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Data Acquisition System of Surface Detector Array of the Telescope Array experiment

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Abstract content

The Telescope Array(TA) experiment will investigate the origin of the ultrahigh energy cosmic rays (UHECRs). This experiment is a hybrid observation of an air shower array and fluorescence telescopes installed in Utah, USA. We finished deploying about 500 Surface Detectors(SDs) for AS array to our site in winter of 2006-2007, and start SD operation from April 2007. Effective area of this array is 760km^2 , each detector set up at intervals of 1.2km and has 2 layers of 3m^2 , 1.2cm thick scintillator. Its energy threshold for air shower event is 10^{19}eV or more. The detector has the power supply to operate electronics and them for the data collection respectively. The data from detectors are transmitted to a trigger center by wireless LAN modem. We develop a data acquisition system for SDs on this wireless communication. In this presentation, we will report about the data acquisition system of SD array.

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

The Telescope Array 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. 5 (HE part 2), pages 1109-1112

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