

Minutes of the 89th Machine-Time Committee Meeting

Date and time: June 16, 2015; 15:00–16:30

Place: RIBF Bldg., Room 203

Attendees: Sakai^a(Chair), En'yo^{a,†}, Fukunishi^a, Kamigaito^a, Kase^a, Kubo^a, Miyatake^c, Morimoto^a, Sakurai^a, Shimoura^b, Ueno^a, Uesaka^a, Uwamino^a, Wakasugi^a, Yamaguchi^b, Imai^{d,†}, Haba^{a,†}, Motobayashi^{a,†}, K. Yoshida^{a,†}, Otsu^{a,†}, Kishimoto^{a,†}, Tanaka^{a,†}, A. Yoshida^{a,†}, Yoneda^a

Absent: Abe^a, Okuno^a, Morita^{a,†}

^aRNC / ^bCNS / ^cKEK / ^dRIBF-UEC / [†]Observer
(in random order)

Reports

1. Current Status of the Machine Time Operation (Yoneda)

The current status of the machine time operation was reported. After the last MT committee meeting, the SRC-BigRIPS experiments with ⁷⁸Kr were performed as scheduled. The schedule was changed as below and 3-days of MT were newly allocated to the new isotope search experiment due to a new possibility of producing new isotopes in the proton-rich region with the current beam setting.

	(before change)	(after change)
DA14-02 (Kubo)	(Newly allocated)	6/16 9:00 – 6/19 9:00
MS-EXP15-04(Yamaguchi)	6/16 9:00 – 6/19 9:00	6/16 9:00 – 6/22 9:00

2. Changes of the Machine Time Schedule of Low-Energy Facility (Yoneda)

The changes of the MT schedule of the low-energy facility were reported. The RILAC standalone experiment DA13-02(K. Morita, ⁵⁰Ti, GARIS), originally scheduled to go until 9am of June 12 was extended by one day to go until 9am of June 13 since an additional change of the ion source material was required during the experiment. The experiment was conducted with ⁴⁸Ti from halfway through the experiment since the ⁵⁰Ti supply from the ion source became unexpectedly small.

3. Report on the RIBF Accelerator Operation (Fukunishi)

A status report was made concerning the beam provided to the SRC-BigRIPS experiments. The ⁷⁸Kr beam was being provided, and the beam intensity so far has been stable with 342pnA at maximum, 200-280pnA on average. The beam availability was 89.6%, due to some troubles such as the replacement of the vacuum tube used for SRC RF.

4. Report on the Restriction of the ⁷⁸Kr Beam Intensity (Tanaka)

A report was made concerning the restriction of the ⁷⁸Kr beam intensity. Radiation close to the limit of restriction (2.6μSv/h) was observed at the boundary of the radiation-controlled area on the first floor due to the radiation from the transfer beamline between SRC and BigRIPS. The restriction of the ⁷⁸Kr beam intensity was thus newly introduced at 200 pnA. The committee shared a view that such type of restriction could happen with other beams such as ⁴⁸Ca, and the radiation shield for the beamline between

SRC and BigRIPS must be reinforced as originally required in the building plan.

5. Report on the Schedule of the Facility Inspection (Uwamino)

A report was made concerning the schedule of the facility inspection. The inspection will be performed in the daytime from December 1 through 3, and during this period beams are needed in RILAC, SRC, and AVF. On the third day, the beam delivery will be interrupted for the interlock tests whenever as required by inspection.

6. Report on Preserving Research Records (Yoneda)

A status report was made concerning the research record preservation. An instruction on the method of copying experimental data and log books was sent to all the experiment groups which conducted experiments after April this year. Most of the experimental groups made copies of their research records as instructed, but there were still some groups which have not followed the procedure yet. The progress on the matter will continue to be observed hereafter.

7. Status of PAC Meetings (Yoneda)

- 16th NP-PAC: (12/3 - 5)

The call for proposals will be issued in September, with the deadline of proposal submission late in October.

- 12th ML-PAC: (to be held in July):

The schedule is under consideration, based on the backlog of experiments using the low-energy facility and status of RAL experiments.

- 4th In-PAC: nothing has been finalized about the next PAC.

Topics discussed

1. Approval of Minutes of Previous Meeting (Sakai)

2. Additional MT Allocation to RIPS Experiment (Schury)

An additional MT allocation to a RIPS experiment was proposed by ULIC. The proposal is to assign three days of beam time to the Teranishi group (AVF+RRC, $^{12}\text{C}@70\text{MeV/u}$, $>200\text{pA}$, E6(RIPS)) from 9am, September 5 through 9am, September 8, a slot that has opened up due to an experiment cancellation. The allocation was approved as proposed.

3. Application of Machine Study

- Machine Study for NeuLAND efficiency measurement (Otsu)

A machine study was proposed for a neutron detector NeuLAND. NeuLAND is a plastic scintillator produced for GSI FAIR, and is to be used for the collaboration experiments at SAMURAI until FAIR starts. The detector has four walls of scintillators, each with two layers of scintillators (250cm x 250cm, 5cm thick), and is scheduled to be used for at least seven experiments including the ^{28}O resonant state

search. The structure is preferable for multi-neutron detection. The efficiency of this detector will be calibrated using the (p,n) reaction on a ${}^7\text{Li}$ target. One can expect to estimate efficiencies with 10% accuracy based on simulation, a guess based on experiences using NEBULA, and 5% of precision will be achieved by actually measuring neutrons. Two proton beams with energies of 250MeV/u and 100MeV/u will be produced as the secondary beams from ${}^{48}\text{Ca}$ (0.5 days), and the efficiency will be measured through detecting neutrons emitted forward by the (p,n) reaction (0.5 days).

As a result of the review, 1-day measurement was approved in principle, though additional explanation was requested so that its necessity would be better understood.

4. FY2015 Yearly MT Plan (Sakai)

The yearly MT plan for the fiscal year 2015 was shown by ULIC for the exchange of opinions. The beam time request for the period from October through March was closed on June 15. Four ${}^{238}\text{U}$ experiments, four ${}^{48}\text{Ca}$ experiments and two ${}^{70}\text{Zn}$ experiments using SRC-BigRIPS were requested. It was proposed that, as discussed in the last MT committee meeting, about a month of the ${}^{238}\text{U}$ beam experiments (including the ImPACT experiment) and the ${}^{48}\text{Ca}$ experiments hereafter will be assigned, to which no objection was raised.

5. Next Meetings

- The next meeting will be held on Tuesday, July 14, 2015, at 3pm.
- The meeting after the next will be held on Wednesday, September 2, at 1:30pm.