

The ASTRI Mini-Array and its key performance features

Wednesday, 27 October 2021 16:40 (25 minutes)

The ASTRI Mini-Array is a next-generation Imaging Atmospheric Cherenkov Telescopes (IACTs) facility for gamma-ray astronomy in the energy band from a few TeV up to 100 TeV and beyond, under construction at the Teide Observatory (in the Canary Island of Tenerife, Spain). The project is led by the Italian *Istituto Nazionale di Astrofisica* (INAF) in collaboration with the *Fundación Galileo Galilei* (FGG), the Spanish *Instituto de Astrofísica de Canarias* (IAC), and other institutes and universities from Italy, Brazil and South Africa. The system will be composed of nine small-sized (~4 meter in diameter) and large field-of-view (~10 degrees) double-mirror IACTs equipped with silicon photo-multiplier cameras managed by fast front-end electronics. The telescope technology is an evolution of that of ASTRI-Horn, a small-sized Cherenkov telescope (SST) prototype developed by INAF within the Cherenkov Telescope Array (CTA) Project, currently operating on Mt. Etna (Italy). The ASTRI Mini-Array is being developed in all its aspects, from the design and implementation of all hardware and software components, including a dedicated off-site Data Center, to the generation and dissemination of the final scientific products. The full array will be operational within the next few years. Thanks to its significantly improved performance above a few TeV, compared to current arrays of Cherenkov telescopes, and an almost flat response over a wide field of view of several squared degrees, the ASTRI Mini-Array will represent soon a prominent facility for deep observations of galactic and extragalactic targets at the TeV and multi-TeV energy scale, in synergy with other ground-based gamma-ray facilities in the Northern Hemisphere, such as LHAASO, HAWC, MAGIC, VERITAS and CTAO-N. In this contribution, we provide an overview of the ASTRI Mini-Array project and review the key performance features of the system.

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Session Classification: Session 1