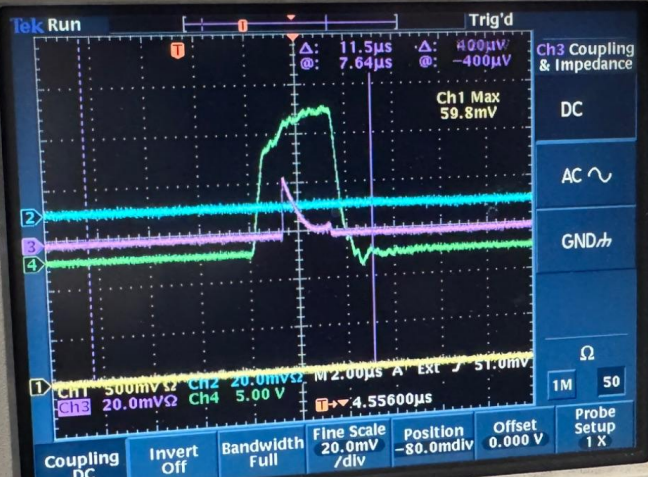
SCOPE EX01

Select

Meas

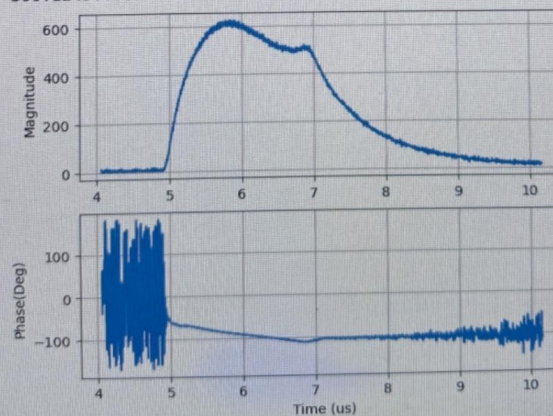
Save/Recall

QuickM



pink= output from Klystron

Cavity probe signal



Start connection

Choose output folder...

Status: Connected!

Output: ../ng_lrf2026

Settings

Output

Set frequency (MHz): 2856.8365

Ok

Amplitude: 100

Delay [us]: 0.1

Pulse Width [us]: 2

exponential

Send pulse

Re-acquire

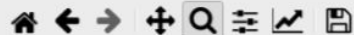
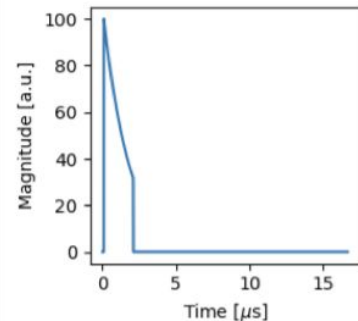
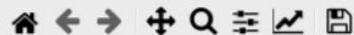
Tune

Modify pulse

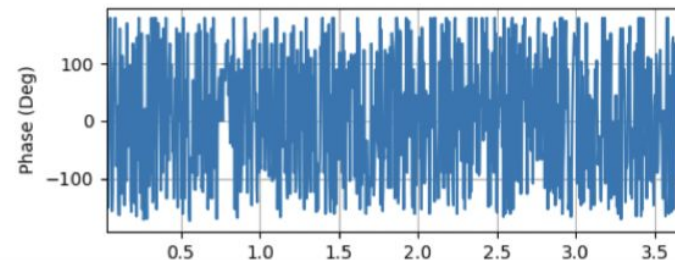
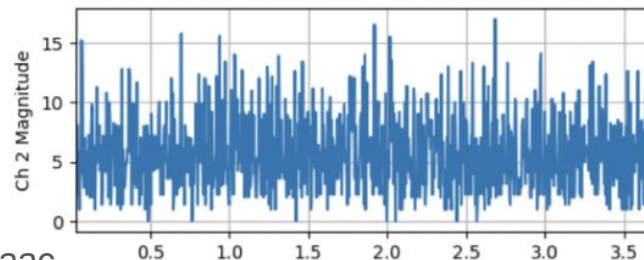
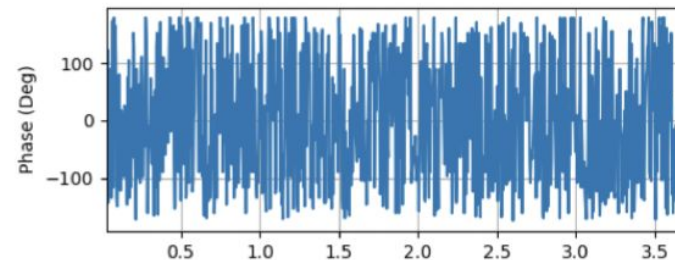
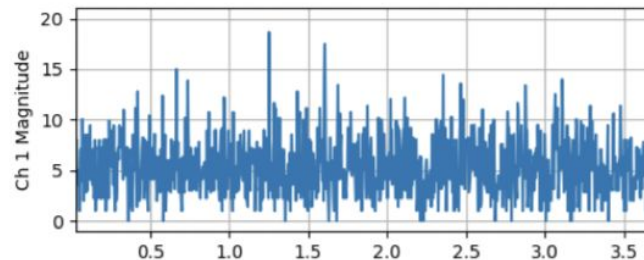
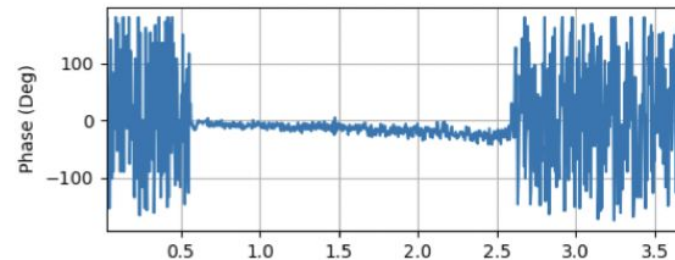
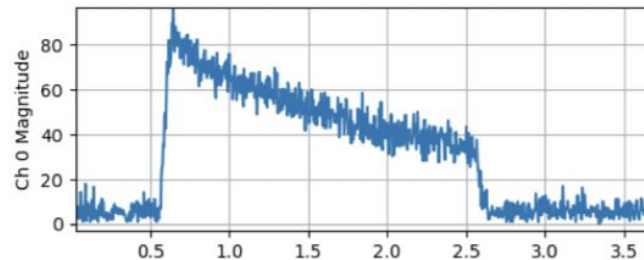
Auto-tune

Auto-modify

Input Pulse



x=3.422 y=170.



Next Steps

- Magnet testing in October
- Installation- optimistically October
- Cavity in solenoid test- after the cavity is done being used for a proton therapy project in ~November

