

E570 meeting

2005/12/08 S.Okada

1 Preparation status

- >> SDD
 - + All eight SDDs are alive. (checked with 90Sr source)
 - + SDD#1 could not work last week.
 - > bad connection (soldering) of voltage line (RingX) at voltage divider and its cable.

- >> TKO & SMP
 - + We borrowed two SMP modules from Kishimoto-lab.
 - + added one TKO create. --> total : 8 creates
 - + Now 8 TKO crates are working well.

- >> Cables and Modules
 - + Wilkinson type ADC was delivered today.

- >> DC Separator
 - + Now, V = +-240.4V without gas.

- >> Gas flow meter
 - + The floating (red) object in the gas flow meter for methyral+Ar+Isob line has been blocked.
 - > New flow meter will be delivered tomorrow.

- >> T2 PMT Replacement
 - + Two PMTs were modified to have three booster lines.
 - > One of the PMTs is glued on T2 light guide. (The other is backup.)

2 Things to do

- >> Wilkinson ADC operation check

- >> SDD preamp cooling system
 - + SDD preamp folder will be modified to have water cooling system and to measure the temperature.
 - > Parts for the modifying are assembling now.

- >> DC Separator
 - + flowing gases from this Friday.

- >> Cosmic ray calibration : from this week

BEFORE				AFTER			
Crate #	Slot #	Module		Crate #	Slot #	Module	Sub #
3	7	HRTDC	→	3	7	HRTDC (new)	
3	8	HRTDC	→	3	12	HRTDC (new)	
3	9	HRTDC	→	3	9	HRTDC (new)	
3	17	ADC	→	3	19	ADC	
			** added **	3	19	ADC	12

#	Crate #	Slot #	Module	Sub #	Counter	
		7	1 HRTDC	0	SDD e549	sdd1
			HRTDC	1	SDD e549	sdd2
			HRTDC	2	SDD e549	sdd3
			HRTDC	3	SDD e549	sdd4
			HRTDC	4	SDD e549	sdd5
			HRTDC	5	SDD e549	sdd6
			HRTDC	6	SDD e549	sdd7
			HRTDC	7	SDD e549	sdd8
			HRTDC	8		
			HRTDC	9		
			HRTDC	10		
			HRTDC	11		
			HRTDC	12		
			HRTDC	13		
			HRTDC	14		
			HRTDC	15		
		7	2 HRTDC	0	SDD self	sdd1
			HRTDC	1	SDD self	sdd2
			HRTDC	2	SDD self	sdd3
			HRTDC	3	SDD self	sdd4
			HRTDC	4	SDD self	sdd5
			HRTDC	5	SDD self	sdd6
			HRTDC	6	SDD self	sdd7
			HRTDC	7	SDD self	sdd8
			HRTDC	8	kstop	
			HRTDC	9		
			HRTDC	10		
			HRTDC	11		
			HRTDC	12		
			HRTDC	13		
			HRTDC	14	FADC	
			HRTDC	15	FADC	
		7	3 Wil. ADC	0	CAEN OUT	sdd1
			Wil. ADC	1	CAEN OUT	sdd2
			Wil. ADC	2	CAEN OUT	sdd3
			Wil. ADC	3	CAEN OUT	sdd4
			Wil. ADC	4	CAEN OUT	sdd5
			Wil. ADC	5	CAEN OUT	sdd6
			Wil. ADC	6	CAEN OUT	sdd7
			Wil. ADC	7	CAEN OUT	sdd8
			Wil. ADC	8	CAEN FOUT	sdd1
			Wil. ADC	9	CAEN FOUT	sdd2
			Wil. ADC	10	CAEN FOUT	sdd3
			Wil. ADC	11	CAEN FOUT	sdd4
			Wil. ADC	12	CAEN FOUT	sdd5
			Wil. ADC	13	CAEN FOUT	sdd6
			Wil. ADC	14	CAEN FOUT	sdd7
			Wil. ADC	15	CAEN FOUT	sdd8

7	20	REF scaler	0	UPPER VETO	sdd1
		REF scaler	1	UPPER VETO	sdd2
		REF scaler	2	UPPER VETO	sdd3
		REF scaler	3	UPPER VETO	sdd4
		REF scaler	4	UPPER VETO	sdd5
		REF scaler	5	UPPER VETO	sdd6
		REF scaler	6	UPPER VETO	sdd7
		REF scaler	7	UPPER VETO	sdd8
		REF scaler	8	RESET VETO	sdd1
		REF scaler	9	RESET VETO	sdd2
		REF scaler	10	RESET VETO	sdd3
		REF scaler	11	RESET VETO	sdd4
		REF scaler	12	RESET VETO	sdd5
		REF scaler	13	RESET VETO	sdd6
		REF scaler	14	RESET VETO	sdd7
	REF scaler	15	RESET VETO	sdd8	
7	21	REF scaler	0	SDD SIGNAL	sdd1
		REF scaler	1	SDD SIGNAL	sdd2
		REF scaler	2	SDD SIGNAL	sdd3
		REF scaler	3	SDD SIGNAL	sdd4
		REF scaler	4	SDD SIGNAL	sdd5
		REF scaler	5	SDD SIGNAL	sdd6
		REF scaler	6	SDD SIGNAL	sdd7
		REF scaler	7	SDD SIGNAL	sdd8
		REF scaler	8	UPPER BPL VETO	sdd1
		REF scaler	9	UPPER BPL VETO	sdd2
		REF scaler	10	UPPER BPL VETO	sdd3
		REF scaler	11	UPPER BPL VETO	sdd4
		REF scaler	12	UPPER BPL VETO	sdd5
		REF scaler	13	UPPER BPL VETO	sdd6
		REF scaler	14	UPPER BPL VETO	sdd7
	REF scaler	15	UPPER BPL VETO	sdd8	
7	22	REF scaler	0	Clock 100 kHz	
		REF scaler	1	spill gate	
		REF scaler	2		
		REF scaler	3		
		REF scaler	4		
		REF scaler	5		
		REF scaler	6		
		REF scaler	7		
		REF scaler	8		
		REF scaler	9		
		REF scaler	10		
		REF scaler	11		
		REF scaler	12	spill end	
		REF scaler	13	INTERUPT REGISTER	
		REF scaler	14	INTERUPT REGISTER	
	REF scaler	15	Clock 100 kHz		

Counter

FADC REGISTER



Progress report of LHeII Target for E570

Shigeru Ishimoto, Masami Iio

LHeII Target was tested in order to measure the He consumption with the final setup.

< Final Setup > Refer to Fig. 1-3.

- 8 SDDs were attached to disk and installed into the cryostat.
- The parts like a corn to obtain 2 calibration peaks from Ti and Ni were attached
- The all cables from SDDs and thermometers were connected to the 8 up-stream ports.
- 3 holes of radiation shields for ^{55}Fe calibration pipe were closed.
- The heater line of a target cell was disconnected in consideration of heat load to cell.

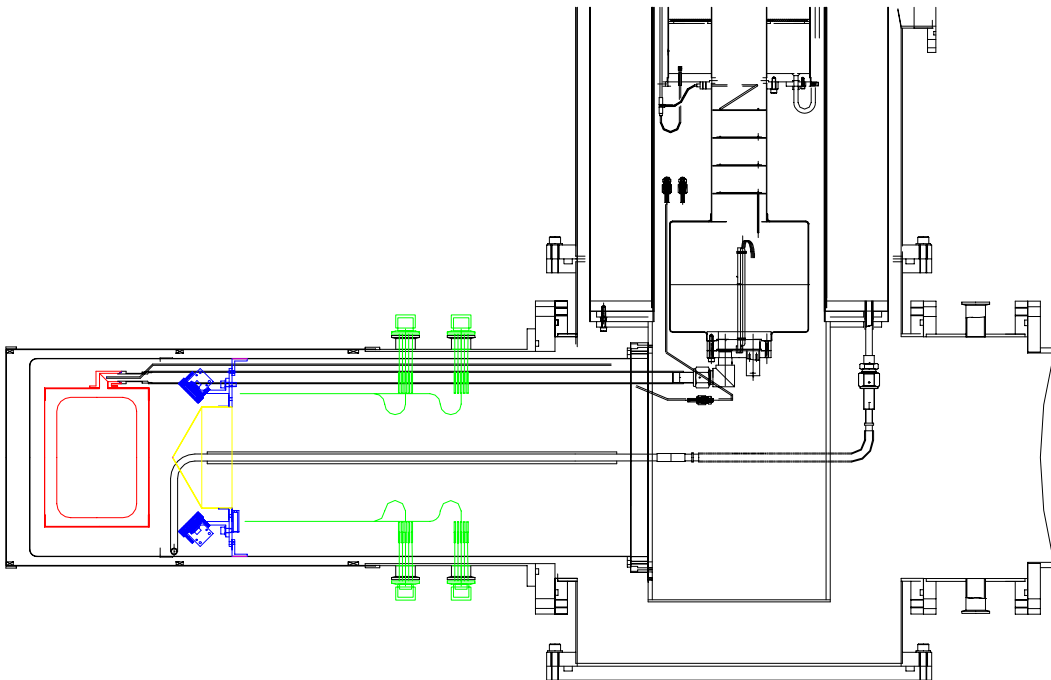


Fig. 1. Setup for SDD calibration test

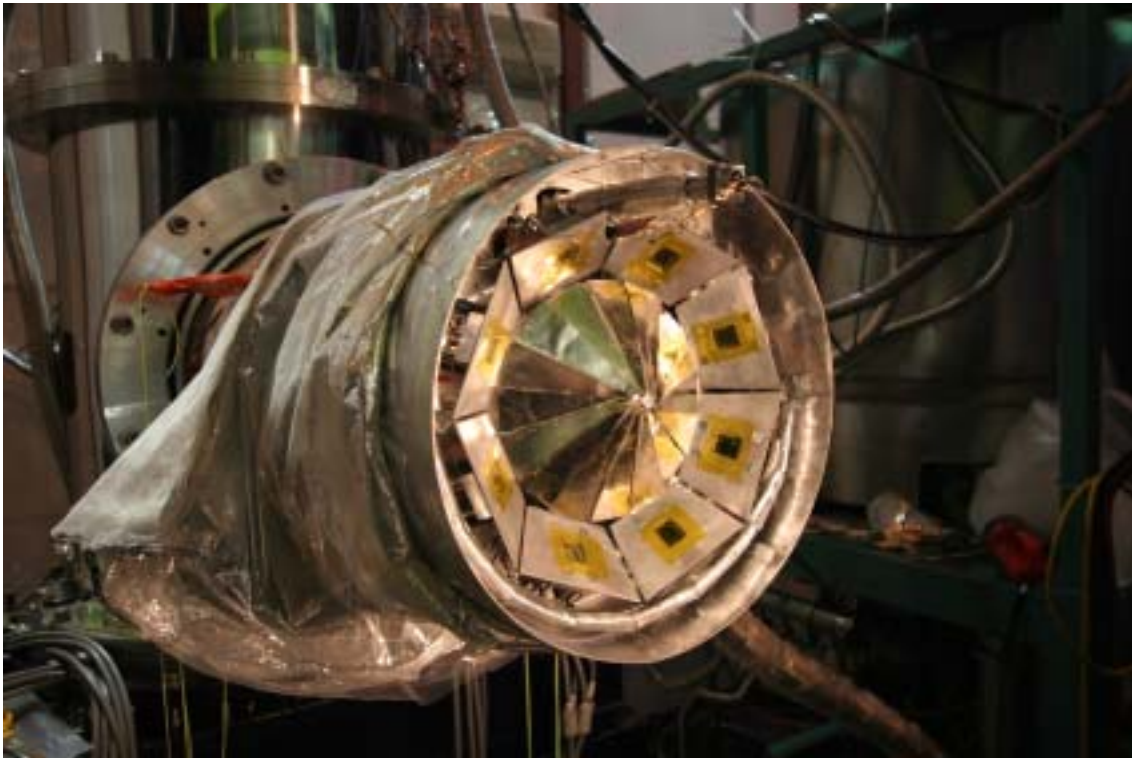


Fig. 2. The photograph with which mounted 8 SDDs

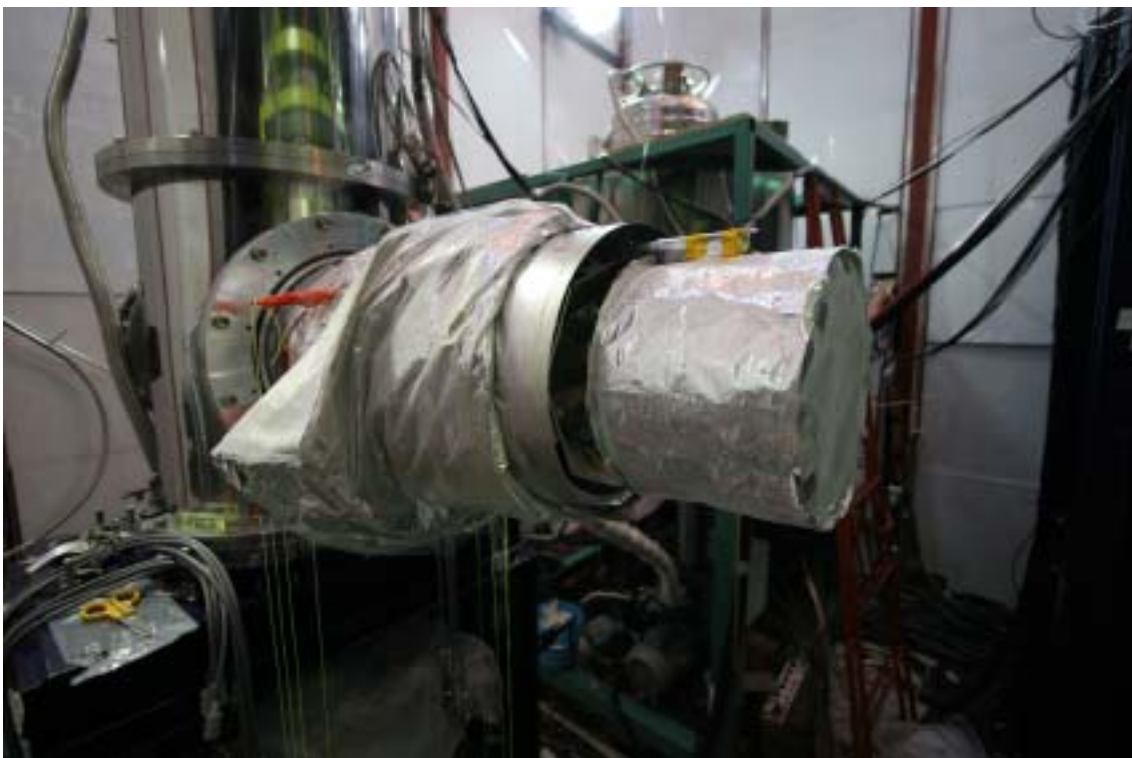


Fig. 3. The photograph with which target cell

< The test result >

- The thermal stability of SDD No.6 by He cooling is shown in the following Fig. 4, 5.

➔ Temperature of SDD No.6 was 82.3 ± 0.2 K.

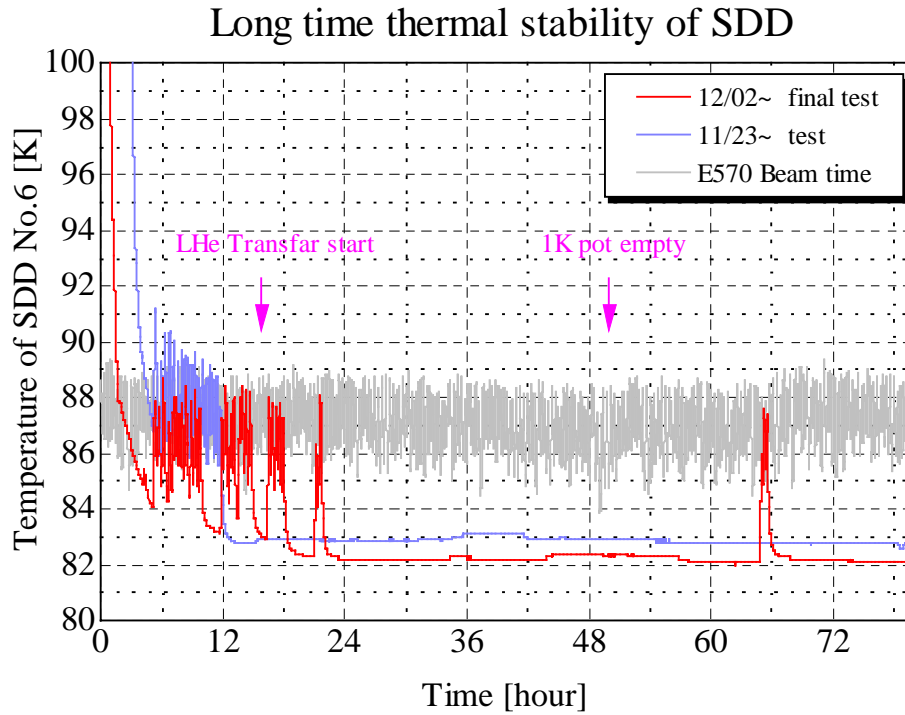


Fig. 4. Thermal stability by He cooling

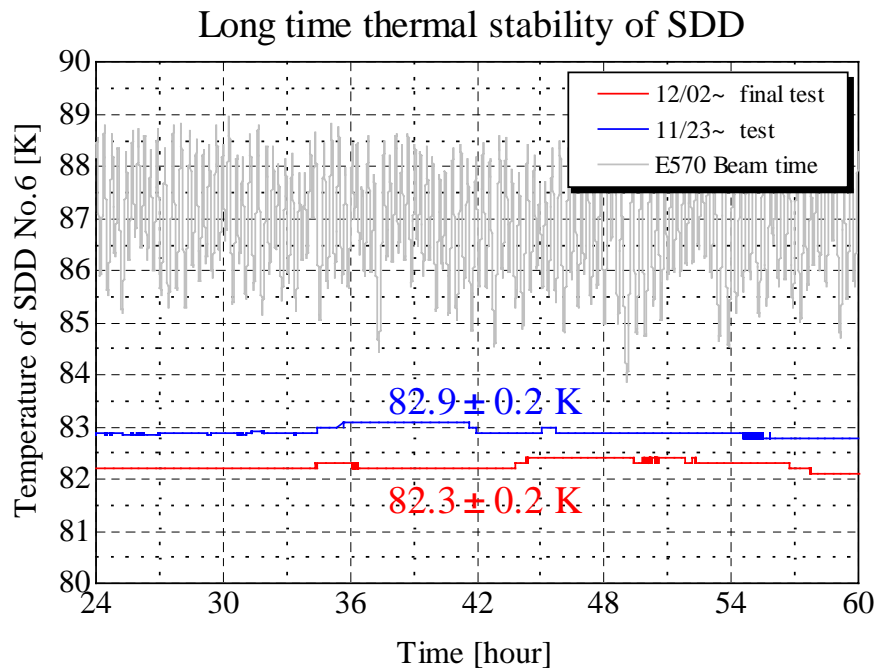


Fig. 5. Thermal stability by He cooling

- Result of He consumption is shown in the Fig. 6, 7

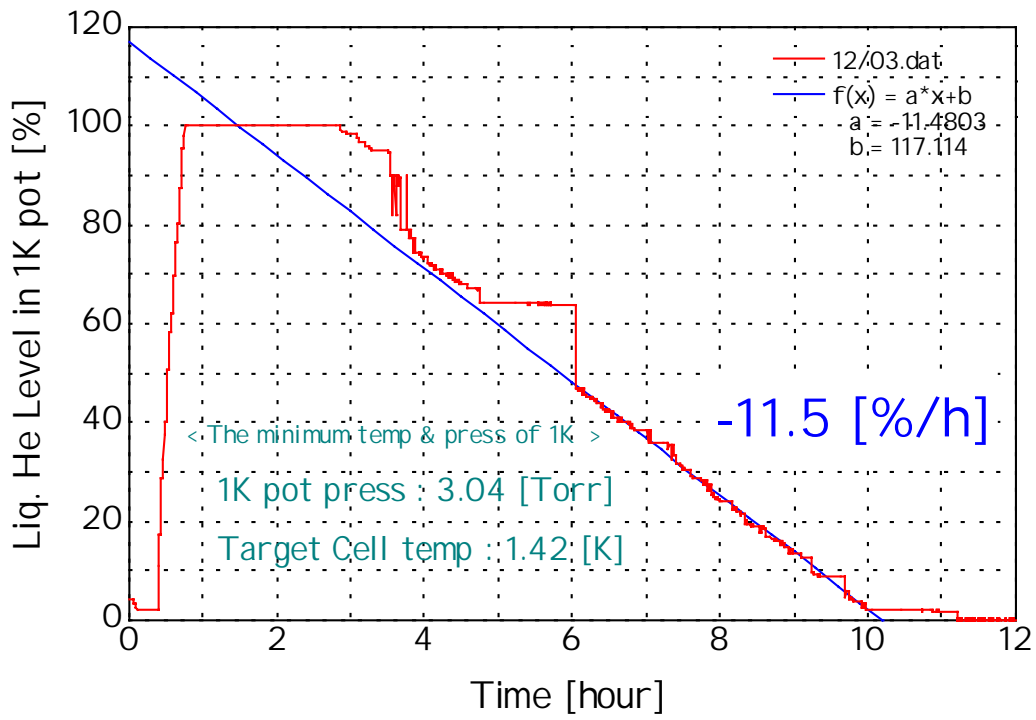


Fig. 6. Result of 1st He consumption test

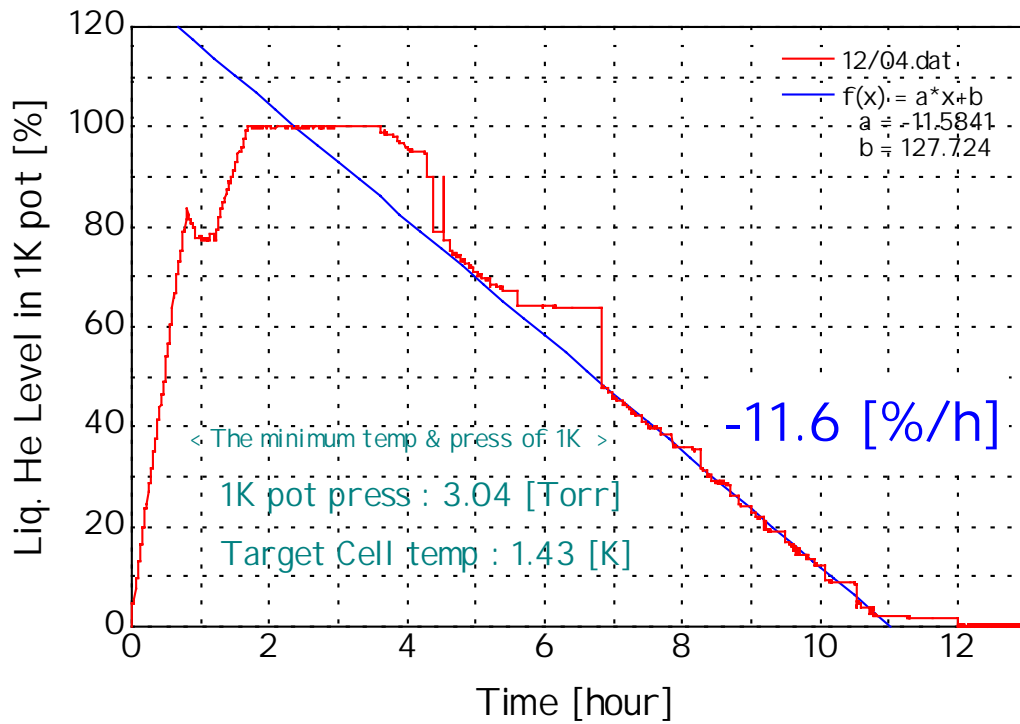


Fig. 7. Result of 2nd He consumption test

1st test (Fig. 6) : **-11.5 [%/h]**

2nd test (Fig. 7) : **-11.6 [%/h]**

(E570beam time : **-13 [%/h]** , Previous test : **-16.7 [%/h]**)

Consumption of a helium a little decreased from E570 beam time.

→ **Target was almost ready!!!**

- Time of filling (0 % => full) : **2 hours**

- Time of 1K pot level decreasing (full => 0 %) : **10 hours**

→ **1K pot has to be filled with Liq. He twice a day! (12 hours cycle)**

Now, SDDs are held at about 83 K with Liq. N₂ to the experiment start.

< Beam Time Plan >

- Iio mainly fills at 18:00 p.m. (Evening shift)
- Hanaki-san mainly fills at 6:00 a.m. (Midnight shift)

The amount of He consumption once filling : **50 ℓ**

The amount of consumption of 1day : **100 ℓ** (50 × 2)

Total amount of He : **1700 ℓ** (100 × 17 days 12 - 28)

Now, We already have about **1500 ℓ**

According to Hayano-san's mail, it has ordered more **3000 ℓ** (total : 4000) of helium.

The Liq. He in order to experiment is enough.