

Neutrons for Science
SPIRAL-2
GANIL, Caen, France

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Background

- “The birth of a new European experimental facility is rare enough to be broadcast widely ...”
--- Jean Cristophe Sublet
- The existing accelerator and experimental facilities at GANIL (Caen, France) will be transformed over the next 5-10 years to produce SPIRAL-2 for use in neutron physics research, RIB studies, and nuclear astrophysics
- Financial support is being requested from the European Union ... the goal is operation of this new facility by 2009

Facility Concept

- A new superconducting linear accelerator will provide deuterons with energies of 40 MeV (5 mA current and 200 kW power)
- Deuterons on a rotating carbon converter will produce a neutron intensity of $\sim 1 \times 10^{15}$ n/s covering the energy range 1 keV to 40 MeV
- Neutrons can be used for basic or applied neutron physics studies or for materials irradiations (e.g., for fusion applications)
- Operating in other modes - with a variety of CP beams - will lead to production of exotic isotopes of interest for astrophysics studies (e.g., via a RIB approach akin to that proposed for RIA)

Further Information

- Information about this proposed facility and its capabilities can be found at the website <http://www.ganil.fr/spiral2ws2/>
- A second workshop is being held on 13-14 December 2004 at GANIL (Caen, France) to discuss the new project and to obtain input from potential users concerning the use of this facility for applications other than RIB and astrophysics research, e.g., for neutron TOF measurements and intense neutron irradiations ... registration deadline was 1 November.