

# Minutes of the 39th Machine-Time Committee Meeting

Date and time: December 17, 2010; 13:30–16:00

Place: Nishina Bldg., Room 201

Attendees: Sakai<sup>a</sup> (Chair), En'yo<sup>a,†</sup>, Fukunishi<sup>a</sup>, Kamigaito<sup>a</sup>, Kase<sup>a</sup>, Ohnishi<sup>a</sup> (on behalf of Kubo), Sakurai<sup>a</sup>, Shimoura<sup>b</sup>, Ueno<sup>a</sup>, Uwamino<sup>a</sup>, Wakasugi<sup>a</sup>

Absent: Abe<sup>a</sup>, Kambara<sup>a,†</sup>, Kubo<sup>a</sup>, Kubono<sup>b</sup>, Morita<sup>a</sup>, Motobayashi<sup>a,†</sup>, Teranishi<sup>c,†</sup>, Yoshida<sup>a,†</sup>

<sup>a</sup>RNC / <sup>b</sup>CNS / <sup>c</sup>UEC / <sup>†</sup>observer

(in no particular order)

## Reports

### 1. Status reports on beam-time (BT) operation

- Accelerator status report (Fukunishi)
  - Major problems occurring during the <sup>48</sup>Ca beam series of BigRIPS-based experiments this autumn were reported.
  - Introduction of the numerical expression for the reliability of beam deliveries was explained. Reliabilities were deduced for each beam series of BigRIPS-based experiments conducted during this fiscal year. Except for the <sup>48</sup>Ca series this autumn, the reliabilities were better than 80 %.
  - It was suggested that to assure greater reliability, beam delivery should be automatically suspended for tuning by the accelerator group whenever there are problems with beam transmission, even when users do not request such tuning (Kamigaito).
- BigRIPS report (Ohnishi)
  - The total beam dose was 983 pnA•day during the <sup>48</sup>Ca beam series this autumn. This is much smaller than the 4900 pnA•day, which, it was feared, might hamper on-site radiation-related work on BigRIPS.
  - The technique for the production and the isotope-separation of secondary beams has been improved so that it takes just 2-3 hours, and to adjust the BigRIPS separator to a secondary beam for which operation parameters are known, only 0.5-1.5 hours.
  - A list of 24 secondary beams produced in the <sup>48</sup>Ca beam series was shown.
  - A request was made that the BigRIPS team consider whether it will be possible to allocate <sup>48</sup>Ca BTs in the first half of fiscal 2011 without hindering the scheduled on-site radiation-related work on BigRIPS (Sakai).
- Report on the <sup>48</sup>Ca series (Sakurai)
  - Studies of nuclei far from the stability line based on the in-beam  $\gamma$ -ray spectroscopy, which had been discussed since 2006, were conducted for the first time in this <sup>48</sup>Ca series.
  - As an example, statistics overwhelmingly exceeding those of previous research were obtained in the study of a <sup>42</sup>Si nucleus.

## 2. BT schedule changes (Sakai)

- The BTs for the  $^{48}\text{Ca}$  series were changed due to beam trouble and ion-source depletion. The series was finally extended for three days. The comparison of the time lengths between the originally planned BTs and actually conducted ones were summarized in the following table.

Exp. Program	Spokesperson	Planned BT (days)	Actual BT (days)
NP0702-RIBF32	H. Scheit	9.5	3.2
NP0702-RIBF28	S. Takeuchi	6	3.7
NP0802-RIBF55	T. Nakamura	4.5	4.5
NP0906-RIBF02	D. Bazin	4	4
NP0906-RIBF03	P. Fallon	3 (+3 <sub>conditional</sub> )	1
NP0912-RIBF33	M. Takechi	6	4
NP0702-RIBF11	S. Nishimura	2 (parasitic)	<i>done</i>

- Due to the effect of the above noted 3-day delay of the  $^{48}\text{Ca}$  series, the BT of ML0702-RRC03 (Yoshida *et al.*,  $^{58}\text{Fe}$  beam, RILAC-RRC-RIPS) scheduled just after the series was also delayed for three days and the BT length was reduced by 0.5 days from 6 to 5.5 days.

## 3. Accelerator machine study reports (Kamigaito)

It was reported that the following MSs were recently carried out.

- MS10-7 [ Spokesperson: A. Goto, BT: 11/26/9:00-11/27/9:00 (1 day),  
Course: E7, Beam:  $^6\text{Li}$ ,  $E/A = 11.2$  MeV,  $I = 2$   $\mu\text{A}$ ]
- MS10-8 [ Spokesperson: A. Goto, MT: 12/6/17:00-12/6/21:00 (4 hours),  
Course: E7, Beam:  $^6\text{Li}$ ,  $E/A = 11.2$  MeV,  $I = 2$   $\mu\text{A}$ ]

## 4. Status of the PAC meetings (Ueno)

- 8th NP-PAC
  - The PAC meeting was held Dec. 3-5 as scheduled. The PAC is now making a report.
- 7th ML-PAC
  - The PAC meeting is scheduled for Jan. 11-12, 2011.
  - The call-for-proposals was closed on Dec. 6. There were 21 proposals using the RAL and 3 programs proposed for the RIBF facilities.
  - In compliance with the decision made in the previous MT Committee meeting, an in-house technical review is now being conducted for RIBF-related proposals.
  - A PAC meeting program is under consideration by the ML-PAC secretariat.
- 3rd In-PAC
  - The PAC meeting scheduled for January will be skipped.

## Topics discussed

### 1. **Approval of the minutes of the 38th meeting** (Sakai)

### 2. **Determination of the remaining BTs for the $^{48}\text{Ca}$ series** (Sakai)

- Actually conducted BTs are listed in the above table.
- The MT Committee chair will determine the remaining BTs through individual discussions with the respective spokespersons.

### 3. **Unplanned RI-beam production during BigRIPS-based experiments** (Sakai)

It was reported that users often requested the production of additional unplanned secondary beams. In such cases, safety issues are not reviewed by the Safety Committee, which should be done prior to beam time on the basis of an Accelerator Use Planning Sheet. The MT Committee decided to deal with such requests as follows.

- First of all, the representative should obtain the approval of the Safety Committee chair. The MT Committee chair will decide whether or not to approve the request, and will deny the request if an additional secondary beam would clearly interfere with other approved experimental programs (En'yo).
- If the representative has any complaints regarding the decision, appeal should be made to the RNC deputy director who is in charge of supervising RIBF research (En'yo).

### 4. **Formulation of a guideline for BigRIPS-based experiments** (Sakai)

- A guideline will be formulated for the smooth operation of BigRIPS-based experiments.
- The MT Committee chair will discuss provisions for the guideline individually with the user group, the accelerator group, and the BigRIPS team.

### 5. **Parasite BTs with BigRIPS** (Sakai)

- It was proposed that some of the BigRIPS experiments, which can be conducted strategically in a parasitic BT, should be categorized as RNC projects that do not require a PAC review (Sakai). This was countered by a proposal that such projects should still be reviewed by the PAC on the condition that there is no limitation of primary beams (and also BT length, if necessary) and that there is also parasitic BigRIPS use (En'yo).
- The MT Committee encourages parasitic BT allocation with BigRIPS. How to manage parasitic experiments and their BT allocation remains under discussion. This issue will also be discussed in other meetings.

### 6. **Conditionally allocated BT** (Ueno)

- Permission was given to conduct the BT of the DD10-2 experiment (Michimasa *et al.*, a beam at  $E/A = 6.5$  MeV with the E7b course on Jan. 22-24), which had been tentatively allocated on the condition that the RILAC2 construction remains on schedule.

### 7. **Coming FY2011 first half-year BT allocation** (Sakai)

- Experimental programs approved by PAC higher than grade A (S, S/A, and A) will be given priority in the BT allocation.
- It will be announced in the next Call-for-BT-Scheduling-Requests that the primary beams of  $^{124}\text{Xe}$

and light ions will be available for BigRIPS-based experiments (the possibilities for  $^{136}\text{Xe}$ ,  $^{70}\text{Zn}$ , and Kr are also under discussion). Their beam currents might, however, be lower than those announced in past PAC meetings, since the delivery system for these new beams is still under development.

**8. Next MT Committee meeting**

- The next MT Committee meeting will be held on Friday, January 21, 2011, from 13:30 to 15:00.
- The meeting after the next, originally scheduled for February 18, has been changed to February 25, 2011, from 13:30 to 15:00.