



Contribution ID: 70

Type: **not specified**

## Cherenkov Telescope Array Observatory

*Tuesday 1 April 2025 09:00 (30 minutes)*

Cherenkov Telescope Array Observatory (CTAO) is a next-generation ground-based gamma-ray astronomical observatory that is in construction phase on two sites: in Northern and Southern hemispheres. CTAO telescopes use the atmosphere as giant detector of high-energy particles. CTAO data contain “events” of extensive air showers of high-energy particles. Most of the showers are induced by charged cosmic rays, but a small fraction of these showers are induced by gamma-rays coming from astronomical sources that operate powerful particle colliders. CTAO will generate about ten Petabytes of event data per year, complemented by a comparable amount of Monte-Carlo simulated data. These data will be managed by four Off-Site Data Centers distributed across Europe and coordinated by the Science Data Management Center. One of the four Off-site Data Centers will be hosted by CSCS in Switzerland. The Off-Site Data Centres will perform reduction of the large volume (“Data Level 0”) real and Monte-Carlo data to extract information on gamma-ray-like events that carry information on the astronomical sources. Such reduced data (Data Level 3) will be distributed to astronomers across the world and ultimately made publicly available.

### Desired slot length

20 min

### Speaker release

Yes

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**Session Classification:** Science talk

**Track Classification:** Miscellaneous