



Call for Proposals of Nuclear-Physics Experiments

at RI Beam Factory

September 15, 2011

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This is a call for proposals of nuclear-physics experiments at the RI Beam Factory (RIBF) operated by RIKEN Nishina Center for Accelerator-Based Science (RNC) and Center for Nuclear Study (CNS), University of Tokyo.

The PAC (Program Advisory Committee) will review all nuclear physics proposals for RIBF facilities including SHARAQ operated by CNS, based on their scientific merits and feasibility. The PAC reports the results of recommendations to the directors of RNC and CNS.

The PAC is composed of international members, and the PAC meeting is held twice a year, usually in June and December.

Since the date of the 10th PAC meeting has been set for December 9-10, 2011, we are now starting to call for proposals to be discussed at the 10th PAC meeting. The spokesperson of a proposal is requested to give an oral presentation at the PAC meeting which is open to the public. For each submitted proposals, a few PAC members will be assigned as reviewers to review the proposal in detail prior to the PAC meeting. The PAC members, thus, may contact the spokesperson prior to the meeting if necessary.

In principle, approved experiments should be completed within two years. If an experiment does not finish within 2 years, a request for an extension or a new experimental proposal must be submitted.

We call for the following types of proposals:

1. nuclear physics experiments at our accelerator facility
2. update of previously approved proposals
3. development of experimental equipment that requires beam-time use

4. construction of large size instrumentations, such as a spectrometer, whose feasibility study has been completed (Note: the two-year rule is not applied to the proposals of this type).

As for item 1, the EURICA project (Euroball RIKEN Cluster Array) will be launched fully next fiscal year. Proposals requesting to use EURICA are welcome in this PAC. As for item 2, those who wish to make significant updates to their proposals can submit the updated version of the previously approved proposals for the PAC to review, if one of the following three cases is applicable:

- i) The approved experiment can be scheduled to run by using the beams projected to run in 2012, if the approved primary beam is changed.
- ii) The approved experiment has been significantly improved in sensitivity / efficiency by making use of SAMURAI or EURICA.
- iii) The granted priority of the approved proposals is not high, and the spokesperson wants to increase its priority. In particular, to be ranked as S or A, proposals approved as B or A/B are strongly advised to be revised for resubmission.

In the updated proposal, one should state clearly what has been changed since its approval as well as describe any changes that might affect the physics aspect originally presented so that the PAC can determine if it remains at the same priority. Our tentative two-year plan of primary beams for BigRIPS-based experiments is as follows:

(Spring 2011:	Performance check and Xe/U commissioning)
Autumn 2011:	^{238}U & ^{124}Xe
Winter 2012:	AVF-injection (d & ^{18}O)
Spring 2012:	AVF-injection / ^{238}U & ^{124}Xe (& ^{48}Ca)
Autumn 2012:	^{238}U & ^{124}Xe (& Kr) / AVF-injection
Winter 2013:	(open)

Due to the earthquake, the schedule has been put off by half a year from the date announced in the previous PAC. Please note that this is only a tentative schedule. The order of primary-beams and elements are subject to change depending on the situation of the beam development and the condition of the accelerator operation.

The submitted proposal must contain a cover sheet, and a detailed description of the proposed experiment or construction. The cover sheet can be downloaded from the web site <http://www.nishina.riken.jp/UsersGuide/NP-PAC/index.html>. Detailed information on the proposed experiment should be described in a free format, and attached to the cover sheet for submission. It should include the following description:

1. Goals and methods of the proposed experiment or proposed development

2. Setup and conditions
3. Estimation of beam time requested
4. Readiness

Information on the facility including the primary beam list is available at:

<http://www.nishina.riken.jp/UsersGuide/index-RIBF.html>.

The following is a list of contact persons of the experimental equipment and detectors. Those who plan to use the following equipment and/or detectors are requested to get in touch with the contact persons prior to the proposal submission.

Equipment

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|-----------------|-------------------|--------------------------------|
| 1. GARIS : | Kosuke Morita | (morita@ribf.riken.jp) |
| 2. RIPS : | Hideki Ueno | (ueno@riken.jp) |
| 3. BigRIPS : | Toshiyuki Kubo | (kubo@ribf.riken.jp) |
| 4. ZeroDegree : | Hideaki Otsu | (otsu@ribf.riken.jp) |
| 5. SHARAQ : | Susumu Shimoura | (shimoura@cns.s.u-tokyo.ac.jp) |
| 6. SAMURAI: | Ken-ichiro Yoneda | (kyoneda@riken.jp) |

Detectors

- | | | |
|-------------|-------------------|--------------------------------|
| 7. DALI2 : | Tohru Motobayashi | (motobaya@riken.jp) |
| 8. GRAPE : | Eiji Ideguchi | (ideguchi@cns.s.u-tokyo.ac.jp) |
| 9. EURICA : | Shunji Nishimura | (nishimu@riken.jp) |

The personal information given in the submitted proposal will be used for the PAC evaluation purpose only. The titles, name of spokespersons including their affiliation of the PAC-approved proposals will appear in the Nishina Center web site and publication, if necessary.

Proposal should be sent to:

Dr. Hideki Ueno
User Support Office
RIKEN Nishina Center for Accelerator-Based Science
2-1, Hirosawa, Wako, Saitama, 351-0198, JAPAN
Email :UserSupportOffice@ribf.riken.jp .

Key dates:

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| Issuance of this Call for Proposals: | September 15, 2011 |
| Deadline of proposal submission: | October 20, 2011 |
| 10 th PAC meeting: | December 9-10, 2011 |