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Camera calibration strategy of the SST-1M prototype of the Cherenkov Telescope Array

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The SST-1M telescope is one of the prototypes under construction proposed to be part of the future Cherenkov Telescope Array. It uses a standard Davis-Cotton design for the optics and telescope structure, with a dish diameter of 4 meters and a large field-of-view of 9 deg.

The innovative camera design is composed of a photo-detection plane with 1296 pixels including entrance window, light concentrators, Silicon Photomultipliers (SiPMs), and pre-amplifier stages together with a fully digital readout and trigger electronics, DigiCam.

In this contribution we give a general description of the analysis chain designed for the SST-1M prototype. In particular we focus on the calibration strategy used to convert the SiPM signals registered by DigiCam to the quantities needed for Cherenkov image analysis. The calibration is based on an online feedback system to stabilize the gain of the SiPMs and dedicated events (dark count, pedestal, and light flasher events) to be taken during the normal operation of the prototype.

Collaboration

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