

# Commissioning of the camera of the first Large Size Telescope of the Cherenkov Telescope Array

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The first Large Size Telescope (LST-1) of the Cherenkov Telescope Array has been operational since October 2018 at La Palma, Spain, and its camera has been under commissioning. The camera of LST consists of 265 modules, each of which is equipped with 7 PMTs. An analog trigger system is implemented where PMT signals from 3 modules (21 pixels) are summed up before a discriminator. Upon the triggers, the events are readout with a high speed DAQ system with a 60 Gbps bandwidth. In addition, the dedicated system that provides a  $\sim 2$  ns width UV laser pulse, whose intensity is monitored with a 1% precision, is used to monitor and calibrate the camera performance on a daily basis.

In this contribution we report on the results obtained during the camera commissioning. The commissioning process of the camera required to perform tasks such as flatfielding of PMT gains with a 2% homogeneity, timing calibration for the analog sum trigger with a few ns precision, synchronization of the clock and the trigger propagation within 1 ns accuracy. Moreover, the requirement for the DAQ system was to acquire data at a trigger rate higher than 15 kHz. A deep understanding of the night sky background light and its impact on the trigger and the signal readout were also essential.

## Keywords

IACT; photodetection; camera;

## Collaboration

CTA

## other Collaboration

## Subcategory

Experimental Methods & Instrumentation

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