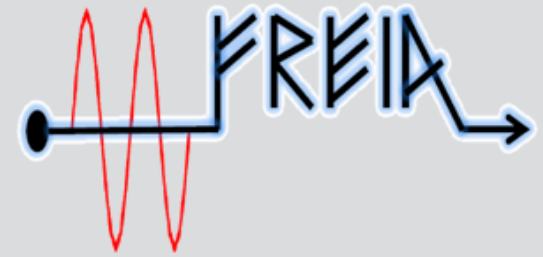




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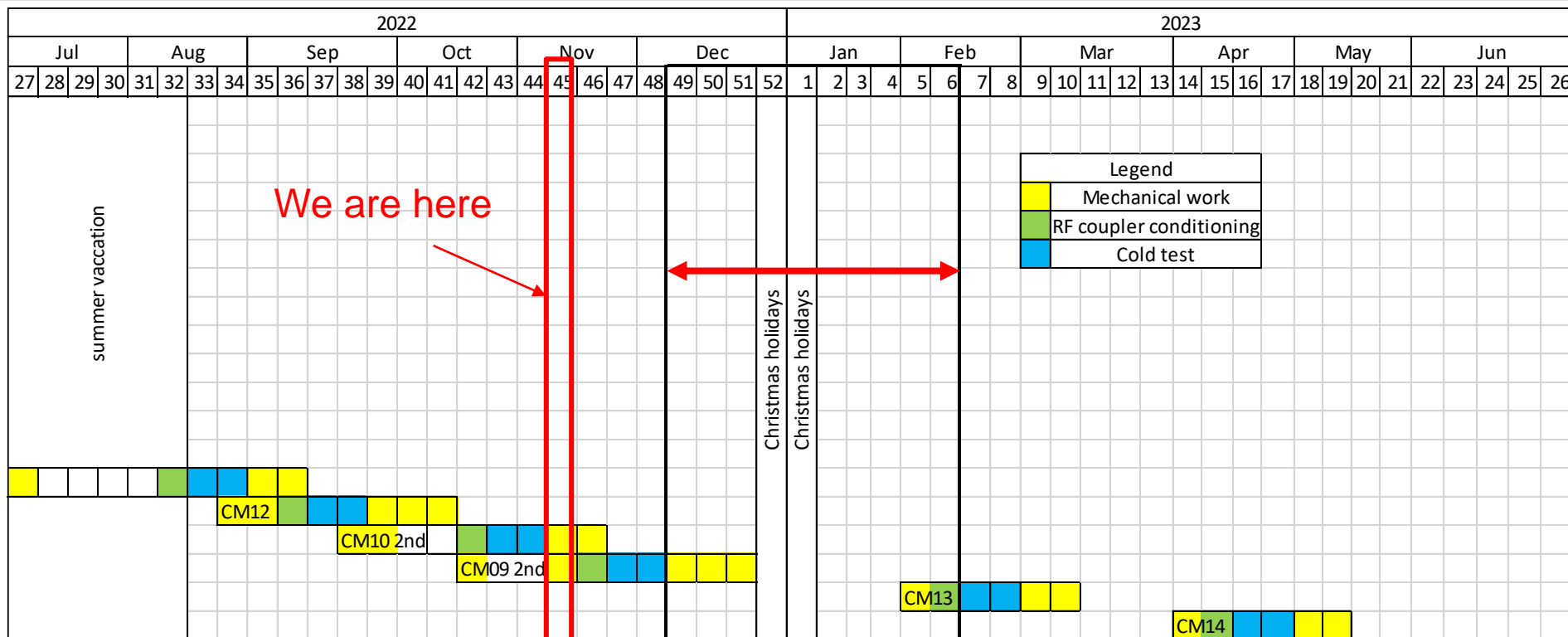


ESS weekly meeting (2022 W45)

A. Miyazaki et al



Global planning



- Update from IJCLab in the ESS collaboration board (2022-11-09)
 - CM13 in February and CM14 in April 2023
- Several observations:
 - We may have around 2 months of no cryogenics
 - Cryogenic maintenance, cavity testing for CERN, CM12's leak test at cold
 - We may not need to keep the 2nd frame due to lack of overlap of modules
- Preliminary demand from the next project (magnet testing)
 - One magnet in Feb and the next magnet in April (→ to be flexibly adjusted)



CM10_2 & CM09: progress and planning



week		W44											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		31-okt		01-nov		02-nov		03-nov		04-nov		05-nov	06-nov
		m	a	m	a	m	a	m	a	m	a		
present CM	CM10	MP conditioning		Heat Load measurements			Start warm up			Break insulation vacuum	Official half day holliday	Warming up	
next CM	CM09	waiting at the docking area					connect doorknobs						

We are here

week		W45											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		07-nov		08-nov		09-nov		10-nov		11-nov		12-nov	13-nov
		m	a	m	a	m	a	m	a	m	a		
present CM	CM10	Disassemble concrete wall		disconnect lines		Swap the modules		disssconnect doorknobs		N2 filling			
next CM	CM09	waiting in th docking area						connect waveguides, cryogenic lines		connect vacuum pumps		vacuum pumping	

CM10 To ESS

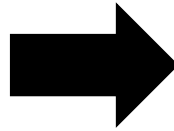
week		W46											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		14-nov		15-nov		16-nov		17-nov		18-nov		19-nov	20-nov
		m	a	m	a	m	a	m	a	m	a		
previous CM	CM10	Outgoing test				departure to ESS		report writing		publish report			
present CM	CM09	prepare power stations, RF calibrations		coupler conditoning at warm						LN2 cooling			

week		W47											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		21-nov		22-nov		23-nov		24-nov		25-nov		26-nov	27-nov
		m	a	m	a	m	a	m	a	m	a		
present CM	CM09	start LHe cooling		4K filling	2 K pumping	calibration and interlock setup		CTS tests		MP conditioning			

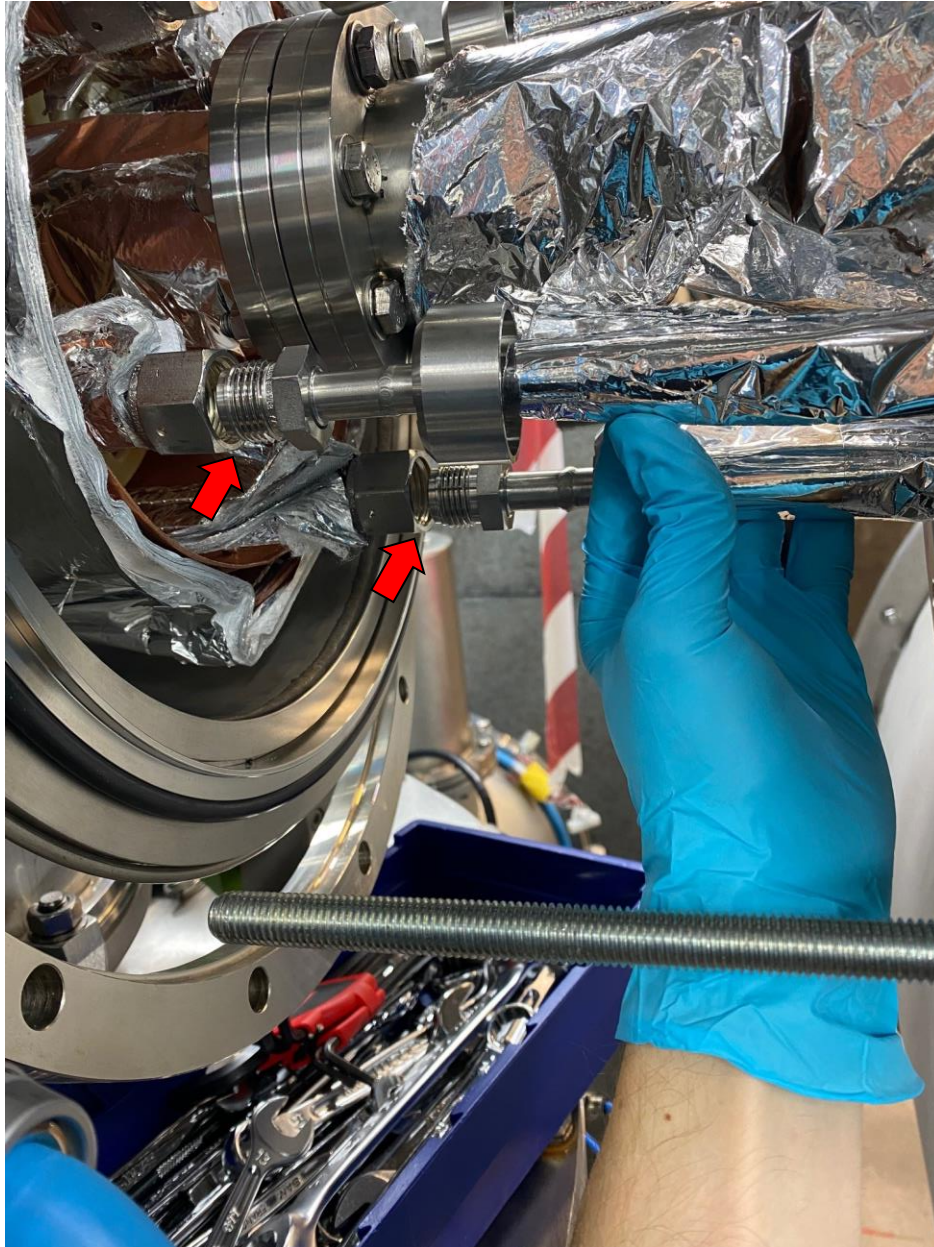
Goal of CM09

week		W48												
date		MON		TUE		WED		THU		FRI		SAT	SUN	
		28-nov		29-nov		30-nov		01-dec		02-dec		03-dec	04-dec	
		m	a	m	a	m	a	m	a	m	a			
present CM	CM09	heat load measurement				start warming up		vent insulation vacuum		warming up / concrete blocks open				3

CM09_2: MLI was missing in the pumping line



We added MLI by ourselves



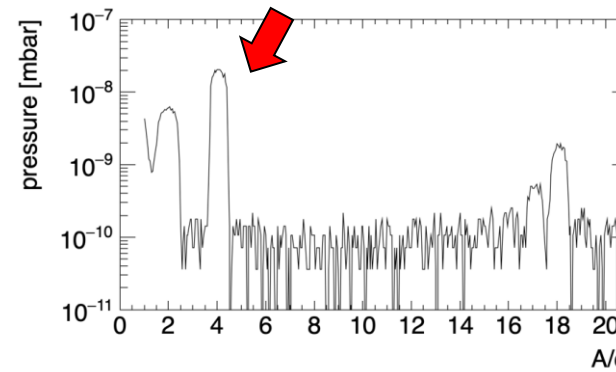
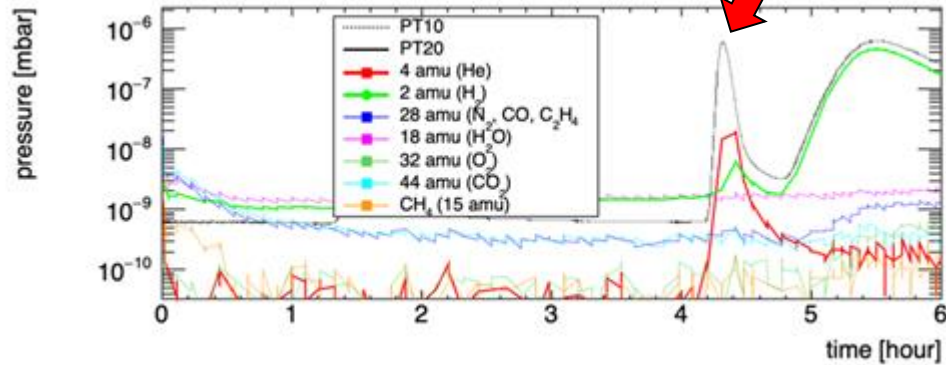
Any ideas to handle them?

- The gap is too small to insert a dedicated adaptor
- The pumping pipe is rigid
- What kind of adaption work is acceptable by ESS?
- We may connect pumping stations and start coupler conditioning in parallel to solve this issue

Discussion: helium-like signal ($A/q=4$)



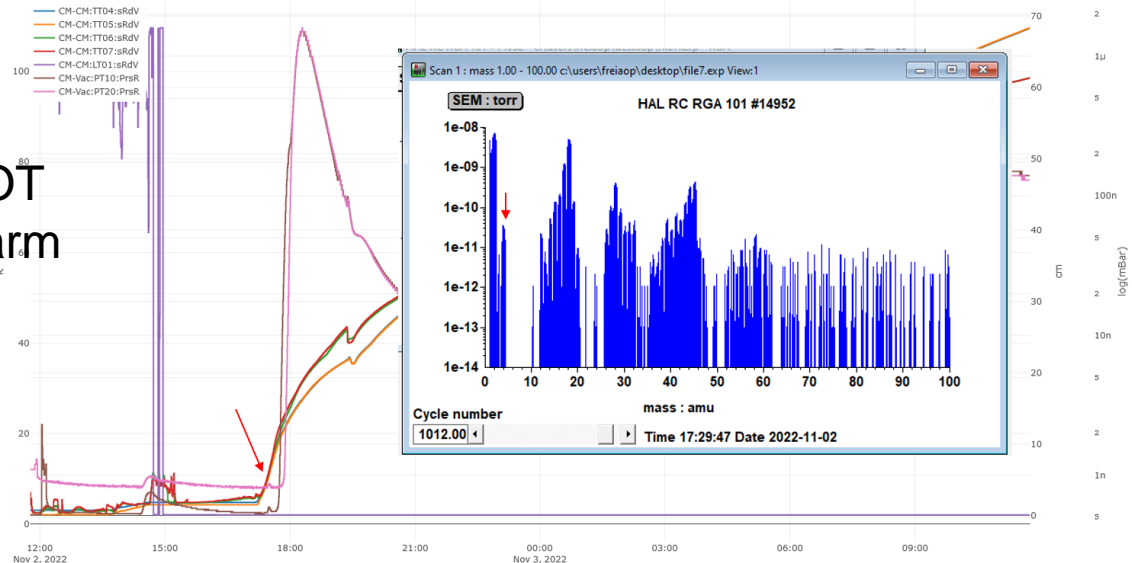
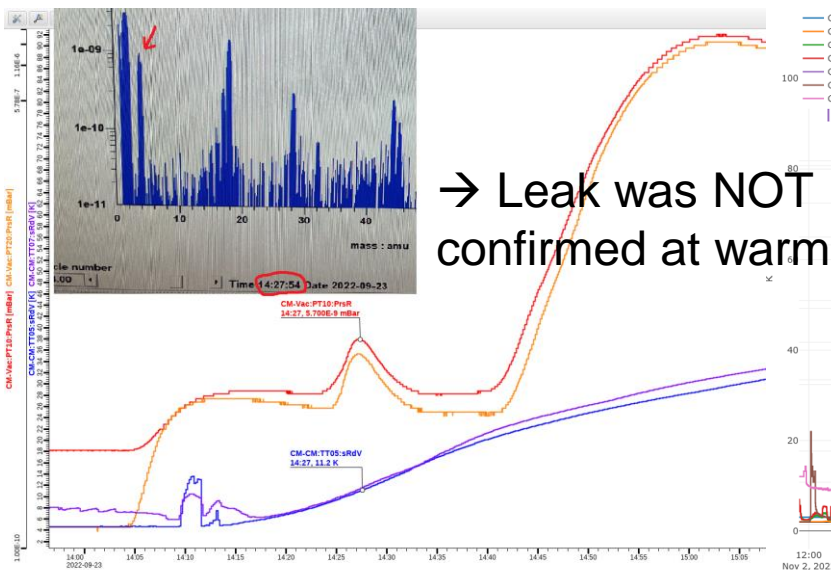
CM09 1e-6 mbar by Penning



→ Leak was confirmed at warm

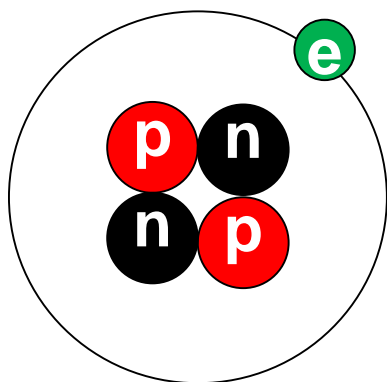
CM12 6e-9 mbar by Penning

CM10_2 6e-10 mbar by Penning

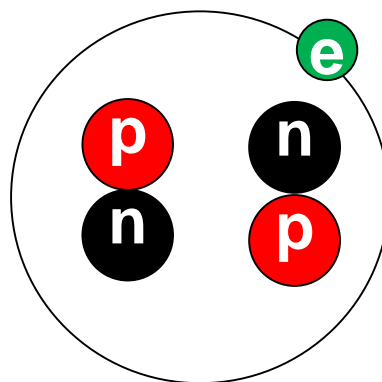


Shall we try another leak test at cold with a better leak detector?

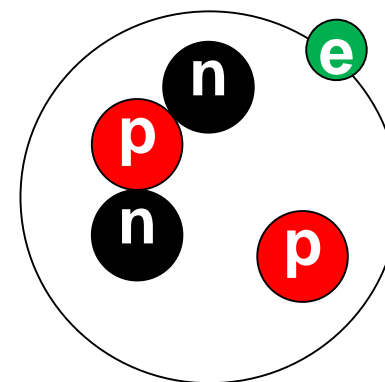
He^+



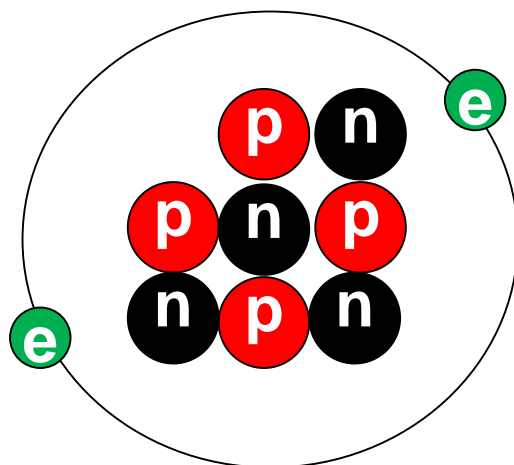
D_2^+



TH^+



Be^{2+}



- Triple point of H_2 is 13.81K at 7.042 kPa
 - Sublimation of H_2 ice????
- The $A/q=4$ peak we observed was associated with a $A/q=2$ peak
- Are there any artifacts that mimic the $A/q=4$ signal in RGA without making $A/q=3$?