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Construction of a Medium-Sized Schwarzschild-Couder Telescope for the Cherenkov Telescope Array: Implementation of the Cherenkov-Camera Data Acquisition System

Tuesday 4 August 2015 16:00 (1 hour)

A medium-sized Schwarzschild-Couder Telescope (SCT) is being developed as a possible extension for the Cherenkov Telescope Array (CTA). The Cherenkov camera of the telescope is designed to have 11328 silicon photomultiplier pixels capable of capturing high-resolution images of air showers in the atmosphere. The combination of the large number of pixels and the high trigger rate (> 5 kHz) expected for this telescope results in a multi-Gbps data throughput. This sets challenging requirements on the design and performance of a data acquisition system for processing and storing this data.

A prototype SCT (pSCT) with a partial camera containing 1600 pixels, covering a field of view of 2.5 x 2.5 square degrees, is being assembled at the F.L. Whipple Observatory.
We present the design and current status of the SCT data acquisition system with an emphasis on its software component.

Collaboration

CTA

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