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The first GCT camera for the Cherenkov Telescope Array.

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The Gamma-ray Cherenkov Telescope (GCT) is proposed to be part of the Small Size Telescope (SST) array of CTA (the Cherenkov Telescope Array).

Its dual mirror optical design allows the use of a compact camera of diameter roughly 0.4m, the curved focal plane of which is equipped

with 2048 pixels of $\sim 0.2^\circ$ angular size, resulting in a field of view of $\sim 9^\circ$.

The GCT camera is designed to record the flashes of Cherenkov light from gamma-ray initiated electromagnetic cascades, which last only a

few tens of nanoseconds. Modules based on "TARGET" ASICs provide the required fast electronics, allowing sampling at 1 GSample/s and

digitization, as well as first level of triggering using the analogue outputs of the photosensors.

The GCT camera is the first fully assembled prototype for a dual mirror Cherenkov telescope ever built and is currently being commissioned

in the UK. On-telescope testing of its performance is expected to take place in France in September 2015. In this paper we give a detailed

description of the mechanics and electronics of the camera and discuss recent progress with testing and commissioning.

Collaboration

CTA

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