Kraków, June 7, 2019

Cyclotron Center Bronowice IFJ PAN

Call for Proposals and Letters of Intent
Deadline: July 31, 2019

Dear User of CCB,

This is a call for letters of intent and proposals for experiments at the proton PROTEUS C-235 cyclotron at CCB IFJ PAN, as well as the reports from recently performed experiments. The CCB International Advisory Committee (IAC) meeting, during which the proposals and LoIs will be evaluated, is planned to be held on August 30, 2019.

At CCB, a proton beam with energies 70-230 MeV and intensities up to a few nA is available for nuclear physics experiments. As the priority of the CCB is the hadron therapy, depending on the medical plans, the beam time for the nuclear physics experiments will be organized in campaigns, mainly in the afternoon and night shifts or in the weekends.

At present, two main detection systems are available:

1) $LaBr_3$ and PARIS arrays coupled to the Kraków Triple Telescope Array (KRATTA):
   a) LaBr3 array – an array of 4 large volume $LaBr_3$ detectors for detection of high-energy γ rays (up to 25 MeV);
   b) PARIS array – an array of 2 PARIS clusters (each possessing 9 $LaBr_3$_NaI phoswich detectors)
   c) KRATTA – a multi-modular array for charged-particle detection (which can be used in different configurations); it covers a broad energy range of protons that can be detected, from ~3 to 260 MeV, and provides mass resolution up to mass number A~10.

2) The Big Instrument for Nuclear Data Analysis (BINA) – this detector is particularly suited to study the *p*+*d* breakup reaction. BINA is composed of two major parts: the forward wall, which measures the energy, the position, the polarization of proton and deuteron at scattering angles in the range 10°-35°, and the backward ball part, which covers the rest of the polar angle up to 165°.

In addition, there are possibilities to perform detector's testing with proton beam,

The proposals should contain 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 relevant references. Technical details of the proposed measurement and count-rate estimates should also be included. The proposals should be kept to a reasonable length, with a 5-page maximum. Please note that a liaison for the experiment from IFJ PAN, who shall also be a participant, has to be indicated. Please inform about previous experiments performed at CCB, if relevant. Please also note that each publication with the results from CCB should include as co-authors the team from IFJ PAN that participated in the execution of the experiment.

The letters of intent are aimed at proposing new lines of research possibly based on new detection systems. They should also include description of physics goals of the proposed studies as well as technical details of detection setup and considerations regarding its mounting on the beam line.

Please indicate also whether the proposal is part of a PhD thesis project.

Starting from 2016, the access to the CCB IFJ PAN Laboratory can be supported within the HORIZON2020 ENSAR2 project. Members of the groups from European and associated countries participating in experiments can apply for EC ENSAR2 funds in order to cover their subsistence and travel expenses. In your proposal, you may indicate that you are interested in such a support.

When preparing your proposals, please consider that to be eligible for this support the following conditions have to be satisfied:

a) among experiment leaders (spokespersons) there should be at least one co-spokesperson from an institution established in a Member State or Associated State, other than Poland;
b) the majority of the experiment participants must be employed in institutions established in a Member State or Associated State, other than Poland;
c) The ENSAR2 grant also allows financial support for local subsistence costs for members of teams performing experiment at ENSAR2 research infrastructures, which have the majority of users not working in EU or associated countries, but the support is limited to 20% of the total amount of units of access provided under the grant.

The applications for the ENSAR2 funds for proposals recommended by CCB-IAC will be evaluated by the CCB Selection Panel (Muhsin Harakeh and Adam Maj).

CCB International Advisory Committee

Faical Azaiez (iThemba Labs, South Africa), Angela Bracco (University of Milano and INFN, Italy), Bogdan Fornal (IFJ PAN, Kraków, Poland), Zsolt Fülöp (ATOMKI, Debrecen, Hungary), Muhsin Harakeh (KVI-CART, Groningen, Netherlands) – CHAIR, Robert Janssens (ANL, Argonne, USA), Stanisław Kistryn (Jagiellonian University, Kraków, Poland), Marek Lewitowicz (GANIL, Caen, France), Adam Maj (IFJ PAN, Kraków, Poland), Krzysztof Rusek (Warsaw University, Poland), Hideyuki Sakai (RIKEN, Japan), Christoph Scheidenberger (GSI, Germany), Nicolae Victor Zamfir (IFIN-HH, Bucharest, Romania), Wiktor Zipper (University of Silesia, Katowice, Poland)

Please feel free to contact:
Maria Kmiecik (maria.kmiecik@ifj.edu.pl) with questions concerning PARIS-LaBr3-KRATTA setup;
Jerzy Łukasik (jerzy.lukasik@ifj.edu.pl) with specific questions concerning KRATTA;
Adam Kozela (adam.kozela@ifj.edu.pl) with questions concerning BINA;
Mirek Zieblinski (miroslaw.zieblinski@ifj.edu.pl) with all technical and infrastructure questions.
With questions that are more general, please contact Adam Maj (adam.maj@ifj.edu.pl).

E-mail submissions should be sent to adam.maj@ifj.edu.pl before midnight (CET) on **July 31, 2019**. More information at http://experimentsccb.ifj.edu.pl/
We are looking forward to interesting proposals for research at CCB IFJ PAN.

Sincerely,

Adam Maj