

# The ASTRI-Horn telescope: comparison with the auxiliary UVscope measurements as calibration tool.

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ASTRI-Horn is an Image Atmospheric Cherenkov Telescope located at the INAF "M.C. Fracastoro" observing station (Mt. Etna, Italy) characterized by a dual-mirror optical system and a curved focal surface equipped with SiPM sensors managed by an innovative fast front-end electronics based on the peak detector technique. ASTRI-Horn represents the prototype of nine similar telescopes developed for the ASTRI-MiniArray project that will be installed at the Teide Astronomical Observatory, in Tenerife (Canary Islands, Spain). The ASTRI-Horn camera is almost blind to the diffuse night sky background (NSB) but is able to detect the (Poissonian) fluctuations produced by the NSB. The noise generated by this effect is proportional to the level of the NSB. In this work, we present the analysis of the background data collected in ASTRI-Horn observations during the period December 2018-March 2019 and the comparison of the results with the absolute night sky background levels measured by the UVScope instrument, which is capable of counting individual photons in the range 300-650nm, with a time resolution of 10ns. The instrument is mounted on the external structure of the ASTRI-Horn telescope.

The main result of this work is a strong correlation between the absolute flux measured by UVScope and the fluctuations measured by the ASTRI-Horn camera that can be used as diagnostic tool to ensure the right behavior of the camera in view of the ASTRI-MiniArray implementation.

## Keywords

IACT  
ASTRI-Horn  
UVscope

## Collaboration

other (fill field below)

## other Collaboration

ASTRI Project

## Subcategory

Experimental Results

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