Laboratori nazionali di frascati dell'infn

Fact Sheet

Project Information

LNF2000

Grant agreement ID: HPRI-CT-1999-00088

Project website

Project closed

Start date
1 March 2000

End date
31 August 2004

Funded under
Programme for research, technological development and demonstration on "Improving the human research potential and the socio-economic knowledge base" (1998-2002)

Total cost
€ 900 000,00

EU contribution
€ 900 000,00

Coordinated by
ISTITUTO NAZIONALE DI FISICA NUCLEARE
Italy

Objective

Description:

The particle and nuclear physics research at the Laboratori Nazionali di Frascati of INFN is carried out at the Electron-Positron collider DAFNE.
The collider is optimized to work at the phi mass with a high luminosity; as a consequence high precision experiments are carried out with 3 detectors: KLOE for the measurement of CP and CPT violation parameters in neutral kaon decays,

FINUDA for the study of hypernuclei and DEAR for researching in the field of exotic atoms.
The new collider, DAFNE, with its high circulating current represents also a powerful source of synchrotron radiation, from the infrared to the soft x-rays.
The synchrotron light laboratory (DAFNE-Light) is in fact a new facility, almost unique in Europe, equipped to perform experiments in multidisciplinary areas such as biophysics, solid state physics and material science.
The DAFNE beam test facility (BTF) is a beam line using the DAFNE Linac in a parasitic way. It can provide electrons (positrons) up to 800 (550) MeV with a 1% energy spread. This facility, very useful for detector calibration purposes, has been recently commissioned for single electron operation with excellent results, and will be soon available for users' access.
Since 1995, the ultracryogenic detector for gravitational waves (NAUTILUS), is operating in Frascati. At present NAUTILUS is one of the two most sensitive gravitational wave detectors in the world with a sensitivity sufficient to detect sources located in our galaxy and in the local group.
At the LNF a temperature variable cryostat with an 8T superconducting magnet is available for a.c. magnetic multiharmonic susceptibility and transport measurements as well as for critical current determination.
A research group for the biodosimetric studies is also active at Frascati.

Application:

Eligible researchers wishing to have access to the LNF will be required to submit written proposals using the LNF-TARI Application Forms, which can be downloaded from our web site (http://www.lnf.infn.it/cee/).
The applications will be done according to the LNF call for proposals, issued every six months (usually in March and September).

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Fields of science (EuroSciVoc)

natural sciences > physical sciences > theoretical physics > particle physics > **particle accelerator**

natural sciences > physical sciences > astronomy > observational astronomy > **gravitational waves**

natural sciences > physical sciences > **nuclear physics**

natural sciences > physical sciences > condensed matter physics > **solid-state physics**

natural sciences > biological sciences > **biophysics**

Programme(s)

FP5-HUMAN POTENTIAL - Programme for research, technological development and demonstration on "Improving the human research potential and the socio-economic knowledge base" (1998-2002)

Topic(s)

1.4.1.-2. - Access to Research Infrastructures

Call for proposal

Data not available

Funding Scheme

LFC - Access to Research Infrastructures

Coordinator

ISTITUTO NAZIONALE DI FISICA NUCLEARE

EU contribution

No data

Total cost

No data

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