

CTbend: A Bayesian open-source framework to model pointing corrections of Cherenkov telescopes

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The pointing of Cherenkov telescopes is subject to imperfections which are, e.g. related to the bending of the mechanical structure. These imperfections must be measured, modeled and finally corrected for to

achieve an optimal telescope pointing precision. The measurement of pointing deviations is typically performed while the telescope points to different stars and a CCD camera

monitors the offsets of the star images to the center of the focal plane. Outlier in these measurements can propagate into the pointing model and lead to imprecise model predictions.

CTbend is a simple and standalone open-source framework which uses a Bayesian analysis with an outlier resilient likelihood function to model the pointing of Cherenkov telescopes with parametric standard models like TPoint.

The framework is in the following described on the basis of simulated data.

Keywords

Cherenkov telescope; pointing model; Bayesian statistics

Collaboration

other Collaboration

Subcategory

Experimental Methods & Instrumentation

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