

Production target ion source system for SPIRAL2 facility

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The construction of SPIRAL2 facility at Ganil has been approved in mid 2005. The main goal of this facility is to produce and to accelerate very intense radioactive nuclear beams. First production mode exploited is fission process induced in a refractory target, either by fast neutrons generated from a C converter or by direct primary beam bombardment. The expected in-target production rates are 10^{13} to 10^{14} fissions/s.

The driver, with an acceleration potential of 40 MV, has to be evolutionary and versatile: it will accelerate deuterons (5 mA) and $q/A=1/3$ ions (1 mA). It consists in high-performance ECR sources, an RFQ cavity and independent phase superconducting resonators. The primary beam is pointed towards the production system including converter, target and ion source. The nuclear beam can be directly used in a low energy experimental area or post-accelerated by the existing CIME cyclotron. An overview of the facility and the production target-ion system design will be presented.