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Searching for SuperSymmetry at LHC: Study Program with ATLAS at CPPM Marseille

Fact Sheet

Project Information

ATLAS-CPPM-SUSY

Grant agreement ID: 21700

Project closed

Start date

1 October 2005

End date

30 September 2007

Funded under

Human resources and Mobility in the specific programme for research, technological development and demonstration "Structuring the European Research Area" under the Sixth Framework Programme 2002-2006

Total cost

No data

EU contribution

€ 80 000,00

Coordinated by

INSTITUT NATIONAL DE
PHYSIQUE NUCLEAIRE ET DE
PHYSIQUE DES PARTICULES -
CENTRE NATIONAL DE LA
RECHERCHE SCIENTIFIQUE

 France

Objective

The ATLAS experiment has the ambitious goal to look for and understand the origin

of mass in our world. The detector will search for new particles in the collisions of protons provided by the Large Hadron Collider (LHC) at the European Laboratory for Particle Physics (CERN) in Geneva. This accelerator will open, in 2007, a new energy window in particle physics and new phenomena beyond the Standard Model, like super-symmetric particles, are expected to manifest themselves in the ATLAS detector.

The search for super symmetry will be actively pursued and requires a thorough preparation work, which has to start now. One of the biggest challenge to extract this physics is the unprecedented amount of computing power, storage capability and network bandwidth needed to treat the LHC data, for which grid computing is being developed. The CPPM (Centre de Physique des Particules de Marseille), the host-organization, is strongly involved in grid computing development, through its local EGEE group, and is part of the ATLAS project since its inception.

The ATLAS group has a leading role in different key-parts of ATLAS: electro magnetic calorimeters, pixel detectors for tracking and event filter for trigger. The group is already involved in preparation work for physics: top quark studies, searches for the Higgs boson. By strengthening and building up on these competences in CPPM, this project aims to extend the field of investigation to cover searches for super symmetric particles.

Complementary to the physics studies already performed at CPPM, this project greatly enhances the CPPM range of physics investigations and its visibility in the particle physics community. Large-scale simulations on the computing grid are an essential part of this proposal with close interaction with the EGEE/CPPM group. This cross-fertilization of both group work increase the added value to the technology of information community and the physics community.

Fields of science (EuroSciVoc)

[natural sciences](#) > [computer and information sciences](#) > [data science](#)

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[natural sciences](#) > [physical sciences](#) > [theoretical physics](#) > [particle physics](#) > [higgs bosons](#)



Keywords

[grid computing](#)

[particle physics](#)

[supersymmetry](#)

Programme(s)

[FP6-MOBILITY - Human resources and Mobility in the specific programme for research, technological development and demonstration "Structuring the European Research Area" under the Sixth Framework Programme 2002-2006](#)

Topic(s)

[MOBILITY-4.2 - Marie Curie International Reintegration Grants \(IRG\)](#)

Call for proposal

FP6-2004-MOBILITY-12

[See other projects for this call](#)

Funding Scheme

[IRG - Marie Curie actions-International re-integration grants](#)

Coordinator



INSTITUT NATIONAL DE PHYSIQUE NUCLEAIRE ET DE PHYSIQUE DES PARTICULES - CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

EU contribution

No data

Total cost

No data

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Links

[Contact the organisation](#)  [Website](#) 

[HORIZON collaboration network](#) 

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