

Polarized target status

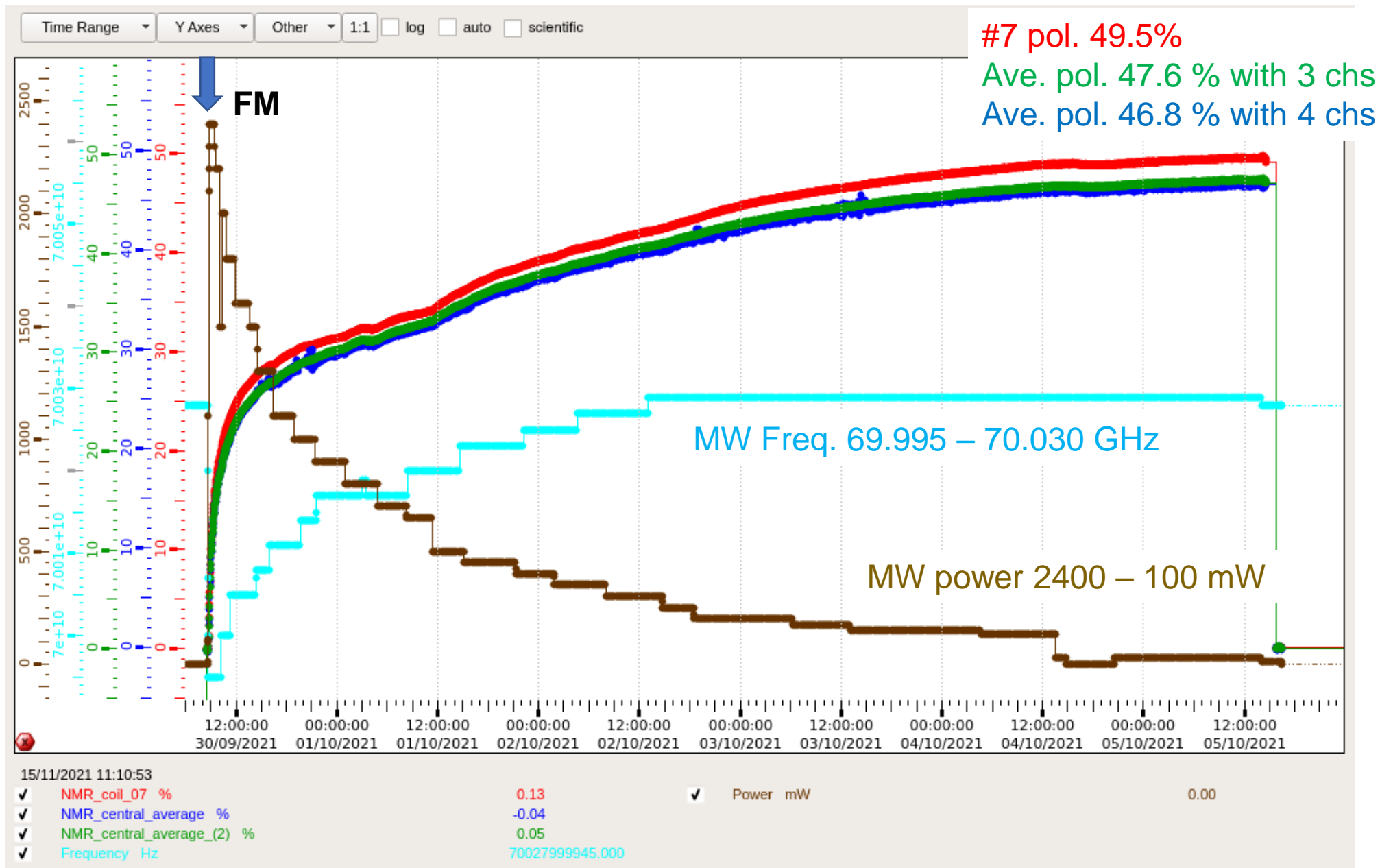
Norihiro DOSHITA

- 1) Summary of target activities in 2021
- 2) Preparation for 2022
- 3) PT schedule and Manpower

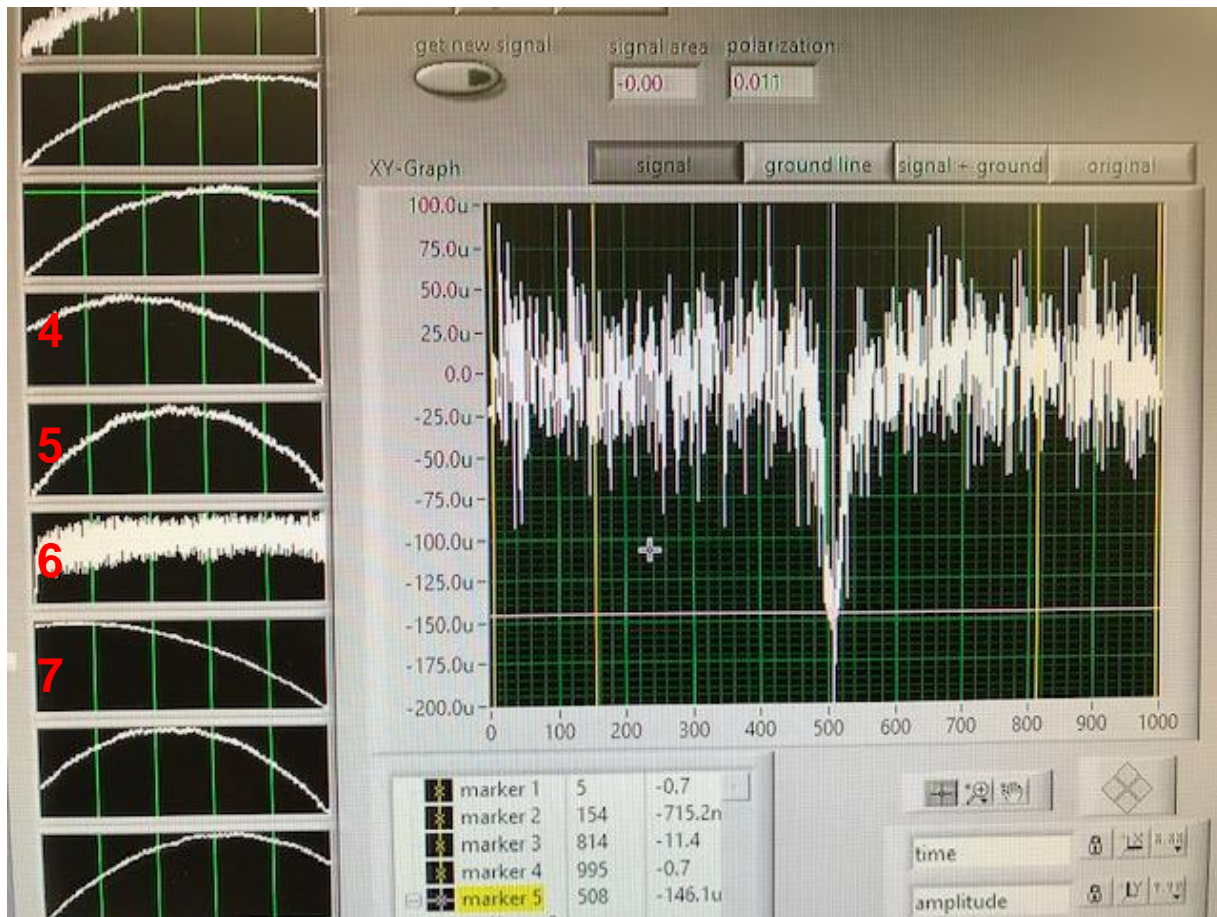
Activities since last TB

- Since last TB (28/09/2021)
- Polarization test on going
- Oct 4 : Trim coils tuning → $< 6 \times 10^{-5}$ homogeneity in each cell
- Oct 5 : EPR line measurement
- Oct 7 : **blockage in ^3He line**
- Oct 12 : Unloading

3rd DNP test



NMR TE signals at 1.49 K



Produced by Gerhard

Coil	TE-AU	dAU	
1	-0.0016	0.0004	
2	-0.00411	0.0002	
3	-0.004042	6.9e-05	Central cell
4	-0.002483	0.0005	
5	-0.00397	0.00025	
6	No data		
7	-0.0062998	8e-05	1.2 % error
8	-0.00505	0.0001	
9	-0.00594	0.00017	
10	-0.003321	5.3e-05	

Summary of the target test in 2021

- **Dilution refrigerator**

- Target holder vacuum leak
 - indium joint
- ^3He pumping line corruption
 - 2 mm thickness
 - reinforcement planed between gate valve and pump

- **Polarizing**

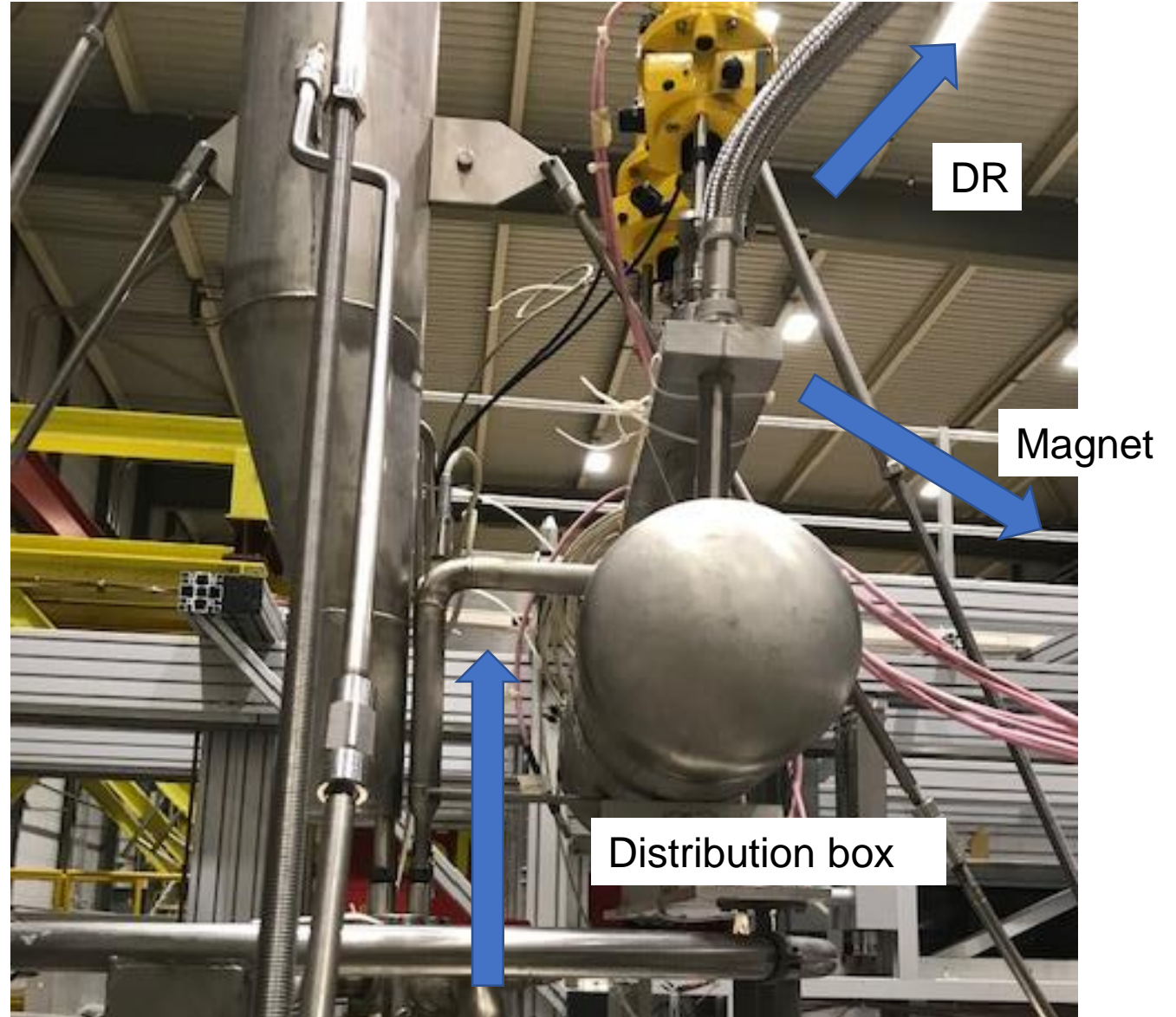
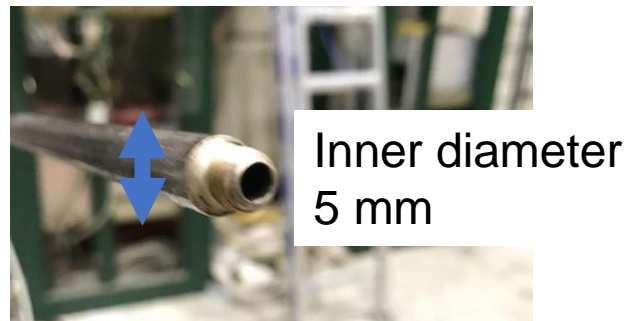
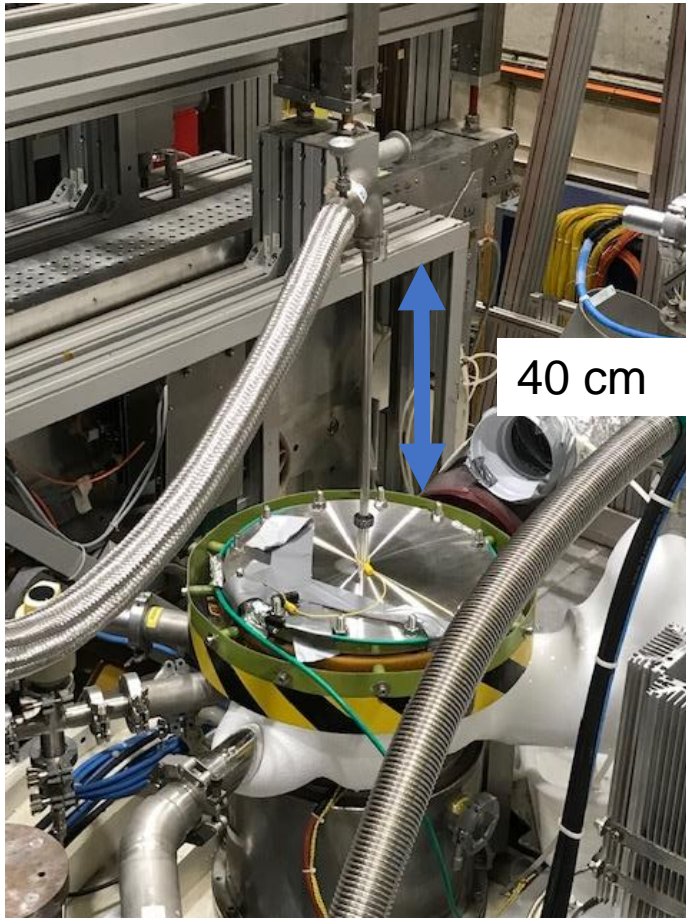
- Difficulty of frequency and power tuning by EIO tube
 - polarized by Gunn diode
 - 40 % in 2 days
- Two more Gunn diodes for 2022
- NMR noise – amplifier was off

- **Magnet operation**

- Homogeneity 6×10^{-5} homogeneity
- New function of current adjustment
- Lost of helium Level control
 - improvement of helium filling for 2022 (Transfer line and distribution)

Preparation for next year

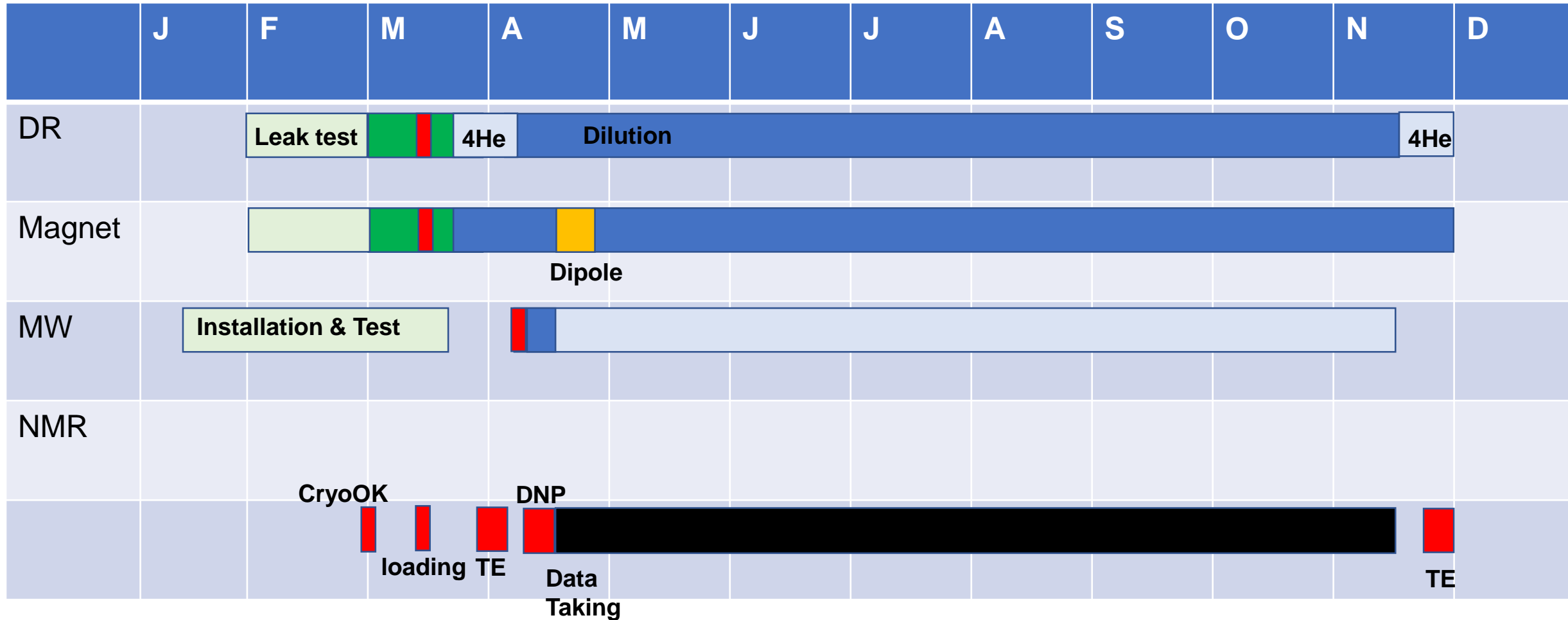
- ^3He reinforcement : Nov 22 ~
 - TE-CRG
 - ^3He pipe disconnection ← room temperature required
 - Scaffolding → clean up of Gunn diode
- He transfer line for the magnet
 - taken care by Tino
 - meeting with Alexey
- ^3He gas panel hand valve
 - valves ordered
- Gun diode
 - Test of new diodes
 - Waveguide ordered
- ^4He pump system maintenance : Nov 22 ~
 - 10k CHF by Yamagata
- Leak detector maintenance : Oct 21 ~
 - will be paid by Yamagata (1 kCHF)



Planning

Beam : 11/4 – 14/11

Easter15–18 April 2022



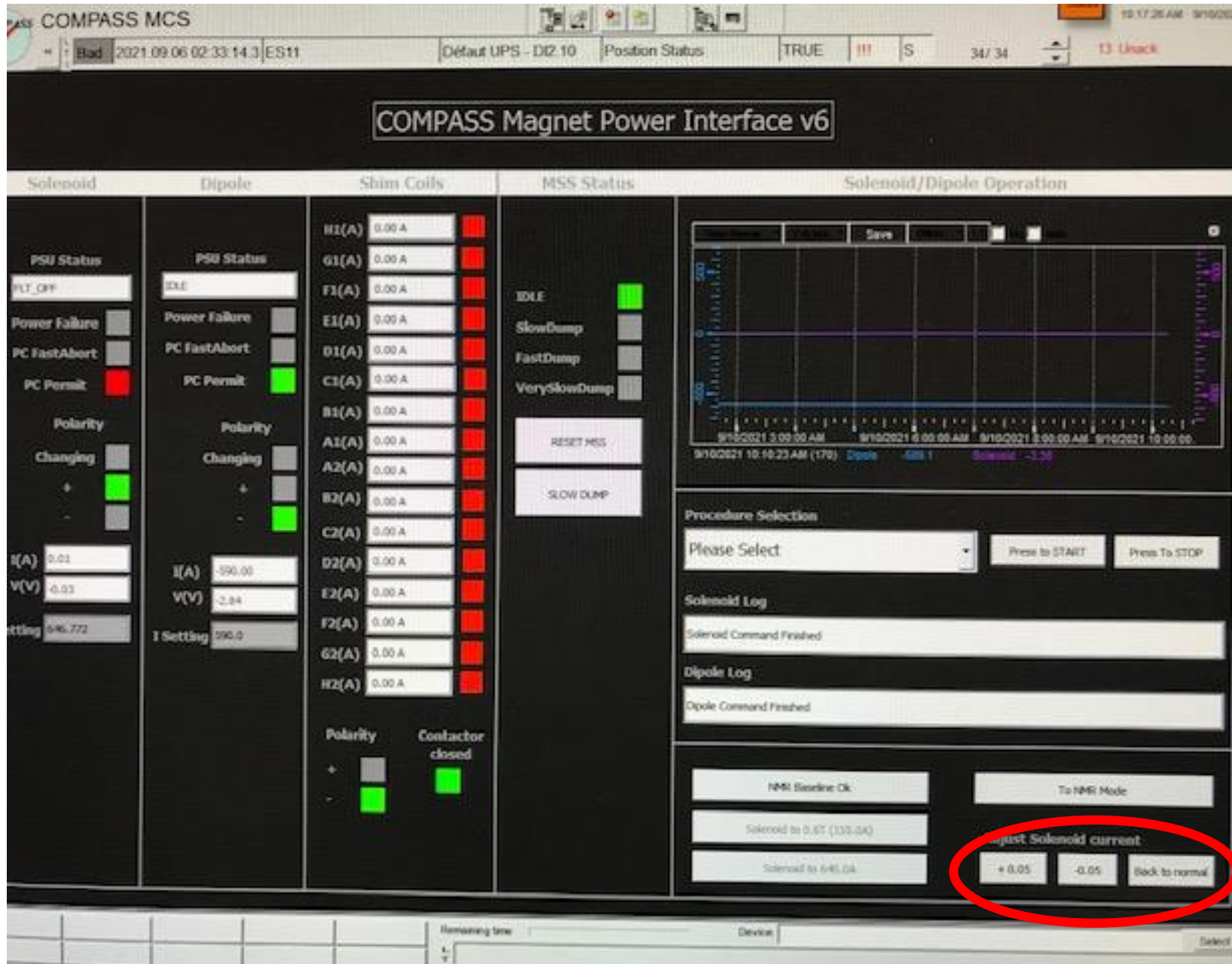
Mapower

	J	F	M	A	M	J	J	A	S	O	N	D
Michael	■	■	■	■	■	■	■	■	■	■	■	■
Christophe	■	■	■	■	■	■	■	■	■	■	■	■
Gerhard			■			■					■	
Jaakko			■	■							■	
Triloki		■	■	■								
Postdoc				■	■	■	■	■	■	■	■	■
Takahiro			■				■					
J. Student			■					■	■			
Nori	■	■	■	■	■	■	■	■	■	■	■	■
Dubna				■	■	■						
D.Student								■	■	■		
Fabrice												

March 16 : loading

AOB

- LN2 filling for material storage during winter shutdown

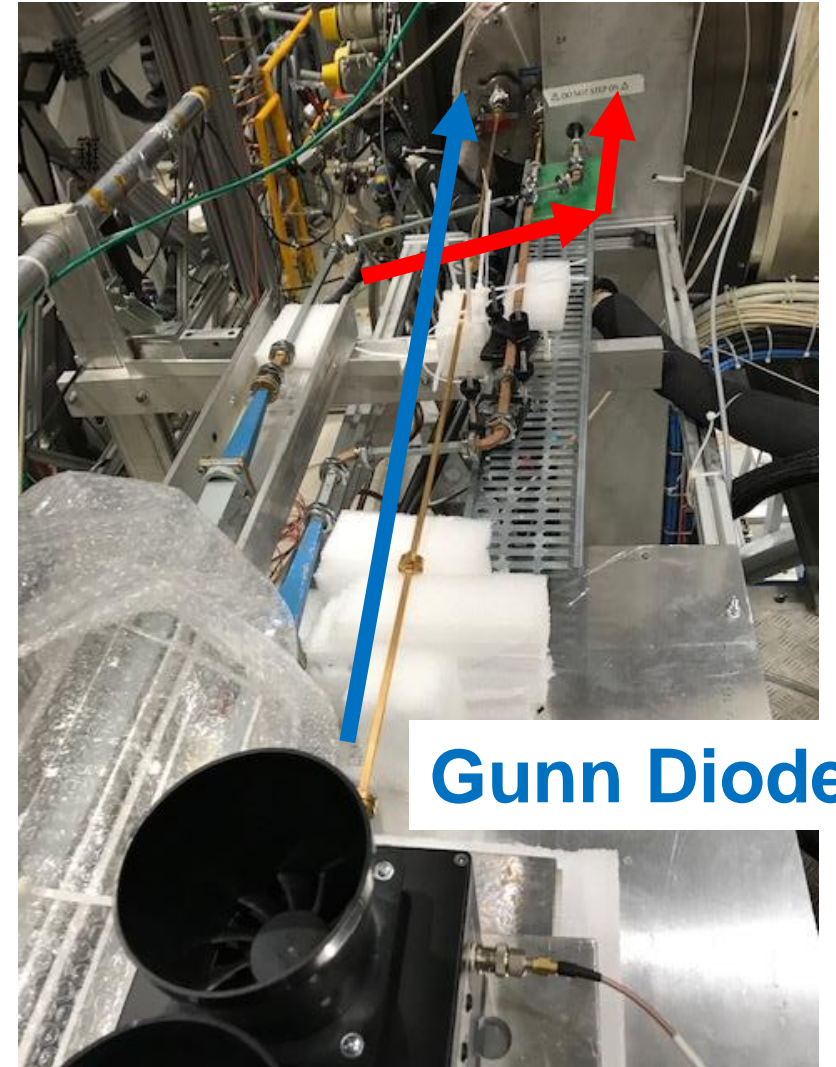
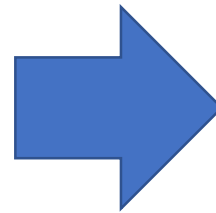
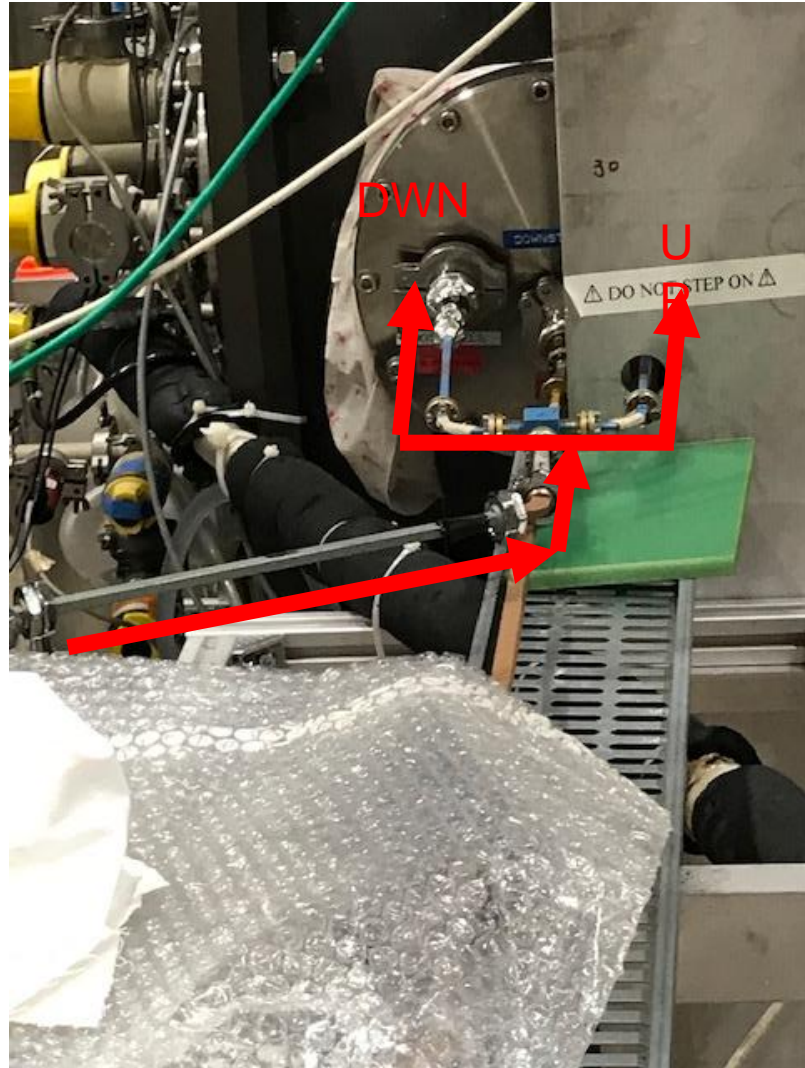


0.05 A (Magnet)
 = 5.4 MHz (MW)
 = 12ch (NMR)

+0.05 A
 -0.05 A
 Back to normal



Waveguide modification





Just after dismount of the pipes

