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ATLAS Call for Proposals
Deadline for proposals: Monday, December 12, 2011

Dear ATLAS User,

This is a call for proposals for experiments at ATLAS, for the scheduling period beginning in February 2012. The ATLAS Program Advisory Committee (PAC) meeting will be held January 13-14, 2012.

Please note that this is **a call for proposals for experiments using stable beams, radioactive beams produced by the in-flight technique, and low-energy radioactive beams from the CARIBU source.** We are pleased to report that CARIBU has been successfully commissioned. In the last six months, sufficient experience has been gained delivering low-energy CARIBU beams to make them reliably available to users and PAC proposals for experiments using low-energy CARIBU beams will be considered in this PAC cycle. Re-accelerated CARIBU beams have been successfully delivered to GAMMASPHERE, but because of the limited strength of the current ^{252}Cf source we can only accept at the moment letter-of-intent requesting specific re-accelerated beam species to help us prioritize beam developments. We apologize for the inconvenience this delay may cause. We also encourage Users who plan to bring new equipment to ATLAS for CARIBU experiments (with either low-energy or re-accelerated beams) to contact members of the scientific staff or the user liaison scientist at their earliest convenience so that adequate planning can occur and the instrumentation can be accommodated properly.

Please remember that, at the request of the PAC, some specific requirements for proposals have been implemented (see below). Please take them into account while preparing your submissions.

Some of the experiments that received "Priority II" approval could not be scheduled in the period since the last PAC meeting because of heavy pressure for beam time. This approval does **not** carry over to the next cycle and such proposals must be resubmitted for consideration by the PAC if beam time is still desired.

During the present PAC period, Gammasphere was located in front of the FMA as there was no request for stand-alone operation on the other beam line. However, depending on Users demand, the array can be moved to its stand-alone location either during the upcoming PAC period or during the next one. Hence, we welcome proposals for Gammasphere at both locations. Note that the presence of Gammasphere at the FMA continues to constrain the intensity of beams allowed for some FMA experiments.

Format of Proposals:

We encourage the electronic submission of proposals, although hardcopy submissions will also be accepted. The instructions for filling out the web-based forms can be found on our web site at: http://www.phy.anl.gov/atlas/pac/proposals.html.

To request beam time, please complete either the web-based form(s) or download and complete the requisite form(s), and write a description of the proposed experiment summarizing the scientific justification, motivation, feasibility, and relevant technical and safety information. The proposals can be sent electronically as an e-mail attachment to zhu@anl.gov in either (I) Portable Document Format (.pdf), (II) Postscript format (.ps), or (III) in Microsoft Word. The alternative is to print **15** hardcopies and mail them to Barbara Weller.

Contents of the Forms: There are two forms, the first of which is the proposal fact sheet on the web at http://www.phy.anl.gov/atlas/pac/prop-factsheet.html, which must accompany all proposals. The second form is specific to Gammasphere experiments and can be found at http://www.phy.anl.gov/atlas/pac/GS-checklist.html. On the proposal fact sheet, **please list the maximum beam energy and current you require**. This essential information is needed for radiation safety calculations. Also, beam tuning will be based on these upper limits. An increase in energy above the stated maximum or a change in beam species requires prior notice. Finally, by signing the hardcopy form or entering your name in the verification box on the web-based form, **you are certifying that all collaborators listed on your proposal are fully aware of the proposal and have agreed to participate in the experiment**.

Contents of Proposals: The proposals should be self-contained; including a **list of participants,** an **abstract**, the **basic physics goals** of the experiment, a **discussion of what exactly will be done** in the measurement and any pertinent **references**. Sufficient technical details of the proposed measurement and count-rate estimates should be included, for the PAC to be able to judge feasibility and the scope of the measurement, and impact on available ATLAS resources in manpower and hardware. **The PAC requests that the proposals be kept to a reasonable length, 5 pages maximum plus figures and appendices. It is to be presented in single-column format (i.e., a full Phys Rev C length article in two-column format is not acceptable), with fonts no smaller than those in this letter (12 pt).**

In your proposal please summarize the results of previous experiments by the group and indicate the status of the data analysis and publication. This information will be taken into account during the PAC assessments.

Please indicate also whether the proposal is part of a PhD thesis project. A question to this effect has been added to the proposal fact sheet.

Background Information

Beam Species: The beams that are routinely available from ATLAS are listed on the ATLAS Web page at http://www.phy.anl.gov/atlas/facility/stable_beams.html. They range from ^{7}Li to ^{238}U. Other beams may be possible, after some development, and their feasibility should be discussed with the ATLAS Operations Group before a proposal is submitted.

Beam Isotope:. The beam currents for elements listed in the table of available beams were obtained using natural material. Other isotopes are available with currents generally proportional to their abundance. Any special preparation that may be needed should be discussed with the Operations Group prior to submission of the proposal. The practicality of a beam may be a consideration in the approval of a proposal.

Radioactive Beams:. The radioactive beams produced by the in-flight technique are listed on the ATLAS Web page at http://www.phy.anl.gov/atlas/facility/radioactive_beams.html. The contact person for additional information is Richard Pardo (pardo@phy.anl.gov). For low-energy CARIBU beams, a yield table for a 1 Ci ^{252}Cf source is available in pdf format at http://www.phy.anl.gov/atlas/caribu/Cf252_upgrade_proposal_final_Rev4.pdf. The source presently available at CARIBU has a strength of 60 mCi and yields should be scaled accordingly to plan experiments. The contact person for additional information is Guy Savard (savard@anl.gov).

Experimental Equipment: General information on experimental equipment can be found in the ATLAS User Information page (http://www.phy.anl.gov/atlas/users/index.html). Other equipment is also available for potential users, and there are general-purpose beam lines for additional scattering chambers or other non-standard equipment. For the current status of a specific experimental station, please contact any one of the Laboratory staff members or the user liaison physicist.

HELIOS: Experiments with the **HELIOS** spectrometer for measurements of reactions in inverse kinematics have been carried out by the University of Western Michigan, University of Manchester, Argonne National Laboratory collaboration. Scientists interested in using the device are requested to contact representatives of the collaboration, Alan Wuosmaa (alan.wuosmaa@wmich.edu) and Birger Back (back@anl.gov), to discuss the feasibility of a measurement.

Gammasphere and FMA: **Gammasphere** and the **FMA** are complex instruments that may be used combined or separately in experiments. There are a number of options for their utilization. To aid the user in preparing proposals, see http://www.phy.anl.gov/atlas/pac/GS-checklist.html for some of these options. Details concerning Gammasphere may be found at http://www.phy.anl.gov/gammasphere/index.html or by directly contacting M.P. Carpenter (carpenter@phy.anl.gov); FMA details are at http://www.phy.anl.gov/fma/index.html or by contacting D. Seweryniak (seweryniak@anl.gov).

Access to Experiments with Beam: The ARIS system is designed so that for low-level radiation, where appropriate conditions are satisfied, access to the experiment is possible during the course of a measurement. More information can be found in the ATLAS Users Handbook.

Program Advisory Committee

PAC membership. The present PAC membership is: Dan Bardayan (Oak Ridge National Laboratory), Michael Carpenter (Argonne National Laboratory), Bogdan Fornal (Institute of Nuclear Physics, Polish Academy of Sciences, Cracow), Sean Freeman (University of Manchester), John Hardy (Texas A&M University), Walter Loveland (Oregon State University), Witek Nazarewicz (University of Tennessee, Oak Ridge National Laboratory) and Daryl Hartley (US Naval Academy) as Chair of the ATLAS Users Group.

Please feel free to contact the ATLAS user liaison physicist (zhu@anl.gov) with any questions. Web-based submissions must be received before midnight on **December 12, 2011**, or send **15** copies of your proposal and necessary enclosed forms such that they arrive by **December 12, 2011** to:

Mrs. Barbara Weller
PHY203
Argonne National Laboratory
9700 S. Cass Ave.
Argonne, IL 60439-4843

Confirmation of the reception of your proposal should reach you via email by December15, 2011.

We are looking forward to exciting proposals for research at ATLAS.

Sincerely,

Savard Guy
ATLAS Scientific Director

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