## **ICRC2015**



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## **Calibration of the Cherenkov Telescope Array**

Saturday 1 August 2015 15:30 (1 hour)

The construction of the Cherenkov Telescope Array (CTA), consisting of two observatories designed to observe the very high energy gamma-ray sky with unprecedented sensitivity and precision, will soon start. We will present the baseline methods and their extensions currently foreseen to achieve the strong requirements on allowed systematic uncertainties for the reconstructed gamma-ray energy and flux scales, as well as on the pointing resolution, and on the overall duty cycle of the observatory.

Onsite calibration activities will include a robust and efficient calibration of the telescope cameras, and various methods and instruments to achieve calibration of the overall optical throughput of each telescope, leading to both inter-telescope calibration and an absolute calibration of the entire observatory. One important aspect of onsite calibration is a correct understanding of the atmosphere above the telescopes, which constitutes the calorimeter of this detection technique. It will be constantly monitored with state-of-the-art instruments to obtain a full molecular and aerosol profile up to the stratosphere. In order to guarantee the best use of the observation time, in terms of usable data, an intelligent scheduling system is required, which gives preference to those sources and observation programs that can cope with the given atmospheric conditions, especially if the sky is partially covered by clouds, or slightly contaminated by dust. Ceilometers in combination with all-sky-cameras will provide the observatory with a fast, online and full-sky knowledge of the expected conditions for each pointing direction. For a precise characterization of the adopted observing direction, wide-field optical telescopes and Raman Lidars will provide information about the height-resolved and wavelength-dependent atmospheric extinction, throughout the field-of-view of the cameras.

## Collaboration

CTA

## Registration number following "ICRC2015-I/"

200

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