



Contribution ID : 141

Type : **Poster**

Conceptual design of a charge identifier array for cosmic ray composition measurements in CALET

Wednesday, 4 July 2007 14:45 (0:00)

Abstract content

The CALorimetric Electron Telescope (CALET) mission is proposed for the observation of high energy cosmic rays and gamma radiation for the JEM-EF attached payload on the International Space Station. The instrument, equipped with an imaging calorimeter of scintillating fibers (IMC) and a total absorption BGO calorimeter (TASC), is optimized for the measurement of cosmic ray electrons in the TeV energy range with the exciting possibility to identify individual nearby sources. The large collection power of CALET also allows for precision studies of the elemental composition of charged cosmic rays and of their spectral features. The charge identification of the incoming particle is performed by a two-layered array of pixelated silicon sensors, covering a seamless sensitive area of about 0.8 m^2 , placed on top of the instrument. An innovative integrated design of the array and its front-end electronics will be presented.

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

CALET

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. 2 (OG part 1), pages 301-304

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Session Classification : Posters 1 + Coffee

Track Classification : OG.1.5