



Contribution ID : 1053

Type : **Poster**

Gamma Air Watch (GAW): the electronics and trigger concept

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

Abstract content

GAW proposes a new approach for the detection and measurement of the Cherenkov light produced by GeV/TeV gamma rays traversing the Earth atmosphere which imposes specific requirements on the electronics design. The focal surface of the GAW telescope consists of a matrix of multi-anode photomultipliers. The large number of active channels (of the order of 104) makes it basically a large UV sensitive digital camera with high resolution imaging capability. The limited amount of space available, due to the large number of channels, requires a compact design with minimal distance between the elements of the focal surface. The front-end electronics uses the single photoelectron counting technique to capture the Cherenkov light. The data acquisition is based on free-running data taking method. Self-triggering capability for each telescope is assured by detecting an excess of active pixels, in a 5ns time frame, inside overlapping trigger areas covering the whole focal surface. In this paper we describe the GAW electronics, as well as the trigger concept and implementation.

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

GAW

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. 3 (OG part 2), pages 1519-1522

Primary author(s) : ASSIS, Pedro (LIP); PIMENTA, Mário (LIP); PIRES, Gonçalo (LIP); BROGUEIRA, Pedro (LIP); AGNETTA, Gaetano (IASF -Palermo , INAF); CATALANO, Osvaldo (IASF -Palermo , INAF); CUSUMANO, Giancarlo (IASF -Palermo , INAF); GALLÌ, N. (IASF -Palermo , INAF); GIARRUSSO, Salvatore (IASF -Palermo , INAF); LA ROSA, Giovanni (IASF -Palermo , INAF); RUSSO, Francesco (IASF -Palermo , INAF); SACCO, Bruno (IASF -Palermo , INAF)

Presenter(s) : ASSIS, Pedro (LIP)

Session Classification : Posters 3 + Coffee

Track Classification : OG.2.7