Séminaire

PHYSIQUE NUCLÉAIRE
NUCLEAR PHYSICS

DESPEC experiments in FAIR Phase-0

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The DESPEC experiment is part of the NUSTAR (NUclear STructure, Astrophysics and Reactions) collaboration, which represents one of the four pillars that comprise the scientific program for the FAIR accelerator facility currently under construction in Darmstadt, Germany. The DESPEC setup will be installed at the low-energy branch of the future Superconducting FRagment Separator (Super-FRS), the central device of the NUSTAR experiments, where exotic ions from across the nuclear chart will be produced in projectile fragmentation reactions and delivered with event-by-event identification. The ions will then be implanted into a stack of detectors at the core of the DESPEC setup, where subsequent decay radiation will be detected, thus yielding information about the underlying nuclear structure.

As part of the FAIR Phase-0 program, the DESPEC setup was commissioned in 2019-2020 and full experimental campaigns were carried out in 2021 and 2022 at the existing GSI facility. This seminar will discuss details of the physics goals, commissioning and preliminary results of the program, and will provide an overview of the future plans leading to the start of FAIR operations.

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