

CCD-aided steering system for Cherenkov telescopes

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Abstract. Cherenkov Telescopes (dubbed CT) usually suffer from small steering errors due to tiny misalignments in both CT axis. Sometimes pointing errors can also appear due to tiny bending over the years on the masts supporting the CT camera. In this note, we present the results of a new method to correct these errors by use of a CCD camera. The method has been developed on the 1st Cherenkov Telescope of the HEGRA experiment. The CCD camera, installed on the

CT dish, sharply detects the CT camera (identified by red LEDs in its edge), upon the dim stars in its Field Of View. We

use this information to online correct all possible sources of steering errors in one single step. The CCD camera, running under Linux OS, has also been used to precisely measure the misalignment errors, needed to implement the online correction. Other uses of the CCD camera, interfaced with the CT1 DAQ system, involve operator feedback, by showing a sharp view of the night sky in the CT1 direction.

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