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Quality Assurance of Actuators for the Medium-Sized Telescopes of the Cherenkov Telescope Array

The Cherenkov Telescope Array (CTA) is a future ground-based observatory for gamma-ray astronomy providing unparalleled sensitivity in the energy range from 20 GeV up to 300 TeV. CTA will consist of telescopes with three different sizes. The Medium-Sized Telescopes (MSTs) will have 12 m reflectors with a tessellated mirror design of 86 mirror facets each. Each mirror facet is mounted on the mirror support structure with two actuators that are adjustable in length to align the mirrors, and a freely rotating fixpoint. Image resolution and pointing accuracy constraints impose limits on the backlash and deformation of the actuators and the fixpoint under various weight and wind loads. In this contribution, the test stand to measure the backlash and deformation behaviour of actuators and fixpoints is described and the measurement procedure is explained.

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