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GANIL for the next decades (NewGAIN (C. Peaucelle) - Future (H. Franberg Delahaye))

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This presentation will cover the New GAINproject and the next decades :

The first extracted beams used for experiments at GANIL were 40 years ago. This paved the way for successful studies of exotic nuclei at GANIL.

In the 2000s, the SPIRAL1 facility granted access to post-accelerated radioactive ISOL type beams. Less than 20 years later, the new SPIRAL2 facility provides beams for physics at NFS and promises to supply beams to S3 and DESIR in the near future. These state-of-the-art installations present unique opportunities. In addition to the nuclear physics community, various interdisciplinary research fields are actively explored.

In 2020 the French community actively participated in national prospective that produced the “French roadmap for Nuclear, Particle, and Astroparticle physics, along with associated technical developments and applications.” The future of GANIL was given particular focus and was extensively discussed during the subsequent “Mission SPIRO.” Four major objectives were identified.

Currently, we are initiating a preliminary project to define possible scenarios that address the aforementioned objectives. The upcoming SFP accelerator meeting will provide a unique opportunity to discuss these objectives with the French community.

Le projet NEWGAIN (NEW GANil INjector) a pour objet l'étude et la construction au GANIL d'un second injecteur d'ions lourds avec des A/Q jusqu'à 7 sur SPIRAL2. Cette future extension permettra de délivrer avec SPIRAL2 des faisceaux intenses allant des protons à l'uranium. L'injecteur NEWGAIN repose sur 2 sources d'ions ECR (dont la source d'ions lourds PHOENIX V3 déjà existante), deux lignes basse énergie, un RFQ et une ligne moyenne énergie (LME) pour rejoindre la LME existante et connectée au LINAC de SPIRAL2. Dans cet exposé, le design global retenu du futur injecteur sera présenté ainsi que les exigences et spécifications générales. Les principales caractéristiques des composants principaux de NEWGAIN seront également décrites.

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