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Balloon observation of electrons and gamma rays with CALET prototype

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Abstract content

We carried out a balloon observation of cosmic rays using the CALET prototype at the Sanriku Balloon Center of the Japan Aerospace Exploration Agency. The prototype detector consists of 1024 scintillating fibers for track imaging and 24 BGO scintillator bricks for total absorption of cosmic rays. The observation was carried at altitude between 35 and 37 km for about 4 hours. We measured electrons and gamma rays in the energy region between 1 to 100 GeV, and 20 MeV to 1 GeV, respectively. In addition to verification of the prototype system, we obtained energy spectra of electrons and gamma rays. Now we are planning a series of balloon experiments with larger-scale detectors and longer-duration flights, which includes one-month observation with a super-pressure balloon. In this presentation, we will report the results of the observation with the prototype and future plans for our balloon experiments.

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

the 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. 2 (OG part 1), pages 433-436

Primary author(s) : Dr. SHIMIZU, Yuki (Waseda University); Prof. TORII, Shoji (Waseda University)

Co-author(s) : Prof. KASAHARA, Katsuaki (Waseda University); Mr. AKAIKE, Yosui (Waseda University); Mr. FUKUTA, Yasuhiro (Waseda University); Mr. HIDAKA, Ken (Waseda University); Mr. TAIRA, Koichi (Waseda University); Prof. TAMURA, Tadahisa (Kanagawa University); Prof. YOSHIDA, Kenji (Shibaura Institute of Technology); Mr. SATO, Toshinari (Shibaura Institute of Technology); Ms. WATANABE, Iitsun (Shibaura Institute of Technology); Dr. KATAYOSE, Yusaku (Yokohama National University); Dr. MURAKAMI, Hiroyuki (Rikkyo University)

Presenter(s) : Dr. SHIMIZU, Yuki (Waseda University)

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