IPHC
Institut Pluridisciplinaire Hubert CURIEN STRASBOURG

REPORT on «Commissioning of the Acculinna-2 fragment separator and its first day experiments»

Christian BECK
Directeur de Recherches

Tél. : (33) 03 88 10 68 45
Secrétariat : (33) 03 88 10 64 55
Fax : (33) 03 88 10 66 16

The new ACCULINNA-2 in-flight fragment separator, installed in 2016, is one of the world-class facility being the basis at the Flerov Laboratory of Nuclear Reactions (FLNR) to study light exotic nuclei in the vicinity of the nucleon stability with radioactive ion beams (RIBs). Several times ACCULINNA-2 scientific presentations have already been highly appreciated by the Nuclear Physics PAC of JINR : the success of the Dubna group encouraged the PAC to recommend them to continue the international collaborations with teams from Europe and abroad on original experiments after the success of the commissioning runs.

The commissioning of the ACCULINNA-2 in-flight fragment separator (constructed and tested in 2016) has used in 2016-2017 the fragmentation reaction 15N(49.7 MeV/nucleon) + Be(2 mm) for RIBs of 14N, 12Be, 9,11Li, and 6,8He with intensities 25 times higher than the previous ACCULINNA-1 facility operating in FNLR since 1996. The collaboration proposes that the first experiments will investigate 7H, 13Li, 17Ne and 26S decaying via the 2p, 2n and 4n emission.

In conclusion, as the commissioning results are successful and quite convincing for future experiments and whereas both the requested ressources and the time schedules of the Project Acculinna-2 remain rather reasonable, I recommend the proposed plans (first-priority runs for first-day experiments with increased intensities) for the near future to be financially supported.

Dr. Christian BECK
Directeur de Recherches CNRS
June 6, 2017

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

IN2P3