

RIBF User Group Town Meeting

2024/03/18

@online

Agenda

- 1) Report on the RIBF UEC activity (Ichikawa)
- 2) Report from Nishina Center (Yoneda-san)
- 3) Others

Report on the RIBF UEC activity

Yuichi Ichikawa

For the RIBF Users Executive Committee

Current members of UEC

□ Apr. 2021 - Mar. 2025

Y. Ichikawa (Kyushu, chair until March)

T. Abe (Keio, vice chair)

A. Corsi (CEA Saclay)

J. Zenihiro (Kyoto)

K. Sekizawa (Tokyo Tech.)

□ Apr. 2023 - Mar. 2027

K. Miki (Tohoku, vice chair and **new chair**)

D. Nishimura (Tokyo Clty)

P. Schury (KEK)

F. Minato (Kyushu)

H. Liang (Tokyo)

UEC activities

- Regular town/online meetings
- Report from the MT committee (monthly)
- RIBF Users Group Thesis Awards
- RIBF Users Meeting
- Member list update
- Conference calendar update (regularly)
- **Bridging users and RNC**

Request to Nishina Center / RIBF

- ❑ Originally UEC was established to bridge the RIBF users and Nishina Center.
- ❑ Requests to Nishina Center were surveyed.

Stats of Surveys

- Period: 27 days (from Feb. 6 to Mar. 3)
- Number of votes: 14 (7 Japanese + 7 Others)
- Topics:
 1. Technical requests(such as shared facilities and equipment)
 2. Demands or concerns about conducting experiments (including machine time, PAC coordination, and timing)
 3. Requests related to collaboration
 4. Requests to RIBF Users Meeting (such as timing, and joint hosting with collaboration meeting)
 5. Suggestions to RNC for further promoting theoretical research
 6. Other requests

Answers as voted are exhibited in the town meeting, and omitted in this uploaded file.

After summarizing the opinions, we will submit the request to RNC

Member list update

Non-active members (over 600) will be deleted

Please update your registration

- Visit https://ribfuser.riken.jp/RIBF_UG/registration.html
- Click on “Update User Info.”
- Enter your email address, click on “送信/submit”
- Update your information if necessary
- Irrespective of the update click on “送信/submit”

Please check emails to be send in April

- **Check / update**
- Otherwise deleted

RIBF Status Report

Ken-ichiro YONEDA

User Liaison Group

RIKEN Nishina Center

RIBF User Group Town Meeting
On-line meeting, March 18, 2024

- RIBF operation in 2nd half FY2023
- Recovery from hardware troubles
- MT plan in 1st half FY2024
- NP-PAC meeting



RIBF operation October – December '23

<https://www.nishina.riken.jp/rarfmt/pc.html>

						October 2023																																								
Proposal Number	Experiment	Course	Particle	Energy (MeV/u)	Intensity	Time Frame (days)	start-time	end-time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
									Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
DA21	-01	-05	K. MORIMOTO	GARIS3			10/1 9:00	4/1 9:00																																						
AVF stand-alone																																														
R10702	-AVF4	-218	羽場 宏光 H. HABA	AVF-C03	α	7.25	25 μpA	1																																10/16 9:00	10/17 9:00					
R10702	-AVF4	-207	羽場 宏光 H. HABA	AVF-C03	α	7.25	25 μpA	1																																12/11 9:00	12/12 9:00					
学生実験23	-01		北村 徳隆 N. KITAMURA	E7B	α	6.5	10 μpA	0.5																																10/25 9:00	10/25 21:00					
R10702	-AVF4	-218	羽場 宏光 H. HABA	AVF-C03	α	12.5	4 μpA	1																																10/26 9:00	10/27 9:00					
AVF+RRC																																														
IC22	-12	-01	吉田 敏 A. YOSHIDA	E5A	^{40}Ar	95	1 pA	2																																10/4 9:00	10/8 9:00					
IC23	-05	-01	吉田 敏 A. YOSHIDA	E5A	^{40}Ar	95	1 pA	2																																10/11 9:00	10/17 9:00					
IC22	-12	-02	吉田 敏 A. YOSHIDA	E5A	^{84}Kr	70	1 pA	2																																10/11 21:00	10/13 21:00					
IC23	-05	-02	吉田 敏 A. YOSHIDA	E5A	^{84}Kr	70	1 pA	2																																10/11 21:00	10/17 21:00					
RILAC2+RRC																																														
NP2012	-RRC07	-01	Z. PODOLYAK	E2B (KISS)	^{136}Xe	7.2	100 pA	6																																9/25 9:00	10/1 9:00					

						December 2023																																								
Proposal Number	Experiment	Course	Particle	Energy (MeV/u)	Intensity	Time Frame (days)	start-time	end-time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
									Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
DA21	-01	-05	K. MORIMOTO	GARIS3			10/1 9:00	4/1 9:00																																						
AVF stand-alone																																														
R10702	-AVF4	-219	羽場 宏光 H. HABA	AVF-C03	d	12	10 μpA	1.5																																12/5 9:00	12/6 21:00					
R10702	-AVF4	-207	羽場 宏光 H. HABA	AVF-C03	α	7.25	25 μpA	1																																12/11 9:00	12/12 9:00					
学生実験23	-03		北村 徳隆 N. KITAMURA	E7B	α	6.5	10 μpA	0.5																																12/13 9:00	12/13 21:00					
R10702	-AVF4	-208	羽場 宏光 H. HABA	E7 vertical	p	17	10 μpA	1																																12/20 9:00	12/21 9:30					
AVF+RRC																																														
IC22	-11	-01	吉田 敏 A. YOSHIDA	E5A	^{84}Kr	70	1 pA	0.5																																12/1 9:00	12/1 21:00					
IC23	-04	-01	吉田 敏 A. YOSHIDA	E5A	^{40}Ar	95	1 pA	0.5																																12/18 9:00	12/17 9:00					
IB0702	-RRC01	-171	阿部 知子 T. ABE	E5B	^{12}C	135	5 pA	5hrs																																12/18 14:00	12/18 14:00					
ML2112	-RRC74	-14	泉 雅子 M. IZUMI	E5B	^{12}C	135	2 pA	6hrs																																12/18 14:00	12/18 20:00					
IC23	-04	-02	吉田 敏 A. YOSHIDA	E5A	^{12}C	135	1 pA	0.5																																12/19 9:00	12/19 12:30					
IC23	-03	-01	吉田 敏 A. YOSHIDA	E5A	^{129}Xe	36	0.5 pA	3																																12/19 9:00	12/19 12:30					
IC23	-04	-03	吉田 敏 A. YOSHIDA	E5A	^{129}Xe	36	0.5 pA	3																																12/22 9:00	12/25 9:00					
IC23	-01	-01	吉田 敏 A. YOSHIDA	E5A	^{129}Xe	36	0.5 pA	3																																12/22 9:00	12/25 9:00					
IC23	-03	-02	吉田 敏 A. YOSHIDA	E5A	^{129}Xe	36	0.5 pA	3																																12/22 9:00	12/25 9:00					
AVF+RRC+IRC																																														
IB0702	-RRC1	-31	阿部 知子 T. ABE	E5B	^{40}Ar	160	2 pA	4hrs																																12/15 9:00	12/15 13:00					
ML2112	-RRC74	-13	泉 雅子 M. IZUMI	E5B	^{40}Ar	160	2 pA	6hrs	12/15 9:00	12/15 19:00																																				

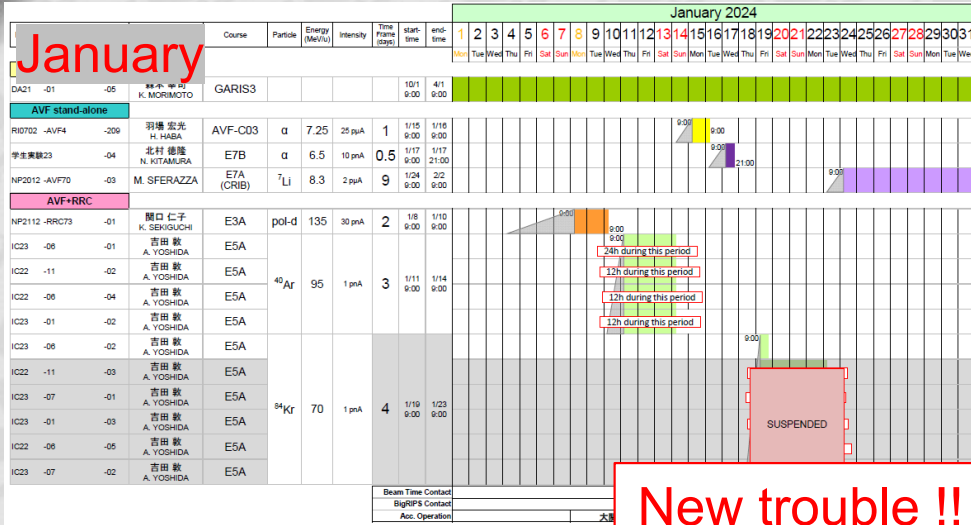
						November 2023																																												
Proposal Number	Experiment	Course	Particle	Energy (MeV/u)	Intensity	Time Frame (days)	start-time	end-time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30												
									Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
DA21	-01	-05	K. MORIMOTO	GARIS3			10/1 9:00	4/1 9:00																																										
AVF stand-alone																																																		
ML2112	-AVF78	-02	坂口 縁 A. SAKAGUCHI	AVF-C03	^7Li	6	1 pA	1																																11/8 9:00	11/9 9:00									
学生実験23	-02		北村 徳隆 N. KITAMURA	E7B	α	6.5	10 μpA	0.5																																11/15 9:00	11/15 21:00									
R10702	-AVF4	-217	羽場 宏光 H. HABA	AVF-C03	α	7.25	25 μpA	1																																11/20 9:00	11/21 9:00									
AVF+RRC																																																		
IC22	-11	-01	吉田 敏 A. YOSHIDA	E5A	^{84}Kr	70	1 pA	0.5																																12/1 9:00	12/1 21:00									
RILAC2+RRC																																																		
NP2112	-LINAC07R5	-04	P. SCHURY	E6 (GARIS2)	^{51}V	6	1 pA	1.5																																11/8 9:00	11/8 22:30									

Only low-energy experiments without SRC

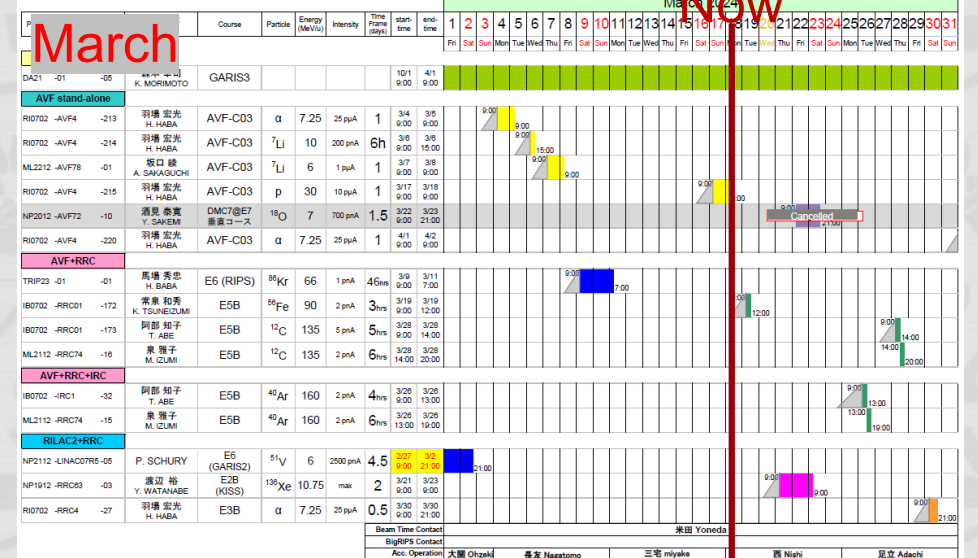
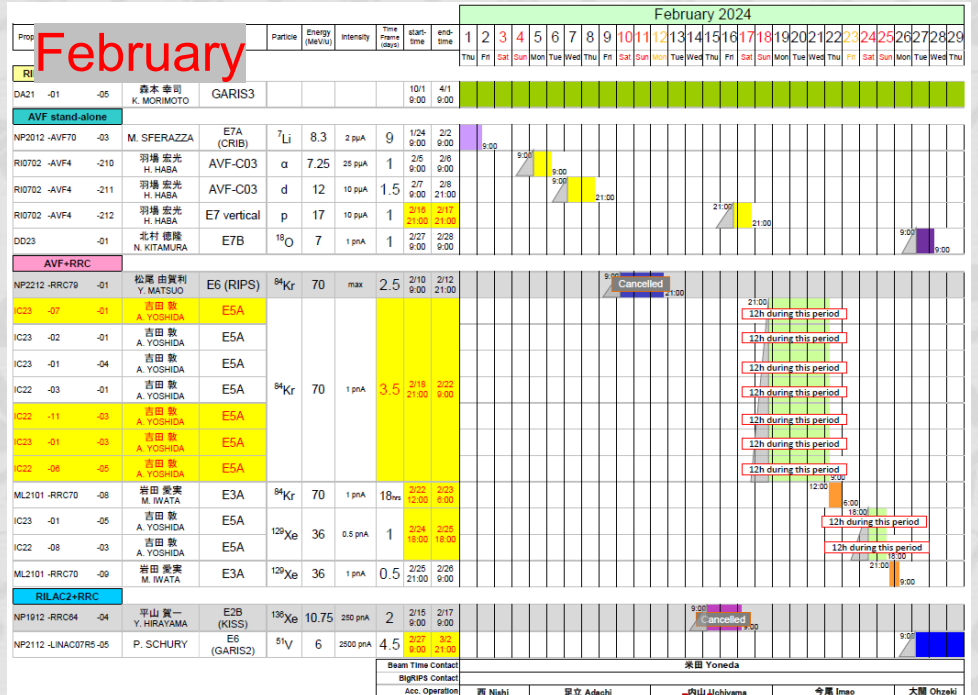


RIBF operation January – March '24

<https://www.nishina.riken.jp/rarfmt/pc.html>



**New trouble !!
in RRC**

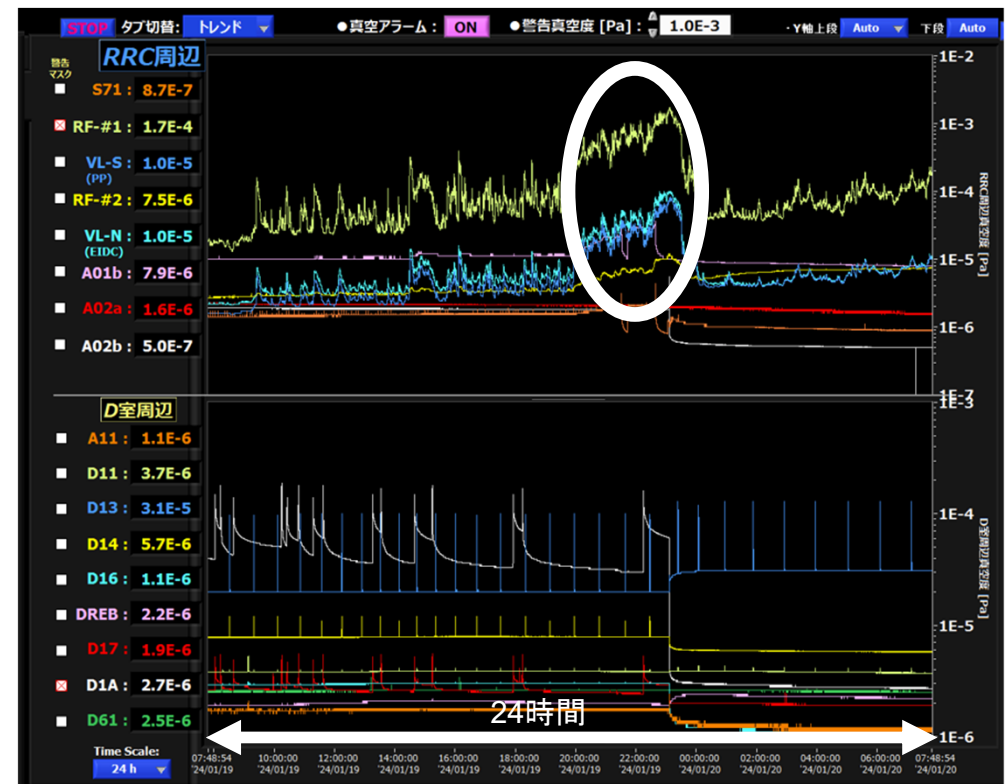


Hardware trouble 1 – RRC vacuum

RRC共振器 真空漏れ(2024/01/19 21:48)

- 有償利用マシンタイム実施中の1月19日の日中より真空度悪化が進行していたが、21時以降になると共振器真空度がインターロック閾値を超える様になり、改善の見込みのないことから22:37にマシンタイムを中断。
- ウランビーム加速用の18.25 MHz領域の加速電圧向上を目指したRRC共振器改造後は、改造した共振器ステムより水漏れがしばしば発生し、今回この事象を疑ったが、1月21日に実施した上下ステム10系統の冷却水水抜き実施後も真空度は改善せず。
- 本故障とは無関係に予定されていた製造メーカー(SHI)によるRRC共振器メンテナンス(上記改造ステムの補修を目的におよそ1回/年の頻度にて実施されている)実施時に共振器内部を点検したところ、共振器ムーバブルボックス上側ロッド下のフランジよりリークを確認した(1月31日)。
- 治具等の準備が整った2/7 - 2/9にて修理を実施、傷んでいたメタルOリングをゴムOリングに交換して修理完了。その後共振器を運転位置に戻して真空引き、RFコンディショニング等を実施し、2/18の有償利用MTから運転を再開した。
- RRC運転停止期間：約4週間

RRC付近真空度トレンドグラフ



Hardware trouble 1 – RRC vacuum



拡大



底面



漏れがあったメタルOリング
これをゴムOリングに交換して復旧

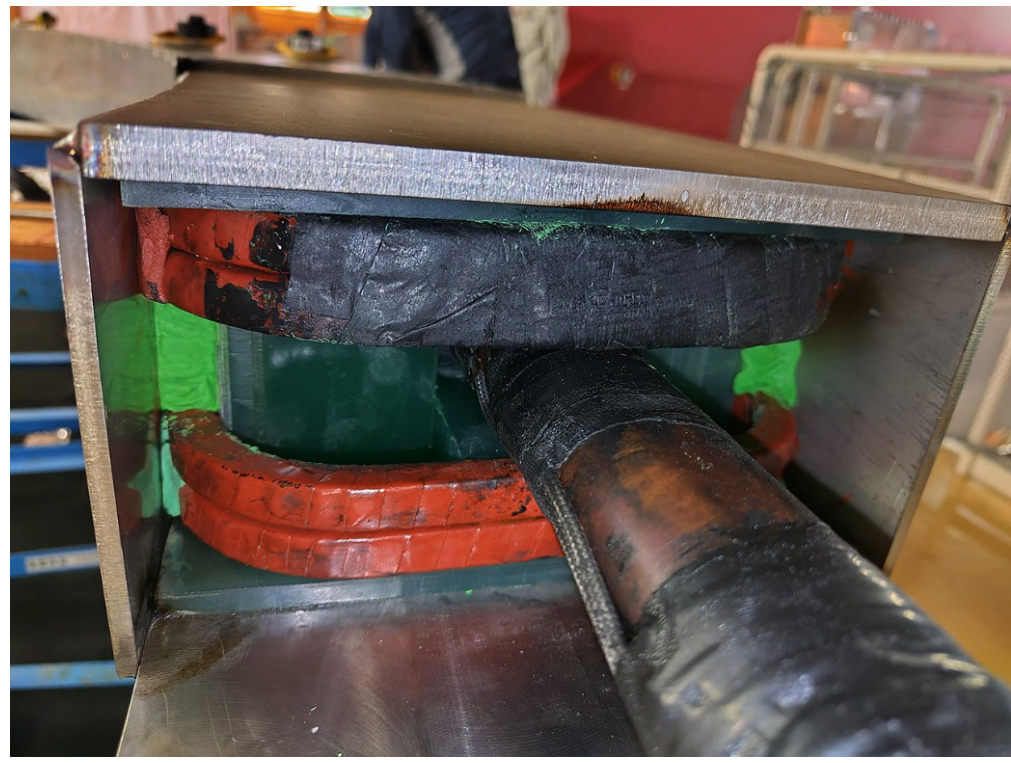
Hardware trouble 2 – SRC extraction channel

Before repair ...



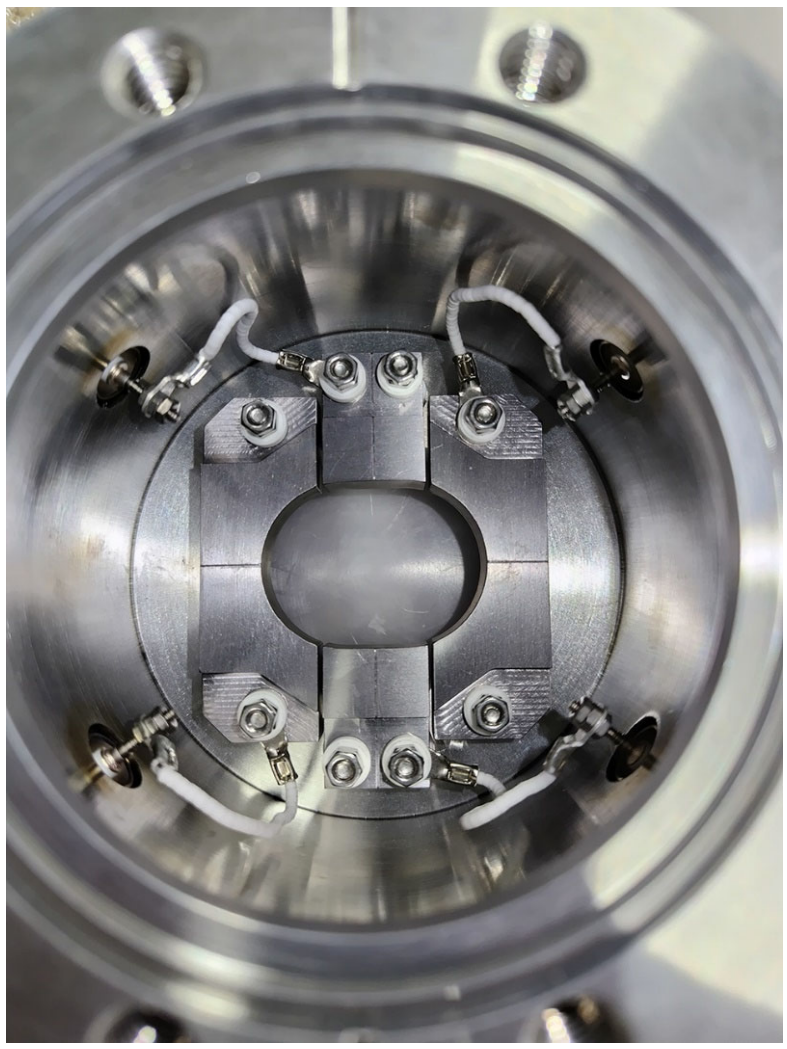
Hardware trouble 2 – SRC extraction channel

After repair ...

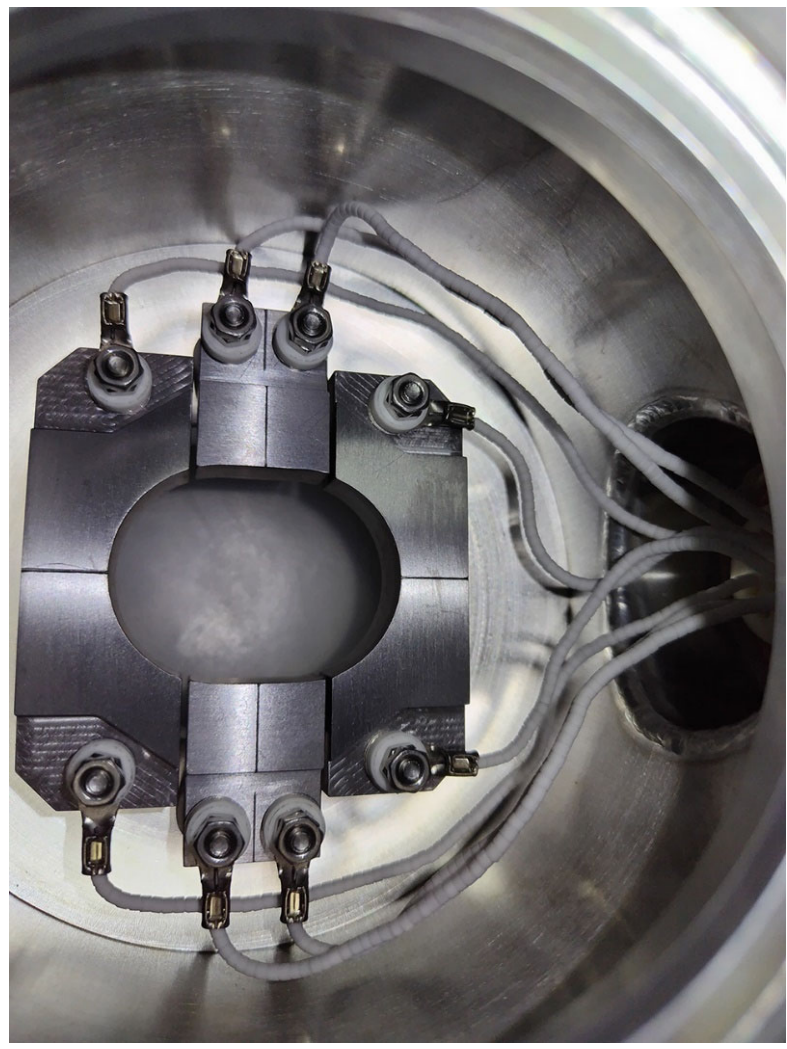


Hardware trouble 2 – SRC extraction channel

Baffles updated
entrance

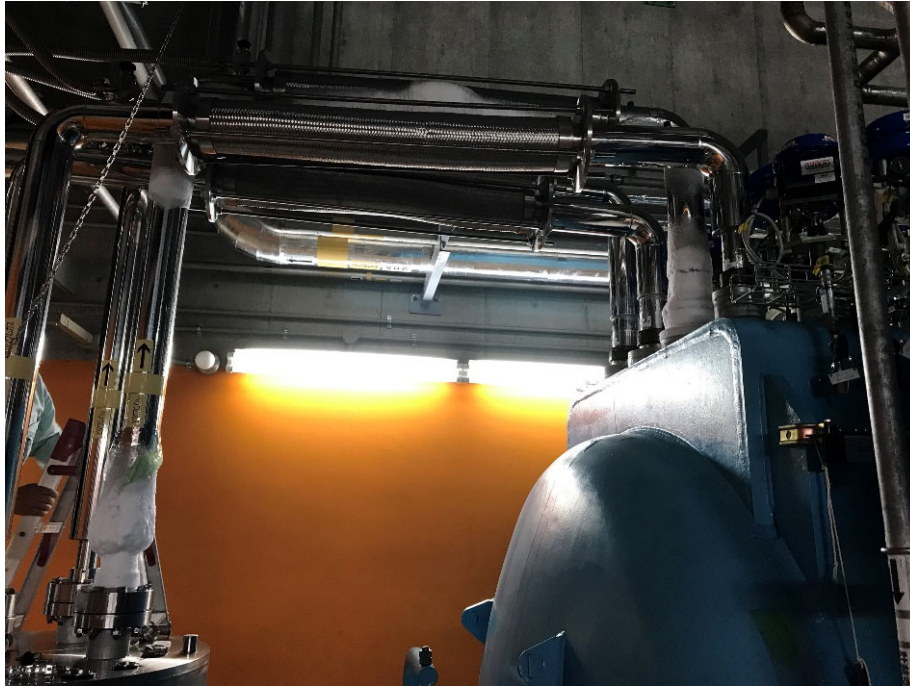


exit

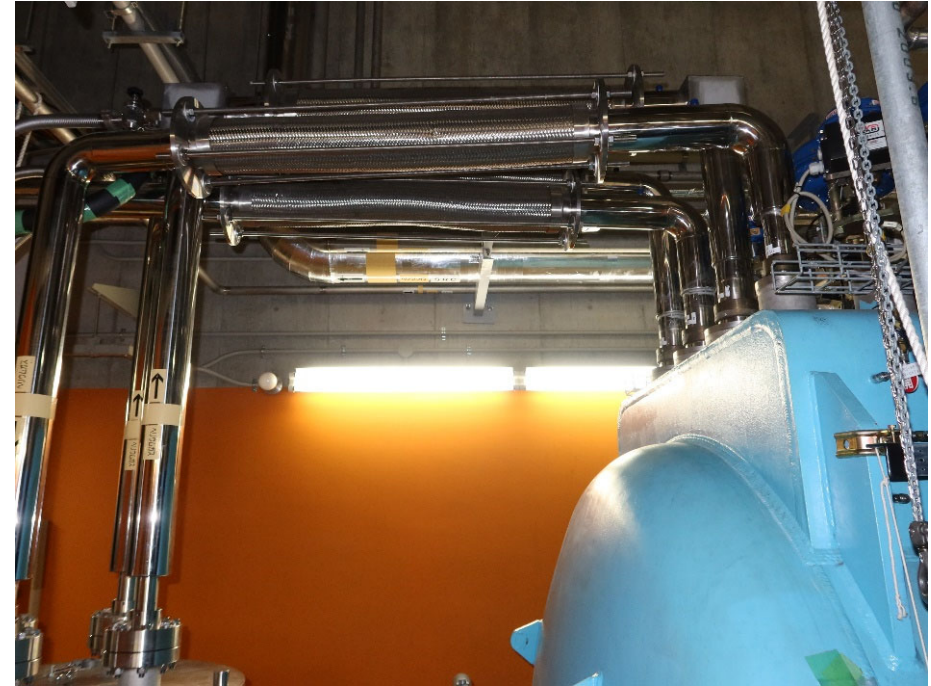


Hardware trouble 3 – SRC He tube

SRC sub-transfer tube

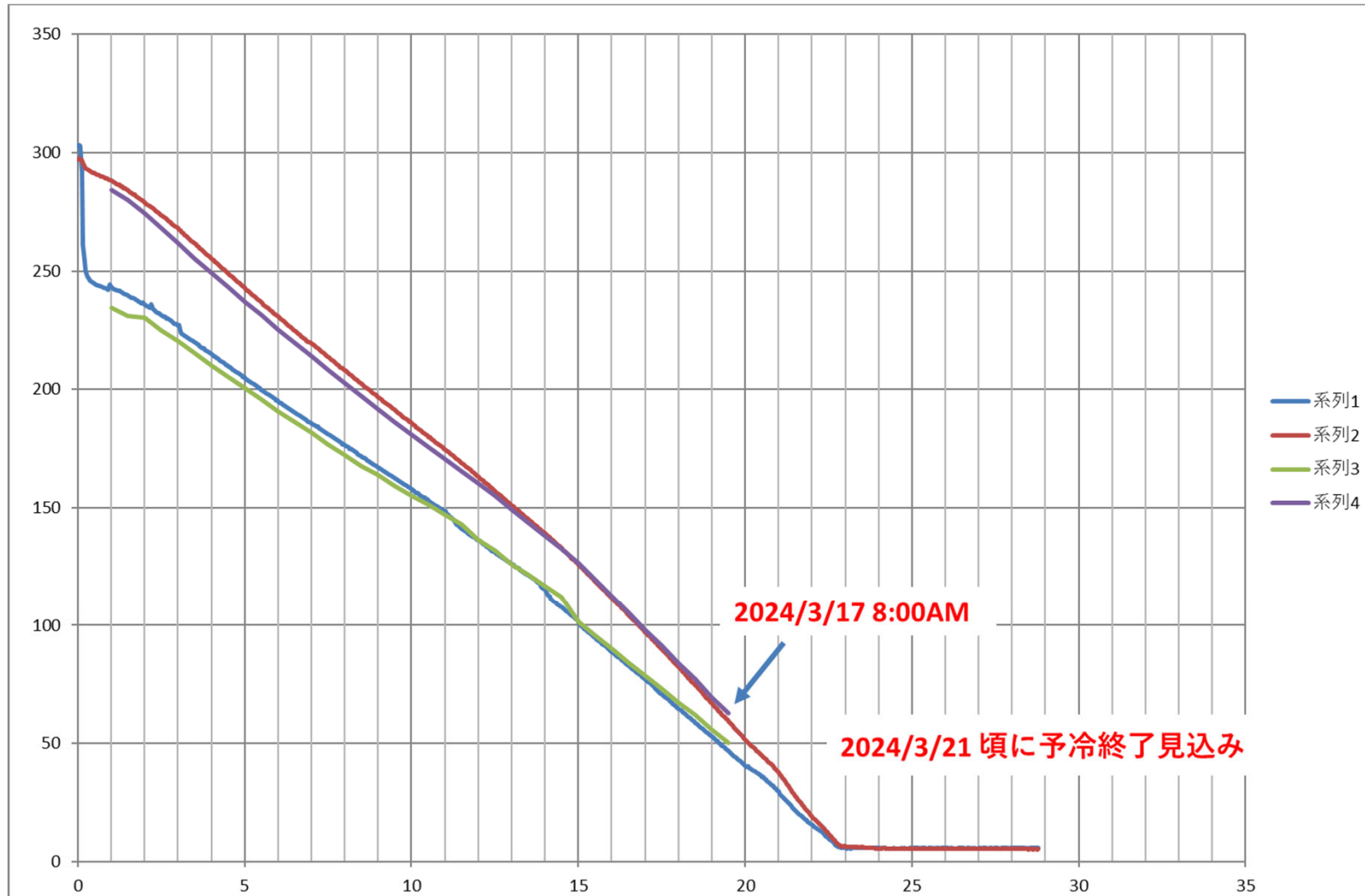


before repair



after repair

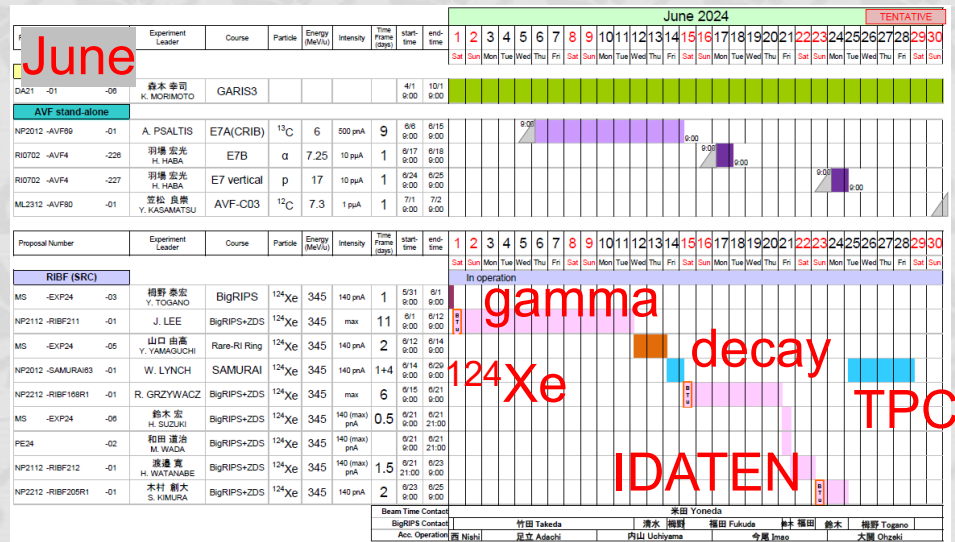
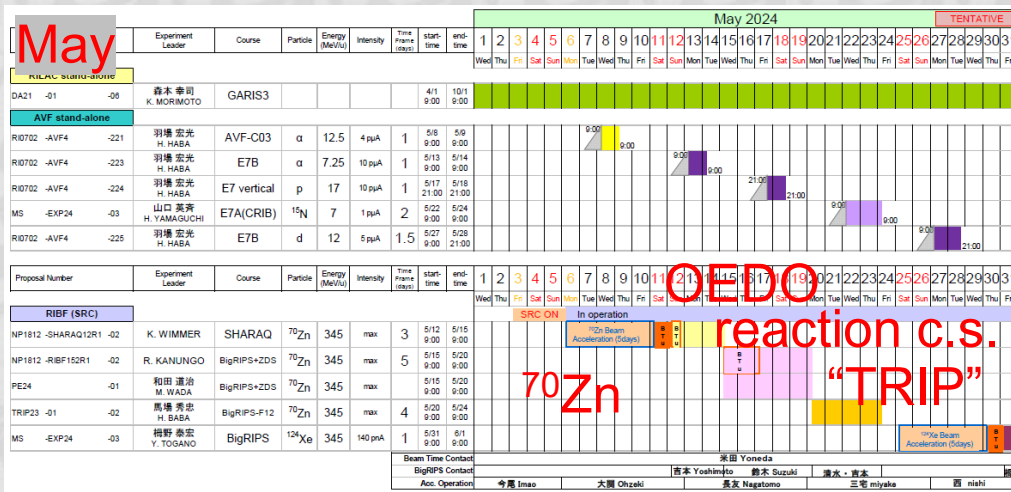
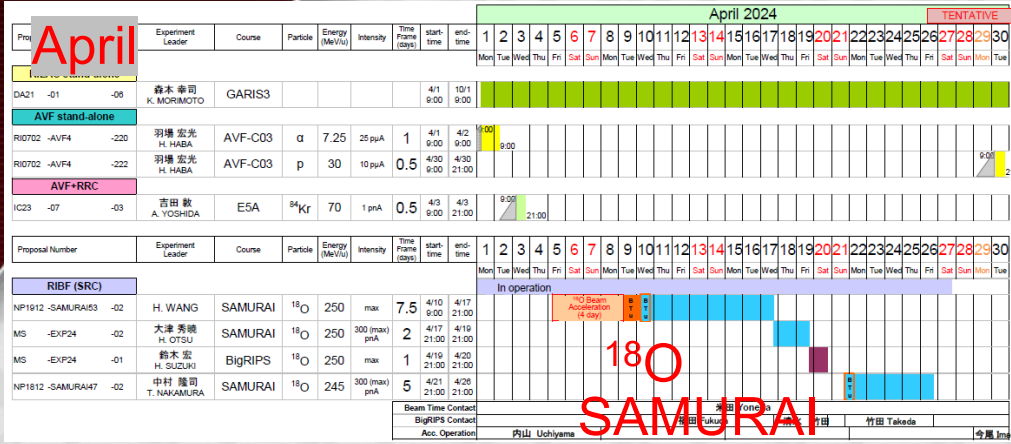
Hardware trouble 3 – SRC He tube





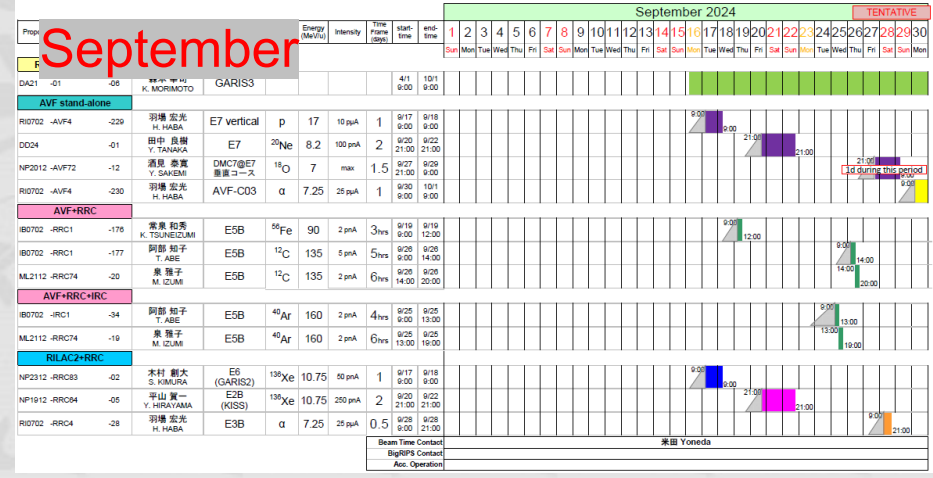
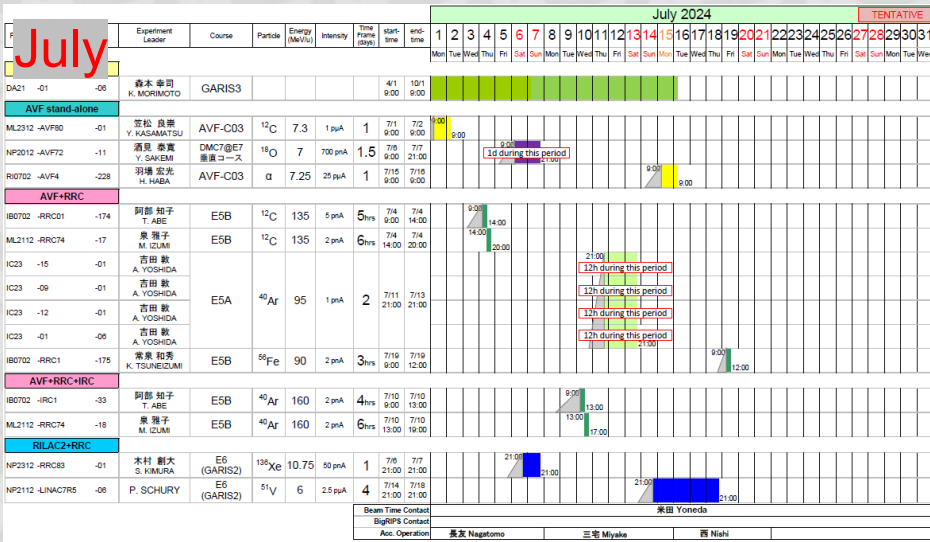
MT schedule in 1st half FY2024

<https://www.nishina.riken.jp/rarfmt/pc.html>



MT schedule in 1st half FY2024

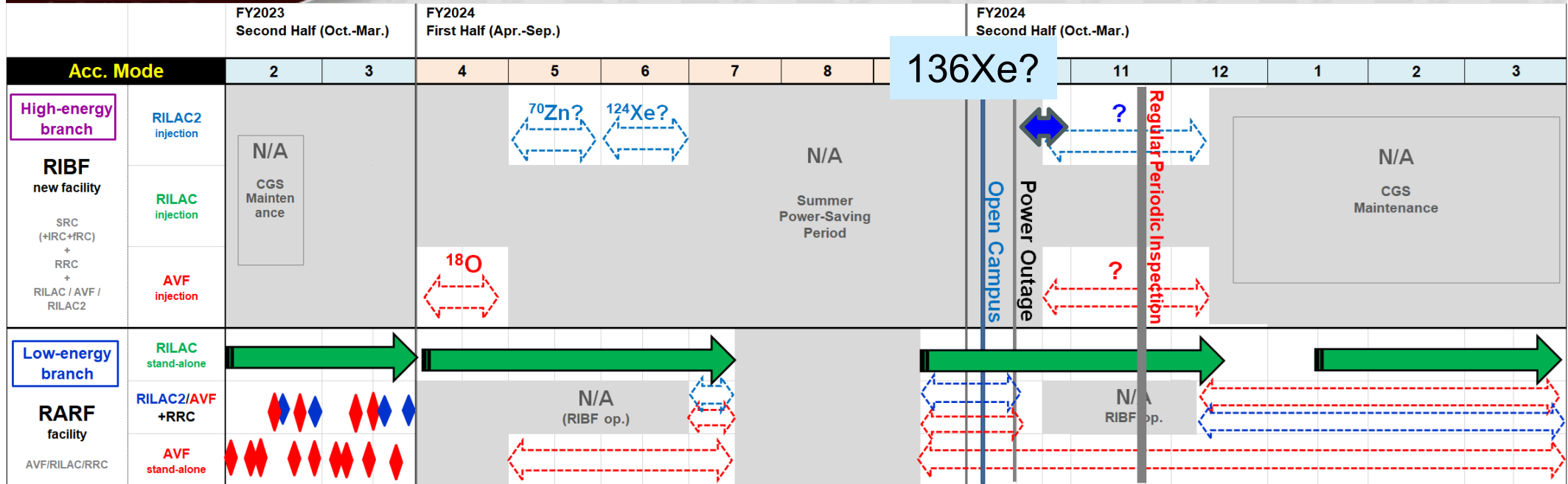
<https://www.nishina.riken.jp/rarfmt/pc.html>



Only low-energy experiments



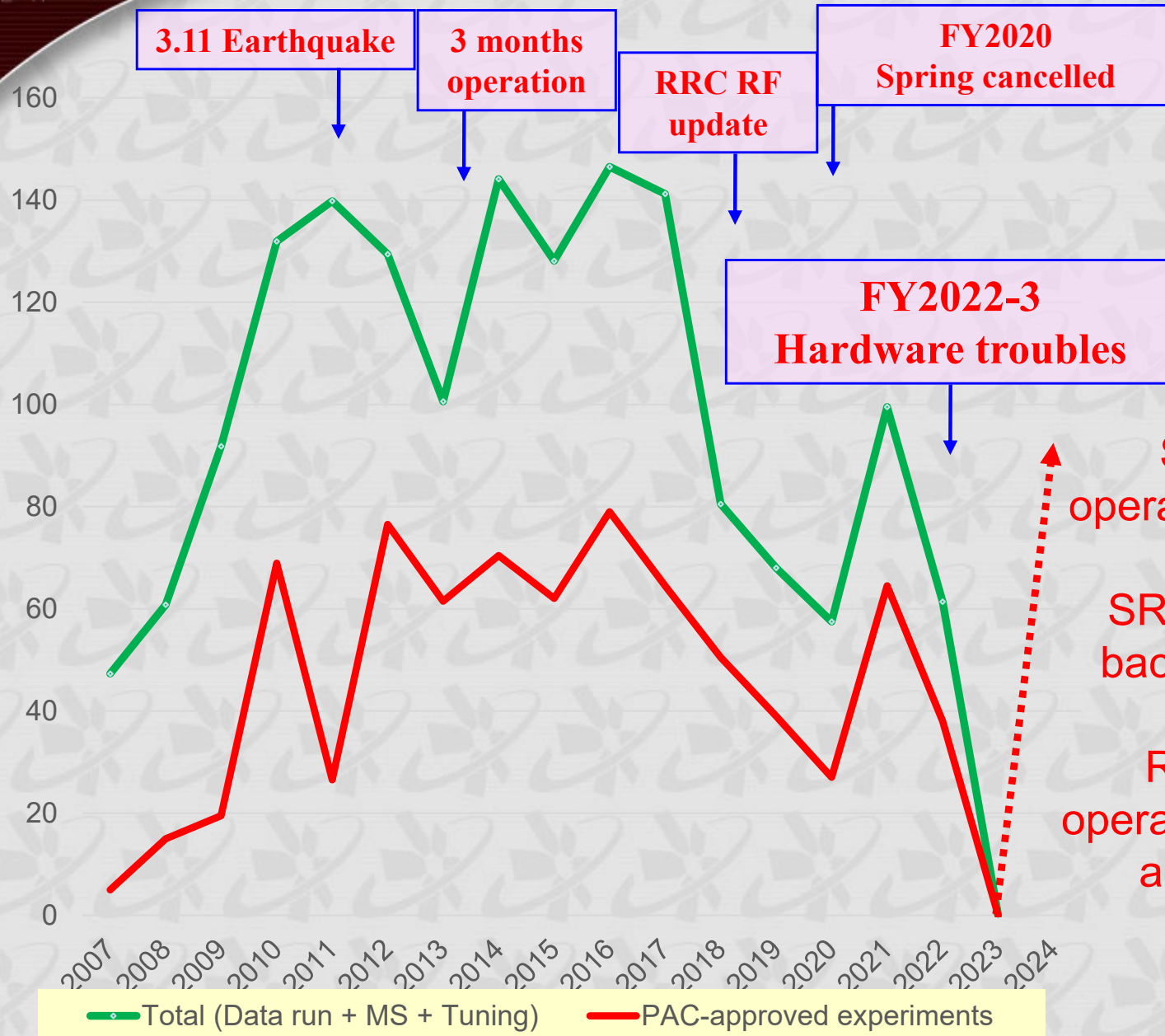
FY2024 yearly plan



- try to achieve **5-month operation**
- in autumn 2 months from mid-October
- Call for beam time scheduling request ... in June

SRC operation time

(days)



SRC-BigRIPS operation time increase

 SRC-BigRIPS exps backlog to decrease but
 RRC old-facility operation time decrease about 6 months
 → 5 months

next 25th NP-PAC meeting
meeting schedule not fixed yet (in December?)

proposal submission deadline in September?
still under discussion

Call for Proposals to be issued in June

Latest information will be given in:

<https://www.nishina.riken.jp/RIBF/NP-PAC/index.html>