#### **30th International Cosmic Ray Conference**



Contribution ID : 884

Type : Poster

# Prospects of gamma-ray observations and dark matter search with CALET

Monday, 9 July 2007 14:45 (0:00)

#### Abstract content

We are proposing the CALET (CALorimetric Electron Telescope) instrument for the observation of high-energy electrons and gamma rays at the Exposed Facility of the Japanese Experiment Module on the International Space Station (ISS). The CALET detector consists of an imaging calorimeter with scintillating fibers and tungsten plates, and a total absorption calorimeter with crystal scintillators. CALET has a capability to observe electrons (+positrons) in 1GeV-10TeV and gamma rays in 20MeV-10TeV with a high energy resolution of 2% at 100GeV, a good angular resolution of 0.06deg at 100GeV, and a high proton rejection power of 10^6. CALET has the geometrical factor of nearly 1m^2sr and three-years observation is expected. Thus, CALET is a complementary gamma-ray detector with GLAST, HESS and so on. In particular, the excellent energy resolution of CALET, which is much better than GLAST or air Cherenkov telescopes over 10GeV, is ideal for detection of gamma-ray lines in the GeV-TeV region from WIMP dark matter annihilations. The high precise observations of electrons(+positrons) also enable us to detect distinctive positron features from WIMP annihilations. In this paper, we present prospects of gamma-ray observations in 20MeV-10TeV and dark matter search with CALET.

## If this papers is presented for a collaboration, please specify the collaboration

CALET collaboration

## Summary

#### Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 4 (HE part 1), pages 817-820

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Session Classification : Posters 3 + Coffee

Track Classification : HE.3.5