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The Camera Calibration Strategy of the Cherenkov Telescope Array

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The Cherenkov Telescope Array (CTA) will be the next generation ground based observatory in very high energy gamma ray astronomy. The facility will achieve a wide energy coverage, starting from a threshold of a few tens of GeV up to hundreds of TeV by utilising several classes of telescopes, each optimised for different regions of the gamma-ray spectrum. The required energy resolution of better than 10-15% over most of the energy range and a goal of 5% systematic uncertainty on the measurement of the Cherenkov light intensity at the position of each telescope means that a very precise evaluation of the entire system will need to be made. The composite nature of the array means multiple camera technologies will be employed so multiple calibration systems and procedures will be necessary to meet the performance requirements. Additional constraints will come from the need to minimise observing time losses and that the observatory is foreseen to operate for tens of years, so both short and long term systematic changes in performance will need to be investigated and monitored. This contribution summarises the recommended camera calibration strategy of CTA based on the experience with current IACTs.

Collaboration

CTA

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